



A Study on Good Practices in
Tribal Development (Livelihood Sector)
in Three Indian States

SCSTRTI, Odisha



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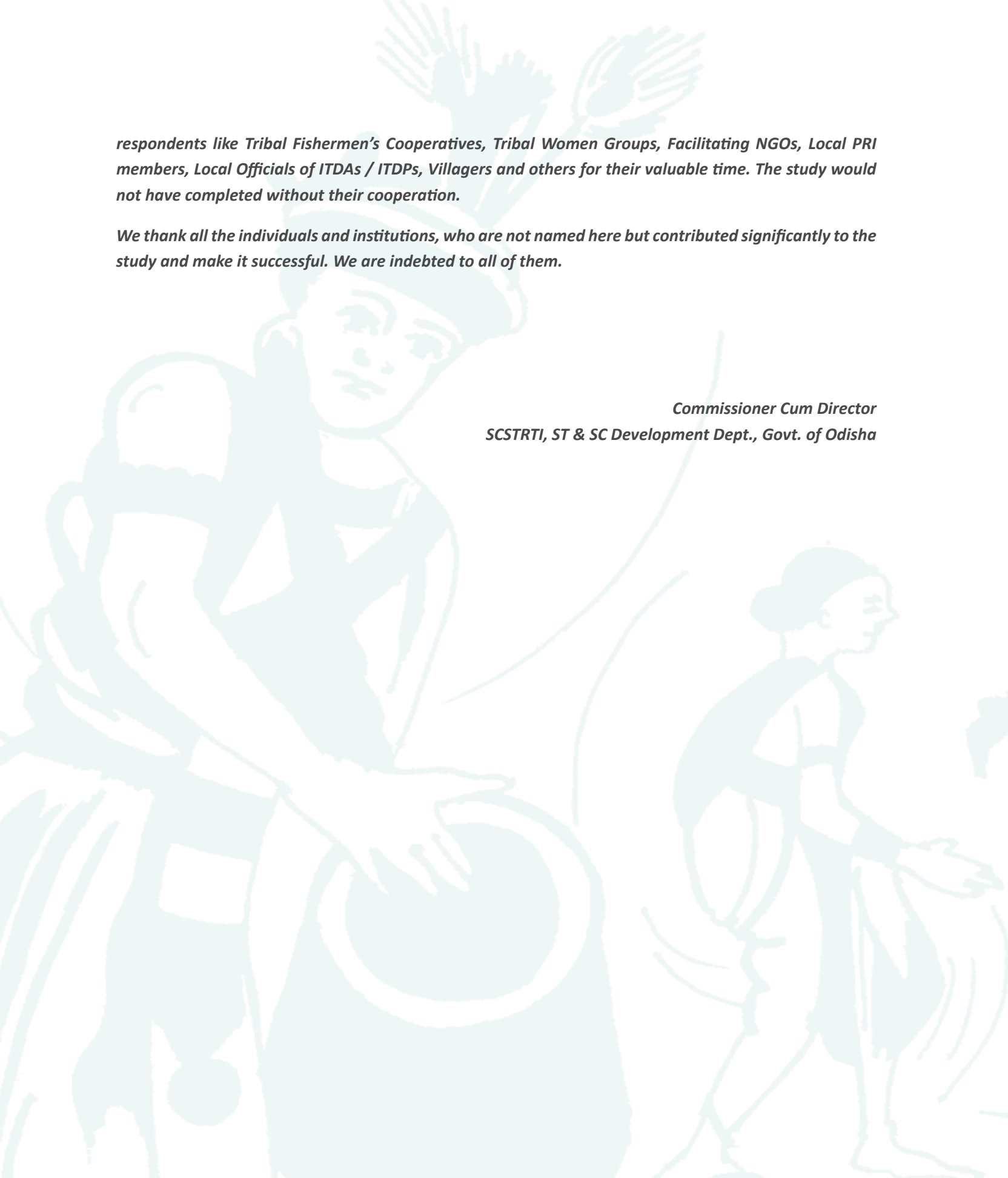
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ABBREVIATION

APSSDC	Andhra Pradesh State Skill Development Corporation
ATC	Additional Tribal Commissionerate
ATMA	Agricultural Technology Management Agency
ATSP	Additional Tribal Sub Plan
BDP	Business Development Plan
BFDA	Brackishwater Fish Farms Development Agencies
BKVY	Biju Krushak Vikash Yojana
BP	Block Plantation
CBSE	Central Board of Secondary Education
CCDP	Conservation-cum-Development Plans
CCP	Critical Control Points
CDA	Cluster Development Approach
CIFA	Central Institute of Freshwater Aquaculture
CIFE	Central Institute of Fisheries Education
CIPET	Central Institute of Plastic Engineering and Technology
COE	Center of Excellence
CRP	Community Resource Persons
CSR	Corporate Social Responsibility
CST&TI	CST&TI Mysore
DBI	Diversion Based Irrigation
DFL	Disease Free Laying
DFO	District Fishery Officer
DIC	District Industry Center
DM	District Magistrate
DPD	Direct Placement Drives
DPR	Detail Project Report
DRDA	District Rural Development Agency
DWM	District Welfare Mission



EDP	Entrepreneurship Development Program
EGMM	Employment Generation and Marketing Mission
EMRS	Eklavya Model Residential Schools
EOI	Expression of Interest
FADP	Focus Area Development Programme
FDC	Forest Development Corporations
FFDA	Fish Farmer Development Agencies
FNGO	Facilitated Non Governmental Organizations
FPG	Farmer Producer Group
FSMS	Food Safety Management Systems
GDS	Gopabandhu Development Society
GOI	Government of India
HMV	Heavy Motor Vehicle
IDS	Infrastructure Development Schemes
IGA	Income Generating Activities
IGS	Income Generating Schemes
IMC	Indian Major Carp
IMR	Infant Mortality Rates
ITDA	Integrated Tribal Development Agency
ITDP	Integrated Tribal Development Projects
JNV	Jawahar Navodaya Vidyalayas
KGBV	Kasturba Gandhi BalikaVidyalayas
KPDCL	Kandhamal Poultry Development Corporation Ltd.
LMV	Light Motor Vehicle
LWE	Left Wing Extremism
M&E	Monitoring and Evaluation
MADA	Modified Area Development Approach
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
MKSP	Mahila Kisan Shashaktikaran Pariyojana
MMLP	Margin Money Loan Programme
MMR	Maternal Mortality Rate

MoTA	Ministry of Tribal Affairs
MPCE	Monthly Per Capita Consumption Expenditure
MSME	Ministry of Micro, Small and Medium Enterprises
MTPSS	Maharashtra Tribal Public School Society
MW	Mega Watt
NAC	National Academy of Construction
NGO	Non Governmental Organizations
NHM	National Horticulture Mission
NMC	Nashik Municipality Corporation
NRLM	National Rural Livelihood Mission
NSS	National Sample Survey
NTFP	Non-Timber Forest Produces
OLM	Odisha Livelihoods Mission
OMTES	The Odisha Model Tribal Education Society
OTELP	Odisha Tribal Empowerment and Livelihood Programme
PDA	Poultry Development Assistant
PO	Project Officer
PPCP	Public Private Community Partnership
PTG	Primitive Tribal Group
RCC	Reinforced Cement Concrete
RGNF	Rajiv Gandhi National Fellowship Scheme
RRA	Revitalising Rain-fed Agriculture
RSETI	Rural Self Employment Training Institutes
SC	Scheduled Caste
SCA	Special Central Assistance
SDCE	Skill Development Center for Excellence
SECC	Socio-Economic and Caste Census
SHG	Self-Help Groups
SLA	Sustainable Livelihood Approach
SPV	Special Purpose Vehicle
ST	Scheduled Tribes



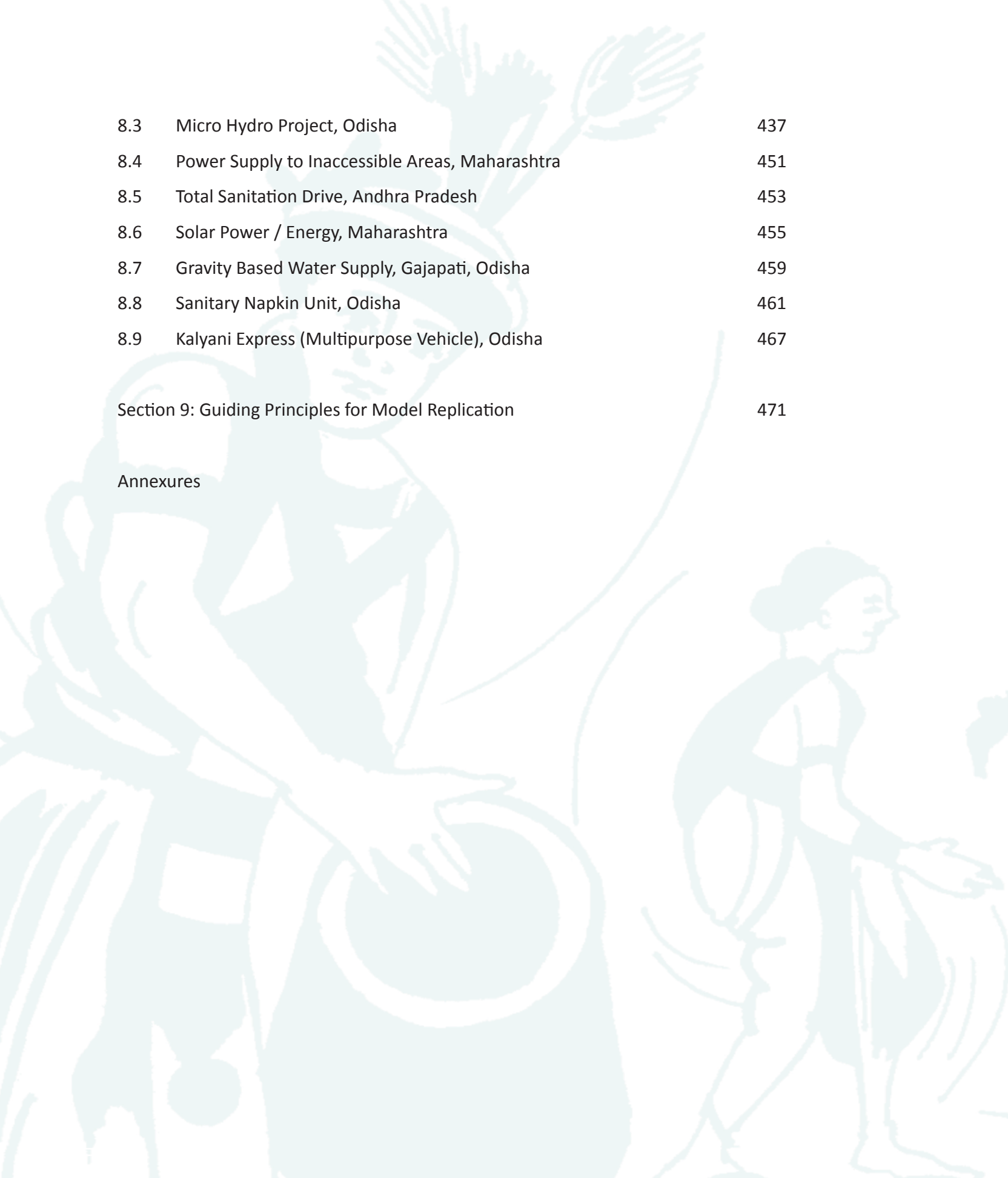
TAPE	The Akshya Patra Foundation
TBS	Thakkar Bappa Scheme
TDC	Tribal Development Commissionerate
TDCC	Tribal Development Cooperative Corporations
TRICOR	Andhra Pradesh Scheduled Tribes Cooperative Finance Corporation Limited
TRIFED	Tribal Cooperative Marketing Development Federation of India Limited
TSP	Tribal Sub-Plan
TW	Tribal Welfare
TWD	Tribal Welfare Department
UT	Union Territories
VDC	Village Development Committee
VKY	Vanbandhu Kalyan Yojana
VO	voluntary organizations
WEO	Welfare Extension Officer
WPR	Work Participation Rate
YTC	Youth Training Center

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Section One: **Introduction and Study Background**





1.1 Introduction

All round development of tribals has been the focus of both central and state governments. Different efforts have been made by the Government to improve the socio-economic condition of the tribes. The approaches to tribal development differ by State, based on the contextual requirement. Need based strategic approaches and practices have been benefitting the tribal in attending a better quality of life. Such development initiatives and practices are essential to document for scaling up, replication and adoption.

Because of the diverse traits, the approaches towards their development are different and are unique. The Tribal Sub-Plan approach including the grant support under SCA to TSP and Article 275(1) has given flexibility in terms of tribal development planning and programme implementation. Several such approaches and strategies have reaped benefits to tribal development. It is essential to document such good practices that will inspire others to effectively adopt such practices.

Under the current documentation, efforts are made to capture and document some of the replicable developmental initiative, successfully implemented in each of the three states, the benefit of which has percolated to the tribal families and their habitations. Documentation of good practices of development initiatives in scheduled areas is an attempt to understand the nuts and bolts of different successful and demonstrated development models and examining its replicability in other parts of the country. Under the current documentation process, efforts are made to capture and document some of the replicable developmental initiatives successfully implemented in three states of the country, viz Andhra Pradesh, Maharashtra and Odisha.

Thematic Areas of Documentation

Various sectors were planned to be covered under the good practices documentation, aligning with the Central and State Government support provisions for the all-round development of the scheduled tribes. The document of practices basically covered areas that are linked to different sectors / sub-sectors like, (1) livelihood, (2) skill up gradation, (3) education,

(4) health, (5) infrastructure and (6) conservation of traditional culture including indigenous knowledge system in specific field.

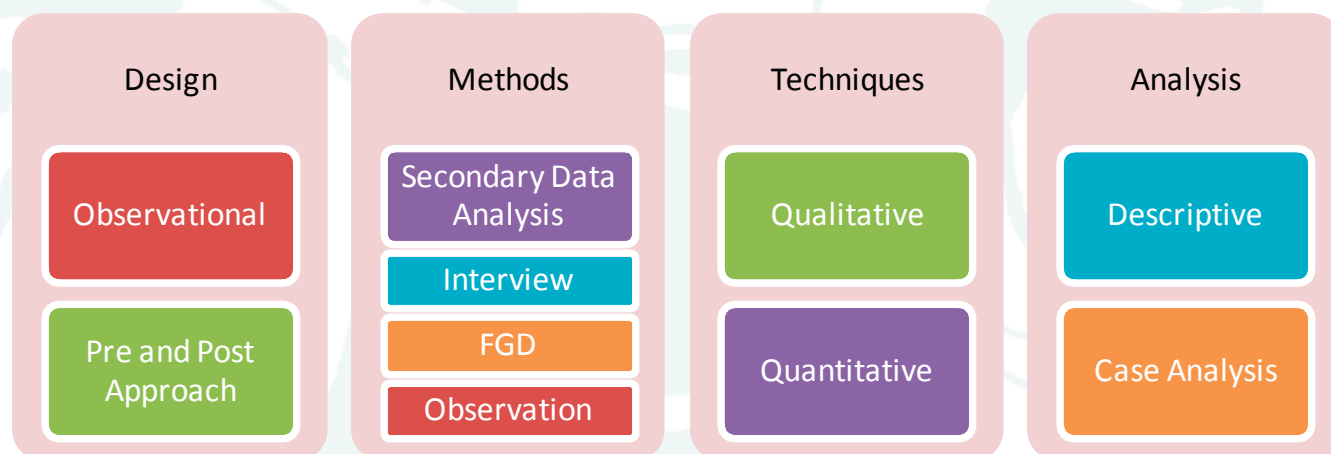
Study Objective

The overall objective of the study is “to capture and document some of the replicable development initiatives, successfully implemented in three states, the benefit of which has percolated to the tribal families”. The objective of the study also encompasses documenting the process followed during the implementation of the initiative.

1. Identification of good practices in areas covering livelihood, skill development, education, health, infrastructure and conservation of traditional culture and indigenous knowledge base.
2. Documentation of tribal development initiatives that have the scope of replicability;
3. Documenting the process of implementation of different tribal development initiatives that have helped to develop replicable models;

Design, Approach and Methodology

The design of documentation of good practices followed the observational design with a pre-intervention and post-intervention approach, wherever feasible. The documentation approach encompasses a range of stakeholders (refer sample frame) who are directly associated with different development initiatives as well as implementing schemes / programmes in TSP areas. Apart from the analysis of available secondary data, the documentation process covered interview with beneficiaries (tribal families), focus group discussion with different community groups (women SHGs, Farmers Associations etc.) and consultation with secondary stakeholders such as local ITDAs / ITDPs, micro project offices and local NGOs. The documentation process deployed both qualitative and quantitative techniques to understand the process, to document the benefits and quantify the results.



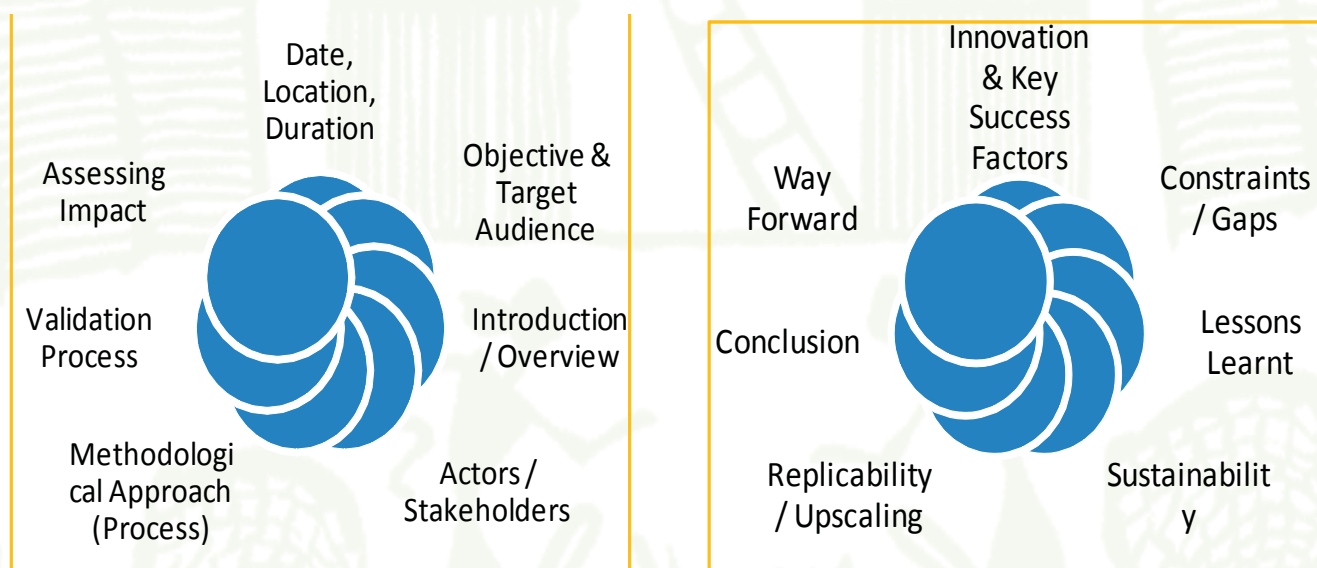
While documenting the good practices in each of these three states, care is taken to document the process followed during the implementation of the initiative.

Literature Review

Available literatures were reviewed to understand different schemes / programmes being implemented in each sample state. State specific tribal development initiatives were also reviewed to understand various initiatives. Different publications / research articles were reviewed to design the study framework. Literature specific to identified good practices were collected from implementing and supporting / facilitating agencies and other relevant sources for analysis. Data / information available in departmental web sites were also referred and presented in this report.

Documentation Design Framework

Based on the review of literature and as per the requirement of good practice documentation, a detail study framework was designed adhering to the objectives.



A checklist was prepared for capturing relevant components / sub-components of the good practices by thematic areas / sectors. The checklist was having scope to cover different aspects of the good practices, incorporating all the important parameters. The checklists that was prepared and used for documentation of good practices are;

1. Checklist for capturing good practices in livelihood components;
2. Checklist for capturing good practices in skill development;
3. Checklist for capturing good practices in education;
4. Checklist for capturing good practices in health;
5. Checklist for capturing good practices in infrastructure;
6. Checklist for capturing good practices in culture / tradition;



Sample Coverage

The documentation of good practices covered three tribal States at the national level, namely Andhra Pradesh, Maharashtra and Odisha. The study districts were selected purposefully in each state based on the initiatives taken and prevalence of practices that are worth for documentation and replication. It was ensured that all the selected districts fall under scheduled area of the state, as per the notification of the Government. Only the TSP areas were covered under the documentation to understand the implementation of different tribal development schemes / programmes and its outcome.

State Wise No. of Districts Covered Under Good Practices

State	District		Block		Village		No. of Practices	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Andhra Pradesh	3	3	5	7	10	35	25	19
Maharashtra	3	9	5	17	10	41	25	21
Odisha	3	9	5	22	10	52	25	23
Total	9	21	15	46	30	128	75	63

Note: Number of Good Practices is dependent upon its prevalence in a particular State and district. The number of practices presented in the table are covered in respective study states, after due consultation with Tribal Development Department Officials / Authorities.

In Andhra Pradesh, a total of 19 good practices were documented, across different sectors, covering 35 villages of 7 blocks in 3 districts of the State. In Maharashtra, 21 practices were covered from 17 blocks of 9 districts. A total of 23 practices were covered in Odisha from 22 blocks of 9 districts of the State.

While only the TSP blocks were covered, villages were selected purposively, based on the demonstrated practices. So, the documentation of good practices covered a total of 21 districts from 3 states, 46 blocks and 63 practices from 128 villages. The detail sample frame is presented in the table.

Proposed Number of Good Practices by Theme / Sector

Practice Areas	Andhra Pradesh	Maharashtra	Odisha	Total
Livelihood				
Agriculture		2		2
Animal Husbandry	2		4	6
Coffee Plantation	1			1
Fishery		1	1	2
Horticulture	1		5	6
Off/Non-Farm	2	2	1	5
Rubber Plantation			2	2
Sericulture		1	1	2
WADI			1	1
Livelihood Total	6	6	15	27
Skill Development				
Employable Skill	4	1		5
Self-Employment	4	1	2	7
Skill Development Total	8	2	2	12
Education				
Education	1	4	2	7
Education Total	1	4	2	7
Forest Right	1	5		6
Others				

Practice Areas	Andhra Pradesh	Maharashtra	Odisha	Total
Eco-Tourism		1		1
Governance	2			2
Infrastructure		1		1
Infrastructure / Facilities			1	1
Power		2	1	3
Sanitation	1		1	2
Water Supply			1	1
Others Total	3	4	4	11
Total	19	21	23	63

Note: More Cases are Covered than Planned to Understand Replicability Dimensions of the Practices. But selected cases that are found having sound practices are discussed in this report.

As livelihood is the prime sector, different prevailing replicable practices were covered from different districts / blocks. Under different sectors / sub-sectors, a total of 63 good cases under different practices are covered. A total of 27 practices are captured in livelihood sector, 12 in skill development, 7 in tribal education, 6 in forest rights and schematic convergence and 11 practices in other sectors / sub-sectors. Number of good practice cases covered under different sectors / sub-sectors are presented in the table.

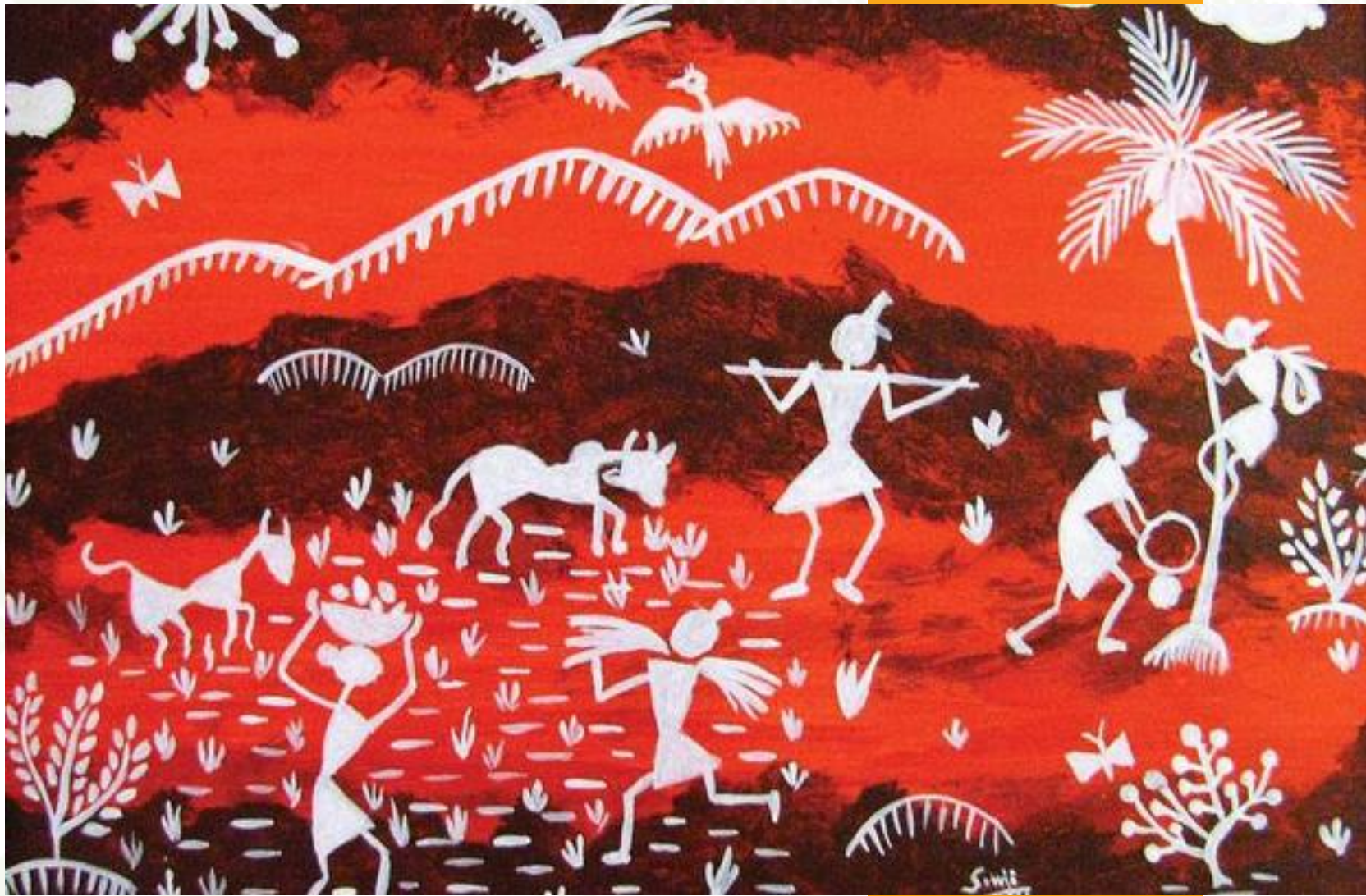
Stakeholder Consultation

In the process, different stakeholders, at different operational / functional levels were consulted to understand State specific initiatives taken by the Tribal Development / Welfare Department of respective State. While administrative units of Tribal Development / Welfare Department functioning at different levels were key to suggest and guide on different practices, different collaborating Departments like Forest Department, Agriculture Department, Horticulture, Fishery etc. Were also consulted in the process. Other

Facilitating agencies, such as co-operatives, private bodies / corporations, NGOs, tribal community, individual beneficiaries covered under different schemes, CBOs in tribal areas etc. were also consulted as per the requirement of the documentation (refer annexure for stakeholders consulted in the process).

Limitations

The study conducted for documentation of good practices encounter certain limitations. Apart from practices that are presented in the report, there may have some more practices which could not be explored due to various reasons. While in some practices, available data / information found inadequate, in some other cases, the designed validation process could not be completed due to non-availability of respective stakeholders. While, further exploration is strongly proposed in certain cases, the discussed practices may be considered as an indication that represents the evolving practices in different aspects of tribal development.



Section Two:
Tribal Scenario





2.1 Tribal Profile, Andhra Pradesh

Introduction

The State is having 14132.56sq Km under the Tribal Sub-Plan which is 8.82percent of the total geographical area (1,60,204Sq Km) of the State. The State houses 34 Scheduled Tribes and the tribal population is largely concentrated in the Districts of Visakhapatnam, Vizianagaramand, SPSR Nellore. Main tribes in the State are Yenadis, Yerukulas, Sugalis, Koya, KondaDhoras, Savara, etc. The state houses 6 Particularly Vulnerable Tribal Groups (PVTGs), namely Chenchus, Kondareddis, Khond, Porja, Gadaba and Savara. The State is having a total of 8 ITDAs and 8Project Officers (PO) to look after the interventions under ITDAs. In addition, the State is having 4 MADA¹ Pockets and 6 Mini MADA / Clusters².

Table 1: Spread of Scheduled Tribes in the State of Andhra Pradesh

Sl. No.	Particulars	Details
1	Districts	13
2	Block	59
3	Village	4737
4	MADA Pockets	4
5	Mini MADA Pockets / Clusters	6
6	Villages in MADA	54
7	Villages in Mini-MADA	98

Source: Tribal Development Department

1. A group of villages having a population of about 10,000 of which more than 50 percent are tribals, the villages comes under the Modified Area Development Approach (MADA).

2. If two or three villages having a total population of 5,000 of which more than 50 Percent are tribals, the villages constituted into a clusters / Mini MADA.

Scheduled Areas in Andhra Pradesh

1.	Visakhapatnam Agency area 1 [excluding the areas comprised in the villages of Agency Lakshmipuram, Chidikada, Konkasingi, Kumarapuram, Krishnadevipeta, Pichigantikothagudem, Golugondapeta, Gunupudi, Gummudukonda, Sarabhupal-apatnam, Vadurupalli, Pedajaggampeta]. SarabhupathiAgraharam, Ramachandrarajupeta Agraharam, and Kondavatipudi Agraharam in Visakhapatnam district.
2.	East Godwari Agency area 2 [excluding the area comprised in the village of Ramachandrapuram including its hamlet Purushothapatnam in the East Godavari district].
3.	West Godavari Agency area in West Godavari district. <ul style="list-style-type: none"> • Inserted by the Madras Scheduled Areas (Cesser) Order, 1951 • Inserted by the Andhra Scheduled Areas (Cesser) Order, 1955
4.	Data includes the Submergence of Sch. villages of 7 mandals from Khammam district to the A.P. State (as per Re-organisation Act, 2014): Nellipapaka, Kunavaram, Chintoor and V.R.Puram in East Godavari district and Burgampad, Kukunoor and Valaipadu in West Godavari district

(Source: aptribes.gov.in./statistics.htm)

In the meantime, the Government of India in recognition of the fact that there were some small concentrations of tribal population just outside the I.T.D.As., directed that in a group of villages having a population of about 10,000, if more than 50 Percent were Scheduled Tribes, the villages should be brought under the Modified Area Development Approach (MADA). Similarly, if two or three villages having a total population of 5,000 and if more than 50 percent were Scheduled Tribes, the same should be constituted into a clusters / Mini MADA. The State is having 36 scheduled blocks in four tribal concentrated districts, i.e., Vizianagaram, Visakhapatnam, East Godavari and West Godavari.

Scheduled Blocks in Andhra Pradesh

Sl. No.	Scheduled Blocks	District
1	Seethampeta	Srikakulam
2	G.L Puram	Vizianagaram
3	Kurupam	Vizianagaram
4	Komarada	Vizianagaram
5	Pachipenta	Vizianagaram
6	Saluru	Vizianagaram
7	Makkuva	Vizianagaram
8	Jiyyammavalasa	Vizianagaram
9	Araku Valley	Visakhapatnam
10	Dumbriguda	Visakhapatnam
11	Paderu	Visakhapatnam
12	Hukumpeta	Visakhapatnam
13	G.Madugula	Visakhapatnam
14	Pedabayalu	Visakhapatnam
15	Munchingput	Visakhapatnam
16	Chintapally	Visakhapatnam
17	G.K.Veedhi	Visakhapatnam
18	Ananthagiri	Visakhapatnam
19	Koyyuru	Visakhapatnam
20	Nathavaram	Visakhapatnam
21	R.C.Varam	East Godavari
22	Y.Ramavaram	East Godavari
23	Rajavommangi	East Godavari
24	Maredumilly	East Godavari
25	Devipatnam	East Godavari
26	Addathegala	East Godavari
27	Gangavaram	East Godavari
28	Nellipaka	East Godavari
29	Kunavaram	East Godavari
30	Chintoor	East Godavari
31	V.R.Puram	East Godavari
32	Buttayagudem	West Godavari
33	Jeelugumilly	West Godavari
34	Polavaram	West Godavari
35	Kukunoor	West Godavari
36	Valairpadu	West Godavari

Note: As per Andhra Pradesh Reorganisation Ordinance 2014, 7 Mandals (5 Complete & 2 Partial) of Khammam District are removed from Telangana State and tentatively added to Andhra Pradesh State.

Demography and ST Population Distribution

Andhra Pradesh is the tenth largest State in the Country, in terms of population. The State accounts for 4.10% of the total population of the country (Census 2011). The population of Andhra Pradesh is more than doubled in the last half century from 23.29 million in 1961 to 49.58 million in 2011. Of this, 24.83 million are males and 24.75 million are females. The decadal growth of population rose from 18.88 percent during 1961-71 to 21.13 percent during 1981-91. Subsequently a significant decline was observed in the rate of growth of population and decline is even more prominent at 9.21 percent during 2001-11, lower than the 154 All-India's growth rate of 17.70 percent.

Andhra Pradesh is having sizeable number of tribal population, which comprises 5.53percent of the total population of the state (7.00percent as per census 2011 for undivided Andhra Pradesh). Of the total population of the state (49.57 million), 2.74million reported as Scheduled Tribe, of which 1.36million are males (49.69percent) and 1.37million (51.31percent) are females.

Tribal Population in Andhra Pradesh

Population	2001*	2011
1	2	3
Persons	5024104	2739919
Males	2548295	1361597
Females	2475809	1378322

(*Undivided Andhra Pradesh)

Source: Census of India, 2011

Population of ST male to total population of the State is 2.75 percent, whereas percentage of ST female to total state population is 2.78 percent. The growth rate for ST population during 2001-11 stands to be 0.22percent and their proportion in total population of the state stands at 5.53 percent (census 2011). The district Visakhapatnam has the highest proportion of ST population with 14.42 percent followed by Vizianagaram (10.05 percent), SPSR Nellore (9.65 percent) and Srikakulam(6.15 percent).

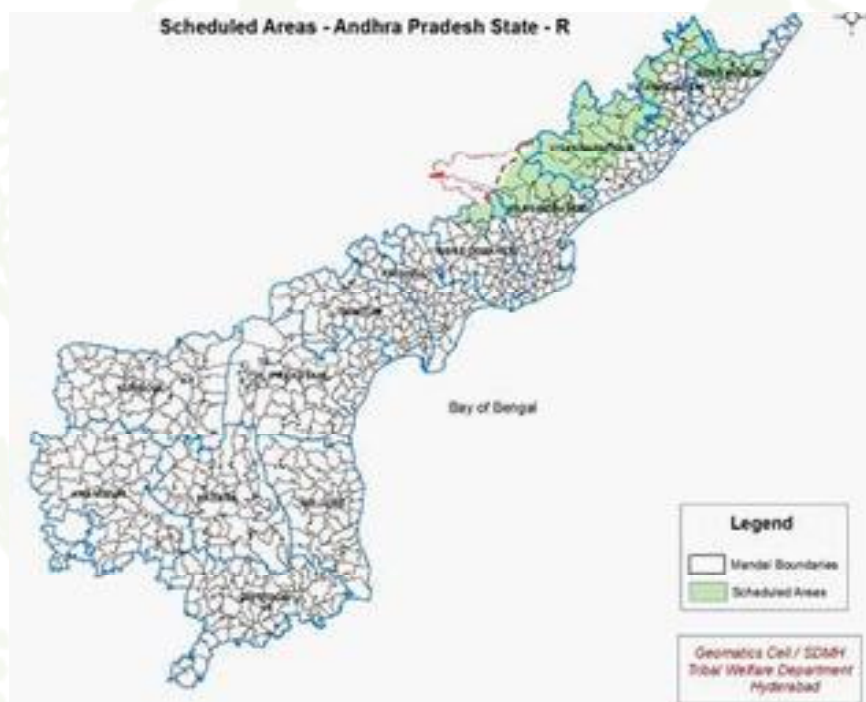


Figure 3: Tribal Area Map of Andhra Pradesh

Source: Tribal Development Department Website, Andhra Pradesh

Population by District, Andhra Pradesh

Sl. No	Name of the District	Total Population	ST Male	ST Female	% of Male (ST) to Total Population	% of Female (ST) to Total Population	% of ST to Total Population	Percentage of ST Population in Rural	Percentage of ST Population in Urban
1	Srikakulam	2703114	81382	84736	3.01	3.13	6.15	96.58	3.42
2	Vizianagaram	2344474	114687	120869	4.89	5.16	10.05	96.0	4.0
3	Visakhapatnam	4290589	302905	315595	7.06	7.36	14.42	93.77	6.23
4	East Godavari	5285824	144548	152496	2.73	2.88	5.62	93.2	6.8
5	West Godavari	3994410	65439	68558	1.64	1.72	3.35	91.37	8.63
6	Krishna	4517398	66734	65730	1.48	1.46	2.93	70.9	29.1
7	Guntur	4887813	125105	121984	2.56	2.5	5.06	77.26	22.74
8	Prakasam	3397448	76677	74468	2.26	2.19	4.45	82.3	17.7
9	SPSR Nellore	2963557	145168	140829	4.9	4.75	9.65	84.26	15.74
10	YSR Kadapa	2882469	38571	37315	1.34	1.29	2.63	78.15	21.85
11	Kurnool	4053463	42052	40779	1.04	1.01	2.04	81.99	18.01
12	Anantapur	4081148	78573	75554	1.93	1.85	3.78	76.67	23.33
13	Chittoor	4174064	79756	79409	1.91	1.9	3.81	80.89	19.11
	State Total	49575771	1361597	1378322	2.75	2.78	5.53	87.66	12.34

Scheduled Tribe population in the State is overwhelmingly rural. Of the total ST population of the State, 87.66 percent (2.4 million) live in rural and remaining 12.34 percent (0.34 million) in different urban settlements. Urban ST population is observed to be highest in Krishna district (29.10 percent of the total ST population of the district), followed by YSR Kadapa (23.33 percent of the total ST population of the district) and Guntur district (22.74 percent of the total ST population of the district). Lowest ST urban population observed in Srikakulam (3.42 percent of the total ST population of the district) and Vizianagaram (4.00 percent of the total ST population of the district). Percentage of rural tribal population to total tribal

population reflects decreasing over census periods. In 1961, 95.69 percent ST population was residing in rural area and only 4.31 percent was the urban population of the total ST population. By 2001, urban population increased to 7.51 percent and by 2011, it further increased to 16.88 percent. It indicates that there has been migration of ST population from rural to urban for various reasons and increasing expansion of urban set-ups in different districts of the State. Increasing urbanisation of ST population has become reality not only in Andhra Pradesh but in many other states of the country.

Decadal Growth Rate of ST Population by Sex and Census Years in Rural & Urban

SN	Census Year	Rural					Urban				
		Male	Female	Total	Percentage of Rural Population to Total Population	Decadal Growth Rate	Male	Female	Total	Percentage of Urban Population to Total Population	Decadal Growth Rate
1	2	3	4	5	6	7	8	9	10	11	12
1	1961	641033	626254	1267287	95.69	--	29335	27746	57081	4.31	0
2	1971	795886	776741	1572627	94.87	24.09	44136	40894	85030	5.13	48.96
3	1981	1514856	1463737	2978593	93.78	89.4	103833	93575	197408	6.22	132.16
4	1991	1976150	1904104	3880254	92.4	30.27	166667	152560	319227	7.6	61.71
5	2001	2353939	2292984	4646923	92.49	19.76	194356	182825	377181	7.51	18.15
6	2011	1190574	1211302	2401876	55.26	10.69	171023	167020	338043	16.88	13.98

Urbanization in Andhra Pradesh

Urbanisation has been regarded as an important component for growth realization. The percentage of urban population to the total population in the State is 29.47 percent in 2011 as compared to 24.13 percent in 2001. Among the districts, Visakhapatnam stood first with 47.45 percent of urban population followed by Krishna district with 40.81 percent. Srikakulam with 16.16 percent of urban population followed by Prakasam with 19.56 percent are the least urbanized districts. (Source: Socio-Economic Survey, 2016-17, Andhra Pradesh).

Name of PVTG	Population					
	1961	1971	1981	1991	2001	2011
Andh	1468	2,405	5,994	8228	9735	315
Bagata	55156	71,657	87,994	109,686	133434	132,577
Bhil	83	560	260	312	421	69
Chenchu	17,609	24178	28,434	40,869	49232	47,315
Gadabas	21,840	25,108	27,732	33,127	36078	37,798
Gond	143,680	157,489	169,477	212,058	252038	6,691
Goudu	3,392	0	8,971	11,279	7749	6,997
Hill Reddis	3,894	4,306	398	432	77	157
Jatapus	62,794	74,310	86,506	104,804	118613	126,659
Kattunayakan	74	289	399	643	161	57
Kammara	24,629	35,679	36,548	44,613	45010	48,912
Kolam	16,731	26,498	21,842	41,254	45671	107
KondaDhoras	86,911	101,556	139,238	179,334	206381	210,509
KondaKapus	29,823	38,126	28,033	34,897	11780	10,054
Kondareddis	35,439	42,777	54,685	76,391	83096	90,937
Kondhs	21,754	34,375	39,408	66,629	85324	102,378

Name of PVTG	Population					
	1961	1971	1981	1991	2001	2011
Kotia	11,008	17,888	31,466	41,591	48,408	45,291
Koya	220,146	285,226	359,799	456,496	568,019	213,336
Kulia	85	188	413	516	368	385
Malis	1,443	1,978	2,467	2,925	2,513	5,244
Manna Dhora	8,476	9,372	18,964	21,309	13,579	13,636
Total	766,435	953,965	1,149,028	1,487,393	1,717,687	1,099,424

Source: Census of India, different years

PVTG and Its Population in Andhra Pradesh

The State is having six Particularly Vulnerable Tribal Groups (PVTG), namely Chenchus, Kondareddis, Khond, Porja, Gadaba and Savara. All the PVTGs record growth in their population as per census 2011.

Literacy Rate Among STs

The literacy rate of the State is 67.35 percent in 2011 as against 62.07 percent in 2001. The literacy rate of the State is lower than the all India literacy rate at 72.98 percent. The decadal literacy growth at the national level had been not more than 8 percentage points till 1991 and the nineties witnessed an improvement of 13.8 percentage points. The literacy rate has identified an improvement of more than 8 percentage points during 2001-2011 at national level. Literacy in Andhra Pradesh increased over 37 percentage points from 29.94 percent in 1981 to 67.35 percent in 2011. In spite of this fast rate of growth in the last three decades, the literacy rate in Andhra Pradesh is still lower than the all India average. While the literacy rate of Andhra Pradesh was about three fourths of the all India level in 1961, the State has made substantial progress, especially in the last four decades. The overall literacy rate has gone up from 62.07 percent in 2001 to 67.35 percent in 2011; the male literacy rate has increased from 71.28 to 74.77 percent. Female literacy rate has gone up from 52.72 percent in 2001 to 59.96 percent in 2011. West Godavari is at the top with 74.32 percent

and Vizianagaram is at the lowest with 58.89 percent in 2011 among the districts.

Tribal Sub Plan on going works 2016-17.

The Government have sanctioned an amount of Rs.13 Crores for construction of attached hostels and additional class rooms under ST Sub Plan 2016-17. Works were sanctioned in Tribal areas of Srikakulam, Visakhapatnam, East Godavari, West Godavari Districts. Of which 18 works were proposed for construction of buildings in the Govt Jr Colleges with an estimated cost of Rs.15.30 Crores under this scheme. (Source: Economic Survey, 2016-17, Andhra Pradesh)

Tribal Educational Overview

ST population to total population (2011 Census)- 5.53%
 Literacy Rate (2011 census): 48.83%
 Residential schools (in Number): 80
 Ashram Schools (In Number): 391
 Hostels (in Number): 139
 Total Enrolment (in Number): 1,05,246
 SSC Pass (Percentage): 90.87

Among the districts, highest literacy rate among STs observed in Chittoor (75.46 percent) followed by West Godavari (60.36 percent) and Kurnool (55.04 percent). Lowest literacy rate among the STs observed in Y.S.R.Kadapa (21.36 percent) and Nellore (42.78 percent).

Literacy Rate among ST, 2011

SN	District	Literacy Rate among Scheduled Tribe		
		Male	Female	Total
1	Srikakulam	63.46	43.74	53.36
2	Vizianagaram	55.19	38.44	46.57
3	Visakhapatnam	55.62	34.67	44.9
4	East Godavari	57.93	46.6	52.1
5	West Godavari	66.26	54.79	60.36
6	Krishna	61.07	46.24	53.69
7	Guntur	55.26	37.47	46.45
8	Prakasham	53.68	40.4	47.12
9	Nellore	46.15	39.34	42.78
10	Chittoor	67.98	85.1	75.46
11	Kurnool	65.23	44.6	55.04
12	Ananthapur	65.44	44.24	54.98
13	Y.S.R.Kadapa	25.48	17.23	21.36
	Andhra Pradesh	57.07	41.09	49.01

Source: Census of India, 2011.

Government converting 50 Tribal welfare Hostels in Non-Scheduled area into 50 TW Residential Schools. 30 Hostels were converted into Residential Schools in Non-Scheduled area. These 80 Residential schools were started functioning with a strength of 5708 from class 3rd to 5th. Converting 30 TW Hostels into Ashram Schools in Scheduled Area with a Strength of 4525. There are 391 Ashram Schools, 134 Hostels, 5 IWCH (including merged Mandal) and 98,869 students have been enrolled so far. An amount of Rs.1570.53 Cr is provided in Budget for 2016-17 towards Diet and other maintenance charges. 6377 ST students are admitted in 63 Best Available Schools for the year 2016-17.

Under skill development programme, ST youth are provided training for skill up gradation, including direct placements. Entrepreneur Development programme through NI-MSME & DICCI as a pilot is taken up and it is planned for scaling up in subsequent phases to ensure better access for stand-up India programme. Aspiration training infrastructures are created which are facilitating as skill development centers of Excellence.

MoU between Tribal Welfare Department (TRICOR) and AP State Skill Development Center (APSSDC) is entered for providing skill up gradation trainings for employability of ST youth. Pre-training orientation, Bavitha Campaigns are being organized which is to mobilize ST youth, Career guidance and counselling. Job melas / direct placement drives are being organized for placement to the skilled youth. Training in 42 skill sectors in 96 trades working with 62 training partners, are being offered to ST youth from the YTC's and Pool Training Centers, NAC & CIPET etc.

Housing

As per census 2011 (State undivided), 57.85 percent ST households having houses that are categorised to be in good condition against 69.73 percent in all categories (all population). Liveable house condition is observed in 36.45 percent STs against 26.77 percent at all population level. Dilapidated house condition is observed during the census in 5.70 percent ST households against 3.50 percent in all population. Main source of drinking

water, within the premises of ST households, observed in 21.0 percent (43.2 percent in all categories). In 45.7 percent ST households, drinking water source is near to the ST household premises (37.3 in all categories) and in 33.4 percent, drinking water source is in a distant place (19.5 in all categories). Similarly, in sanitation, 19.3 percent ST households having latrine within the house premises (49.6 percent in all categories). Number of households not having latrine facility within the house premises is highest among STs with 80.5 percent (50.4 percent in all categories) and open defecation is in 78.0 percent among the STs (48.0 percent among all categories). Similarly, use of fuel wood, crop residue, cow dung cake, charcoal etc. is also highest among ST households (76.64 percent) in comparison to all categories (46.63 percent). Housing condition and status of basic amenities reflects that in comparison to other categories, people belonging to ST community are less better-off. This is the reason for which Govt. of Andhra Pradesh (Divided State) has been taking several measures to improve the status of the Scheduled Tribes in the State.

Economic Status

During 1993-94, 25.66 percent ST population was below poverty line in rural (India: 51.94 percent) and 46.68 percent in urban areas (India: 41.14 percent) of Andhra Pradesh (undivided). During 1999-2000, it

reduced to 23.82 percent in rural (India: 45.86 percent) and 44.99 percent (India: 34.75 percent) in urban Andhra Pradesh. Poverty ratio among STs in Andhra Pradesh, during 2004-05 was 30.5 percent in rural (15.8 percent total) and 50.0 percent in urban which was highest among all the social categories in the State. In the incidence of poverty among STs, the state was standing at moderate (20 percent to 30 percent poverty level as per NSSO 55th round, 1999-2000).

As per Tendulkar methodology (2009-10 estimation), 40.2 percent ST in rural (All: 22.8 percent; India: 33.8 percent) and 21.2 percent in urban (All: 17.7 percent, India: 20.9 percent) are below the poverty line in the State. As per 2011 census, work participation rate of STs in the State is 54.2 percent with main worker population is 80.0 percent and female worker population in total worker population is 20.0 percent.

Under Economic Support Schemes, selected ST beneficiary / ST group provided financial assistance ranging from 60% to 90% of the unit cost subject to a maximum of Rs.1.00 lakh for creation of livelihood activities. Beneficiaries' registration is done through Online Beneficiary Management & Monitoring System (OBMMS) (Source: Economic Survey, 2016-17, Andhra Pradesh).

Note: Please refer annexure for other details





2.2 Tribal Profile, Maharashtra

Introduction and Overview

The State is having 50,757 sq. Km under the Tribal Sub-Plan¹ which is 16.52 percent of the total geographical area (3,07,313 Sq. Km) of the State. The State houses 46 Scheduled Tribes and the tribal population is largely concentrated in the western hilly Districts of Dhule, Nandurbar, Jalgaon, Nashik and Thane (Sahyadri Region) and the eastern districts of Chandrapur, Gadchiroli, Bhandara, Gondiya, Nagpur, Amravati and Yavatmal (Gondwana Region). Main tribes in the State are the Bhills, Gonds, Mahadeo Kolis, Pawras, Thakurs and the Varlis. There are three tribes Viz the Kolams (Yavatmal District; Project District), the Katkaris (mainly in Thane and Raigad Districts) and the Madia Gonds (Gadchiroli District), which have been notified as Primitive Tribes by the Government of India.

Spread of Scheduled Tribes in the State of Maharashtra

Sl. No.	Particulars	Details
1	Districts	16
2	Block	73
3	Village	5691
4	Villages at ATSP	1271
5	MADA Pockets	43
6	Mini MADA Pockets	24
7	Villages in MADA	1233
8	Villages in Mini-MADA	295

Source: Tribal Development Department

The habitations where more than 50.0 percent of the population is tribal, have been formed into Integrated Tribal Development Projects (ITDPs). The State is having 16 ITDPs as per the norm. Subsequently, the villages

1. During the 5th Five Year plan, it was realized that the Scheduled Tribes are still way behind the mainstream development process. It was also realized that the general plan schemes / programmes designed for the overall development of the economy hardly improved their socio-economic status. In order to eradicate these issues, the Tribal Sub-Plan was initiated during Fifth Five Year Plan. The ST development effort was revamped and invigorated in order to fulfil the constitutional mandates of ensuring better quality of life of the schedule tribes. The basic objective of Tribal Sub-Plan is to channelise the flow of outlays and benefits from the general sectors in the Ministries/Departments for the development of Scheduled Tribes at least in proportion to their population.

where the tribal population was only marginally less than 50 percent were constituted into additional ITDPs and these were called the Additional Tribal Sub Plan (ATSP) Blocks / Projects. There were 4 such State Government approved ATSP projects. Taking in to consideration the scattered tribal population in other areas, 3 more ITDPs were formed, one each in Mumbai, Aurangabad and Akola district. Apart from this, another ITDP was created in Thane district to meet the health and nutritional requirements of tribal population. So, the State is having a total of 24 ITDPs and 23 Project Officers (PO) to look after the interventions under ITDPs. In addition, the State is having 43 MADA² Pockets and 24 Mini MADA / Clusters³.

In the meantime, the Government of India in recognition of the fact that there were some small concentrations of tribal population just outside the I.T.D.Ps., directed that in a group of villages having a population of about 10,000, if more than 50 Percent were Scheduled Tribes, the villages should be brought under the Modified Area Development Approach (MADA). Similarly, if two or three villages having a total population of 5,000 and if more than 50 percent were Scheduled Tribes, the same should be constituted into a clusters / Mini MADA..

ITDPs under different Additional Tribal Commissioners

Sl. No.	ATC Nashik	ATC Thane	ATC Nagpur	ATC Amravati
1	2	3	4	5
1	ITDP – Nahsik	ITDP - Shah-apur	ITDP – Nagpur	ITDP - Dharani
2	ITDP – Nand-urbar	ITDP - Pen	ITDP - Chandr-apur	ITDP - Akola
3	ITDP – Taloda	ITDP - Jawhar	ITDP – Chimur	ITDP - Pandhar-kawada
4	ITDP – Kalwan	ITDP - Dahanu	ITDP – Deori	ITDP - Kinwat
5	ITDP – Rajur	ITDP - Ghode-gaon	ITDP – Gadchiroli	ITDP - Aurangabad
6	ITDP – Yawal	ITDP - Mumbai	ITDP – Aheri	
7			ITDP - Bhamar-agad	

Demographic Composition

Maharashtra is having sizeable number of tribal population, which comprises 9.35 percent of the total population of the state. Of the total population of the state (112.37 million), 10.51 million reported as Scheduled Tribe, of which 5.32 million are males (50.57 percent) and 5.20 million (49.43 percent) are females. In between two census periods, i.e., 2001 and 2011, the state has added 1.93 million tribal population (census 2011).

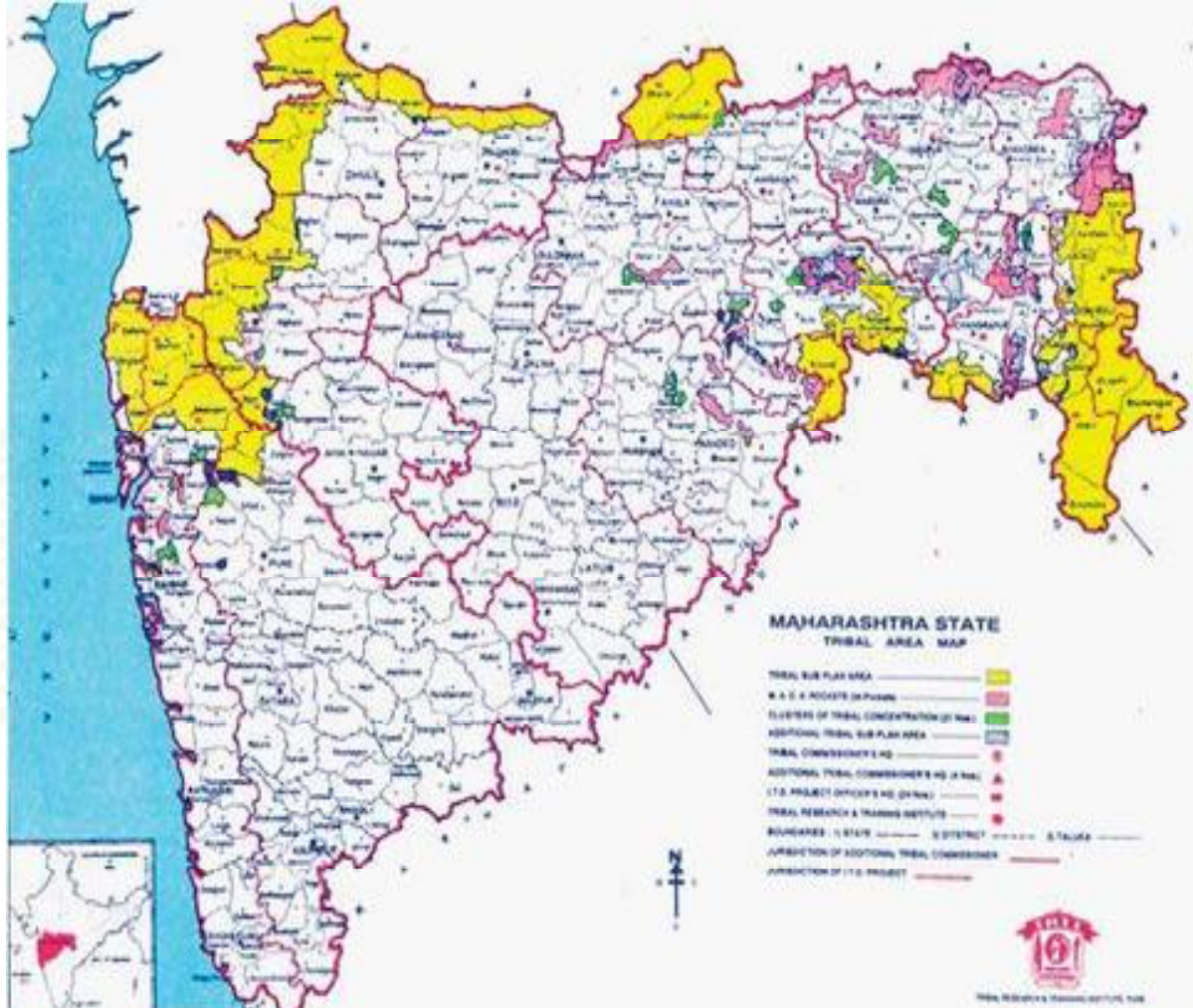
Tribal Population in Maharashtra

Popul-ation	2001	2011	Variance	Growth Rate (%)
1	2	3	4	5
Persons	85,77,276	1,05,10,213	19,32,937	22.5
Males	43,47,754	53,15,025	9,67,271	22.2
Females	42,29,522	51,95,188	9,65,666	22.8

Source: Census of India, 2011

2 A group of villages having a population of about 10,000 of which more than 50 percent are tribals, the villages comes under the Modified Area Development Approach (MADA).

3 If two or three villages having a total population of 5,000 of which more than 50 Percent are tribals, the villages constituted into a clusters / Mini MADA.



Tribal Area Map of Maharashtra

Source: Tribal Development Department Website, Maharashtra

The growth rate for ST population during 2001-11 stands to be 22.5 percent and their proportion in total population of the state stands at 9.35 percent (census 2011) against 8.9 percent in 2001. The district Nandurbar has the highest proportion of ST population with 69.3 percent followed by Gadchiroli (38.7 percent), Dhule (31.6 percent) and Nashik (25.6 percent).

The state is having only one scheduled district (more

than 50.0% ST population) and 3 districts where tribal population is 25.0 percent to 50.0 percent. The project districts do not fall in to scheduled district category, i.e., more than 50.0 percent tribal population or to the district category of 25.0 percent to 50.0 percent tribal population. The state has 59 scheduled tehsils, of which thirteen tehsils are in the project area. Jalgaon district has three tehsils, two in Nanded and seven tehsils are in Yavatmal district.

Scheduled Tehsils in Maharashtra

Sl. No.	Scheduled Tehsils	District
1	Palghar	Thane
2	Vasai (Bassein)	Thane
3	Bhiwandi	Thane
4	Murbad	Thane
5	Dahanu	Thane
6	Talashree	Thane
7	Mokhada	Thane
8	Jawahar	Thane
9	Vada	Thane
10	Shahapur	Thane
11	Vikramgarh	Thane
12	Peth	Nashik
13	Surgana	Nashik
14	Kalawan	Nashik
15	Dindori	Nashik
16	Igatpuri	Nashik
17	Nasik	Nashik
18	Baglan	Nashik
19	Trimbakeswar	Nashik
20	Dewla	Nashik
21	Sakri	Dhule
22	Shirpur	Dhule
23	Nawapur	Nandurbar
24	Taloda	Nandurbar
25	Akalpuan	Nandurbar
26	Akrani	Nandurbar
27	Nandurbar	Nandurbar
28	Shahada	Nandurbar
29	Chopda	Jalgaon
30	Raver	Jalgaon
31	Yavla	Jalgaon
32	Akole	Ahmednagar
33	Ambegaon	Pune
34	Junnar	Pune
35	Kinwat	Nanded
36	Mahur	Nanded
37	Maregaon	Yavatmal

Sl. No.	Scheduled Tehsils	District
38	Ralegaon	Yavatmal
39	Kelapur	Yavatmal
40	Ghatanji	Yavatmal
41	Vani	Yavatmal
42	Jharijamani	Yavatmal
43	Anni	Yavatmal
44	Chikaldhara	Amravati
45	Dharini	Amravati
46	Edapalli	Gadchiroli
47	Sironcha	Gadchiroli
48	Aheri	Gadchiroli
49	Dhanura	Gadchiroli
50	Urkheda	Gadchiroli
51	Bhamargarh	Gadchiroli
52	Kurchi	Gadchiroli
53	Gadchiroli	Gadchiroli
54	Armori	Gadchiroli
55	Chamorshi	Gadchiroli
56	Mulchera	Gadchiroli
57	Desaiganj	Gadchiroli
58	Rajura	Chandrapur
59	Orpona	Chandrapur

Scheduled Tribe population in the State is overwhelmingly rural. Of the total rural population of the State, 14.6 percent are scheduled tribes, whereas in urban, only 3.0 percent are scheduled tribe population. Of the total ST population of the State, 85.69 percent (9.01 million) live in rural and remaining 14.31 percent (1.50 million) in different urban settlements.

PVTG and Its Population

The State is having three Particularly Vulnerable Tribal Groups (PVTG), namely Katkari, Kolam and Maria Gond. All the PVTGs record growth in their population as per census 2011. In comparison to 2001, population of Katkari in the State has increased by 21.41 percent and in comparison, to 1971, there is population growth

of 94.39 percent. The population growth rate of Kolam PVTG is 12.11 percent in comparison to 2001 and 247.25 percent in comparison to 1971. Similar positive growth trend is observed in the population of Maria Gond in the State. Overall, the State records a decadal growth rate among all the PVTGs.

PVTGs in Maharashtra and its Population

Name of PVTG	Population				
	1971	1981	1991	2001	2011
Katkari/Kathodi	146785	174602	202203	235022	285334
Kolam	56061	118073	147843	173646	194671
Maria Gond	53400	66750	-	-	1618090
Total	256246	359425	350046	408668	2098095

Literacy Rate

The literacy rate of scheduled tribes in Maharashtra is 65.7 percent. The male literacy rate among tribal is comparatively higher than female literacy rate in the State. Male literacy rate among the tribal is to the tune of 74.3 percent and that of female literacy rate is 57.0 percent (census 2011).

Housing

Of the total Scheduled Tribe Households of the State⁴, about 37.89 percent live in kuccha houses. In the total 36.99 percent kuccha houses, in majority of 35.37 percent kuccha houses, the household is having less than or equal to two rooms. Three or more than three rooms are observed in 2.52 percent kuccha houses. Comparing with total households of the State, it is evident that 4.97 percent kuccha houses belong to Scheduled Tribes. The Scheduled Tribe households living in pucca houses is 26.85 percent of the total ST households and 3.53 percent of the total households

of the State. Pucca house with equal to or less than two rooms is observed in 21.63 percent of ST households and in 5.22 percent cases, the pucca houses are having three or more than 3 rooms.

Housing Status of Scheduled Tribes

House Type	Less than or Equal to 2 Rooms	Greater than 2 Rooms and Equal to or Greater than 3 Rooms	Total
Kuccha	35.37	2.52	37.89
Pucca	21.63	5.22	26.85
Semi-Kuccha	28.46	2.43	30.89
Semi-Pucca	3.71	0.67	4.37
Total	89.17	10.83	100.00

The Scheduled Tribe households having semi-kuccha houses⁵ observed in 30.89 percent cases, which includes houses with less than or equal to two rooms (28.46 percent) and houses with three or more than three rooms (2.43 percent). About 4.37 percent ST households live in semi-pucca⁶ houses, which comprises, 3.71 percent houses with less than or equal to two room houses and 0.67 percent houses with three or more than three rooms. In comparison to total households of the State, 0.56 percent ST households are semi-pucca houses.

Land Holding Pattern

Of the total 2.27 million tribal households in the State, 864 thousand ST households possess⁷ land which is 1.84 percent less than that of total ST households possessing land in 2005-06. However, the area of holding has increased by 5.46 percent during the agriculture census 2010-11 in comparison to

4 The total Scheduled Tribe households estimated to be 13.45 percent of the total households of the State. The estimated percentage distribution is made taking in to account 13.13 percent ST households in to account.

5 Semi-kuccha house refers to kuccha wall with pucca roof top

6 Semi-pucca house refers to kuccha roof top with pucca wall

7 Agriculture Census 2010-11

agriculture census period 2005-06. So, while average land holding per ST household has increased, number of ST households holding land has decreased. Among the total land holding of ST families, 36.58 percent are marginal farmers, 33.80 percent are small, 20.77 percent are semi-medium, 8.06 percent are medium and 0.79 percent are large farmers. So, marginal and small farmers constitute a total of 70.38 percent of the total land holding scheduled tribe families.

In comparison to previous agriculture census (2005-06), there is a growth in number of marginal farmers⁸ by 4.81 percentage point but number of small farmers⁹ has reduced by 1.17 percentage point in the State. Semi-medium¹⁰ and medium¹¹ farmer percentage has also reduced in the state by 6.02 percentage point and 1.71 percentage point respectively. But the large¹² farmer percentage has increased by 31.67 percentage point. So, while there is a growth in marginal farmers and large farmers among the STs, in remaining three land holding categories, there is reduction in number of land holders.

With regard to area operated by different holding categories among the Scheduled Tribes, 36.58 percent marginal farmers operate 10.89 percent land. The total operated land by the marginal farmers has reduced by 0.09 percentage point in comparison to 2005-06. The small farmers (33.80 percent) operate 26.7 percent of the total land and are operated by the small farmers has increased by 3.29 percentage point in comparison to 2005-06. Similarly, semi-medium (20.77 percent) and medium farmers (8.06 percent) operate 30.68 percent and 25.33 percent land in the State and in both the categories are operated has reduced by 5.02 percentage point and 3.14 percentage point respectively. Contrary to this, amount land operated by the large ST farmers (0.79 percent) has increased by 33.33 percentage point in comparison to the previous census period (2005-06). Overall, while there is growth

in percentage of marginal ST farmers (4.81 percentage point), there is reduction in area of operation. On the other hand, while there is reduction in small farmer percentage (reduction by 1.17 percentage point), area operated by them has increased. With reduced number of semi-medium and medium ST farmers, area operated by farmers of these categories has also reduced. In case of large farmers, average area operated has increased with increased percentage of ST farmers in this category (31.67 percentage point growth).

The average size of operational holding of ST marginal farmers remains to be 0.54 ha. without any change during the assessment periods. Whereas in all other categories, average holding size has increased. In case of small and semi-medium farmers, it has increased from 1.31 to 1.43 ha. and 2.54 ha. to 2.67 ha. with a growth of 9.16 percent and 5.12 percent respectively. In case of medium and large farmers, it has increased from 5.54 ha. to 5.67 ha. and 13.9 ha. to 14.65 ha. with a growth of 2.35 percent and 5.40 percent respectively.

Economic Status

As per Tendulkar methodology (2009-10 estimation), 51.7 percent Scheduled Tribe population in rural (State total in Rural: 29.5 percent) and 32.4 percent in urban (State Total in Urban: 18.3 percent) are below the poverty line. With regard to incidence of poverty among the Scheduled Tribes, the state occupies "high poverty ratio" status with 35.0 percent to 50.0 percent poverty. As per the Socio-Economic and Caste Census (SECC), of the total Scheduled Tribe households, 26.23 percent are engaged in cultivation and derive their income from farming. Majority of 64.56 percent Scheduled Tribe households are engaged in manual casual labour. Other sectors / sub-sectors of engagement of Scheduled Tribe households are in part / full time domestic services (1.12 percent), foraging

8 Marginal farmer refers to land holding size of < 1 ha.

9 Small farmer refers to land holding size of 1 ha. to 2 ha.

10 Semi-Medium farmer refers to land holding size of 2 ha. to 4 ha.

11 Medium farmer refers to land holding size of 4 ha. to 10 ha.

12 Large farmer refers to land holding size of > 10 ha.

/ rag picking (0.35 percent), non-agricultural enterprises (0.50 percent) and engagement in other economic activities (7.15 percent).

Districts	Total HH	Total ST HH	% of ST HH	% of HH in Cultivation	% of HH in Manual Casual Labour	% of HH in Part / Full-Time Domestic Service	% of HH in Foraging Rag Picking	% of HH in Non-agricultural Enterprise	% of HH in Other Works
1	2	3	4	5	6	7	8	9	10
Jalgaon	643191	100469	15.62	7.78	85.49	0.75	1.28	0.31	4.35
Buldana	461842	22593	4.89	25.47	68.10	0.57	0.36	0.51	5.00
Akola	281629	20312	7.21	23.35	69.35	0.67	0.24	0.35	6.03
Washim	223258	17197	7.70	25.06	69.24	1.13	0.08	0.12	4.36
Amravati	450098	76793	17.06	21.70	72.53	0.58	0.47	0.60	4.10
Wardha	226126	30994	13.71	21.85	68.58	0.60	0.23	0.52	8.22
Yavatmal	584064	124832	21.37	22.57	70.96	0.74	0.19	0.17	5.38
Nanded	488582	45312	9.27	39.43	54.46	0.53	0.28	0.28	5.03
Hingoli	202854	20933	10.32	27.47	67.70	0.54	0.14	0.32	3.84
Parbhani	261070	6504	2.49	29.80	62.93	0.69	0.25	0.62	5.72
Jalna	314270	6479	2.06	33.11	59.98	0.68	0.65	0.62	4.97
Aurangabad	449363	22845	5.08	21.87	70.08	0.57	0.43	0.48	6.56
Bid	460613	4602	1.00	22.84	62.06	0.96	0.43	0.65	12.78
Latur	360602	9540	2.65	26.15	62.39	1.65	0.23	1.08	8.50
Osmanabad	294600	7189	2.44	29.73	55.65	1.03	0.21	1.42	11.96
Maharashtra	13841960	1861647	13.45	26.23	64.56	1.12	0.35	0.50	7.15

Source: Socio-Economic and Caste Census

Note: HH: Household

Highest monthly income by any member of Scheduled Tribe households observed to be less than Rs.5000/- (US \$ 80.65 at Rs.62/- per US \$) in 87.28 percent families. Monthly income level of Rs.5000/- to Rs.10,000/- (US \$ 80.65 to US \$ 161.29 at Rs.62/- per US \$) is in 8.43 percent ST households and in the remaining 4.22 percent ST households, highest monthly income of any of the member is more than Rs.10,000/- (US \$ 161.29 at Rs.62/- per US \$).

Highest Income of Scheduled Tribe Household Members

District	Total HH	Total ST HH	% of ST HH	% of HH with monthly Income of highest earning member < 5000	% of HH with monthly Income of highest earning member 5000 - 10000	% of HH with monthly Income of highest earning member > 10000
1	2	3	4	5	6	7
Jalgaon	643191	100469	15.62	90.98	6.69	2.29
Buldana	461842	22593	4.89	82.34	12.47	5.19
Akola	281629	20312	7.21	81.67	12.53	5.80
Washim	223258	17197	7.70	85.49	9.23	5.28

District	Total HH	Total ST HH	% of ST HH	% of HH with monthly Income of highest earning member < 5000	% of HH with monthly Income of highest earning member 5000 - 10000	% of HH with monthly Income of highest earning member > 10000
1	2	3	4	5	6	7
Amravati	450098	76793	17.06	86.64	9.75	3.60
Wardha	226126	30994	13.71	85.90	9.47	4.63
Yavatmal	584064	124832	21.37	83.65	11.91	4.44
Nanded	488582	45312	9.27	76.65	14.82	8.53
Hingoli	202854	20933	10.32	87.08	8.44	4.49
Parbhani	261070	6504	2.49	79.57	16.21	4.23
Jalna	314270	6479	2.06	80.12	12.36	7.52
Aurangabad	449363	22845	5.08	84.81	12.39	2.80
Bid	460613	4602	1.00	75.90	12.93	10.89
Latur	360602	9540	2.65	75.40	15.23	9.37
Osmanabad	294600	7189	2.44	74.22	15.70	10.07
Maharashtra	13841960	1861647	13.45	87.28	8.43	4.22

Source: Socio-Economic and Caste Census, Note: HH: Household

Work Participation Rate (WPR)

The Work Participation Rate (WPR)¹³ of Scheduled Tribes in Maharashtra is 50.6 in comparison to tribal Work Participation Rate of 58.0 at the National level (census 2011). Work Participation Rate of male (55.14 percent) is higher than female (44.86 percent) by 10.28 percentage points. The WPR of male in the State is less than that of National average (55.59 percent) by 0.45 percentage point. However, the female WPR of Scheduled Tribes in the State is higher than the national average (44.41 percent) by 0.45 percentage point. Further, WPR of tribal male in the State is less than that of all population (65.99 percent) by 10.85 percentage point, whereas WPR of tribal female is more than all population of female (31.33 percent) by 10.85 percentage point.

Work Participation Rate (Total Worker)

SN	Total Worker	Maharashtra (%)	India (%)	Difference (Percentage Point)
1	2	3	4	5 (4-3)
A	Work Participation Rate	50.6	58.0	7.4
B	All Population			
B.1	Male	65.99	68.89	2.90
B.2	Female	34.01	31.33	(-) 2.68
C	Scheduled Tribe			
C.1	Male	55.14	55.59	0.45
C.2	Female	44.86	44.41	(-) 0.45

Source: Census 2011 and Statistical Profile of Scheduled Tribes in India, 2013

In Main Workers segment, the State is having less percentage of main workers (57.87 percent) among the Scheduled Tribes in comparison to the main worker percentage of STs at the National level (63.94 percent) by 6.07 percentage point. The State is having a total of 42.13 percentage female main workers among the STs which is higher than the female main workers (STs) of the country (36.06 percent) by 6.07 percentage point.

In case of Marginal Workers, percentage of ST male marginal workers in the State (42.15 percent) is higher than the ST marginal workers at the National level (40.23 percent) by 2.28 percentage point. But, in case of females, the State is having less ST female marginal workers (57.49 percent) than that of the country (59.77 percent) by 2.28 percentage point. So, in case of scheduled tribes, male main worker percentage in the State is higher than that of female by 15.74 percentage point whereas it is less by 14.98 percentage point from females in marginal worker segment. Work Participation of both tribal and all category population in main and marginal segment is presented in the Table No. 13.

Main Worker among Scheduled Tribes

SN	Main Worker	Maha-rashtra (%)	India (%)	Difference (Percentage Point)
1	2	3	4	5 (4-3)
A	Main Worker			
A.1	All Population			
A.1.1	Male (M)	68.53	75.36	6.83
A.1.2	Female (F)	31.47	24.64	(-) 6.83
A.1.3	Difference (M-F)	37.06	50.72	
A.2	Scheduled Tribe			
A.2.1	Male (M)	57.87	63.94	6.07
A.2.2	Female (F)	42.13	36.06	(-) 6.07
A.2.3	Difference (M-F)	15.74	27.88	

SN	Main Worker	Maha-rashtra (%)	India (%)	Difference (Percentage Point)
1	2	3	4	5 (4-3)
B	Marginal Worker			
B.1	All Population			
B.1.1	Male (M)	46.38	49.22	2.84
B.1.2	Female (F)	53.62	50.78	(-) 2.84
B.1.3	Difference (M-F)	(-) 7.24	(-) 1.56	
B.2	Scheduled Tribe			
B.2.1	Male (M)	42.51	40.23	(-) 2.28
B.2.2	Female (F)	57.49	59.77	2.28
B.2.3	Difference (M-F)	(-) 14.98	(-) 19.54	

Source: Census 2011 and Statistical Profile of Scheduled Tribes in India, 2013

Banking Services

Of the total ST households in the State, 47.95 percent households are availing banking services. The reasons of non-accessing banking services can be attributed to poor awareness, practice of keeping cash in hand, non-availability of banking services in the locality, lack of productive assets to place as collateral for credit access from formal financial institutions etc.

Asset Holding

Asset holding of a household normally reflects the economic condition of the family. The ST households in the State shows a poor asset holding status with regard to assets that are considered essential in the present day of living. About 30.20 percent ST households own a television and 22.70 percent have a bicycle. Mobile phone for communication and two-wheeler for mobility is available with 32.80 percent and 10.50 percent ST



families. Only 2.10 percent ST households have these modern assets (TV, computer, mobile phone and two / four-wheeler). About 43.0 percent ST families does not possess any of these assets.

Table 14: Asset Holding and Facilities / Services of STs

Household Characteristics (Total and STs)	Maharashtra		India	
	2011		2011	
	Total	ST	Total	ST
Living in 'Good' Houses	64.1	48	53.2	40.6
Having a House with Concrete Roof	30.2	12.2	29	10.1
Having only one Dwelling Room	46.3	60	41	48.7
Using Tap Water	67.9	48.4	43.5	24.4
Access to Improved sources of Drinking Water (Tap, hand pump and closed well)	85.6	75.1	87.1	73.4
Having Toilet facility within premises	53.1	30.1	46.9	22.6
Using Electricity as Main Source of Lighting	83.9	59.8	67.2	51.7
Using LPG for Cooking	43.4	18.9	28.5	9.3
Availing Banking Services	68.9	47.9	58.7	45
Having Television	56.8	30.2	47.2	21.9
Having Telephone/ Mobile Phone	69.1	39.7	63.2	34.8
Having 2/4-wheeler	30.8	12.1	25.7	10.6
With "No" Assets	19	43	17.8	37.3

Source: Tribal Sub-Plan in Maharashtra, with reference to Census 2011

Table 15: Asset Holding, Facilities and Services

Household Characteristics (Total and STs)	2011		2001		Difference	
	Total	ST	Total	ST	Total	ST
Living in 'Good' Houses	64.1	48.0	52.6	36.7	11.5	11.3
Having a house with Concrete Roof	30.2	12.2	21.1	8.5	9.1	3.7
Having only one Dwelling Room	46.3	60.0	52.3	64.9	-6.0	-4.9
Using Tap Water	67.9	48.4	64.0	45.2	3.9	3.2
Access to Improved sources of Drinking Water (Tap, hand pump and closed well)	85.6	75.1	79.8	69.4	5.8	5.7
Having toilet facility within premises	53.1	30.1	35.1	20.2	18.0	9.9
Using electricity as Main Source of Lighting	83.9	59.8	77.5	52.2	6.4	7.6
Using LPG for Cooking	43.4	18.9	29.7	12.1	13.7	6.8
Availing Banking Services	68.9	47.9	48.1	26.2	20.8	21.7
Having Television	56.8	30.2	44.1	22.6	12.7	7.6
Having Telephone/Mobile Phone	69.1	39.7	14.1	4.5	55.0	35.2
Having 2/4 wheeler	30.8	12.1	16.6	6.3	14.2	5.8
With no Assets	19.0	43.0	36.8	56.6	-17.8	-13.6

Source: Tribal Sub-Plan in Maharashtra, with reference to Census 2011

Consumption Expenditure

The NSS estimation of MPCE (monthly per capita consumption expenditure) by 'All' and ST households (66th round, 2009-10) for rural and urban areas of Maharashtra reflects that in the rural areas of Maharashtra, 70.5 percent of Scheduled Tribe households spend up to Rs.1000/- whereas all household spending is 58.6 percent. The gap between ST and all households remain to be 11.9 percentage point. In the above Rs.3000/- spending category, percentage of all households spending is more than the ST households and the gap (ST – all categories) is (-) 1.2 in favour of all households. The mean per capita expenditure of ST and all categories remain to be Rs.930/- and Rs.1062/- in rural. In Urban areas, spending up to Rs.1000/- is about 30.0 percent in case of STs and 17.8 percent in case of all categories and difference remains to be 12.2. Monthly per capita consumption expenditure above Rs.3000/- is higher in case of all households (22.8 percent) in comparison to STs (18.3 percent) with a gap of (-) 4.5 percentage point.

Table 16: Monthly Per Capita Consumption Expenditure; Rural and Urban

All / ST	Rural				Urban			
	Up to Rs.1000/-	Above Rs.3000/-	Mean (Rs.)	Median (Rs.)	Up to Rs.1000/-	Above Rs.3000/-	Mean (Rs.)	Median (Rs.)
1	2	3	4	5	6	7	8	9
All Households	58.6	1.5	1062	919	17.8	22.8	2556	1847
Scheduled Tribes (ST)	70.5	0.2	930	783	30.0	18.3	3561	1480
Difference (ST-All)	11.9	-1.2	-132	-136	12.2	-4.5	1005	-367





2.3 Tribal Profile, Odisha

Development Status of STs in Odisha

Odisha with one of the highest tribal population at the national level, comprise 23.91 percent of the total households. About 39.14 percent families derive major part of their income from manual casual labour due to landlessness. Only 0.87 percent tribal households are having non-agricultural enterprises and registered with Government. Members of 2.01 percent tribal families are in salaried job with Government and 0.71 percent having salaried job either in public sector or in private sector. Monthly income of highest earning household member is less than Rs.5,000/- in 95.69 percent cases. Only 0.82 percent tribal families in Odisha are having KCC (Kissan Credit Card) with a credit limit of Rs.50,000

and above. In terms of holding unirrigated land, it is observed that 45.25 percent tribal families have unirrigated land and only 5.94 percent holds irrigated land¹⁴.

Under Socio-Economic and Caste Census (SECC), about 88.58 percent tribal households are considered under deprivation category due to poor asset base and other deprivations. In the income categories, about 6.94 percent families have agriculture as their source of income whereas 15.12 percent derive their income from wage employment, 0.37 percent from domestic services, 0.04 percent from rag picking, 0.11 percent from own non-agricultural enterprises, 0.07 percent from begging/charity and 1.26 percent from other engagement sources.

14 Socio-Economic and Caste Census of Tribals, Ministry of Tribal Affairs, Govt. of India

Socio-Economic Condition and Tribal Development Trend

Tribal development in the State has been reflecting a positive trend in human development aspects but the expected accelerated pace of growth is yet to be realised in some areas. The gap between the perspective and realisation is basically attributed to the mismatch of resources that are expected (as per the decentralised planning in tribal areas) and its availability from all sources. The situational analysis, based on certain development indicators are highlight below which refers to both rural and urban households in combination excluding institutional households¹⁵.

Financial Inclusion

Financial inclusion has been one of the major mandates of the Country as per the approach paper of 12th plan period which the Government of Odisha has been attempting to achieve. Available information reflects that while 45.04% of all households are availing banking services, only 35% tribal households have the accessibility to banking services with a lowest of 19.26% in Nawarangpur district and a highest of 54.47% in Gajapati district of the State. In rural tribal set-ups where penetration of institutional finance services are normally remains low, poor accessibility to financial services impacts upon the capital availability for entrepreneurial ventures including investment in agriculture and allied sector for improved income generation.

Asset Holding

Normally, type of assets a family holds reflects the economic status of the family. In the State, only around 2.10% households have multiple improved assets (TV, Computer/Laptop, and Telephone/Mobile). The situation is further low in case of tribal where only

0.35% tribal families hold the similar assets. Where, type of assets like computer is more linked to both educational and economic status of the family, means of communication i.e. telephone is more to establish business and non-business links with externals. Overall, these indicators reflect that the purchasing power of tribal need to be improved by which they could afford to have these basic minimum facilities of present day living.

Drinking Water

Due to the inaccessibility nature of tribal habitation, penetration of schemes that supports in provisioning drinking water at the approachable distance remains an operational challenge. Information of 2011 reveals that for 41.45% households in the State, hand pump remains a primary source of fetching drinking water followed by tube well/bore well for 19.97% households, uncovered well for 17.30% households and tap water from treated sources for 9.98% households. In case of tribal, dependency on tap water from treated sources is as low as 3.77%. Hand pump (43.20% households), tube well/bore well (20.03%) and un-covered well (18.78%) still remains as major source of drinking water for the tribal.

Household Condition

About 29.53% households in the State are having houses of good quality, 62.13% have Liveable houses and in 8.33%, the condition of house is dilapidated. In case of tribal, houses with good quality are with 19.07% households whereas 72.33% families have Liveable house and in 8.60% cases, houses are dilapidated. This situation demands additional support provision for repairing the dilapidated houses and transforming the Liveable houses to houses of good condition through improvement measures.

¹⁵ The analysis is based on the information of the Ministry of Tribal Affairs, Government of India, 2011 Survey

Energy

At the State level, about 43.07% families have electricity connection contrary to 15.62% tribal families. Use of kerosene (82.31%) has been a major source of energy for the tribal families (55.33 for all categories). Inaccessibility of tribal habitations can be attributed as one of the factors but at the same time, higher cost of giving electricity connections to the remote tribal areas and less paying capacity of tribal also remains a fact in this regard.

Water and Sanitation

About 22.04% households in the State is having latrine facility within the premises and in case of tribal, about 7.13% households have latrine facility within their premises. Of the total 92.87% tribal families who do not have toilet facility, 1.29% use public toilet and 91.58% goes for open defecation. The status of open defecation, in general is around 76.59%, combining all communities.

Education

The ST literacy rate in the State is lower than that of the Country (74.04%) i.e. around 37.37%¹⁶ whereas literacy rate of the tribal at the national level is around 47.10%. Indicator of educational attainment, as per the Ministry is 1.92, which is below the educational attainment of some other States having tribal population like Jharkhand (2.43). In the context of the State, while total literacy rate of Odisha is about 73.45%, literacy rate of tribal is much below the State average. The dropout rate of ST students in Odisha, in class 1-V is about 39.11% (India-32.23%) with a higher girl child dropout. High dropout rate is between classes VI to class X. Combining the rate of dropout in all the classes, i.e., from class I to class X, it is about 84.79%

against the national average of 76.49%¹⁷. The Gender parity index of ST students in education further reflects low parity in education from class VI to VIII (0.79) which is relatively lower than the national average of 0.85. The gross enrolment ratio of tribal children in different classes also remains low in comparison to National average coupled with less girl child enrolment. Between 6-10 years, enrolment of tribal children in class I-V is about 126.18 in Odisha against 129.29 at the National level. Between classes VI-VIII, enrolment of tribal children is about 59.41% against the national average of 74.44%. Combining both, i.e. at the elementary education level, the overall enrolment of tribal children in Odisha is around 102.76% against the national average of 109.57%.

Health

According to the estimation of infant mortality rate in 2001, the infant mortality rate among tribal in Odisha is about 92, against the National average of 84. Infant mortality rate of male and female child among the tribal at the national level is 82 and 86 respectively whereas in Odisha, it is 93 and 92 respectively for male and female. Infant mortality rate in rural is much higher than the urban. Similarly, in under five (U5), mortality of male child is about 118 at the national level and 113 at the State level. Further U5 mortality of female child at the national level is 128 against the State average of 132. In total, U5 mortality rate among the tribal in India is 123 whereas it is 122 at the State level¹⁸. As per SRS bulletin, December 2011, Sample Registration System, Office of Register General, India, all Odisha average of IMR is 61 (India-47) with a IMR figure of 63 in rural (India-51) and 43 in urban (India-31)¹⁹.

At the State level, the tribal concentrated districts normally show a poor health status in most of the health indicators. The Infant Mortality Rate (IMR) in some of

16 Figure of 2010, Ministry of Tribal Affairs, Govt. of India (Census 2001)

17 Figure till 30th September 2008, Ministry of Tribal Affairs, Govt. of India

18 Ministry of Tribal Affairs, Government of India (Census 2001)

19 Rural Health Statistics in India, 2011, Ministry of Health and Family Welfare, Govt. of India

the tribal concentrated districts are higher than the State average (62/1000 live birth) like Kandhamal (88), Dhenkanal (76), Nayagarh (67) and Bolangir (100). The trend of neonatal mortality is also more or less same like that of IMR. Similarly, under five mortality rate of some of the tribal districts are higher than the State average of 82 i.e. Keonjhar (85), Dhenkanal (90), Nayagarh (86), Gajapati (85), Kandhamal (145), Boudh (89), Bolangir (115), Rayagada (105) and Nawarangpur (87)²⁰.

Availability of health care facility in the tribal areas reflects a mixed trend in the State. While the national figure shows a deficit in the availability of sub-centres and PHCs in the tribal area, Odisha is having more number of sub-centres (2689 against the requirement of 2566) and PHCs (423 against the requirement of 384) in the tribal areas (norm: one PHC in 20000 populations and one sub-centre in 3000 populations in hilly/tribal area) than the requirement. But in case of availability of CHCs, the State is shortfall of about 13 institutions, i.e., availability of 83 against the requirement of 96 CHCs²¹. Out of 2689 functioning sub-centres, 1657 sub-centres are to have their own building as it has been operating from the rental buildings. Though, institutions are available, but most of the institutions are deficient of required staff. For example, against the requirement of 506 technicians in PHCs and CHCs in tribal areas, only 123 positions are sanctioned and 105 persons are in place with a shortfall of about 401 technicians. Similarly, there is a requirement of 1004 nurse/midwife/staff nurse at the PHCs and CHCs in tribal areas. Out of the total requirement, 221 positions are sanctioned and 205 persons are in place with a shortfall of 799.

2.2.11 Economic Status

At the national level, about 47.3% ST population live below the poverty line in rural and 33.3% ST population

in urban. In comparison to this, percentage of tribal population living below the poverty line in Odisha is around 75.6% in rural and 61.8% in urban. Percentage of tribal population living below the poverty line in Odisha, both in rural and urban is much above the BPL percentage of other communities in both the set-ups²². As per NFHS 3 report of Odisha, about 71% tribal families are having lowest wealth index, in comparison to 48.9% scheduled caste, 31.3% other backward classes and 18.1% other categories.

2.2.12 Tribal Development Strategy

In line with the National mandate for tribal development and as per the approach paper of 12th plan document of the country, the Government of Odisha is having the following perspective for augmenting tribal development in the State during the current plan period as per the identified areas of improvement.

1. Minimisation of Poverty gap among different tribal groups as well as between tribal and general population;
2. Human capital formation among tribal in terms of improving their education and skill-base;
3. Continued effort for the development of Vulnerable Tribal Groups (PTGs) at par with the rest of the tribal population and general population of the State through area development and household development approaches;
4. Infrastructure development in tribal habitations / areas such as better road connectivity, educational infrastructure, health infrastructure and infrastructure for livelihoods promotion;
5. Better health management of tribal in remote pockets through improved health care facilities;

20 Annual Health Survey 2010-11, Odisha

21 Rural Health Statistics Bulletin, March 2008, Ministry of Health & Family Welfare; Ministry of Tribal Welfare,

22 Figure of 2004-05, Ministry of Tribal Affairs, Govt. of India and Planning Commission, Govt. of India

6. Wide spread of primary / elementary education among the STs would continue to be the focus with special emphasis on girl child education. Ongoing educational infrastructural projects would be completed in the 12th plan period along with other prime education promotion initiatives like scholarship to ST students, mobility support to ST girls, reading material support to ST students etc.;
7. TSP approach would integrate all other development programmes to be executed in the tribal areas irrespective of the source of funding in order to achieve the overall National and State objective. Central Government may have thought of additional funding window for livelihood improvement of tribal;
8. Traditional skills of the tribal would be considered while conducting skill up-gradation training under Income Generation Schemes;
9. Electrification of rural tribal households, with special focus on uncovered villages in TSP areas;
10. Coverage of uncovered tribal habitations, in a phased manner for establishing sanitary toilets at the household / community level;
11. Supporting the deserving tribal families (BPL families) for construction of concrete houses along with repairing of dilapidated houses;
12. Opening of no-frill account of tribal families in the local formal financial institutions for better access to financial services.







Section Three:
**Tribal Development Administration
and Schemes**





3.1 Maharashtra

Introduction

Maharashtra stands second in India in tribal concentration. Total tribal population of the state is 85.77 lakh (~9% of state population). The tribals are spread across 66 blocks over 15 districts of Maharashtra. There are 47 Scheduled Tribes in the state. The predominant tribes in Maharashtra are the Bhills, the Gonds, the MahadeoKolis, the Pawras, the Thakurs and the Varlis. Three tribes viz. the Kolams (Yavatmal District), the Katkaris (mainly in Thane and Raigad Districts) and the Madia Gonds (Gadchiroli District) have been notified as Primitive Tribes by the Government of India (now Particularly Vulnerable Tribal Groups). There are 35 districts in the State and the tribal population is largely concentrated in the western hilly districts of Dhule, Nandurbar, Jalgaon, Nashik and Thane (Sahyadri Region) and the eastern forest districts of Chandrapur, Gadchiroli, Bhandara, Gondiya, Nagpur, Amravati and Yavatmal (Gondwana Region).

Tribal Sub-Plan Area

The area under the Tribal Sub Plan (TSP) in Maharashtra

is 50,757 sq. kms. as against the total geographical area of 3, 07,313 sq.km. of the State. This works out to about 16.5% of the total geographical area of the State. Both TSP and MADA areas mostly concentrated in the western and eastern part of the state. Outside Tribal Sub Plan (OTSP) areas cover the highest tribal population of the state (36.70%) followed by TSP areas (30.61%). 6.23% of total tribal population is covered under ATSP, MADA and MINI-MADA/ Cluster.

As directed by the Government of India (GoI), in 1975-76 the villages where more than 50% of STs population, were constituted into Integrated Tribal Development Projects (ITDP). There were 16 such Government of India approved ITDPs in the state. For scattered tribal populations and the educational institutions being run there, 7 ITDPs, were also sanctioned for Mumbai, Aurangabad and Akola. Consequently, making a total of 23 ITDPs, in the State, there were 23 Project Officers in-charge of these ITDPs. To deal with tribal health, nutrition and allied issues of Thane district, in 1992, the tribal areas of Thane District was divided into three ITDPs, instead of two. Hence at present, there are 24 ITDPs, with 24 Project Officers in-charge of these ITDPs.

Additional Tribal Commissioner, Nasik	Additional Tribal Commissioner, Thane	Additional Tribal Commissioner, Nagpur	Additional Tribal Commissioner, Amaravati
ITDP - NAHSIK	ITDP – SHAHAPUR	ITDP – NAGPUR	ITDP – DHARANI
ITDP - NANDURBAR	ITDP – PEN	ITDP - CHANDRAPUR	ITDP – AKOLA
ITDP - TALODA	ITDP – JAWHAR	ITDP – CHIMUR	ITDP - PANDHARKAWADA
ITDP - KALWAN	ITDP – DAHANU	ITDP – DEORI	ITDP – KINWAT
ITDP - RAJUR	ITDP – GHODEGAON	ITDP – GADCHIROLI	ITDP - AURANGABAD
ITDP - YAWAL	ITDP – MUMBAI	ITDP – AHERI	
		ITDP - BHAMARAGAD	



Government of India extends considerations for small concentrations of tribal population outside the ITDPs. Concerns extended for a group of villages having a population of about 10,000, with more than 50.0 percent were tribals; the villages should be brought under the Modified Area Development Approach (MADA). Similarly, if two or three villages having a total population of 5,000 if more than 50.0 percent were tribals, the same should be constituted into a MINI MADA/ Clusters. In Maharashtra, there are 43 MADA Pockets and 24 Mini MADA/ Clusters. In Maharashtra, 1271 villages are covered under Additional Tribal Sub Plan (ATSP), 1233 villages are covered under MADA and 295 villages are included under Mini-MADA. Subsequently, the villages where the tribal population was only

Government Resolutions

(dt: 21.09.1992): Salient Features

- To Provide 9% outlay for TSP, proportionate to the tribal population
- The responsibility to formulate and finalize the Tribal Sub Plan shall be with the Tribal Development Department
- 75% of the outlay shall be earmarked for TSP and 25% for the Outside Tribal Sub Plan (OTSP)
- Out of total TSP outlay, 60-70% outlay to be utilized for District Level Schemes
- Out of the outlay for the District level schemes, 85% shall be utilized for infrastructure and 15% for individual beneficiary schemes

marginally less than 50% were also constituted into Additional ITDPs and these administrative units are defined as Additional Tribal Sub Plan (ATSP) Blocks/ Projects (4 ATSP Projects in Maharashtra).

Tribal Development Administration

Tribal Development Directorate, Maharashtra was established for effective implementation of Tribal Welfare Schemes in 1972. Tribal Development Commissionerate was established in 1976. A separate Tribal Development Ministry came into operations in 1984 (formed in 22nd April, 1983). To strengthen the Tribal Development Department, Directorate was merged with Commissionerate in 1992. There are 4 Additional Commissioners, Tribal Development (ATC) and 29 Integrated Tribal Development Projects (ITDP) offices for effective implementation of various tribal welfare schemes of the State and Central Government. These schemes include social welfare, economical welfare, educational upliftment, social justice, women and child welfare, healthcare, food security, employment, etc. Besides, Maharashtra State Co-operative Tribal Development Corporation was established for implementing scheme of monopoly procurement.



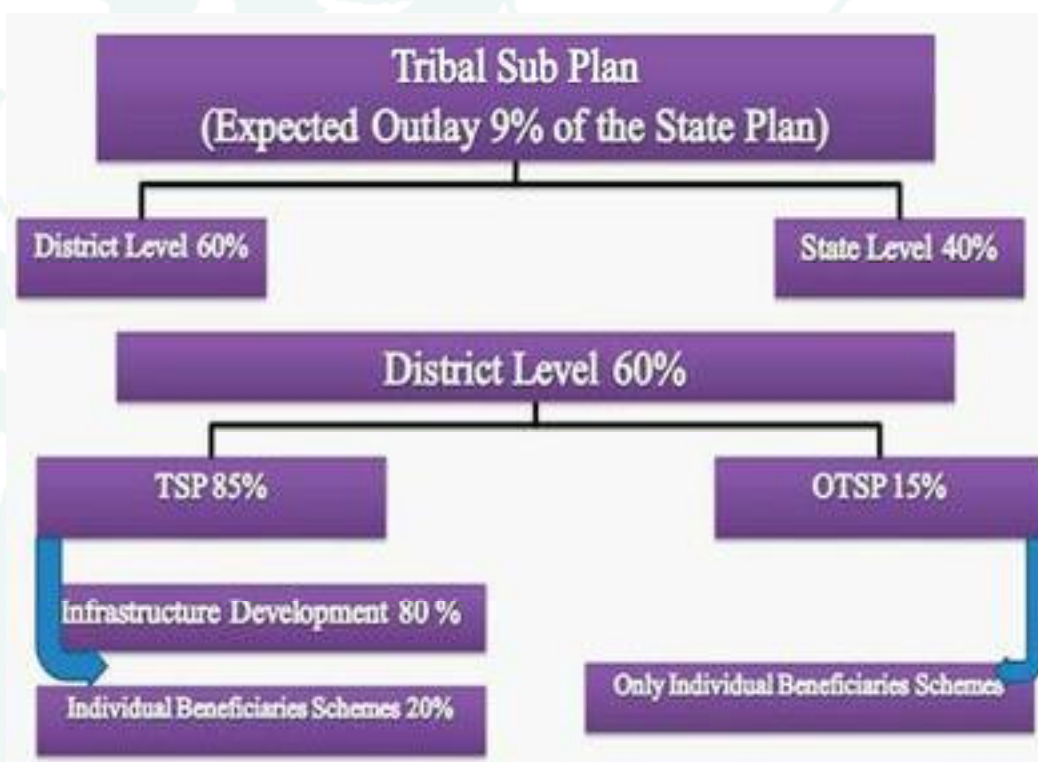
The procedure followed in the State up-to 1992-93 for the formulation of the TSP of the State was briefly that the Planning Department used to allocate plan outlays to different administrative departments. The department in turn, used to carve out outlays for TSP as per their own discretion and priorities. The concerned departments were also deciding which of the schemes, programmes and development works were to be taken up from the funds set aside for the TSP. Subsequently, it was observed TSP was merely an amalgam of the State Plan Schemes taken up in the tribal areas and emphasis was given mainly on the arithmetical figures of expenditure rather than on identifying schemes really benefiting tribals. No attempt was taken to formulate the schemes in consultation with Tribal area project administration.

For direct benefits of the tribals, the State Government took up this issue with the State Planning Board before the commencement of the 8th Plan Period. The State Planning Board appointed a Sub-Committee in January 1991, under the Chairmanship of Shri. D.M. Sukthankar, a member of the Board and former Chief Secretary of the State. The Sub-Committee submitted its report in June, 1992. Based on the recommendations and its approval by the Government, it was decided that Planning Department will communicate a plan ceiling to the Tribal Development Department for the formulation of the TSP. The outlays for different schemes are now to be finally decided by the Tribal Development Department, keeping in view the actual

benefits accruing to the tribals. Schemes with notional outlays and not directly beneficial to the tribals shall not be included in Tribal Sub Plan of the state.

Current funds flow mechanism allots 9% of the state plan outlay to the Tribal Development Department targeting Tribal Sub Plan. 60% of the total outlay is devolved for the district level schemes. Out of these 60%, 85% are allocated to the TSP areas and rest 15% are allocated to Outside Tribal Sub Plan (OTSP) areas only for individual beneficiary schemes. As tribal population is less in OTSP areas, area oriented schemes may not directly benefit tribes only.

Funds Flow Mechanism for TSP and OTSP



Source: Government of Maharashtra

3.2. Andhra Pradesh

Introduction

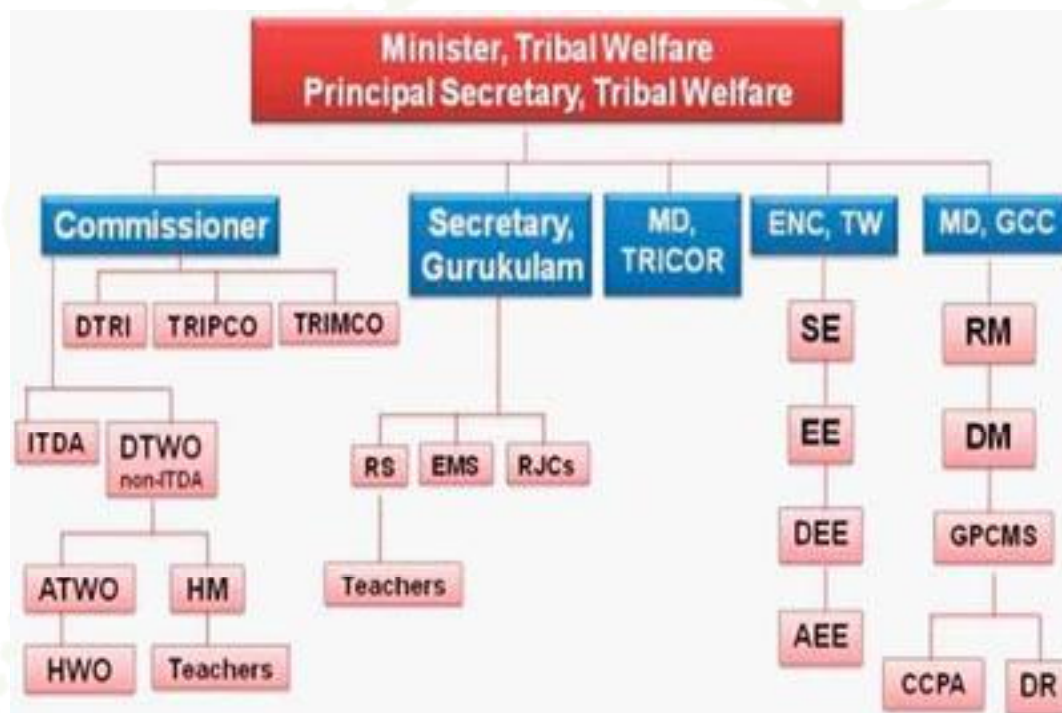
The Scheduled Tribe population in the State is 59.18 lakhs (Census, 2011). They constitute 7.00 percent of the total population of the State. There are 35 Scheduled Tribes out of which 12 tribal groups are notified as Particularly Vulnerable Tribal Groups (PVTGs). Andhra Pradesh is covered under the provisions of Schedule V of Constitution of India.

Tribal Sub-Plan in Andhra Pradesh

The Department functions under the overall leadership and guidance of Minister for Tribal Welfare. Principal Secretary to Government, Tribal Welfare assists the Government in formulating, implementing and in reviewing tribal welfare policies and programs. The Tribal Welfare Department has (5) Heads of

Departments. They are (1) Commissioner of Tribal Welfare (2) Engineer-in-Chief (ENC), Tribal Welfare (3) Vice Chairman and Managing Director, Girijan Co-operative Corporation (GCC) (4) Managing Director (MD), Andhra Pradesh Scheduled Tribes Co-operative Finance Corporation (TRICOR); (5) Secretary, Andhra Pradesh Tribal Welfare Residential Institutions Society (GURUKULAM). Commissioner, Tribal Welfare is also the Managing Director of Andhra Pradesh Tribal Power Company (TRIPCO) and Chairman, Andhra Pradesh Tribal Mining Company (TRIMCO).

The Commissioner / Director of Tribal Welfare is the chief controlling officer for Departmental Budget. He / She formulates, directs the process of implementation & monitors the progress of all tribal developmental programs in State. S/He coordinates with other departments on implementation of TSP & also implementation of Constitutional safeguards.



ITDAs in Andhra Pradesh

ITDA, Srisailam, Kurnool District, Andhra Pradesh

ITDA, K.R. Puram, West Godavari District, Andhra Pradesh

ITDA, Rampachodavaram, East Godavari District, Andhra Pradesh

ITDA, Seethampeta, Srikakulam District, Andhra Pradesh

ITDA, Paderu, Visakhapatnam District, Andhra Pradesh

ITDA, S.P.S. Nellore District, Andhra Pradesh

ITDA, Parvathipuram, vizianagaram District, Andhra Pradesh

ITDA, Plain Areas, Andhra Pradesh

Under the TSP strategy all the departments in the State have been allocating funds, proportionate to tribal population, of their plan budget for tribal development programs. The most significant aspect of this strategy is to ensure a flow of funds to TSP areas at least in equal proportion to the Scheduled Tribes population of the State.

(Note: DTRI: Director, Tribal Cultural Research & Training Institute, DTWO: District Tribal Welfare Officer, ATWO: Assistant Tribal Welfare Officer, HM: Head Master, HWO: Hostel Welfare Officer, RS: Residential Schools, EMS: English Medium Schools, RJC: Residential Junior Colleges,

SE: Superintending Engineer, EE: Executive Engineer, DEE: Dy. Executive Engineer, AEE: Asst. Executive Engineer, RM: Regional Manager, DM: Divisional Manager, GPCMS: Girijan Primary Cooperative Management Society, CCPA: Credit Cum Purchase Assistant, DR: Domestic Requirement).

Tribal Administration

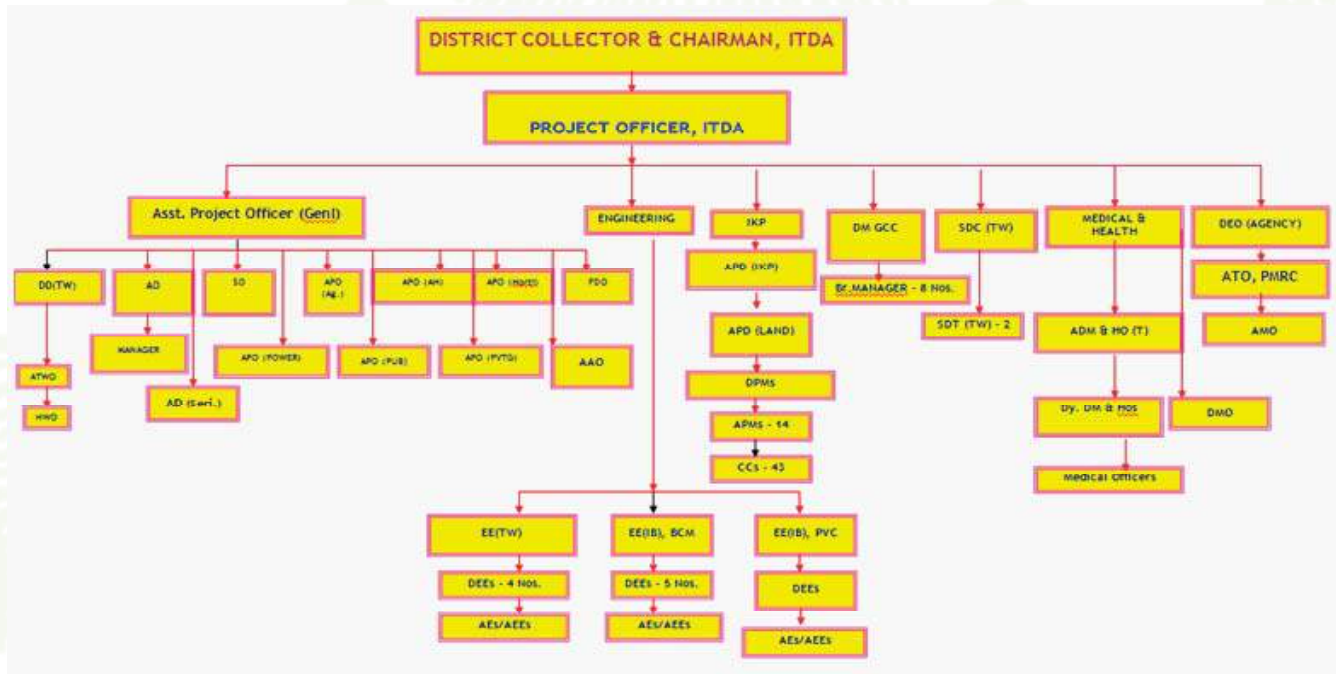
TSP of Andhra Pradesh is strictly following the clauses under “Andhra Pradesh SCSP and TSP (Planning, Allocation and Utilization of Financial Resources) Act, 2013. This lays down that out of its total plan outlays the State shall earmark for ST development an amount in proportion to the ST population; the responsibility to formulate and finalize the TSP shall be with the Tribal Welfare Department. TSP shall be looked after a separate Secretary in the Department of Finance. Some clauses of the TSP bill are mentioned below.

1. Schemes to be included under the Tribal Sub-Plans that directly benefits to tribes can only be included in Tribal Sub-Plan;
2. Departments shall prepare the TSP and submit with the Tribal Development Department for appraisal
3. Tribal Development Department allocates 100% funds to the schemes targeting direct benefits to the tribals or tribal habitations;



4. Separate Secretary in the Finance Department exclusively deal with the TSP and SCSP Budget releases;
5. A State Council headed by the Chief Minister, approves the annual TSP proposals of departments.

District Structure for Tribal Development Administration



As per the GO Number 57, Dated 01.03.2014, the officers in charge of DRDA and DWMA responsible for implementation of rural development programmes in ITDA areas shall work under the administrative control of PO, ITDA. MPDOs working in the Tribal Areas shall report to POs, ITDA with regard to implementation of development programs and economic support schemes. The Panchyati Raj Department has issued necessary orders delegating the powers of CEO, ZillaParishad over MPDOs to PO, ITDA to the extent of ITDA mandals so that single line administration works effectively.

The budgets of various development/welfare activities are bifurcated at the departmental level between TSP and non-TSP in the case of districts with ITDAs. The TSP projects/proposals of such districts shall be approved by the ITDAs concerned. PO, ITDA monitors the implementation of all TSP programs in the ITDA areas.

Schemes for Tribal Welfare and Development

Apart from central sector schemes, some of the state sector schemes are under implementation in the State which are;

State Schemes Implemented for Tribal Welfare

State Schemes

Ambedkar Overseas Vidya Nidhi: Under the scheme, financial assistance is provided to ST students for pursuing Higher Studies Abroad. The scheme was launched in the year 2013-14

NTR Vidyonnathi: The scheme is to provide professional guidance for civil services examinations for Scheduled Tribe students. Sponsorship is being provided to meritorious Scheduled Tribe candidates to reputed private institutes.

Giriputhrika Kalyana Pathakam: Under the scheme, financial assistance of Rs.50,000/- (Rupees Fifty Thousand Only) is provided to tribal girls at the time of their marriage.

3.3 Odisha

Introduction

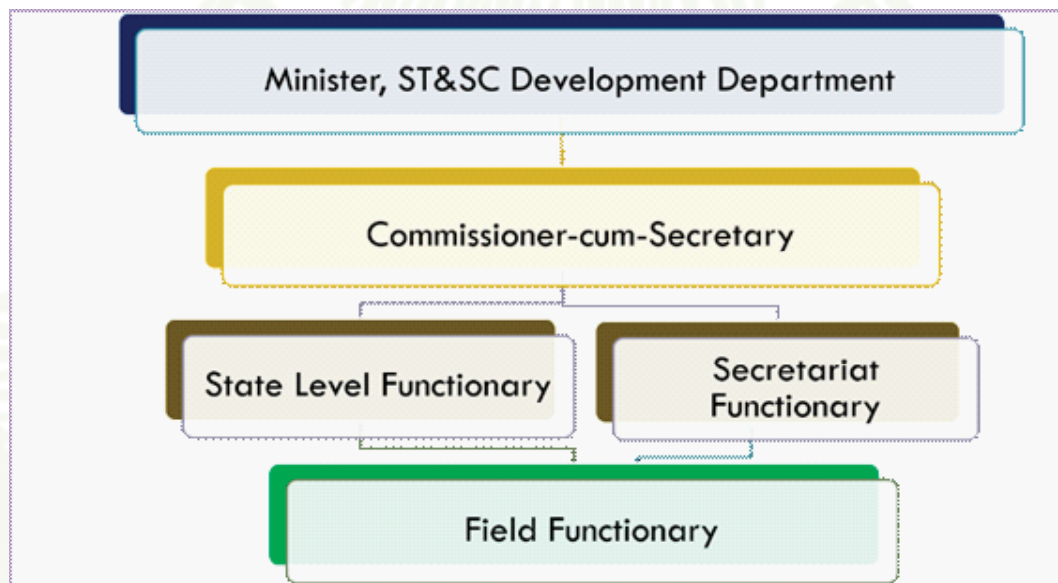
The tribal population of the state accounts for 22.8 percent (total ST population is 95,90,756) of the State's total population and 9.20 percent of the total tribal population of the Country (Census, 2011). Odisha has 62 Scheduled Tribe communities with highest number (13) of Particularly Vulnerable Tribal Groups (PVTGs) in India. About 44.70% of the State's geographical area is what is known as Scheduled Areas which extends over 118 out of 314 Blocks in 12 districts

Tribal Sub Plan in Odisha

Odisha has 118 TSP blocks out of total 314 blocks of the state. There are 21 Integrated Tribal Development Agencies (ITDAs) covering 55.46 lakh tribals (about 68.09% of the total tribal population) of the state. Outside the TSP area, there are 46 Modified Area Development Approach (MADA) Pockets (47 blocks in 17 districts having 6.78-lakh tribal population) and 14 Cluster Pockets where the programme implementation is done through Blocks. To ensure focused programme implementation for 13 Particularly Vulnerable Tribal



Groups (PVTGs), 17 Micro Projects have been established in 12 tribal districts of the state, of which 4 are located outside the TSP areas. The Orissa Scheduled Castes and Scheduled Tribes Development Finance Cooperative Corporation (OSFDC) is an apex institution under the Department, which implements programmes for the development of Scheduled Castes and Dispersed Tribals.

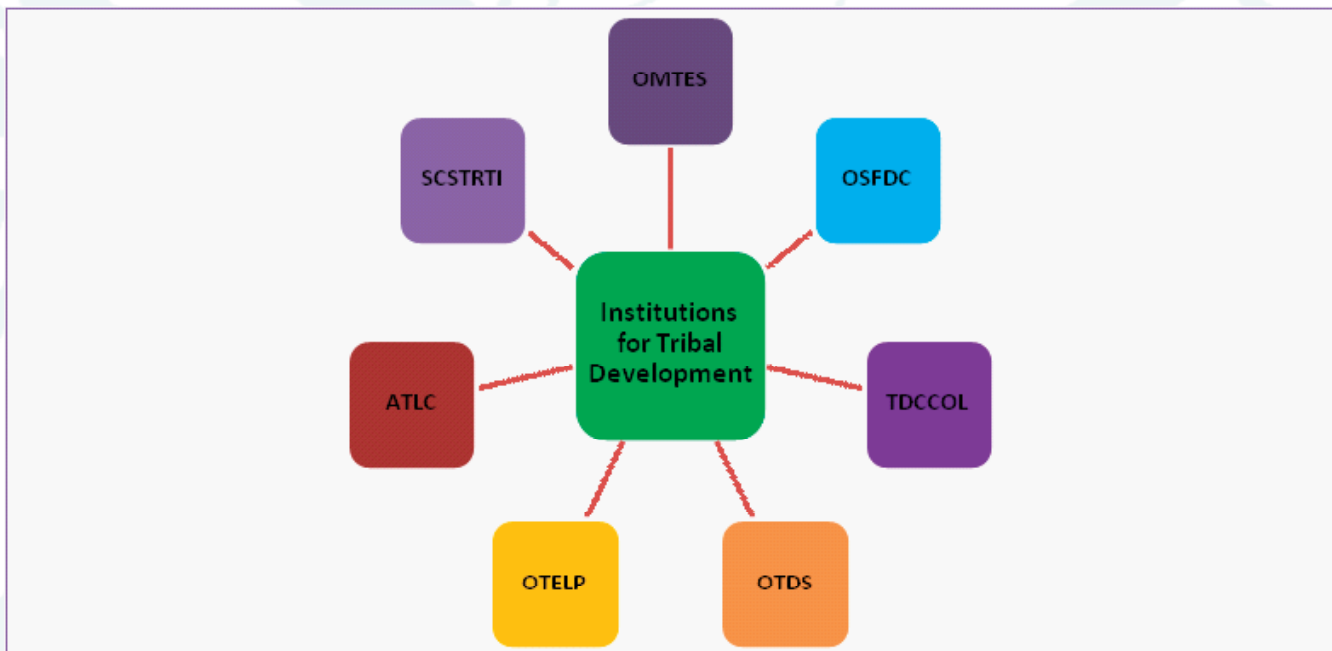
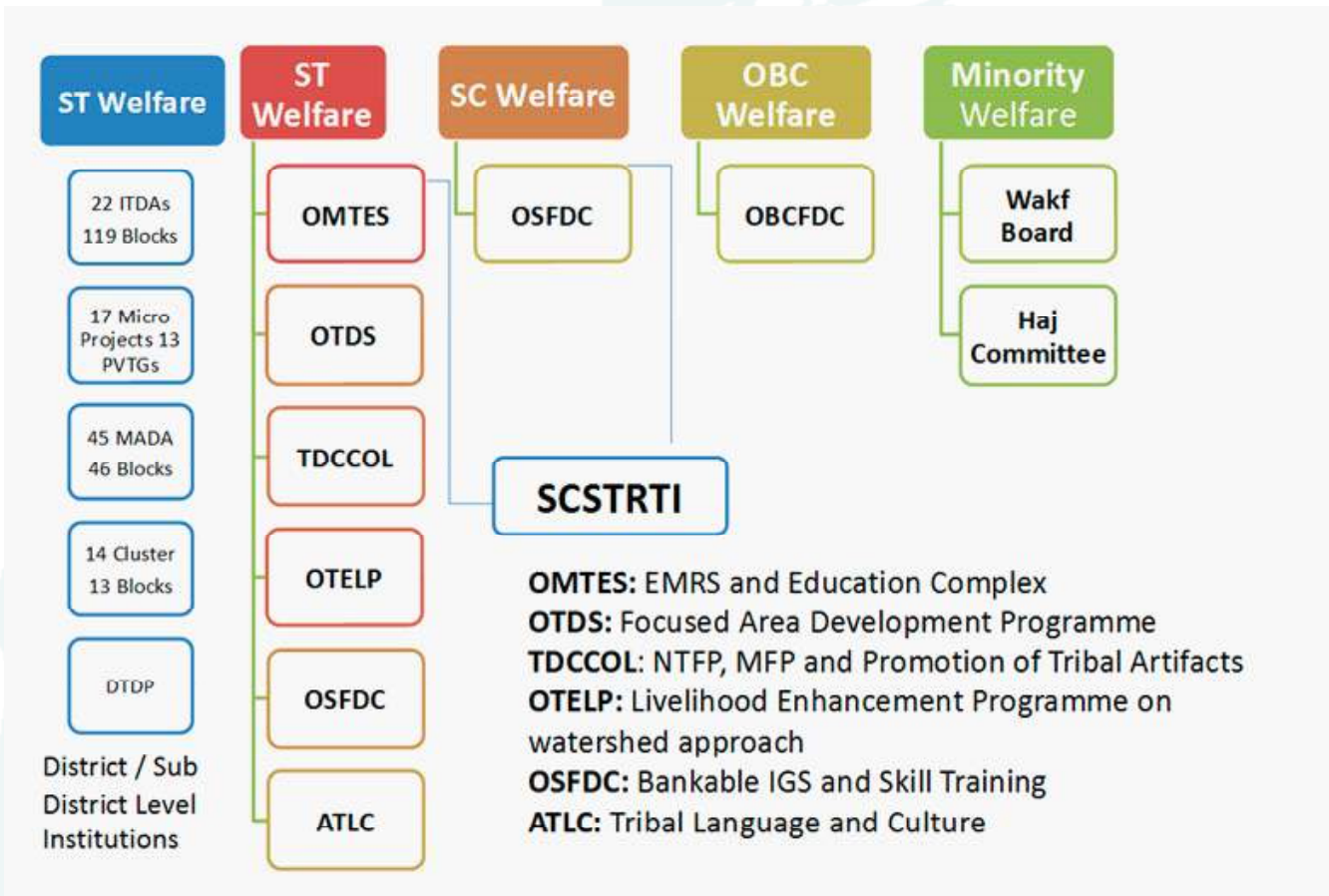


Tribal Development Administration

Execution of tribal welfare and development measures is not fully lies with the ST & SC Development Department. All the Departments put their effort to ensure the development of tribal community. Being the nodal department, the ST & SC development department functions as the connecting hub.

Other than the ST&SC Development Department, there are seven institutions working in different domains of developmental intervention in the state in order to achieve the common objective of tribal welfare. These organisations are created with different mandate and are responsible for implementation and monitoring of various schemes of the central and state government for tribal welfare in the state of Odisha. Following are the list of state level institutions working for welfare of the Scheduled Tribes.

1. Odisha Tribal Development Society (OTDS);
2. Odisha Tribal Empowerment and Livelihoods Programme (OTELP);
3. Academy of Tribal Language and Culture (ATLC); and
4. Scheduled caste and Scheduled Tribe Research and Training Institute (SCSTRTI)
5. Odisha Model Tribal Education Society (OMTES);
6. Odisha State Scheduled Caste and Scheduled Tribe Finance Development Corporation (OSFDC);
7. Tribal Development Cooperative Corporation of Odisha Limited (TDCCOL);



Through, Tribal Development Department of Government of Odisha is the nodal agency for tribal development, it is having limited control over the overall administration of development interventions made in TSP areas. Proportionately allocated budget (22.8 percent of the total state budget) by each department / sector is kept under minor head of 796 and channelized to all the departments under this head. So, control of financial resources that is earmarked for TSP, lies with respective departments, rather than the nodal department. Respective departments utilized the available funds, earmarked under TSP, to implement their own plan / schemes in TSP areas. Besides, project shelves for tribal area are prepared by the respective departments, in-stead of Tribal Development Department. Hence the Tribal Development Department has limited scope to monitor

the outcome of the intervention and funds utilized by different departments for tribal development. However, Monitoring Committees have been formed at State, District and Block level for TSP.

Similarly, at the district level, responsibility of overall administration lies in the hands of the Collector and District Magistrate. Like other departments, the PA-ITDA functions under the administrative control of the Collector and DM. There is no such power and functions placed with PA-ITDA to govern the tribal affairs as it is in Andhra Pradesh. So, tribal development is treated equally with any other development and welfare measures by other departments, apart from allocation of additional assistance and taking up additional development measures under SCA to TSP, Article 275 (1) and State Sector Schemes.





3.3 Tribal Development Schemes / Interventions

Special Central Assistance & Grants Under Article 275(1) of the Constitution

Special Central Assistance is provided to the State to supplement its efforts in tribal development through Tribal Sub-Plan. This assistance is basically meant for family-oriented income-generating schemes in the sectors of agriculture, horticulture, minor irrigation, soil conservation, animal husbandry, forests, education, cooperatives, fisheries, village and small scale industries and for minimum needs programme. Centre also provides grants under the article 275(1) of the Constitution to meet the costs of projects for tribal development and for raising the level of administration of Scheduled Area therein at par with the rest of the State. Part of the funds are utilized for setting up of Residential Schools for providing quality education to tribal students.

Special Central Assistance & Grants Under Article 275(1) of the Constitution

A total of 75 tribal communities have been identified and categorized as Primitive Tribal Groups (PTGs) at the national level, based on pre-agricultural level of technology, low level of literacy and declining or stagnant populations. The State of Maharashtra is having 3 PVTGs, Namely (1) Katkaria (Kathodia), (2). Kolam, and (3) Maria Gond. For the all-round development of PTGs, considering their level of vulnerability, a Central Sector Scheme was introduced. The scheme covers housing, infrastructure development, education, health, land distribution / development, agriculture development, cattle development, social security, insurance, etc. In order to make need based interventions for the development of the PVTGs, state has been preparing “Conservation-cum-Development (CCD) Plans” for PVTGs.

Education Promotion among Boys and Girls: Hostel Facility

For the promotion of education among the tribals, Girls hostel scheme and Boys hostel scheme is under implementation, with the objective of providing residential facilities to tribal boys and girls to pursue their education. Apart from this, both the Central and State Government has been supporting in establishment of ASHRAM Schools in Tribal Sub-Plan (TSP) area.

Vocational Training Centres in Tribal Areas

The scheme aims at upgrading the skills of the tribal youths in various traditional/modern vocation depending upon their educational qualification, present economic trends and the market potential, which would enable them to gain suitable employment or enable them to become self-employed.

Strengthening Education Among Scheduled Tribe Girls in Low Literacy District

The scheme aims to bridge the gap in literacy levels between the general female population and tribal women, through facilitating 100% enrolment of tribal girls in the identified Districts or blocks, more particularly in LWE affected areas and in areas inhabited by PVTGs, and reducing drop-outs at the elementary level by creating the required ambience for education.

Tribal Cooperative Marketing Development Federation of India Limited (TRIFED)

Tribal Cooperative Marketing Development Federation of India Limited (TRIFED) is a National level Cooperative apex body. TRIFED has been providing marketing assistance and remunerative prices to ST communities for their minor forest produce and surplus agricultural produce and to wean them away from exploitative private traders and middlemen. The federation is a National level Cooperative apex body.

Coaching for Scheduled Tribes

In order to provide a better chance to the ST students to succeed in competitive examinations, a scheme for coaching for disadvantaged ST candidates in quality coaching institutions is under implementation to enable them to successfully compete in examinations for jobs/admission to professional courses. The scheme supports free coaching to scheduled tribe students for various competitive examinations.

Grant-In-Aid to Voluntary Organizations

The prime objective of the scheme is to enhance the reach of welfare schemes of Government and fill the gaps in service deficient tribal areas, in the sectors such as education, health, drinking water, agro-horticultural productivity, social security net etc. through the efforts of voluntary organizations (VOs) / non-governmental organizations (NGOs), and to provide an environment for socio-economic upliftment and overall development of the Scheduled Tribes (STs).

Post-Matric Scholarship for Scheduled Tribes Students

The objective of the scheme is to provide financial assistance to Scheduled Tribe students to pursue Post-Matriculation recognized courses in recognized institutions. The scheme covers professional, technical as well as non-professional and non-technical courses at various levels and the scheme also includes correspondence courses including distance and continuing education.

Rajiv Gandhi National Fellowship Scheme (RGNF)

This scheme provides support to ST students for pursuing higher studies. The scheme is being implemented by University Grant Commission (UGC) on behalf of the Ministry of Tribal Affairs.

Scheme of Top Class Education for ST Students

The scheme encourages meritorious ST students for pursuing studies at degree and post degree level in any

of the 127 identified Government and private sector institutes

National Overseas Scholarship Scheme for Scheduled Tribes

The Scheme provides financial assistance to meritorious tribal students for pursuing higher studies abroad in specified fields of Master level courses, Ph.D. and Post-Doctoral research programmes, in the field of Engineering, Technology and Science.

Vanbandhu Kalyan Yojana

The scheme aims at creating enabling environment for need based and outcome oriented holistic development of the tribal people. This process envisages to ensure that all the intended benefits of goods and services under various programmes/schemes of Central as well as State Governments reach the target groups by convergence of resources through appropriate institutional mechanism.

The Objectives of the Scheme are;

1. Improving the quality of life in tribal areas
2. Improving the quality of education
3. Qualitative and sustainable employment for tribal families
4. Bridging infrastructure gaps with focus on quality
5. Protection of tribal culture and heritage

Under the scheme, strategies taken to realise the objects are (1) Strengthening of institutions meant for delivery of goods and services with adequate administrative, technical and financial powers such as Tribal Welfare Departments as nodal Department, Integrated Tribal Development Agency (ITDA), Integrated Tribal Development Projects (ITDPs) and

creation of new ones where they do not exist etc. (2) Convergence of scattered resources and activities being undertaken under various components.

Thakkar Bappa Scheme in Maharashtra

Thakkar Bappa Integrated Tribal Habitation Improvement Programme Scheme (TBS) started in 2004-05 for integrated development of tribal habitations in the state through community development and individual/family centric works. The program was expanded to all habitations with more than 50% tribal population in 2007, across the state, including all rural/ urban TSP, MADA, mini MADA and areas outside TSP. The TBS is implemented with a village-specific micro-planning, focusing on providing community level facilities to habitations with tribal majority. Only small scale works, with a long-term impact, which are currently non-existent in the habitations should be taken up. In planning and implementation of the scheme, participation of the local Gram Panchayat is ensured. The scheme looks at taking up works that benefit the community as well as individual tribal family along with improving accessibility to the tribal habitations and improving the quality of life of tribals.

Other Schemes / Programmes under Implementation in Maharashtra

The State has been implementing a number of other schemes for the all-round development of tribals, focusing on both individual and community approach. Different Other schemes that are under implementation are (1) Kanyadan Scheme, (2) Mahila Sabalakaran Scheme, (3) Swabhimani Scheme, (4) Consumption Finance Scheme, (5) Special Health Scheme for Tribal, (6) Adiwasi Utthan Scheme-Comprehensive Rural Health Project, (7) Janashree Vima Yojana (group insurance scheme for tribal), (8) Nav Sanjeevan Yojana etc.



Section Four: Good Practices in Livelihoods

According to Chambers & Conway, a livelihood comprises the capabilities, assets and activities required for a means of living (Chambers & Conway 1988).

Introduction

A livelihood is a means of making a living. It encompasses people's capabilities, assets, income and activities required to secure the necessities of life. A livelihood is sustainable when it enables people to cope with and recover from shocks and stresses (such as natural disasters and economic or social upheavals) and enhance their well-being and that of future generations without undermining the natural environment or resource base.

During 1990s, a paradigm shift in the development approach observed, i.e., from a material perspective focused on food production to a social perspective that focuses on the enhancement of peoples' capacities to secure their own livelihoods. Much of this thinking is derived from the participatory approaches that have become well integrated into the various implementing agencies' activities for project diagnosis and design.



A number of definitions used to define and describe livelihood. According to Chambers & Conway, a livelihood comprises the capabilities, assets and activities required for a means of living (Chambers & Conway 1988). They define Sustainable Livelihood as a livelihood is sustainable when it can cope with and recover from the stresses and shocks and maintain or enhance its capabilities and assets both now and in the future without undermining the natural resource base (Chambers & Conway). Household livelihood security is defined by Frankenberger as adequate and sustainable access to income and resources to meet basic needs (Frankenberger 1996).

According to Food and Agriculture Organisation (Economic and Social Development Department, FAO), there are different principles of sustainable livelihood approaches which are as below.

A. Holistic diagnosis and analysis

A sustainable livelihood approach attempts to take a holistic perspective in determining problems and opportunities for programme activities. This holistic perspective involves taking into account:

Context: The social, economic, political, historical, demographic trends that influence the livelihood

options of a given population and the risks to which they are exposed?

Resources: Various assets (financial, physical, social, human and natural) that households and communities have access to and ability to make use of these assets to cope with risks / vulnerability they exposed to.

Institutions and organizations: The institutions that operate within a given context remain critical to sustainable livelihood outcomes. It is important to identify government, civic and private-sector institutions operate in a given livelihood setting to determine their relative strengths and weaknesses in delivering goods and services essential to secure livelihoods. A stakeholder analysis is a critical first step in any diagnosis.

Livelihood strategies: A holistic diagnosis attempts to identify various strategies people use to make a living and to cope with the stress. These are also referred to as adaptive and coping strategies in ensuring food security. To tailor interventions appropriately, it is important to determine the variability that may exist across ethnic groups, households and individuals in the pursuit of different strategies

Livelihood outcomes: Outcomes are measured to determine how successful households are in their livelihood strategies. These outcomes can be based on normative standards (e.g. nutritional status) or on criteria identified by the communities. Such outcome measures can be differentiated and disaggregated across groups, households and individuals.

B. Application of participatory, people-centred approaches

Sustainable Livelihood Approach (SLA) uses a wide variety of participatory tools for diagnosis, programme design, monitoring and evaluation. Participation and empowerment are the basic tenets of the approach.

C. Focused strategy

Although the SLA emphasizes holistic diagnosis, this

does not mean that interventions must be multi-sectoral. Single-sector projects/programmes may be the most appropriate avenue to pursue based on the problem and opportunity analysis.

D. Coherent information systems

The indicators used for monitoring and evaluation are clearly linked to the problem analysis and the objectives. Cross-sectoral impacts that are measured are derived from the links that are demonstrated from the holistic analysis.

E. Reflective practice

Programme information systems should be set up to capture both the intended and unintended consequences of programme activities. These lessons can be derived from participatory monitoring systems and other aspects of the M&E system. Documenting the lessons will be critical to programme improvements. One of the key problems that implementing agencies have is allocating time and resources to document the lessons learned.

MAJOR ISSUES REGARDING THE APPLICATION OF SLA

Programme design

SLA projects/programmes can be either single-sector focused or multisector in scope. What is needed is a range of options that can be applied depending on where the project is in the programme cycle. Ongoing projects can incorporate a livelihood perspective during critical moments of their project cycle, such as during mid-term reviews or evaluations to determine if other factors beyond the sector constraints that the project is focusing on could influence the achievement of project objectives.

Entry point

Although we may be concerned with the livelihood outcomes at the micro level, this does not mean that interventions have to be only at the micro level. Macro-level policy changes can have a significant impact at the local level. The problem analysis should determine

at which level it makes sense to operate programme activities. Similarly, the programme strategy may work with different people in the community than the group we wish to help. Appropriate strategy can improve the livelihood of the target group.

Measuring impact

To measure the impact of a livelihood programme, it is important to measure criteria relevant to communities as well as normative criteria. Criteria derived from participatory approaches are the changes that are meaningful to communities. If these changes do not occur, then the project has not brought about the kinds of improvements that are significant to the community. These measures may be location specific. Normative measures are important for targeting and allowing for cross-regional comparisons. Such measures are critical for donors and governments that need to make resource allocation decisions across regions or countries. Thus, both types of information need to be included in SLA M&E systems.

Changing structures and processes for sustainable outcomes

To sustain positive livelihood outcomes, effective local institutions that deliver goods and services must be in place. These include government agencies, civil organizations and the private sector. An important part of most livelihood programming activities has been community capacity-building and institutional strengthening. Capacity-building efforts must focus on service delivery as well as risk-management. Institutions that are not able to manage risk effectively can quickly become overwhelmed, seriously jeopardizing their ability to continue to provide services. It is this risk-management aspect that is often overlooked in institutional strengthening efforts. Finally, much more work needs to be done on capacity-building indicators. Currently, we have few examples of indicators for measuring institutional improvements.

Working with multiple partners at various levels

SLA activities may be initiated at different levels (i.e.

national, regional, local) depending on where the greatest leverage can be achieved. For this reason, SLA programmes must be able to manage partnerships at various levels. This is a different way of operation than working with local partners only, and it may require a different set of skills.

Balancing natural resource management objectives with poverty-alleviation objectives

It is important to take into consideration that natural resource management interventions that have public benefits do not always have direct benefits for the poor. Care must be taken to determine whether the poor are participating in project activities. If the poor are not involved, then consideration must be given to opportunities for including additional components that address the livelihood needs of the poor. These needs may be addressed by partner organizations and not directly by the project. (Source: <http://www.fao.org/docrep/003/X9371e/x9371e22.htm>)

TSP Approach: Strategy for Development of Tribal Livelihood

For accelerating socio-economic development of tribes at the national level, the Tribal Sub-Plan strategy was developed by an Expert Committee set up by the Ministry of Education and Social Welfare in 1975 under the Chairmanship of Prof. S. C. Dube. The recommendations of the Expert Committee were adopted for the first time in the Fifth Five Year Plan. The TSP approach to tribal development strategy adopted since 1972 is continuing till date. The broad aspects of the TSP approach are as follows. Preparation of plan meant for the welfare and development of tribes within the ambit of a State or a UT plan is a part of the overall plan of a State or UT, and is therefore a Sub-Plan;

1. The funds provided under the Tribal Sub-Plan have to be at least equal in proportion to the ST population of each State or UT;
2. Tribes and tribal areas of a State or a UT are

given benefits under the TSP, in addition to what percolates from the overall plan of a State/ UT;

3. The sub-plan entails (a) identifying resources for TSP areas; (b) preparing a broad policy framework for development; and (c) defining a suitable administrative strategy for its implementation.

Special Central Assistance for Livelihood

The Ministry of Tribal Affairs (MoTA) extends Special Central Assistance to the TSP States and Union Territories, also to North Eastern States of Assam, Manipur and Tripura as an additional grant to these States/UTs. These grants are basically meant for family oriented Income Generating Schemes in various TSP areas to meet the gaps, which have not otherwise been taken care of by the State Plan. The GOI guidelines broadly lay down the following norms.

1. SCA is primarily meant for income generating family oriented benefit schemes and infrastructure incidental thereto (not more than 30 per cent of the total outlay);
2. Wherever a scheme is provided under any Central Sector/Centrally Sponsored Schemes (CSS), SCA should not be utilised for the same. Rather, the allocations available under specific schemes can be availed of;
3. Major infrastructure development should be supplemented from the TSP flow, rather than being catered out of SCA like roads, electrification, etc.;
4. Schemes for funding demonstration units should not be financed out of SCA. Rather, the follow-up of demonstrations should be catered to looking to the special disadvantages;
5. Tribal populace below poverty line should alone be supported with SCA financed activities;
6. In any specific schematic projects financed by outside agencies, both national and international, normally a part of the outlay is proposed as State Government contribution. Such contribution should flow normally from State Plan and not out of SCA;
7. Wherever State Government Organizations like Tribal Development Cooperative Corporations (TDCCs) or Forest Development Corporations (FDCs) are dealing with schemes related to tribal welfare and development and are equity based that should not be financed out of SCA, without prior approval of the GOI. This will lead to better monitoring of the concerned activities;
8. Specific sectors related to the needs of the tribes is to be given a fill up by special schemes in the areas like sericulture, horticulture, etc. out of SCA;
9. Wherever conjunctional flow of funds can be ensured from other on-going development programmes, this must be dovetailed so as to have a better spatial and demographic coverage;
10. SCA can be released for the economic



development of the following;

- a. Integrated Tribal Development Project (ITDP) area, contiguous large area in which ST population is 50 per cent or more out of a total population;
 - b. Modified Area Development Approach (MADA) Blocks i.e. identification of pockets containing 50 per cent or more of ST population out of a total population of 10000 and above;
 - c. Cluster Approach Pockets-identified pockets containing 50 per cent or more ST Population out of a total population of 5000;
 - d. Particularly Vulnerable Tribal Groups (PVTGs) -identified isolated communities among the STs characterised by the low rate of population, pre-agricultural level of technology and extremely low levels of literacy;
 - e. Displaced tribal population outside (a), (b), (c) and (d) above;
 - f. Assistance for Margin Money Loan Programme (MMLP) for Tribal Finance and Development Corporations in the States to implement MMLP;
 - g. Special Projects-Specific proposals for tribal development.
11. So far as the procedural aspect is concerned, the prescribed guidelines are as follows:
 12. SCA should be allocated by the State Governments/UT Administrations to the ITDPs and no part of SCA should be released to any Department at the State level, transfer of funds to implementing Departments/agencies if required should be done by the ITDP to the corresponding officer of the implementing agency / line;
 13. ITDP should prepare 5 year/Annual Plan depending upon the local parameters. Activities of, non-plan nature should not be catered to

from SCA;

14. To fulfil the Constitutional Provisions, the schemes on which SCA is proposed to be utilized, should be specified in the annual TSPs of the States/UTs. Besides, administrative approval of the Government of India shall be obtained for financial sanctions, however need not be obtained on a case-by-case basis;
15. SCA is released to the States normally in three instalments and the entire amounts expected to be made available by the end of third quarter. The release is subject to the performance by the State Governments and the utilization of previously released funds.

So, SCA is an additive to the State Tribal Sub Plan, where State Plan provisions are not normally forthcoming to bring about a more rapid economic development of tribes. From the 10th Plan period, the objective and scope of SCA to TSP, which was originally meant for filling up of the critical gaps in the family based income generating activities of the TSP, has been expanded to cover the Employment-cum-Income Generating Activities and the infrastructure incidental thereto, not only family based but also run by the Self-Help Groups (SHGs). Thus, SCA is primarily meant for family oriented income generating schemes in sectors of agriculture, horticulture, sericulture, animal husbandry and cooperation and a part of SCA (not more than 30 per cent) is permitted to be used for development of infrastructure incidental to such Income Generating Schemes. Ministry of Tribal Affairs, Government of India releases Special Central Assistance in the shape of Grant-in-Aid to the State Government keeping in view the tribal population percentage of the State.

SCA funds are passed on to Integrated Tribal Development Agencies (ITDAs / ITDPs), Micro Projects (for PVTGs), Modified Area Development Approach (MADA) Blocks and Cluster Approach Pockets for implementation of Income Generating Activities (IGAs). Income Generating Schemes (IGS) are implemented through Income Generating Activities

(IGAs) and Infrastructure Development Schemes (IDS) in the ratio of 70:30 (Maximum of 30 per cent to IDS). Infrastructure Development Schemes are necessarily to be incidental to Income Generating Activities.

To promote and strengthen the livelihood of the tribal communities, different states have been taking different measures, taking in to account the scope of a particular livelihood, skill of the target mass, socio-

economic feasibility, expected return on investment and over and above the benefit to be accorded to the target mass due to a particular livelihood intervention. Some of the good practices in livelihood that are observed in Scheduled Areas of the study States are discussed here. Some of these good practices are demonstrative in nature but can be scaled up in a similar situation, following appropriate approach and process.







4.1 Focused Area Development Programme (FADP), Odisha

The livelihood of the Scheduled Tribe (ST) community mostly depends on forest, agriculture and animal husbandry. Tradition approach and practices, poor management, less effective local institutions in strengthening tribal livelihoods, lack of required forward and backward linkages in livelihood area and persisting gap in establishing an end-to-end solution in the value chain make livelihood of tribes more vulnerable to various shocks and risks.

Developmental works in Tribal Sub-Plan area of the state are primarily being taken-up by Integrated Tribal Development Agencies (ITDA). The ITDAs have identified locally suitable interventions, broadly termed as “Focus Area Development Programmes” (FADP) that make use of available resources and capacities of local tribal communities. These FADPs are expected to promote usage of alternative technologies and have the potential to make sustainable socio-economic impact in the lives of tribal population.

The Focus Area Development Programme has been implemented by 13 ITDAs of the state with funds

being dovetailed from various sources like SCA to TSP & Article 275(1) (of ST&SC Development Dept., Govt. of Odisha), MGNREGS (of Panchayati Raj Dept., Govt. of Odisha), National Horticulture Mission(NHM) and other Depts./ Donors. It is a convergence mode of operation where all concerned departments join their effort to ensure that livelihood of Scheduled Tribes improves. The “Odisha Tribal Development Society” (OTDS) under the administrative control of ST & SC Dev. Dept., Govt. of Odisha is implementing “Focus Area Development Programme” (FADP) for livelihood enhancement of Scheduled Tribe families in the Tribal Sub-Plan blocks of the State.

Objectives of FADP

Development of a decadal perspective plan for each ITDA for supporting ST families with viable alternative livelihoods has been the base for the implementation of FADP. The plan covers, Identification of specific Livelihood Focus Areas including land and non-land based options suitable to local conditions, available resources and capacities of the tribal communities. Specific objectives of FADP are;

1. Ensure sustainable livelihoods of ST families

through land and non-land based livelihood activities;

2. Develop suitable infrastructure so as to improve the standard of living and facilitate incremental results in their livelihoods;
3. Develop backward & forward linkages and strengthen the local institutions; and
4. Improve the governance system in the tribal villages by strengthening the Community Institutions.

Process Approach

Under FADP, a decadal growth plan is prepared at each ITDA level in a participatory manner, after detail analysis of the sector / sub-sector potential. Currently prepared decadal Perspective Plan for FADP aims to cover about 5.12 lakh tribal families with tentative budget of Rs.1569.70 crores. Convergence of Special Central Assistance to Tribal Sub-Plan (SCA to TSP) and Article-275(1) funds with national/state flagship schemes such as Mahatma Gandhi National Rural

Employment Guarantee Scheme (MGNREGS), National Horticulture Mission (NHM), Rashtriya Krishi Vikas Yojana (RKVY), Biju Krushak Vikas Yojana (BKVY) etc. has been proposed in this Plan. Overall, it is convergence mode of strengthening the livelihood of the tribals.

In each ITDA, one Facilitating NGO (FNGO) has been selected to provide handholding support for community mobilisation, participatory planning, project formulation & implementation of projects under FADP. The FNGOs, who have been engaged in ITDAs, are preparing Annual Budgeted Action Plan (ABAP), Detailed Project Report (DPR), and perspective plan on livelihood interventions for the ITDA. The sectors / sub-sectors that have been identified for intervention under FADP are as below.

Key Interventions

Each ITDA has identified one or two focus areas that are scalable in nature, likely to create significant socio-economic impact and promote economies of scale for product aggregation, value addition and marketing. A total of 17 sectoral/ sub-sectoral interventions, taken up under FADP, are discussed below.

Table 5: FADP Intervention Areas

Sl. No.	Interventions	Sl. No.	Interventions
1	WADI/Horticulture Plantation	10	NTFP Collection & Marketing
2	Improved Agriculture	11	Production/Processing Centres
3	Vegetable Cultivation	12	Poultry Rearing
4	Lac Cultivation & Processing	13	Dairy
5	Rubber Plantation	14	Fishery
6	Sericulture	15	Apiculture
7	Farm Mechanisation	16	Micro Enterprise Development
8	Coffee Plantation	17	Goat Rearing
9	Skill Training Programme for Tribal Youth		

Table 4: List of Focused Area Development Programme by ITDA, Odisha

Sl. No.	Name of FADP	No. of ITDAs	Name of ITDA
1	Wadi/ Horticulture	16	Baripada, Kaptipada, Karanjia, Rairangpur, Keonjhar, Champua, Paralakhemundi, Th. Rampur, Phulbani, Baliguda, Rayagada, Gunupur, Koraput, Jeypore, Nawarangpur & Malkangiri
2	Poultry	12	Nilagiri, Sundergarh, Bonai, Kuchinda, Paralakhemundi, Phulbani, Baliguda, Rayagada, Gunupur, Koraput, Jeypore & Nawarangpur
3	Goat rearing	8	Kuchinda, Keonjhar, Champua, Baliguda, Gunupur, Koraput, Nawarangpur & Malkangiri
4	Rubber Cultivation	5	Baripada, Kaptipada, Karanjia, Rairangpur & Paralakhemundi
5	Coffee Cultivation	2	Rayagada & Koraput
6	Lac Cultivation & Processing	3	Nilagiri, Bonai & Nawarangpur
7	Improved Vegetable Cultivation	9	Panposh, Kuchinda, Paralakhemundi, Baliguda, Gunupur, Koraput, Nawarangpur, Th. Rampur & Keonjhar
8	Farm Mechanisation	7	Paralakhemundi, Th. Rampur, Baliguda, Gunupur, Koraput, Nawarangpur & Malkangiri
9	NTFP Collection & Mktg.	9	Kaptipada, Sundergarh, Panposh, Bonai, Keonjhar, Champua, Paralakhemundi, Baliguda & Rayagada
10	Improved Agriculture	6	Nilagiri, Panposh, Keonjhar, Phulbani, Baliguda & Gunupur
11	Fishery	11	Baripada, Kaptipada, Sundergarh, Panposh, Keonjhar, Th. Rampur, Phulbani, Koraput, Jeypore, Nawarangpur & Malkangiri
12	Micro Enterprises (Non-farm; SAP Processing, Fruit & Vegetable Aggregation/Processing, NTFP Value Addition)		Selected Clusters of 21 ITDAs
13	Handloom & Handicrafts		Selected Clusters of 21 ITDAs

Wadi / Horticulture Plantation

Wadi (Orchard) is an Agro-Horti-Forestry arrangement of beneficial plant species e.g. Mango, Cashew, Litchi, Banana and K. Lime. This project is being implemented in 9 ITDAs namely, Champua, Koraput, Jeypore, Gunupur, Th. Rampur, Baliguda, Nawarangpur, Sundergarh and Paralakhemundi. Horticulture plantation of any one fruit crop, viz. Mango, Cashew has been taken up in 8 ITDAs namely,

Bonai, Panposh, Jeypore, Rayagada, Nawarangpur, Malkangiri and Baliguda while maintenance of previous plantation was taken up in Th. Rampur. Along with horticultural plantation, inter-cropping of Niger, vegetables, pulses etc. has also been promoted for a better return to the tribal farmers from the available land. Besides, plantation of forest tree species has been done as border crop. Irrigation sources, such as dug-well, shallow tube-well, bore-well, lift irrigation, drip irrigation, have been created in convergence with

Jalanidhi, Biju Krushak Vikas Yojana–Deep Bore-well Scheme, NHM etc. for irrigation.

Improved Agriculture

Promotion of cultivation of Maize, Ragi etc. has been taken-up in 7 ITDAs viz. Baliguda, Malkangiri, Paralakhemundi, Bonai, Keonjhar, Rairangpur and Karanjia, involving tribal farmers. Critical inputs were supplied to the selected beneficiary farmers under SCA to TSP.

Lac Cultivation and Processing

In Nilagiri, Nawarangpur, Bonai and Baripada ITDAs, Lac cultivation is being done using Kusum trees as well as by starting Semialata plantation. Based on the contextual relevance and prospects in ITDA areas, this activity has been taken up under SCA to TSP.

Rubber Plantation

Rubber plantation has been undertaken in Baripada, Kaptipada, Karanjia, Rairangpur and Paralakhemundi ITDAs benefiting the tribal farmers. Inter-cropping of pulses, besides cereals, has been taken-up and irrigation potential has also been created. The project is being supported under SCA to TSP and MGNREGS.

Poultry Rearing

It is a more traditional livelihood sub-sector which has been taken up in 19 ITDAs, namely Nilgiri, Baripada, Kaptipada, Karanjia, Rairangpur, Keonjhar, Kuchinda, Bonai, Panposh, Sundergarh, Koraput, Jeypore, Paralakhemundi, Rayagada, Gunupur, Nawarangpur, Malkangiri, Balliguda and Phulbani. Two models of poultry, under this intervention are taken up.

Model One: In the first model, Mother Chick Units (MCUs) are linked with Backyard units. Birds of Banraj and Kuroiler breed are mostly reared in this model. In the MCUs, 600 to 1000 numbers of one-day old chicks are reared for 4 weeks by individual tribal families/tribal women SHGs. Then, 30 numbers of such 4-week old chicks are reared in night-shelters in the backyards by tribal families.

Model Two: In Broiler/Layer units, 400 to 600 birds are reared by individual tribal families. Backward linkages in this intervention include vaccination of birds, timely availability of chicks, feed supplement etc. Linkage with Veterinary Dept. is being done to ensure vaccination. Besides, a poultry pellet feed mill is being established in Jeypore with technical support from Animal Resources Development Dept. The tribal families engaged in poultry rearing are tagged with local Poultry Cooperatives for marketing. The projects are being taken up under SCA to TSP.

Farm Mechanisation

To make agriculture less labour intensive (looking at labour issues) and more mechanised for completion of farm activities on time, farm mechanisation is being taken up by 9 ITDAs under SCA to TSP to support tribal families. The SHGs have been strategically promoted to procure farm machineries such as pump-sets, power tillers, levellers, paddy threshers etc. Subsidy is being provided under “State Agriculture Policy” scheme. The ITDAs that have taken up farm mechanisation are Nilgiri, Kaptipada, Champua, Panposh, Th. Rampur, Gunupur, Nawarangpur, Malkangiri and Balliguda.

Members of the enrolled SHGs are trained by Odisha Farm Machinery Research & Development Centre to utilise these farm machineries for their agricultural works. These SHGs have developed “user mechanism/ rules” and collect “user fee” for rental usage of these machineries by members/other tribal farmers. These fees are meant to ensure maintenance of the machineries & increase members’ earnings. It is basically a Custom Hiring Centre (CHC) Model where farm implements are provided on rent to the farmers.

Vegetable Cultivation

Commercial Vegetable cultivation is being taken-up in Phulbani, Balliguda, Malkangiri, Nawarangpur, Gunupur, Rayagada, Koraput, Panposh, Keonjhar, Th.Rampur and Nilgiri ITDAs. Two models were adopted, in this intervention, i.e., (1) Vegetable nursery in Poly-houses by SHGs run by women members and

making available vegetable seedlings to individual farmers undertaking vegetable cultivation on raised beds with drip irrigation; and (2) Supply of inputs viz. seed, fertiliser etc. to poor tribal farmers.

The farmers have been provided agricultural inputs and drip irrigation system for attending water use efficiency and better water productivity. Besides, functional infrastructure for collection/sorting/grading with Pack units as well as Cool Chamber and Refrigerated Van for marketing support has been supplemented in ITDAs. Available funds under SCA to TSP is utilised for implementing this project.

NTFP Collection and Marketing

Collection of Non-Timber Forest Produces (NTFPs) has been one of the major livelihoods options for the tribals living near the forest areas. Under FADP, it is planned to facilitate this traditional livelihood of tribal in terms of making it more market oriented through establishing forward linkage. This activity is taken up by 4 ITDAs viz. Koraput, Sundergarh, Bonai and Champua. For the purpose, 30 Producers' Groups/ SHGs have been selected by the ITDAs and these SHGs have been provided with "Seed Capital" for collection of non-timber forest produces (NTFP), for procurement of weighing scales and creation of primary value addition infrastructure such as storage system (godown) and drying yard etc., for better price realisation by tribal beneficiaries (NTFP gatherer) and to face lesser market exploitation.

Production/Processing Centres

Production/Processing Centres for value addition of harvested Lac, Sericulture produces and Skill up-gradation centres for livelihood development of tribal people have been taken up by 7 ITDAs viz. Nilgiri, Baripada, Kuchinda, Sundergarh, Paralakhemundi, Nawarangpur and Balliguda. Producer Cooperatives/ Groups have been formed to manage and maintain these units.

Sericulture

Sericulture has been one of the livelihood options of the tribal in some ITDA areas. In FADP, 4 ITDAs viz. Baripada, Keonjhar, Bonai and Paralakhemundi, have been facilitating sericulture in terms of rearing silkworms and preservation of cocoons by supporting tribal farmers engaged in Sericulture activity. The farmers are provided with seed subsidy, training on tasar reeling and spinning and purchase of twin reeling Charkha. Coordination with the Dept. of Handlooms & Textile is being done for establishment of processing units and marketing of the silk.

Dairy Development

Dairy development is taken up in collaboration with OMFED and funds have been released to OMFED for implementation of Tribal Women Dairy Project in tribal dominated blocks of Koraput, Rayagada, Malkangiri, Nawarangpur, Kalahandi, Mayurbhanj, Balasore and Bolangir districts. The dairy development project is taken up by 7 ITDAs, viz. Baripada, Kaptipada, Rairangpur, Bonai, Panposh, Paralakhemundi and Malkangiri, where improved breed calves are supplied to the tribal families along with allied activities like individual fodder demonstration unit and organising exposure visit of Farmers.

Fishery

Promotion of inland fishery is being done in association with Primary Fishermen Cooperative Societies (PFCS) and Fish Farmers Development Agency (FFDA) by raising of fingerling stocking, provision of fish fingerlings in village ponds, small & medium reservoirs and supply of equipment (e.g. fishing net) for fishermen. Based on the potential, 8 ITDAs viz. Baripada, Rairangpur, Keonjhar, Panposh, Sundergarh, Nawarangpur, Malkangiri and Paralakhemundi, have taken up this activity under FADP.

Apiculture

Based on the prospect of apiculture, 2 ITDAs, i.e., Karanjia and Nawarangpur ITDAs have taken up this

activity to benefit tribal families in supplementing their income. With the supply of beekeeping equipment, training imparted to the involved tribal farmers on beekeeping and primary processing unit is also established in suitable locations.

Micro Enterprise Development through SHGs

Tribal SHGs, promoted under different schemes, having been focused for micro enterprise development. Under the project approach, thrust is being given on building capacity of the SHGs and strengthening their capacity to manage the enterprise. In this context, region specific potential product clusters have been identified. For promotion of such product clusters, SHGs in 21 ITDAs have been promoted to start micro enterprises. To successfully manage these micro enterprises, SHG members were provided capacity development training and handholding support.

Coffee Plantation

Tribal farmers of Koraput ITDA have undertaken Coffee plantations. The project has been supporting the coffee growing farmers in providing irrigation facility and establishing linkage with coffee board. This activity is taken up under SCA to TSP.

Goat Rearing

Goat rearing has been taken-up in 4 ITDAs viz. Th.Rampur, Kuchinda, Keonjhar and Karanjia looking at the existing potential and interest of tribal farmers. Focus under this project has been breed improvement, comprehensive vaccination and insurance of animals. Available funds under SCA to TSP is utilised for the purpose.

Skill Training Programme for Tribal Youth

Initiatives have been taken in 21 ITDAs to develop the employable skill of tribal youths. Under the project, Skill Development Training (SDT) have been provided to the tribal youths along with providing Placement Linked Employability Training (PLET) and Pre-Recruitment Training (PRT). Under PRT, unemployed tribal youths interested to join armed forces are being given training support. Camps/Melas were conducted by the ITDAs in blocks under their jurisdiction to generate awareness among unemployed tribal youths and provide them required counselling to enable them take-up suitable courses/trades and join designated/empanelled training Centres.

The major trades opted by tribal youths under SDT included emerging domains such as Computer Networking & Hardware, Tally Computer Accounting, Mobile Repairing etc. as well as core/traditional domains such as Heavy/Light Motor Vehicle Driving Training, Electrician/House wiring, Welding & Fabrication, Civil work Supervisor etc. The major trades opted by tribal youths under PLET are Hotel/Hospitality Management, Plastic Processing Operator, Diploma/ Bachelor Degree in Pharmacy, Diploma in Food Management, Office Automation & Graphic Design, Multimedia, Retail Sale, DLMT, Health Care & Multipurpose Worker, Bedside Patient Assistant/Attendant etc. as well as core/traditional domains such as Data Entry Operator, Auxiliary Nursing & Mid-wife (ANM), General Nursing & Mid-wifery, Tailoring/ Sewing, Fitter, Mason etc.



4.2 Animal Husbandry

Animal husbandry as supportive livelihood for the tribal households is having two dimensions, i.e., promotion of poultry / backyard poultry and/or rearing of small ruminants. Both the models are observed in the study States. While return from backyard poultry is more instant; in case of small ruminants, minimum period of economic return is about 6-8 months.

In animal husbandry, there are two important approaches which have been adopted by the States. In first case, women SHGs and/or community organisations are used as a common platform for animal husbandry promotion where the SHGs / community organisations are supported with animals / birds. In the second

approach, individual households were supported where community organisations, including women SHGs remain accountable for the implementation of the project. Such initiatives are common in all the States as these are part of IGA promotion under SCA to TSP. With a shift from individual to collective approach for IGA promotion, support mechanism also observed changed accordingly. While project support is rendered to the SHGs / community organisations directly, individual ownership and management scope is created where accountability lies with both the SHG/community organisation and the individual beneficiary.

Poultry

Introduction:

Poultry development has been a household activity in India. Through policy interventions by Government and enterprise of private players, poultry farming has transformed into a very scientific operation. Poultry continues to be one of the fastest growing sub-sectors of Animal Husbandry. Now in the country, poultry production has taken a quantum leap in the last four decades. Emerging from an unscientific and traditional way of farming practice to commercial and business way production system with state-of-the-art technological interventions has increased poultry production in India. As per the 19th Livestock Census, there is about 729 million poultry population in the country.

Census-wise Poultry Population of India

Livestock Census	Poultry Population (no. in millions)
17th Livestock Census 2003	489
18th Livestock Census 2007	648.8
19th Livestock Census 2012	729.2
Growth Rate (%) 2007 - 2012	12.39

Source: Annual Report 2016-17, Table-1.1, Page No. 5, Department of Animal Husbandry, Dairying & Fisheries Ministry of Agriculture & Farmers Welfare, Government of India

During the 17th and 18th Livestock Census poultry of the country was 489 million and 648.8 million respectively. The growth rate of poultry population is 12.39 percent as comparison to 18th and 19th Livestock Census. State-wise poultry population and percentage to national figure during the 19th Livestock Census is given below.

Total Number of Poultry during 19th Livestock Census Year 2012 (Figs. in Thousands)

States	Andhra Pradesh	Maharashtra	Odisha	India
Total Poultry	161334	77795	19891	729209
% of Poultry to National Figure	22.12	10.67	2.73	100

Source: Annual Report 2016-17, Annexure-I, Page No. 122, Department of Animal Husbandry, Dairying & Fisheries Ministry of Agriculture & Farmers Welfare, Government of India

Egg Production:

Till the end the Tenth Plan (2006-07), egg production was 50.70 billion as compared to 66.45 billion at the end of the Eleventh Plan (2011-12). As per 19th Livestock Census (year 2012), the total Poultry population in India is 729.21 million and egg production is around 82.93 billion during 2015-16. During the year 2015-16 the per capita availability is around 66 eggs per annum. The poultry meat production is estimated to be 3.26 million MT.

Year-wise Production of Egg and Meat in India

Year	Eggs		Meat	
	(Million Nos.)	Growth Rate (%)	(Million Tonnes)	Growth Rate (%)
2006-07	50,663		2.3	
2011-12	66,449	5.43	5.5	12.24
2012-13	69,731	4.94	5.9	7.27
2013-14	73,438	7.2	6.2	5.08
2014-15	78,484	4.99	6.7	8.06
2015-16	82,929	5.66	7	4.48

Source: Annual Report 2016-17, Chart-1.3, Chart No.1.5 and Annexure-II, Page No. 8, Page No. 10 and Page No. 123, Department of Animal Husbandry, Dairying & Fisheries Ministry of Agriculture & Farmers Welfare, Government of India

With high concentration of poultry, Andhra Pradesh is having the highest egg producing State in comparison to other two States, followed by Maharashtra and Odisha. Of the total estimated egg production in the

country, during 2012,13, Andhra Pradesh produced 31.98 percent, followed by Maharashtra with 6.55 percent and Odisha with 3.33 percent.

Estimates of Egg Production during 2008-09 to 2012-13

States/UTs	2008-09	2009-10	2010-11	2011-12	2012-13
Andhra Pradesh	183446.36	193958.45	201277.09	212103.27	222973.83
Maharashtra	35502.28	38640.12	42245.1	43860.99	45661.07
Odisha	19940.15	23193.01	23570.78	23006.87	23229.84
India Total	555624.39	602670.37	630243.9	664499	697307.17

Source: <https://data.gov.in/catalog/estimates-egg-production>

Download on dated: 08.05.2017

Meat Production: The Meat production has registered a healthy growth from 2.3 million tonnes at the end of Tenth Five Year Plan (2006-07) to 5.5 million tonnes at the end of the Eleventh Five Year Plan (2011-12). Meat production in the beginning of Twelfth Plan (2012-13) was 5.95 million tonnes which has been further increased to 7.0 million tonnes in 2015-16. Meat includes cattle, buffalo, sheep, goat, pig and poultry.



4.2.1 Cluster Development Approach in Poultry

Most of the approaches in poultry development are either individual oriented or group oriented. This approach, which is more welfare centric in its character, is normally deficient from attending a scale of production. It is more driven with the principle that the target tribal families will take care of the animals / birds and make some income out of it. It is also assumed that the concerned target households will scale it up by their own and would be sustaining it and making it a household business venture. Though, both these approaches have merits and demerits, however, normally these assumptions lost its objective and credibility due to several factors which are either exogenous in character or endogenous in nature.

When market play an important role in such business ventures and scale of operation becomes essential to have a higher return that is sustainable, commercial scale of operation and its appropriate management becomes essential.

The scale of operation can be attended and achieved with a “Cluster Development Approach” in a rural context where investment capacity of individual tribal family is low and collective approach is essential to attain the scale and augment the production. This collective approach can be beneficial to both the promoter and participating households. Such initiative is demonstrated in poultry sub-sector in Odisha where institutional mechanism is appropriately framed to suit to the intervention.



Situation Analysis

Tribal families of Balliguda Sub-Division of Kandhamal district in Odisha are dependent primarily on agriculture and forest products for their livelihood. The poultry activities have potential to become the mainstay of livelihood for the landless, small and marginal farmers who have limited productive asset to meet their livelihood requirements. Poultry is well accepted traditional activity in Kandhamal District. Poultry rearing has become an integral part of the most of the tribal families. Improved layer and broiler poultry farming could be a viable option for providing livelihood support to many tribal families. The poultry sector in the district is growing at an average of 8% in terms of egg production and 15% in meat production. The assessed demand of the district at present is about 60 MT meat / month and 1 lakh egg/day. The increasing demand needs to be adequately addressed through improving the current level of production and establishing appropriate supply chain management and market linkage. The identified potential to augment the production system to cater to the market demand, ITDA Balliguda took up poultry development activity, involving tribal women and their SHGs through cluster approach.

Objectives

While the overall objective of this initiative is to improve the economic status of the tribal households, the specific objectives are;

- a. To enable 50 SHGs in 1st year, 100 SHGs in 2nd year and another 100 SHGs in 3rd year to take up Improved Poultry farming in the operational jurisdiction of ITDA, Balliguda through brooding and rearing of improved variety of layer, broiler and dual purpose breed to benefit 2500 tribal women in three years with an incremental income of Rs.1.32 lakh per SHG per year. Depending on location and other infrastructure. SHGs will be free to choose breeds and activities like brooding/ rearing/ laying/ broiler etc.

- b. To make cluster of 20 individuals per SHG to take up backyard poultry farming at household level through SHG cluster approach and thus giving benefit to extra 5000 tribal families in three years to earn an incremental income of Rs. 14,000 per year per family and nutritional support with mere investment.



- c. To engage unemployed ST/SC youth as paravets to look after poultry activity.
- d. To increase the socio-economic status of tribal women in this area and making poultry as an economic activity in the district.
- e. To develop the capacities of tribal women and their SHGs to take up poultry business as supplementary source of income.



- f. To enhance the capacity of existing SHGs members on scientific poultry rearing.

- g. To develop marketing ability among the tribal women.
- h. To utilize subsidy of Rs.10,000/- per ST BPL beneficiary under IGA scheme of SCA to TSP in Non-Banking sector for sustainable income through poultry farming.

Institutional Arrangement Special Purpose Vehicle (SPV):

In order to promote poultry and to attain a scale of production, Special Purpose Vehicle (SPV) approach has been adopted in Public Private Community Partnership (PPCP) mode named as Kandhamal Poultry Development Corporation Ltd. (KPDCL). The corporation is formed with the objective of providing financial, technical, managerial and marketing support to the poultry growers. All the tribal SHGs and its members, associated in poultry, are the prime stakeholders of the corporation. This initiative is a departure from the sporadic approach of providing birds as a welfare measure to a commercial venture where the business is carried out at a scale that is more sustainable and productive for the tribal families.

The KPDCL, as a SPV, is registered under companies Act, 1956. The company model was adopted to have more operational flexibility, bringing sense of involvement among the stakeholders, to get freedom of operation and accumulating profit from this commercial venture. It is a social enterprise where the members make a profit out of their association with the venture and the company grows with increasing volume of operation with the involvement of tribal households / SHGs. Shareholding in the company is structured in such a manner that the Government is having minor shareholding (less than 26%). The structural arrangement ensures that it shall not function like a state PSU, rather as a private entity, where major stake lies with the community.



Shareholding in the KPDCL

Sl. No.	Shareholders	Equity (%)
1	Govt. of Odisha through of ST & SC Development Dept.	26
2	Community (Women SHG members)	49
3	Private firm with expertise in Poultry with substantial operation in Odisha	25
	Total	100

The company is registered with an authorized capital of Rs. 5,00,000.00 (Rupees: Five lakhs Only) and initial subscribed and paid up capital of Rs. 20,00,000.00 (Rupees: Twenty lakh Only). The company is having a board of directors comprising 10 persons, headed by the Collector and District Magistrate as the Chair Person of the company. The Chairman of the company is from among the nominee of Directors of Government of Odisha. The shareholding pattern of different members in the company is as under;

The Composition of the Board of Directors of KPDCL

Sl. No.	Shareholders	Equity (%)
1	Nominees of Government of Odisha	3
2	Nominees from Community	3
3	Representative of Private farm	1
4	Managing Director* (Private player)	1
5	Expert in Management with specialisation in PPP and Governance	1
6	Expert in Poultry Production, Management and Marketing/ related areas	1
	TOTAL	10

Role of Stakeholders

As discussed earlier, the intervention is taken up in a PPCP mode where different players have different role and responsibility in poultry business scaling up.

Public: In public sector, agencies that are associated are ST&SC Development Department, Dist. Administration, Kandhamal, ITDA Baliguda, and District Veterinary wing, Kandhamal. The public partners have been performing the following functions.

1. Creating a platform for the corporate and community leaders to meet and exchange ideas;
2. Creating synergies and a more proactive role in facilitating partnership projects and help in its success;
3. Convergence with other schemes of the Government;
4. Funding support;
5. Solving problems / emerging challenges;
6. Providing infrastructural support like, transportation & conveyance, office space for staff, own feed mill, hatchery, breeder farm to make the mission cost effective.
7. Infrastructural development of Broiler Farms at SHG's site like water, electricity,
8. Financial support for imparting training to SHG members/ staff members of KPDCL
9. Financial Support for administrative expenses of staff like wages, residential accommodation & DA

Private: One private enterprise (Bhairabi Agro) with specialization and experience in poultry production and marketing is selected to bring private sector expertise and business acumen. The private partner is having the following role and responsibility.

1. Get industry involvement in the project
2. Contribute towards resource generation

3. Contribute vital cost effective technological, managerial expertise.
4. Provide technical support
5. Control/management of Broiler Farms located at different SHG site
6. Staff management, appointment of Staff
7. Product Quality control
8. Ensure smooth availability of basic inputs like day old broiler chick, poultry feed, medicine & vaccines to broiler farms

Community: Tribal women SHGs are the poultry growers at the grassroots level. Their overall role and responsibility in the overall operation revolves around rearing / taking care of the firm, train themselves in poultry management, vaccination of birds as per the schedule in consultation with veterinary officials and selling out after completion of the cycle. They have been implementing the project under the guidance, supervision and support of the Govt. and the selected private sector player. SHGs are also involved in educating and awaring the larger community about the project, its benefit and motivating them for participating in the process. As direct beneficiary, their involvement in the process is more for their own livelihood restoration. The venture has created a scope for the tribal families to work in a more structured environment where facilities and services are available through institutional mechanisms.

Key Activities Taken up

The registered body has taken up a number of activities that are objectively driven to fulfill the mandate of the social enterprise. The activities taken up are basically giving an end to end solution to the poultry development venture and related aspects. Key activities taken up for poultry cluster development are;

- Selection of SHG

- Selection of individual farmer (poultry rearing households)
- Construction of poultry brooding cum broiler Unit (1200 Sq. Ft) (All in all-out system) at SHG level
- Construction of poultry Brooding cum Layer unit at SHG level
- Construction of individual night shelter by the farmers attach to each SHG under SHG cluster approach (70 Sq.Ft)
- Opening of Bank Account
- Training and Exposure of farmers
- Selection and Engagement of Poultry Development Assistant (PDA)
- Godown at each centre
- Supply of chicks, feed and medicine etc. to the individual group
- Marketing of the chicks
- Monitoring and evaluation

The commercial model promoted under the intervention are objectively linked to the production of meat, involving commercial broiler by the tribal women SHGs. Along with meat, egg production under backyard farming in extensive conditions by the individual households after brooding age is also promoted.

Convergence Approach:

The scheme is being implemented in a convergence mode. Poultry sheds are constructed with the fund support from MGNREGS at the rate Rs 40, 000/- per family. The cost of land development and related manual work for the establishment of the unit is taken up under MGNREGS. Other capital requirement and operating expenses are met from ITDA sources & Odisha Livelihoods Mission (OLM) fund @ Rs 50, 000 per group.



Infrastructure Provision:

A poultry complex is planned where at least 2 SHGs can operate in one complex so that the common infrastructural facilities like electricity, water supply can be utilized making the scheme more viable economically. This will also be effective for monitoring and marketing.

- An area of about 1.0 acre per complex would be ideal wherever possible. Govt. waste land can be used if available.
- Provision of electricity;
- Provision of safe drinking water i.e. bore well, overhead tank and electricity pump;
- Fencing of the area and gate and minimum bio security measures;
- At least two poultry shed of 900+900 sq. ft. and 100 sq. ft. for store;
- Small patch for maize/soya bean cultivation wherever possible;
- Rest room of 200 sq. ft. for the staff in the farm premises.

Intervention Outcomes:

ST & SC Development Department has sanctioned Rs.179.00 lakh during the year 2011-12, 42.34 lakh in 2012-13 and 70.19 lakh in 2014-15 for establishment of poultry brooding cum broiler unit covering 100 SHGs and 1000 individual members attached to each SHG for production of chicks for the year along with the marketing facility through partnership mode. The following steps have taken up till to-date:

Progress Overview:

- Company Registration has been completed;
- The Private partner i.e. Bhairavi Agro Pvt. Ltd has been selected through an Expression of Interest (EOI).
- 100 SHG groups have been identified out of which 1st phase training is imparted to 40 nos. of SHG groups, trained by the ITDA and Veterinary Officers on the new model and on best practices;
- 24 poultry units are now functional out of the total target and this year 30 more will be covered;
- As on date, KPDCL has reared/grown 2.26 lakhs broiler birds weighing to 4,53,300 Kgs. and marketed successfully;
- SHGs has reared a total of 223 nos. of batches with an average of 10 batches / group, till date;
- SHGs earned Rs. 22.24 lakhs of rearing cost out of which Rs.19.34 was already paid and the rest is planned to be paid by March 2017.

Awareness building on poultry production: Proper awareness building for poultry as a vocation has been created among the rural BPL, ST and SC farmers;

Capacity building: Capacity building measures for SHG members, veterinary field practitioners and other supporting Govt. staff have been provided on poultry housing, rearing, management and disease control.

Infrastructure: A good no of rural infrastructure for

poultry production in terms of poultry sheds have been created. More than 100 such sheds have been built up in the district.

Challenges and Mitigation Measures

The key challenges experienced by the promoters / company are;

Marketing of the birds

As Banaraja birds were the breed of choice the meat sold at a later age i.e. above 6 months were not appreciated by the public due the quality issue.

Managing Cost of Feed

Banaraja under intensive condition of rearing remain less viable from economic aspects due to higher expenditure in feed.

Waiting Time

Farmers were impatient to wait longer till the onset of laying cycle. The growers need quick return from investment which is possible from broiler. Through minimisation of cycle duration or maximising No. of cycles through additional rearing units.

Issues in SHGs' Performance	Corrective Measures
1. High mortality % due to neglected rearing by members;	1. Estimation of rearing cost taking in to account the mortality (cost expected to change with mortality);
2. Theft of ready birds and showing as mortality;	2. Stopping placement of birds in the respective farms and recover the cost ;
3. Theft of feed and selling to local traders;	3. Immediate legal action needs can be taken by KPDCL with the help of local govt. administration to recover the long outstanding payments.
4. Farmers selling ready birds on their own and not repaying the dues on time;	
5. Outstanding of payments with some of the traders, in-spite of regular follow-up and notice;	

Profitability

As per the balance sheet / profit loss statement, the company has made a profit of around 28 lakhs between 2013 to 2016 (Sept.). The extract of the balance sheet of the promoting company is presented below.

Kandhamal Poultry Development Corporation Ltd.				
Balance Sheet				
1-Apr-2013 to 30-Sep-2016				
Kandhamal Poultry		Kandhamal Poultry Development Corporation Ltd.		
Liabilities	as at 30-Sep-2016	Assets	as at 30-Sep-2016	
Capital Account		1020000.00	Fixed Assets	873802.00
Share Application Bhairabi Agro	500000.00		Farm Equipments	580.00
Share Capital ITDA	520000.00		Electrical Equipment	12580.00
Loans (Liability)		6863792.00	Furniture & Fixture	3665.00
Unsecured Loans			Godrej	3700.00
ITDA, Baliguda	6863792.00		Office Equipments	45031.00
Current Liabilities		1528521.19	Plant & Machinery	1556.00
Duties & Taxes	-18170.81		Poultry Equipments	720000.00
Sundry Creditors	1529073.00		Software	17500.00
Audit Fee Payble	17175.00		Television	10200.00
Defered Tax Liability	444.00		Vehicle	56790.00
			Videocon D2H	2200.00
			Current Assets	5727760.65
			Closing Stock	1555050.69
			Loans & Advances (A	252099.27
			Sundry Debtors	501178.69
			Cash-in-hand	1327400.00
			Bank Accounts	1378470.00
			Preliminary Expense	213562.00
			Profit & Loss A/c	2810750.54
			Opening Balance	0
			As on Date	2810750.54
			Less: Transferred	-444.00
Total		9412313.19	Total	9412313.19

Reflective Practices

Key practices that can be considered as the learning lessons from this venture are as below.

This approach is a departure from the conventional welfare approach of promoting poultry where some birds are provided to SHGs or its member for rearing and it is assumed that the enterprise will take shape automatically. A comprehensive approach is adopted in this model with profit motive that drives the venture.

The scaling up strategy, involving SHGs / members of the women SHGs in a strategic mode where they take care of the birds and market is ensured by the promoters, found beneficial for the tribal families. They get assured return from rearing birds where all the investment is made by the special purpose vehicle.

Infrastructure support system created for the endeavour, by mobilising funds from different other schemes, helped to scale up the operation and hence more income to the tribal households.

At the aggregation point, number of birds as output, is a collective venture whereas individual households are having their own individual enterprise.

Involvement of private player / entrepreneur has been helpful to improve the management and timely decision making process that are relevant for the business. The awareness, community mobilisation drive, capacity building on poultry rearing and exposure helped to improve the management practices of the poultry units. The tribal families with better skill and knowledge, could able to minimise the mortality rate of the birds and improved their profitability.



Summary of Good Practices

Activity: Cluster Development Approach in Poultry

In Odisha, poultry farming / rearing is an industry of poor tribals. Whether it is the backyard poultry rearing or the improved broiler poultry farming both have been accepted as a viable enterprise of mostly the landless poor tribal families living below the poverty line. Either the ways individual level or in a group level poultry activity can be benefitted. Poultry farming / rearing can enhance household food security and contribute to poverty reduction through provision of supplementary food, income and employment. Besides providing employment this will also generate additional income for the household. In addition to this, commercial activities under this poultry sector are also encouraged the unemployed educated youths in a great manner to be involved in this enterprise. These activities creates sustainable means of livelihoods in the rural areas along with the bridging the gap of demand and production in poultry meat. Thus apart from generating income levels and provides larger employment opportunities for rural tribal women; poultry farming is also helps to boost the nutritional as well as health standard of rural masses.

Key Conditions

This can be replicated in “Cluster Development Approach” in a rural context where investment capacity of individual tribal family is low and collective approach is essential to attain the scale and augment the production.

Geographic Location: Rural Tribal Area where Women SHGs are active having seen their previous income generating activity.

Stakeholders:

- **Public:** Government / Department
- **Private:** Private enterprise with specialization and experience in poultry production and marketing is selected to bring private sector expertise and business acumen.
- **Community:** Tribal women SHGs are the poultry growers at the grassroots level. SHGs are involved in educating and creation of aware to the larger community about the project, its benefit and motivating them for participating in the process. As direct beneficiary, their involvement in the process is more for their own livelihood restoration. The venture has created a scope for the tribal families to work in a more structured environment where facilities and services are available through institutional mechanisms.

Institutional Arrangement/Involvement

Shareholders	Equity (%)
Nominees of Government of Odisha	3
Nominees from Community	3
Representative of Private farm	1
Managing Director* (Private player)	1
Expert in Management with specialisation in PPP and Governance	1
Expert in Poultry Production, Management and Marketing/related areas	1
TOTAL	10

Technical Support Services

- Mobilisation / Awareness of beneficiary through FNGO:

- *Training & Capacity Building arrangement for beneficiary by technical expert and FNGO*
- *Handholding: Extended handholding support by technical expert and FNGO*
- *Provision for Exposure Visit:*

Financial Support Services

- *Bank Linkage & Credit Support*
- *Government / Departmental Support*
- *Beneficiary Contribution: Labour Work, Shed Preparation (labour component) are to be borne by the Farmer.*
- *Market Linkage/ Support or Buy Back System*

Benefit

- **Economic / Income Benefit:** *On an average, each beneficiary is now able to have an additional earning of at least Rs.14000 to Rs.16000 annually from his farm.*
- **Social Benefit**

- *Creation employment opportunity and reduction in distress migration: At least one member from beneficiary households will be engaged in the WADI activities throughout the year.*
- *Food Security: Increase in additional production of vegetable and pulses which will become part of daily meals of the tribal households which directly impacting on the health of family members.*
- *Improvement in Health and Sanitation: Impact of Regular meeting of Goan Kalyan Samitees (GKS) are organized with support of ITDA, FNGO and also when income increases health cautious increases.*



4.2.2 Poultry Development in Odisha

Introduction

Agriculture had been the main source of livelihood of the people in the village. Other than this, the female members were also involved in seasonal work and sometimes goes for labour work, implemented under MGNREGA and other construction works, based on its availability. The women were collecting Sal leaf as well as Kendu leaf from the forest in seasons, along with other minor forest produces. Their earning from all sources was not sufficient to cater their needs. Traditional agricultural practice was substance in nature and does not meet the food requirement of the family.

State	:	Odisha
District	:	Kandhamal
ITDA Area	:	Baliguda
Block	:	Tumudi Bandha
GP	:	Bataguda
Village	:	Bataguda
Institution	:	Durgabahini Women SHG
Activity	:	Poultry Farming



Some youths of the village were also migrating out of the district or state in search of work. The women were also not getting full employment after harvesting period is over. Overall, the socio-economic condition of the tribal families of the village was poor. The benefits of developmental measures yet to reach to the villagers which could have improved their economic condition. Apart from other challenges, poor education coupled with limited awareness and exposure to the government support provisions remained a bottleneck in the way of their development.

In the year 2006, the women of Bataguda village form two group with the help of PRADAN, an NGO working for poultry sub-sector development. Each group was comprised of 12 numbers. In the initial phase, the group members started with savings of Rs.5.00 per month and after a year, they started saving Rs.10.00 per month and afterwards Rs.20.00 per month. Collection of savings was the only activity of the group, apart from their monthly collection meeting and record

maintenance. In the year 2010, they got financial support from the government to do some income generating activities, but they failed to do it properly due to poor knowledge base. However, at present the group members are associated with poultry farm with the objective of improving their economic standard and self-reliance.

Process Approach and Methodology

When the group was formed, it was not having any specific objective and a way forward plan. As many other women of the nearby area were forming their group, women of this village also formed their group. The women were remaining engaged in domestic work as well as other activities to earn some income and rest of the days they were remaining engaged without any direct income from their engagement. They planned to use their less productive and leisure time with collective effort and for them poultry farm was a good option.

With the guidance of PRADAN, gradually they started doing savings with small amount for 2 to 3 years. The group members were conducting their monthly meeting properly with good documentation. Though, they started savings, but they didn't have any idea what they will do with their group savings. In the year 2011-12 and 2012-13, the group members attended several trainings on Agriculture, potato cultivation, seed processing, vegetable cultivation and group management by different agencies, including PRADAN and SEVA BHARATI NGO. The group members attempted to implement the learning on their field individually.

In the year the 2014, the group members planned to do poultry farm with the help of ITDA Baliguda of Kandhamal District. They submitted an application to the ITDA and expressed their interest to take up poultry. The ITDA also ensured to help them to start poultry firm. The group qualified in the assessment procedure adopted by the ITDA for the selection of SHG to take up the poultry activity (Criteria followed by ITDA for selection of SHGs were like group documents, savings,

regular meeting previous experience on IGA etc.). The ITDA also signed an MOU with Bhairabi Poultry Pvt. Ltd. of Dhenkanal District for technical and marketing support in the year 2014. During this period, the District administration developed Kandhamal Poultry Development Corporation Ltd. Baliguda(KPDCL) on Dt.05.02.2014 with the objective of promoting women empowerment and self-reliance with sustainable livelihood.

After submission of expression of interest, ITDA interacted with the group members and verified the details of the group records. During interaction, all the male and female of the village participated to discuss on the opportunity. The officials of ITDA made them aware and clarified the purpose of such initiatives and its expected benefit for the associated households. Satisfied with the group and interest of the members, ITDA sanction Rs.1.2 lakh as financial support for construction of infrastructure. The members of the SHG selected a common place in their village, after discussing with village development committee and started constructing the shed.

In the initial stage, the male members were not cooperative and denied getting involved in this inventiveness. Even some male members were of the opinion that women will not get success in this venture. Some of the women also faced resistance from their family members. The male members were not allowing the female to get involved in this process and started discouraging them regularly. However, gradually the women started the construction work. During the construction, the group also faced financial problem in completing the shed. Facing all challenges, at last the group completed the construction work within 3 months. The WSHG members prepared bricks by their own hand to save money. They collected woods and other items from their village forest areas to complete the shed. At the end of construction of building, the male members involved to help them when they were going to complete the shed.

But when the WSHG members constructed the

building without any support from their male members, the male members come forward to help them and got confidence that, the female may do this project successfully. The govt officials as well as the NGO workers also play part of their role to council the village people. In the next stage, ITDA approve an open well for water supply to the unit and facilitated in electrification of the unit. The private body, i.e., Bhairabi Poultry Pvt. Ltd., provided chicks as well as took up marketing responsibility and extension of other technical support.

In the preliminary stage, the technical support providing agency (Bhairabi Poultry Pvt. Ltd.) supported 1224 numbers of “day one” chicks as per the agreement. The agency also provided technical training to the SHG members to manage the farm and ensure marketing. The WSHG did not pay anything during supply of chicks. The agency provided rearing charges to the members of the group at Rs.5.00 per Kg. The agency also provided feeding at their door step. All kinds of material and technical support provided by the agency whereas, the group has to do rearing. At the initial stage, the rate of mortality was about 5% which discouraged the members as it was affecting their earning from poultry rearing. After adoption of guidance of the agency and its follow up, they get trained to manage the farm. Now all members are trained to do all kinds of work as per their availability of time. The group members rear the chicks only for 45 days (the chicks grow-up to 2 kg or 2.3 kg within 45 days of rearing), after that the agency take it back for marketing. In every cycle, the



agency provides 1224 chicks (day one), and in this way the group able to rear 6 batches in a year.

During the linkage with the technical agency, it was finalized that, the agency will take up marketing of the birds and the group will get rearing charge at Rs.5.00 per kg. In the initial stage, the group faced the challenge of reducing the mortality rate of birds. However, with the technical support from experts of the marketing agency and Animal Husbandry Dept., they could able to reduce it with the adoption of recommended package of practices, regular monitoring and close vigilance by the group members. The technical agency provided medicine for vaccinations in appropriate time. Regular meeting and discussion among the group members as well as interaction with the service providing agency helped to overcome their problem. In the initial stage the group lost 2-3 cycles which is no more a situation now.

Participatory process:

Mutual understanding among the members, technical and marketing support by the private agency, financial support from ITDA and cooperation from the male members made the initiative a success. While the officials of the ITDA cooperated the group in all aspects, including rendering financial support and technical support, NGO helped in mobilisation of the community and motivating them to take up this venture.

It took around 2 years to make the unit functional and profitable for the members. After 45 days of implementation of the project or after the 1st cycle, the group could able to recover their labour cost. The women of the group went out of the district for exposure and the local NGO also monitor and motivate to change their behaviour to accept the new ideas. Initially, it was very difficult to change the traditional thought process of the people. The group members met with the expert and attend numbers of training before implementation of the project. Now the group members are very friendly to talk with govt. officials and outside persons.

- **Infrastructure building cost by ITDA- Rs.1.20 lakh**
- **Digging dug well by ITDA- Rs.60,000.00**
- **Convergence with electric Dept. for supply of electric**
- **Labor charges- Group members**
- **Technical support by Bhairabi poultry Pvt. Ltd.**
 - **1224 chicks in each batch,**
 - **8 quintals of feedings for 45 days,**
 - **vaccinations for 7days and 15 days**
 - **training to the group members**
 - **Water pot and other material**
 - **Marketing and transport**

In the initial stage, the women were not taking interest to get involved in the process. Only 2 or 3 numbers of educated women participated and expressed their interest. The educated group members convince the other group members regarding adoption of new IGA for sustainable livelihood. This process took a long time to increase the level of involvement in this activity. The male members were also not interested to get involved in poultry programs as they had the believe only on the traditional practices. ITDA, Baliguda as well as district administration provide exposure to the group members on similar initiatives for learning and adoption.

Institutional Arrangement

To make this venture a success, ITDA Baliguda has been the anchoring institution at the local level that provides support as implementing and monitoring agency along with facilitating the whole process of implementation. The local NGO was involved in community mobilization and generating awareness on income generating activities and providing training to women group members on IGA. As the project has been implemented

in a Public-Private-Community Partnership (PPCP) mode, the private partner, i.e., Bhairabi Poultry Pvt. Ltd. renders required technical support and market linkage. The externally aided OTELP project extended financial support to the group and imparted trainings for the group members on group functioning, women empowerment, women leadership development etc. The associated women SHGs, as the primary stakeholders of the process, involved in rearing of birds and overall management of the unit. The members of the group formed 2 sub-groups for the management of the poultry firm. Each sub-group, of 6 members take the overall responsibility of management for four times a day. All group members are working unitedly and cooperate each other in their work.

Outcome and Impact

The members of the group express their satisfaction and share their experience that, whatever steps are taken by the administration, implementing agency and technical service provider agency, it addresses their needs. At present, the group members are very familiar with required skill and knowledge base to manage all activities as per their divided schedule of work and responsibility. After 45 days of 1st cycle or batch they get their income with profit and this achievement brings a greater change in mentality among the male and female members of the village.

Technical skill: Previously the group members were not having required understanding on poultry rearing. They were rearing the local breeds for their self-consumption and meeting emergency financial needs. They acquired required technical skill for rearing the birds. After execution of poultry farm, the NGO as well as the implementing agency imparted training and gave exposure to aware them. Bhairabi Poultry Pvt. Ltd provided technical support for smooth functioning

of the farm. Now they are technically well equipped to manage the farm.

Economic Impact: The group members are now economically sound to meet their need. Women are now in an influential position in decision making, both at home and community front. They are now able to spend more in food items which has improved their food security. The life style of their family has also been changed after having additional income. Now each member is earning around Rs.1300.00 to Rs.1500.00 per month. The male members of the village also support them to improve the capacity of the firm to enhance their income. Now the tribal women of the village are comparatively better off economically. Women are now managing their domestic needs as per their wish, with available resources and has improved their living condition. At present, all the members of the group have TV and mobile. They are also sending their children for education.

Replication / Up Scaling

In this practice, different agency played vital role for effective implementation of the project. Replication of the model and its scaling uprequires fulfilling the basic requirements such as;

- Provisioning technical knowhow and on time support for adoption of new rearing methods;
- Good transport and communication facility for market access;
- Extending insurance facility;
- Regular consultation and taking required measures on time;
- Ensured market facility

BATAGUDA (DURGABAHINI SHG)																	
Batch No.	Particulars				Cost						Loss/Profit						
	Date of Chick housed	No of Chick	Total Mortality	Net No of chick	Chick	Feed	Med/vacc	Rearing	Other	Total	No of Bird Sold	Weight / Bird (kg)	Total Weight	Costing / kg	Amount (Sold)	Amount (Cost)	Loss/ Profit
1	5.2.14	1224	128	1096	33600	142520	2448	12154	2448	193170	1096	2.2	2431	79	193170	193170	0
2	24.5.14	1150	54	1096	32200	92400	2300	10260.5	2300	139460.5	1096	1.9	2052	68	139460.5	139460.5	0
3	5.7.14	1269	45	1224	24000	138040	2538	12690.5	2538	179806.5	1224	2.1	2538	71	173646.6	179806.5	-6159.9
4	13.9.14	1224	39	1185	27600	132440	2448	12036.5	2448	176972.5	1185	2.0	2407	74	184648.4	176972.5	7675.9
5	4.11.14	1224	84	1140	38400	134400	2448	12430	2448	190126	1140	2.2	2486	76	180325.4	190126	-9800.6
6	3.1.15	1224	198	1026	31200	83700	2448	8083	2448	127879	1026	1.6	1617	79	135802.4	127879	7923.4
7	18.2.15	1666	94	1572	36000	156800	3332	11360	3332	210824	1572	1.4	2272	93	140987.2	210824	-69836.8
8	11.4.15	1224	44	1180	22800	127400	2448	11132.5	2448	166228.5	1180	1.9	2227	75	161096.5	166228.5	-5132
9	20.06.15	1200	34	1166	30000	127500	2400	11066.5	2400	173366.5	1166	1.9	2213	78	162580.5	173366.5	-10786
10	19.8.15	1224	36	1188	28800	135000	2448	11512	2448	180208	1188	1.9	2302	78	139408.7	180208	-40799.3
11	07.10.15	1333	101	1232	21600	187550	2666	16906	2666	231388	1232	2.7	3381	68	219987.1	231388	-11400.9
12	05.12.15	1224	30	1167	31200	130200	2448	12355.5	2448	178651.5	1167	2.1	2471	72	192048.7	178651.5	13397.2
13	30.01.16	1224	39	1162	28800	155000	2448	13259	2448	201955	1162	2.3	2652	76	235119.2	201955	33164.2
14	02.07.16	1124	186	1038	38400	134067	2248	10232.5	2248	187195.5	1038	2.0	2047	91	149653.5	187195.5	-37542
15	27.8.16	1224	38	1175	28800	128856	2448	11884	2448	174436	1175	2.0	2377	73	182146.4	174436	7710.4
16	02.11.16	1224					2448		2448								
		19982	1150	17647	453400	2005873	39964	177362.5	39964	2711668	17647		35472.5		2590081.1	2711668	121586.4

Case Study



Name- Aparna Kabasi
Village- Thumbaguda
GP- Kalimela
Block - Kalimela
District- Malkangiri
State- ODISHA

Introduction

In general, the tribal women are the main source of generating income at the family level. In the village, they normally remain engaged in collection of forest produces, performing agricultural activities and also involving themselves in daily wage works. For the socio-economic development of tribals, more particularly the women, ITDA has been working for their skill development and creating opportunities of employment for them. With the support of ITDA and other stakeholders such as WEO, Veterinary Officer; the women SHG of the village took up poultry farming.

The objective of this initiative was to promote poultry as feasible and sustainable livelihood option among the tribals through women SHGs and creating employment opportunities in their own locality and adjoining villages with the available resources, and improving their economic condition. The objective also intended to scale up the coverage and replicate it at wider level.

Stakeholder and Partners

About 10 members of the WSHG got involved in the process, facilitated by ITDA, Malkangiri with the support of veterinary officials. While the veterinary department extended bird health related support to the women SHGs, the local NGO, called GDS (Gopabandhu Development Society), a facilitating NGO (FNGO) helped in community mobilization and supporting in implementation of the project. Experts were engaged for rendering technical support and guidance to the WSHG members.

Process Approach and Methodology

As the members of WSHG were not confident of poultry farming, the project took initial measures to educate them on this income



generating activity, motivated them and convinced them that this can be an opportunity for them for getting a higher income making poultry as a successful business venture. Apart from regular interaction, the project organized capacity building training for the women SHG members in three phases to make them understand different aspects of poultry farming and its management. A Business

Development Plan (BDP) was prepared taking poultry as the business unit. After four months of intervention, the SHG members could able to learn different aspects of poultry farming.

Business Investment

1. Awareness training programme: Rs. 12,000.00
2. Exposure visit: Rs. 18,000.00
3. Construction of Poultry shed of 800 Sq. Ft.: Rs. 2,23,000.00
4. Equipment: Rs. 64,500.00
5. Chick, Feed, Medicine: Rs. 77,200.00
6. Establishment of Sale Center
7. Total Expenditure: Rs. 4,09,700.00

Constraints

Initially, the group faced certain challenges to make the unit established and functional. As the unit was close to the habitation, the nearby

villagers complained about the bad smell. After second placement (second cycle), they pressurized the group to stop the placements. The members were also not having operational idea on feed and water management within the farm and limited technical knowledge to control the temperature of the poultry unit and disease control. However, with the support of experts and facilitation by ITDA, they could able to solve the problem. Technical officials of the veterinary department helped the group in health care management of birds and trained them on different aspects.

Impact

The poultry unit is now operationally active and members could able to earn profit out of this initiative. Looking at their success, other groups have also expressed their interest to take up poultry as an income generating activity. The unit has created opportunity of employment for the women. However, looking at the current performance, it is realized that a hatchery & feed unit can boost their activity further and will be helpful or the SHG for smooth running of their business.





State : Odisha
District : Koraput
ITDA Area : Koraput
Block : Narayanpatna
GP : Balipada
Village : Bejuguda
Beneficiary Name: Mrs Suryamani Pulashika
Activity : Backyard Poultry

Practice Leading to Success: A Case Study from Scheduled Area

Backyard Poultry

There are plenty of evidence to demonstrate the role of rural backyard poultry husbandry in elevating the food and nutritional security of the poorest households and reducing the livelihood insecurity. Poultry farming has become a remunerative business and pre-eminence over all other livestock enterprises in rural areas. It carries a scope for quick and large profit. Besides, income generation and poverty reduction, rural backyard poultry can provide nutrition supplementation in the form of valuable animal protein. The families having backyard poultry mostly live below the poverty line for which they make this attempt to overcome the situation. This is one of the initiatives the ITDA Koraput has taken to enable poor tribal families to supplement their income.

Poultry rearing is a very familiar activity among rural women especially in the tribal villages of Koraput district. Backyard poultry production serves as a small-scale business for generating income controlled by women. The enterprise provides regular income using little inputs and the production can be solely managed by women in the household. The tribal families have been rearing improved varieties (Vanaraja) of birds in small numbers.

This case is about Suryamani Pulashika of around 40 years age who live in Bejuguda tribal village under Balipada Gram Panchayat of Narayanpatna Block in Koraput district. The family belongs to marginal farmer category in terms of land holding which reflects that agriculture based livelihood is not adequate to sustain the family requirement.

Objective:

- Create opportunities for all to acquire skills throughout life, and especially for youth, women and disadvantaged groups

- Poverty reduction and empowerment of the women, poor and vulnerable groups
- Impact on socio-economic conditions like household income, gender and equity, decision-making process, benefit sharing and resource management

Process Approach and Methodology

Smt. Pulashika was living in difficulties and managing her family by doing wage as agricultural income was inadequate to meet the demand. The ITDA Koraput selected the family for enrolment in the IGA, facilitated by CYSD, an NGO. From 0.5 acres of land, the family could able to harvest three quintals of paddy per year. As agricultural is rainfed and no irrigation facility is available, cropping in other seasons was rare. Subsistence agriculture was a completion for her and her husband to do wage labour, from which they earn about Rs.500.00 to 800.00 in a month.

Looking at the unconducive situation, she requested the village committee of her village to help her in getting assistance under Government schemes. The village committee could not able to create any such scope for her. Under such circumstances, she and her husband decided to migrate to the nearby State Andhra Pradesh for wage employment. During that period, they came across with the representative of the local FNGO (CYSD). After listening from her, the local NGO with application in support of Mrs. Pulashika contacted to ITDA, Koraput. After going through all the details of the application and physical field verification by the officials of the ITDA, Mrs. Pulashika selected for IGA assistance. She decided to take up poultry farming with the ITDA support.

In the month of July 2016, she received 10 nos. of (30 days old) pre-vaccinated Vanaraj chicks under the

Backyard Poultry Development Scheme from ITDA, Koraput along with Rs.10,000 for construction of night shelter, as night shelter is important for poultry management. The beneficiary also invested Rs.3000 in addition to the initial capital support. She took care of these birds for four month and when the birds attained average weight of 2.5 kg to 3 kg., she sold them in her village or nearby local market (haat). The beneficiary is taking care of these birds and allows them to roam in the backyard in the day time so that the birds eat insets, white ants, grass and other kitchen waste.

Advantages of backyard poultry farming

- Gives employment to small and marginal farmers;
- Provides additional income and acts as a coping mechanism during distress;
- Helps in enhancing the soil fertility (10 chickens produce 1 kg of manure / day). Products from rural poultry farming fetches high price compared to those from intensive poultry Farming.
- Lessens protein malnutrition in susceptible groups like pregnant women, feeding mothers and children.

Outcome

Out of 10 chicks, two chicks died. Last times she sold five birds @ Rs.200 per Kg and got Rs.2500. At present five birds are ready for sale and she is expecting to get at least Rs.2500 from selling of these birds. Now she is planning to expand her backyard poultry activity.



4.3 Dairy Development

Livestock

Introduction:

India has enormous resources of livestock, which play a vital role in improving the socio-economic conditions of the rural masses. There are about 300 million bovines, 65.07 million sheep, 135.2 million goats and about 10.3 million pigs as per 19th Livestock Census in the

country. The 19th Livestock Census, 2012, states that of the total livestock, 37.28 percent are cattle, 21.23 percent buffaloes, 12.71 percent sheep, 26.40 percent goats and 2.01 percent pigs. The corresponding figures as per the 18th Livestock Census reflects that among the livestock, 37.58 percent were cattle, 19.89 percent buffalo, 13.50 percent sheep, 26.53 percent goat and 2.10 percent were pig. The species wise population of animals during the last three censuses is given below along with their growth rate and percentage to total population of 19th Livestock Census year 2012.

Census-wise Livestock Population of India(Fig. No. in Millions)

Sl. No.	Species	17th Livestock Census 2003	18th Livestock Census 2007	19th Livestock Census 2012	Growth Rate (%) 2007-12	% to Total (19th LC)
1	Cattle	185.2	199.1	190.9	-4.1	37.28
2	Buffalo	97.9	105.3	108.7	3.19	21.23
3	Yaks	0.1	0.1	0.1	-7.64	0.02
4	Mithuns	0.3	0.3	0.3	12.88	0.06
	Total Bovines	283.4	304.8	300	-1.57	58.59
5	Sheep	61.5	71.6	65.07	-9.07	12.71

Sl. No.	Species	17th Livestock Census 2003	18th Livestock Census 2007	19th Livestock Census 2012	Growth Rate (%) 2007-12	% to Total (19th LC)
6	Goat	124.4	140.5	135.2	-3.82	26.40
7	Pigs	13.5	11.1	10.3	-7.54	2.01
8	Other animals	2.2	1.7	1.48	-12.94	0.29
	Total Livestock	485	529.7	512.05	-3.33	100

Source: Annual Report 2016-17, Table-1.1, Page No. 5, Department of Animal Husbandry, Dairying & Fisheries Ministry of Agriculture & Farmers Welfare, Government of India

Livestock population in the study states reflects that the State of Andhra Pradesh is having the highest livestock population among the three States, followed by Maharashtra and Odisha. Total livestock in Andhra Pradesh is 10.96 percent to the total livestock population of the country. Total livestock population in Maharashtra and Odisha is 6.34 percent and 4.05 percent of the total livestock population of the country. State-wise and species wise livestock population and percentage to national figure during the 19th Livestock Census is presented in the table.

Total Number of Livestock during 19th Livestock Census Year 2012

States	Andhra Pradesh		Maharashtra		Odisha		India
	(Figs. in Thousands)	% to National Figure	(Figs. in Thousands)	% to National Figure	(Figs. in Thousands)	% to National Figure	
Cattle	9596	5.03	15484	8.11	11621	6.09	190904
Buffalo	10623	9.77	5594	5.15	726	0.67	108702
Sheep	26396	40.57	2580	3.97	1581	2.43	65069
Goats	9071	6.71	8435	6.24	6513	4.82	135173
Pigs	394	3.83	326	3.17	280	2.72	10294
Other Livestock	19	0.99	68	3.55	11	0.57	1915
Total Livestock	56099	10.96	32487	6.34	20732	4.05	512057

Source: Annual Report 2016-17, Annexure-I, Page No. 122, Department of Animal Husbandry, Dairying & Fisheries Ministry of Agriculture & Farmers Welfare, Government of India.



Livestock Production:

Livestock production and agriculture are intrinsically linked, each being dependent on the other, and both are crucial for overall food security. According to estimates of the Central Statistics Office (CSO), the value of output of livestock sector at current prices is about Rs.591691 crore during 2015-16 which is about 28.5% of the value of output from agricultural and allied sector. At constant prices the value of output from livestock is about 29 percent of the value of the output from total agriculture and allied sector.

Milk Production: The dairy sector in India has grown substantially over the years and it continues to be the largest producer of milk in the world. Dairying has become an important secondary source of income for millions of rural families and has assumed the most important role in providing employment and income generating opportunities particularly for women and marginal farmers. Several measures have been initiated by the Government to increase the productivity of livestock, which has resulted in increasing the milk production significantly from the level of 102.6 million MT at the end of the Tenth Plan (2006-07) to 127.9

million MT at the end of the Eleventh Plan (2011-12). Milk production during 2014-15 and 2015-16 is 146.3 million MT and 155.5 million MT respectively showing an annual growth of 6.27%.

Year-wise Production of Milk in India

Year	Milk Production (Million MT)	Growth Rate (%)
2006-07	102.6	
2011-12	127.9	5.01
2012-13	132.4	3.52
2013-14	137.7	3.97
2014-15	146.3	6.24
2015-16	155.5	6.28

Source: Annual Report 2016-17, Chart-1.1 and Annexure-II, Page No. 6 and Page No. 123, Department of Animal Husbandry, Dairying & Fisheries Ministry of Agriculture & Farmers Welfare, Government of India

The per capita availability of milk is around 337 grams per day in 2015-16 which is more than the world average of 299 grams per day in 2015.

Milk Production (in 000 MT) in Study States

State	2010-11	2011-12	2012-13	2013-14	2014-15
Andhra Pradesh	11203	12088	12762	13007	9656
Maharashtra	8044	8469	8734	9089	4542
Odisha	1671	1718	1724	1861	1903
All India	121844	127899	132431	137686	146314

Source: Department of Animal Husbandry, Dairying and Fishing, Ministry of Agriculture, Govt

Source: Odisha Economic Survey 2016-17, Page No. 93,

Among the study States, Andhra Pradesh is the highest contributor to the total milk production of the country with a share of 6.60 percent, followed by Maharashtra with 3.10 percent and Odisha with 1.30 percent.





4.3.1 Mini Dairy unit under Vana Bandhu Kalyan Yojana

Introduction

With a view to achieve the socio-economic development of tribals, with even more focused approach, the Government has been implementing “Vanbandhu Kalyan Yojana”(VKY) which was started in Gujarat in the year 2007 and replicated in other parts of the country with suitable modifications. The VKY aimed at achieving defined outcomes in socio-economic development of tribal population. People’s participation is the key in VKY implementation. Under VKY, tribal households encouraged to take up projects like dairy development activities through milk co-operative societies. It helps to improve the livelihood security of the family and improving the nutritional level of the family members.

Under the scheme Action Plan for tribal development prepared at the village level with the involvement of experts from the local area, the block level officials and in the presence of the representatives from the local Panchayats. The ITDAs have the mandate to see whether the projects and schemes, meant for the tribal people, reach to them and whether the TSP component actually goes to the tribal areas.

State	:	Andhra Pradesh
District	:	Vishakhapatnam
ITDA Area	:	Paderu
Block	:	G.Madugula
GP	:	K.Kodapalli
Village	:	K.Kodapalli
Institution	:	Dama Raju SHG
Activity	:	Mini Dairy Unit under Vana Bandhu Kalyan Yojana



Selection of G. Madugula Mandal

The block selected as part of the pilot program as G.Madugula Mandal falls within the scheduled area. Population of Scheduled Tribes in the Mandal to the total population is 92.7% and Literacy rate of the Mandal is 38.5% (Census 2011). During planning, different issues were identified by the planning team like (1) unemployment, (2) lack of opportunities for skill based training, (3) low income from traditional occupations in the primary sector, (4) high IMR/ MMR among tribals and (5) malnutrition.

In view of the high density of tribal population, poor literacy rate and various other human development indices being on the lower side, it was proposed to start the program on a pilot basis at G.Madugula Mandal. In this context diary activity was chosen for economic upliftment of the tribal women. Dairy is a major source of generating additional income to women farmers as well as landless agricultural labourers. It is also environment friendly as the manure from animals provides a good source of organic matter for improving soil fertility, besides, the same may also be used as fuel. The surplus fodder and agricultural byproducts may be successfully utilized to feed the animals which will contribute to dairy development in a cost-effective manner.

Objectives

While the objective of the project is overall to bring about holistic development among the people of G.MadugulaMandal, particularly the Scheduled Tribe population, specific objectives are;

- Qualitative employment and sustainable livelihood;
- Quality education & health care to all;
- Bridge the existing infrastructure gap;
- Improve the overall quality of life;

Process Approach the Project used

Women SHGs as the vehicle to implement the project. Under the scheme, each SHG member (one SHG is selected for the purpose), were supported with 2 cows, i.e., a total of 20 cows were provided to the group for rearing. In the month of October 2016, two cows died due to jaundice and the group is now having 18 cows in their stock.

Members Details					
SN	SHG Member	Age	Education	Position	No. of Cows
1	S. Chinnamma	35	Illiterate	President	2
2	P.Kalabati	25	Degree	Secretary	2
3	P. Lalita	28	Plus 2	Treasurer	2
4	P. Subhdrama	45	Illiterate	Member	2
5	S. Appalamma	25	10	Member	2
6	V Puspamma	25	5	Member	2
7	P Parbathamma	50	Illiterate	Member	2
8	S. Pedamma	51	Illiterate	Member	2
9	S. Kodamma	30	3	Member	2
10	S.Machemma	22	Plus 2	Member	2

- Dairy development includes different activities such as organization of milk cooperatives, training of farmers, clean milk production, artificial insemination, improved productivity of existing cows, immunization, providing balanced feed, growing of fodder, milk testing, bulk milk coolers, transportation of milk and tie-up with milk processing units

Establishment of Mini Dairy Units

The farmers of this region are very much used to rearing of cows and goats. But this activity is primarily taken up to sell the animal as such or using them for farm activity and is not really used for dairy purpose. The consumption of milk as such is less in the area. Despite providing milch animals under various economic support schemes, it could not succeed to the desired level due to lack of proper capacity building. Poor management & lack of required formal linkage.



The unit has been established at the K. Kodapalli village under G.Madugulamandal at the rate of one in each village. The unit has 20 milch cows purchased in different batches to ensure continuous production. The residential institutions of the tribal welfare department themselves are a huge market potential for the mini dairies when established. The unit is operated by the village level SHG federation which provides milk to the local residential institutions at the market rate.

Components of the Project:

- Purchase of milch animals in a planned manner;
- Construction of Shed & Store;
- Fodder Raising & Equipment Support;
- Insurance for the animals;
- Training & Capacity Building of the SHG Federations;
- Seed/Revolving Fund provisions for the SHG Federations;

Technical Aspects

- The shed is constructed on dry, raised ground and with well ventilation;

- Availability of standing space of 2 x 1.05m for each animal;
- Purchased healthy/freshly calved animals in their second/third lactation and, vaccinated the newly purchased animal against diseases.
- Feed the cows with best feed and fodders and providing daily feed requirement of about 2.5 to 3% of body weight of the animal;
- Before milking, washing the udder and treat with antiseptic lotions/lukewarm water and drying it before milking.

After imparting training to the SHG members following actions were initiated by the gr. and their federation

Protection against Diseases

- The group is on the alert for signs of illness such as reduced feed intake, fever, abnormal discharge or unusual behavior;
- Consulting with the nearest veterinary aid centre for help if illness is suspected;
- Protecting the animals against common diseases;



- Wash the animals from time to time to meet sanitary requirements;

Breeding Care:

- Observing the animal closely and keeping specific record of its coming in heat, duration of heat, insemination, conception and calving;
- Breed the animals in time;
- The onset of estrus within 60 to 80 days after calving;
- Timely breeding to achieve conception within 2 to 3 months of calving;
- Breeding the animals when it is in peak heat period (i.e. 12 to 24 hours of heat);
- Using high quality semen preferably frozen semen of proven sires/bulls;
- Giving special attention to pregnant cows two months before calving by providing adequate space, feed, water etc.;

Marketing of Milk:

Marketing of milk is done in the early morning, keeping the time gap minimum between milk extraction and marketing of the milk. They use clean utensils and handle milk in a hygienic way. To make it hygienic, they wash milk pails/cans/utensils thoroughly with detergent and finally rinse with chloride solution. Transport the milk is done during cool hours of the day, i.e., in the early morning and during transportation / transit, care is taken to avoid too much agitation of milk.

Care of Calves:

- Required attention of take care of new born calf;
- Treat/disinfect the navel cord with tincture of iodine as soon as it is cut with a sharp knife;

- In case of outbreak of contagious disease, immediately segregate the sick, in-contact and the healthy animals and take necessary disease control measures;
- Conduct periodic tests for Brucellosis, Tuberculosis, and Mastitis etc.;
- Deworming the animals regularly;
- Examining the faeces of adult animals to detect eggs of internal parasites and treat the animals with suitable drugs;

- Feed colostrums to calf;
- Assist the calf to suckle if it is too weak to suckle on its own within 30 minutes of calving;
- In case it is desired to wean the calf immediately after birth, then feeding the colostrums in bucket;
- Keeping the calf separately from birth till two months of age in a dry clean and well ventilated place;
- Protecting the calves against extreme weather conditions, particularly during the first two months;
- Grouping the calves according to their size & Vaccinating calves;
- Dehorning the calves around 4 to 5 days of age for easy management when they grow;
- Disposing of extra calves not to be reared/ maintained for any specific purpose as early as possible, particularly the male calves;
- The female calves reared properly as they have higher economic value;

Financial Cost of the Project:

Component	Est. Cost (in Rupees)
Cost of Animals, including Transportation	8, 40, 000
Shed & Store	2, 65, 000
Equipment Cost	40, 000
Insurance	32, 000
Fodder Raising after availing the benefits under MGNREGS	20, 000
Seed/Revolving Fund for SHG	1, 00, 000
Total Cost for one unit	12, 97, 000

Raw material requirement and expenses:

The animals are fed by locally available green fodder and dry fodder. Further, cattle feed (concentrated feed) is also provided especially during lactation period. The estimated feed requirement and its cost per animal during the lactation period and dry period is as under.

Raw Material Requirement and Expenses			
Particulars	Lactation period (Kg/ day)	Dry period (non-lactating period) (kg/ day)	Rate (Rs./ kg)
Green fodder	25	25	0.25
Dry fodder	6	6	1
Concentrate	4.5	1	7
No. of days considered	280	85	

Fund requirement for one cow during

lactation period: $25 \text{ kg} \times \text{Rs.}0.25/\text{kg} + 6 \text{ kg} \times \text{Rs.}1/\text{kg} + 4.5 \text{ kg} \times \text{Rs.}7.00/\text{kg} = \text{Rs.}43.75$ per day.

During dry period: Rs.19.25 per day/per cow.

Nos. of Lactatingcows: 7

No. of Non-lactating cows: 11

Per Month Expenses:

Per day /per lactatingcow: $\text{Rs.}43.75 \times 7 \text{ cows} \times 30 \text{ days} = \text{Rs.}9190.00$

Per day /per non-lactating cow: $\text{Rs.}19.25 \times 11 \text{ cows} \times 30 \text{ days} = \text{Rs.}6353.00$

Per month expenses on food: $\text{Rs.}9190.00 + \text{Rs.}6353.00 = \text{Rs.}15540.00$

Average monthly other expenses Rs.5000.00

Total monthly expenses: $\text{Rs.}15540.00 + \text{Rs.}5000.00 = \text{Rs.}20540.00$

Income		
Per Cow Milk giving (Ltr)		4
Total No. of Milch Cows		7
Total Milk collection (Ltr./ Per Day)	(4 ltr.X 7 cows)	28
Price of Milk per /Ltr. (Rs.)		40
Per day income (Rs.)	(Rs.40 x 28 ltr.)	1120
Monthly Milk collection (Ltr.)	(28 ltr. X 30 days)	840
Monthly Income (Rs.)	(Per day income Rs.1120 X 840 ltr.)	33600
Monthly Expenses (Rs.)		20540
Monthly Net Profit (Rs.)	Rs.33600 –Rs.20540	13060

Working Capital Expenses:

- In the project working capital provision is made for initial one month.
- The cows purchased in 2 phases, i.e., 50% cows in lactation period purchased during 1st phase and remaining 50% cows purchased when the first batch of cows were in dry period.

Working Capital Expenses	
Particulars	Amount (in Rs.)
Cost of fodder for lactation period only monthly	15,540.00
Miscellaneous expenses etc. (Lump sum) monthly	5,000.00
Total	20,540.00

Outcomes & Impact

- Engagement of number of persons in the project area who have got sustainable employment/self-employment as a result of VKY interventions
- Nature of employment and wages
- Diversified employment opportunities in the field of horticulture dairy poultry fishery handlooms handicrafts artisans paintings entrepreneurship

- Skills for women such as computer training office management hospitality paramedics Ayurveda and tribal medicines & medical practices modern skills
- Reduction in IMR MMR in the project area
- Nutritional status of tribal population/use of traditional foods such as millets and green vegetables etc.
- Providing employment to tribal women at their doorstep;
- Promoting and strengthening economic activity of SHGs through mini dairy unit.
- Supplementing nutrition, using surplus milk for domestic consumption;
- Building capacity through training and orientations;
- Learning advance technology for commercially manage the dairy activity.

Outcome

This project is initiated to provide supplementary livelihood support to poor tribal families who aspire to be economically better off through their community organisation, i.e., SHG. The project found to be beneficial in terms of realizing its objective. Though scale of operation is at pilot stage, still it has paved the way for scaling up with the same or improved practices. The project has helped to bring a change in the thinking process of the local tribals, making them sensitized that dairy units can be economically viable to augment their income through scientific practices. The tribal farmers who are involved in other activities like daily wage in the off-season. This unit has been helpful to them. Successful implementation of this project has opened-up a new avenue for them. Further, this project has also demonstrated that there is always demand for good quality milk. The project, through convergence, has facilitated supply of milk to the local hostels where tribal children are continuing their study.



4.3.2 Animal Husbandry (Buffalo Unit)

Introduction

Dairy is a major source of generating additional income to women farmers as well as landless agricultural labourers. Apart from this, it is also environment friendly as the cow dung can be used as manure and a good source of organic matter for improving soil fertility besides, the same may also be used as fuel. The surplus fodder and agricultural byproducts may be successfully utilized to feed animals. In view of poor literacy rate and various other human development indices being on the lower side, it was planned to start dairy development programme for nutritional security and development of tribal by the ITDA. In this context, dairy development activity was taken up for economic upliftment of the tribal women. With a view to achieve the socio-economic development of tribal population with even more focused approach, the Government decided to focus on development of dairy units in the ITDA served area. The overall objective of this initiative was to improve in socio-economic conditions of the tribal population. Issues identified, which can be addressed through dairy development are like;

- Unemployment of tribal youth

State	:	Andhra Pradesh
District	:	West Godavari
ITDA Area	:	K.R. Puram
Block	:	Buttayagudem
GP	:	Koyarajhundry
Village	:	Koyarajhundry
Beneficiary Name:		Mrs Badisa Durgamaa

- Lack of skill
- Low income from traditional occupations in the primary sector
- High IMR and MMR among the tribals
- Low immunization coverage and
- High malnutrition, especially among the tribal children and women

Under this activity tribal households encouraged to take up projects as it helps in bringing improvement in livelihood and nutritional level. Action Plans for tribal development prepared at the village level with involvement of experts from the local community, the block level officials and representatives of Panchayats and Gram Sabhas.

Objectives

- Qualitative employment and sustainable livelihood;
- Improvement in health care; and
- Improve the overall quality of life

About the Unit

The beneficiary of this village is very much used to rearing of buffalos, cows and goats. But this activity is primarily taken up to sell the animal as such or for farm activity and is not really used for dairy purpose. The consumption of milk as such was very less. Despite providing milch animals under various economic support schemes, the activity was not taken up with enthusiasm due to lack of proper skill base and management capacity. So, based on previous experience, it was decided to have focused intervention, rather than sporadic welfare support provision. So, adopting demonstrative approach, selected beneficiaries were supported by the ITDA on pilot basis.

In the process, Badisa Durgamaa was supported for dairy unit at the Koyarajahmundry village under Buttayagudem. The unit has 2 milch buffalos purchased from market with the certification from Veterinary department, now she has 5 buffalos. The residential educational institutions of the tribal development department themselves are a huge market potential for the buffalo dairy when established. The unit is well managed by the beneficiary who provides milk to the local residential schools and to the milk co-operative society at the market rates.

The initiative is basically having four major components, i.e., (1) Purchase of milch animals, (2) Construction of Shed & Store, (3) Fodder Raising & Equipment support and (4) Insurance of the animals. A scrutiny process was adopted for the selection of the beneficiaries like online registration of application with supporting documents like Aadhar Card, Ration Card, Land Patta, taking a deposit of Rs.40, 000 with the application

as beneficiary contribution, approval of application (business proposal) by the bank etc. Afterwards, field visit was carried out by the department for physical verification and a scrutiny committee was constituted to take the final call before providing financial assistance to the selected beneficiary. The beneficiary Badisa Durgamaa was selected after qualifying these processes.

Specific Interventions Addressed

- Dairy development includes a number of activities such as organization of milk cooperatives training of farmers clean milk production artificial insemination program improved productivity of existing buffalo through immunization and providing balanced feed growing of fodder milk testing bulk milk coolers transportation of milk and tie-up with milk processing units.
- Providing employment to tribal women at their doorstep
- Strengthen economic activity
- Supplementing nutritional value for using surplus milk as domestic consumption
- Learning of advance technology for commercially manage the dairy activity

Technical Aspect

- The shed is constructed on dry, raised ground and with well ventilated.
- Available of standing space of 2 x 1.05m for each animal.
- Purchased healthy/freshly calved animals in their second/third lactation and, vaccinated the newly purchased animal against disease.
- Buffalos purchased in phases.
- Feed the buffalos with best feed and fodders and daily feed requirement is about 2.5 to 3% of body weight of animal.

- Before milking, wash the udder and treat with antiseptic lotions/lukewarm water and dry before milking.

Protection against Diseases

- The beneficiary is on the alert for signs of illness such as reduced feed intake, fever, abnormal discharge or unusual behavior.
- Consult the nearest veterinary aid centre for help if illness is suspected.
- Protect the animals against common diseases.
- In case of outbreak of contagious disease, immediately segregate the sick, in-contact and the healthy animals and take necessary disease control measures
- Deworm the animals regularly.
- Examine the faeces of adult animals to detect eggs of internal parasites and treat the animals with suitable drugs.
- Wash the animals from time to time to promote sanitation.

Breeding Care

- Observe the animal closely and keep specific record of its coming in heat, duration of heat, insemination, conception and calving.
- Breed the animals in time.
- The onset of estrus will be within 60 to 80 days after calving.
- Timely breeding will help achieving conception within 2 to 3 months of calving.
- Breed the animals when it is in peak heat period (i.e. 12 to 24 hours of heat).
- Use high quality semen preferably frozen semen of proven sires/bulls.

Care during Pregnancy

Give special attention to pregnant buffalos two months before calving by providing adequate space, feed, water etc.

Marketing of Milk

- Marketing milk immediately after it is drawn keeping the time between production and marketing of the milk to the minimum.
- Use clean utensils and handle milk in hygienic way.
- Wash milk pails/cans/utensils thoroughly with detergent and finally rinse with chloride solution.
- Avoid too much agitation of milk during transit.
- Transport the milk during cool hours of the day.

Care of Calves

- Take care of new born calf.
- Treat/disinfect the navel cord with tincture of iodine as soon as it is cut with a sharp knife.
- Feed colostrum to calf.
- Assist the calf to suckle if it is too weak to suckle on its own within 30 minutes of calving.
- In case it is desired to wean the calf immediately after birth, then feed the colostrum in bucket.
- Keep the calf separately from birth till two months of age in a dry clean and well ventilated place.
- Protect the calves against extreme weather conditions, particularly during the first two months.
- Group the calves according to their size.
- Vaccinate calves.

- Dispose of extra calves not to be reared/ maintained for any specific purpose as early as possible, particularly the male calves.
- The female calves should be properly reared.

Techno Economic Parameters	
Type of Animal	Buffalo
No. of Animals	2
Cost of Animal (Rs./animal) including transportation	50000
Average Milk Yield (liter /day)	10
Floor space (sq.ft.) per adult animal	50
Floor space (sq.ft.) per calf	20
Cost of construction per sq.ft. (Rs.)	120
Cost of equipment per animal (Rs.)	1000
Cost of fodder cultivation (Rs./acre/ season)	5000
Insurance premium (% per annum)	5
Veterinary aid/animal/ year (Rs.)	1000
Cost of concentrate feed (Rs./kg)	20
Cost of dry fodder (Rs./kg)	1
Selling price of milk (Rs./kg)	50
Sale price of gunny bags (Rs. per bag)	5
Lactation days	280
Dry days	85

Raw material requirement and expenses

The animals were fed with the locally available raw materials like green fodder and dry fodder. Further, buffalo feed (concentrated feed) is also provided to the animals especially during lactation period. The feed requirement of animal for lactation period and dry period is as under:

- Purchased 2 Buffalos initially @ Rs.50, 000 each (Rs.50,000 X 2 nos.= Rs.1,00,000)
- All total at present 2 buffalo and 3 buffalo calves
- Rs. 60, 000 subsidy provided by TD Department under TRICOR
- Rs.40, 000 loan by the Bank
- 100% financial assistance for purchase of 2 buffalos from TW Dept. & Bank Loan.

Financial Cost	
Component	Est. Cost (in Rupees)
Animals including Transportation	1,00,000
Shed & Store	3000
Equipment Cost	1500
Insurance @5% for 2 buffalos	5000
Fodder Raising	2000
Total Cost for one unit	1,11,500

Distribution of Selling of Milk

Description	Production	Selling at Milk Collection Center	Selling at the Village	Consumption at Home
Per Day 2 Buffalo @ 10 liter per Buffalo	20	15	4	1
Monthly 2 Buffalo @ 10 litre per Buffalo	600	450	120	30

Daily Feeding and Cost Chart for Dairy Buffaloes

Feeding Stuff	Cost / Kg (Rs.)	During lactation period		During dry period	
		Quantity (kg)	Cost (Rs.)	Quantity (kg)	Cost (Rs.)
Concentrate feed	20	5	100	2	40
Green fodder	1	20	Home grown	15	Home grown
Dry fodder	2	5	10	6	12
Total		30	110	23	52



- Expenses during lactation period: Rs.110.00 per day / per buffalo
- During dry period: Rs.52 per day/per buffalo.
- Nos. of Lactating buffaloes: 2
- No. of Non-lactating buffalo: 1
- Per day production of milk is 20 liter (10 liter at the time of morning and 10 liter at the evening)
- Selling price of milk Rs.40 per liter
- Per day selling of milk is 19 liter (15 liter to the milk collection center and 4 liter in the village)
- Per day milk selling price Rs.50 X 19 liter = Rs.950
- Total sale of milk in a month 600 liter and total price is Rs.30000
- Sales milk at the milk collection center which is 3 km distance from his village
- Payment received from the collection center in every 10 days

Per Month Expenses

- Per day /per lactating buffalo Rs. 110.00 X 2 buffalo X 30 days = Rs.6600.00
- Per day /per non-lactating buffalo Rs. 52.00 X 1 buffalo X 30 days = Rs.1560.00
- Per month expenses on food: Rs. 6600.00 + Rs. 1560.00 = Rs.8160.00
- Average monthly other expenses Rs.1500.00
- Total monthly expenses: Rs. 8160.00 + Rs. 1500.00 = Rs.9660.00

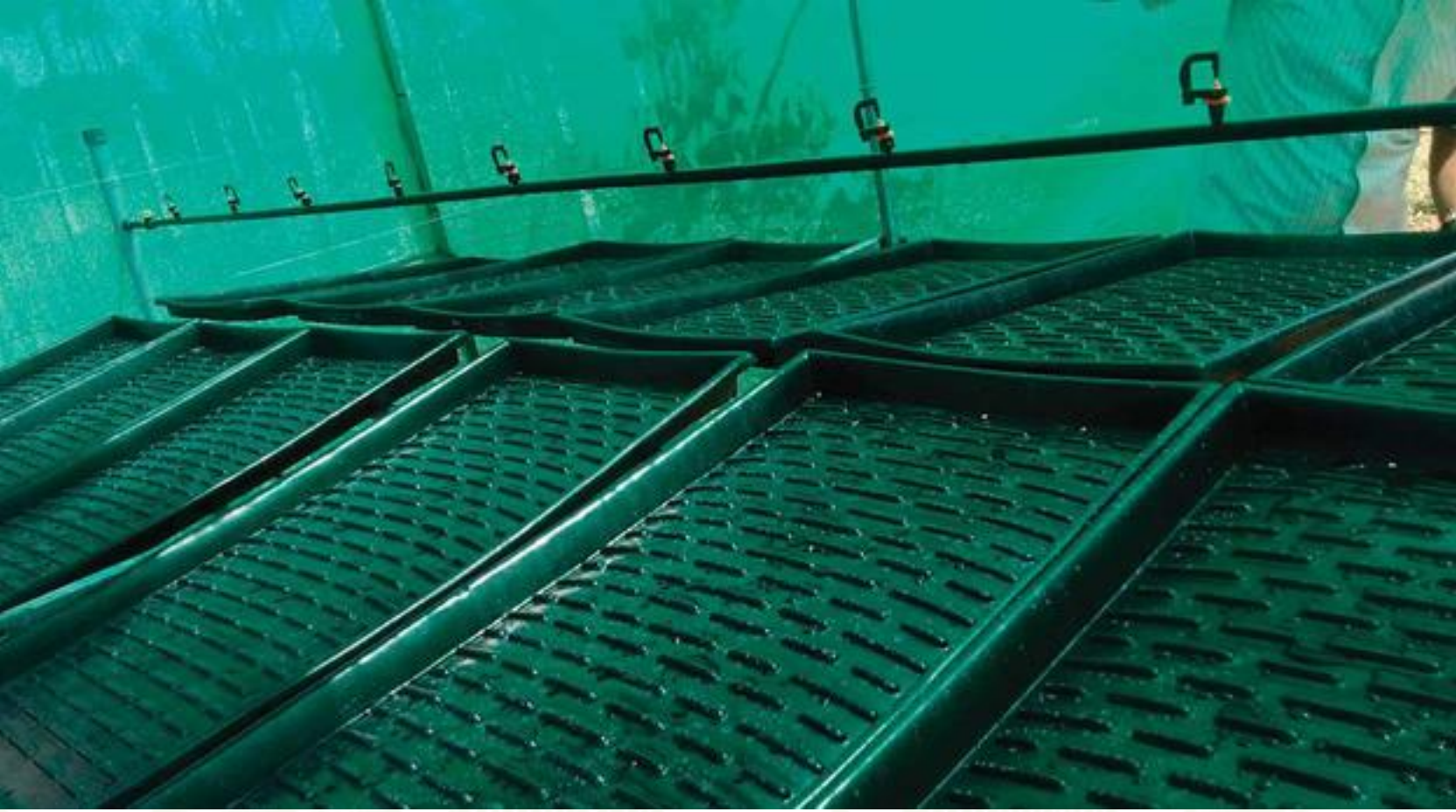
Income

Milk Per buffalo per Day (Ltr)		10
Total No. of Milch buffalo		2
Total Milk collection (liter/Per Day)	(10 liter X 2 buffalo)	20
Price of Milk per Liter (Rs.)		40
Per day income (Rs.)	(Rs.40 x 20 ltr.)	800
Monthly Milk collection (liter)	(20 liter X 30 days)	600
Monthly Income (Rs.)	(Per day income Rs.800 X 30 days)	24000
Monthly Expenses (Rs.)		9660
Monthly Net Profit (Rs.)	Rs.24000 –Rs.9660	14340

Outcome

This project was initiated as a very useful allied agriculture activity amongst the local tribal population bringing awareness on the potential of the animal husbandry sector to improve the economic condition of tribals and improving their food and nutritional security. The tribal farmers, who were involved in traditional occupations, were mostly engaged in daily wage in the non-season period. Successful implementation of this project opened up new avenues in the tribal area. Further this project ensured that quality milk is supplied to the local hostels for the use of children.





Hydroponic Grass Grower

To overcome fodder availability problem Hydroponic fodder production technique is unique and cost efficient than traditional fodder production method. Traditional fodder production has a number of limitations regarding soil & climatic conditions. In successful milch animal rearing green fodder has its special significance. A suitable combination of green & dry fodder is very important for maintaining animal health & milk production. But in scarcity condition traditional green fodder production become impossible because of lack of irrigation water. In such condition the technique of green fodder production by Hydroponic method is very useful tool. With this technique, it is possible to produce green fodder like Maize, Wheat, Bajra, etc. This technique does not require soil. Hence limitations like saline soil, inferior soil, water logged soil etc can be easily overcome. This technique requires very less quantity of water. Hence it can be easily undertaken in scarcity affected areas.

Green Fodder Need for Cattle:

Green fodder is the natural diet of cattle. Green fodder is the most viable method to not only enhance milk production, but to also bring about a qualitative change in the milk produced by enhancing the content of unsaturated fat, Omega 3 fatty acids, vitamins, minerals and carotenoids. Hydroponics fodder growing is the state-of-the-art technological intervention to supplement the available normal green fodder resources required by the dairy cattle. But, after the unfortunate Fometa experience, Indian scientists and planners have not given any attention to this subject. With increased pressure on farm lands to produce increasing needs of food grains, providing green fodder by hydroponics fodder growing is a necessity for the Indian dairy industry. Modern researches have confirmed that grass fed cow's milk is very rich in EFAs (Essential Fatty Acids). Omega 3 is the most important constituent of grass fed cow's milk, particularly for brain and eyes. Some clinical studies indicate that a 1:1 ingested ratio of Omega 6- to Omega 3 (especially

linoleic vs alpha-linolenic) fatty acids is important to maintaining cardiovascular health. On a daily basis, 1000 kg of highly nutritious clean green fodder of more than 85% digestibility.

The Objectives:

1. To design a low technology rural device that can be the cheapest hydroponic fodder production system.
2. To reduce the operating costs by using natural sunlight for photosynthesis
3. To raise higher operating temperature range of these devices to at least 30degrees and
4. To eliminate air conditioning.
5. To utilize organic fungicides and growth promoters.

The seed of desired fodder crop like Maize, Bajara, Wheat or Oat is soaked in water for 12 hours. After which it is kept in gunny bag for another 12 hours. Then it is put in 72 plastic trays which are arranged on HDPE racks. The total production unit is covered with shade net structure. The size of plastic tray is 2ft. x 1.5ft x 3 inches. In each tray around 1 kg (dry weight) seed is put. The partially germinated seed is regularly sprinkled with water. For effective & uniform water application, sprinklers & timer assembly is used. The timer is useful for periodically switching on fogger. Within a period of 7 to 8 days, there is profuse growth of fodder which is ready for feeding to the animals. The technique has its utility because of high ratio of seed to fodder. One kg of seed can yield 8 to 10 kg of green fodder within limited time span of 7 days.

The green fodder produced from each tray is approximately 10 kg which is sufficient for 1 cow (here it is assumed that the animal is feed with dry fodder as per requirement.). Thus, one tray is sufficient for one animal daily. Hence for a week one animal requires seven trays in rotation. Thus, a farmer with ten cows will required 80 trays with him. the with proper planning

and seed growth cycles from one unit 10 trays of green fodder can be available (around 100 kg green fodder / day). This technique requires less labour because of the speedy growth & atomization done for irrigation. It is user-friendly & cost effective. It can be easily done by farmer. The cost of production of maize fodder works out to be Rs.1.63 per kg. It is used plastic trays, HDPE pipes structure, 1 HP electric motor, fogger and timer assembly for which is incurred an expenditure of Rs. 30000/-. The horticulture department has provided a hydroponic fodder to the beneficiary HH of amount Rs. 30000/- with 21 trays asset.

Future Potential:

1. To increase milk production and quality of milk green fodder is very important. To make more and greener fodder available trainings to farmers will be arranged on hydroponics with the help of ATMA.
2. Production of vegetables through hydroponics.
3. Organic milk production.
4. To promote time and space utility in fodder development sector.





4.4 Fishery

Introduction

The Country has vast potential for fisheries in view of our long coastline of about 8,118 km. apart from the inland water resources. During the financial Year 2015-16, India has exported Rs.30,420.83crore which is about 0.9 percent of the National Gross Domestic Products (GDP) and 5.17 percent to the agriculture GDP (2015-16). Among the study states, Andhra Pradesh is the highest fish producing state, followed by Maharashtra and Odisha.

Fisheries Production

Year-wise Fish Production during the Period 2007-08 to 2016-17(in '000 tonnes)

Year	Andhra Pradesh	Maharashtra	Orissa	All India
2007-08	1,010.08	556.45	349.48	7,126.83
2008-09	1,252.78	523.10	374.82	7,616.09
2009-10	1,293.85	538.35	370.54	7,851.61
2010-11	1,368.20	595.25	386.19	8,230.71
2011-12	1,603.17	578.79	381.83	8,666.49
2012-13	1,808.08	586.37	410.14	9,040.34
2013-14	2,018.42	602.68	413.78	9,572.27
2014-15	1,978.58	608.07	469.55	10,251.16
2015-16 (P)	2,352.26	579.69	521.28	10,758.20

Source: Annual Report 2016-17, Annexure-III, Page No.124, Department of Animal Husbandry, Dairying & Fisheries Ministry of Agriculture & Farmers Welfare, Government of India

India is the second largest producer of fish and also second largest producer of fresh water fish in the world after China. Fish production has increased from 41.57 lakh tonnes (24.47 lakh tonnes for marine and 17.10 lakh tonnes for inland fisheries) in 1991-92 to 107.90 lakh tonnes (35.8lakh tonnes for marine and 72.10 lakh tonnes for inland fisheries) in 2015-16(Provisional).The fish production during first three quarters of 2016-17 has also shown an increasing trend and is estimated at 8.18 Million Tonnes (Provisional).The growth in fish production has shown a cyclical pattern with an increasing long term trend.

Potential of Fishery Sector in India

Water Resources

State-wise water resources along with water bodies reflects that Maharashtra is having more rivers and canals (in Km.) and reservoirs (lakh. Ha. Area). Tanks and ponds (lakh Ha.) are more in Andhra Pradesh in comparison to other study States. Brackish water (lakh Ha.) is highest in Odisha and total water bodies (lakh Ha.) is highest in Odisha.

Inland Water Resources of India

Type of Water Bodies	Andhra Pradesh*	Maharashtra	Odisha	Total
Rivers & Canals (kms.)	11514	16000	4500	195095
Reservoirs (Lakh Ha)	2.34	2.99	2.56	29.26
Tanks & Ponds (Lakh Ha)	5.17	0.72	1.23	24.33
Flood plain Derelict Water bodies (LakhHa)	-	-	1.8	7.98
Brackish Water (Lakh Ha)	0.6	0.12	4.3	11.55
Total Water Bodies (Lakh Ha)	8.11	3.83	9.89	73.12

*Note: Including Telangana State

Source: Annual Report 2016-17, Annexure-V, Page No.128, Department of Animal Husbandry, Dairying & Fisheries Ministry of Agriculture & Farmers Welfare, Government of India

Inland Fishery

- Area under Reservoirs -3.15 million ha
- Area under Ponds & Tanks - 2.36 million ha
- Area under Brackish water - 1.24 million ha
- Length of Rivers & Canals - 0.19 million ha

Marine Fishery

- Length of the Coast Line - 8,118 kms
- Exclusive Economic Zone - 2.02 million Sq.km
- Continental Shelf - 0.53 million Sq.km
- Number of Fisheries Centers - 1537
- Number of Fishing Villages - 3432

Employment Generation:

Fishery is a sunrise sector with varied resources and potential, engaging over 14.50 million people at the primary level and many more along the value chain. Transformation of the fisheries sector from traditional to commercial scale has led to an increase in fish production from 7.5 lakh tonne in 1950-51 to 107.95 lakh tonne (Provisional) during 2015-16, while the export earnings from the sector registered at Rs.30420.83 crore in 2015-16 (US\$ 4.69 billion). The sector contributed about 0.9% to the National Gross Value Added (GVA) and 5.43% to the agricultural GVP (2015-16).

Inland fishery today in the country is dominated mainly by the freshwater fishery. The historical scenario of Indian fisheries reveals a paradigm shift from marine dominated fisheries to a scenario where inland fisheries has emerged as a major contributor to the overall fish production in the country. The three Indian Major Carp (IMC) species – Catla, Rohu and Mrigal together contribute a lion's share in the inland fisheries.

Ornamental fish farming, although a non-food activity also has a promising future and is likely to contribute to the overall growth of fisheries sector in the coming years in terms of foreign exchange earnings and

additional livelihood opportunities both in the urban and rural areas.

Within inland fisheries there is a shift from capture fisheries to aquaculture during the last two and a half decades. Freshwater aquaculture with a share of 34 percent in inland fisheries in mid-1980s has increased to about 80 percent in recent years. In order to enhance production, there is a need for diversification of fish production in other areas like integrated fish farming, cold water fisheries, riverine fisheries, capture fisheries, brackish water fisheries etc.

Expansion of area under aquaculture has to become an important option to boost fish production. In this context, derelict water bodies could be immensely useful and could be an important resource to boost fish production for meeting the future fish demand. Coastal Orissa for instance, is endowed with large areas of unutilized water bodies like derelict canals and drains.

Reservoirs, which are largely untapped in India, have great potential for development of fisheries. Reservoir Fisheries Development can be a focused area of intervention in the coming days. By promoting technologies like cage culture, the productivity of the reservoirs can be enhanced manifold.





श्री. अशोक शांताराम काळे.

डिंबे जलाशय श्रमिक आदिवासी मच्छीमार सहकारी सोसायटी मर्यादित
दिगाव, ता. अंबेगाव, जि. पुणे

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4.4.1 Pisciculture (Dimbegaon)

Introduction

Indian fisheries and aquaculture is an important sector of food production, providing nutritional security to the food basket, contributing to the agricultural exports and engaging about fourteen million people in different activities. With diverse resources ranging from deep seas to lakes, the country has shown continuous and sustained increment in fish production. Constituting about 6.3% of the global fish production, the sector contributes to 1.1% of the GDP and 5.15% of the agricultural GDP. The total fish production of 10.07 million metric tonnes presently has nearly 65% contribution from the inland sector and nearly the same from culture fisheries. Paradigm shifts in terms of increasing contributions from inland sector and further from aquaculture are significant over the years.

Fish Farmer Development Agencies (FFDAs) and 39 Brackish water Fish Farms Development Agencies (BFDAs) are engaged in promoting freshwater and coastal aquaculture. Along with food fish culture,

State	:	Maharashtra
District	:	Pune
ITDA Area	:	Pune
Block	:	Ambegaon
Village	:	Dimbegaon
Activity	:	Pisciculture



ornamental fish culture and high value fish farming are gaining importance in the recent past. Fish and fish products have presently emerged as the largest group in agricultural exports of India, with 10.51 lakh tonnes in terms of quantity and Rs.33,442 crores in value. This accounts for around 10% of the total exports of the country and nearly 20% of the agricultural exports. More than 50 different types of fish and shellfish products are exported to 75 countries around the world.

Indian Fisheries	
Global position	3rd in Fisheries 2nd in Aquaculture
Contribution of Fisheries to GDP (%)	1.07
Contribution to Agril. GDP (%)	5.15
Per capita fish availability (Kg.)	9.0
Annual Export earnings (Rs. In Crore)	33,441.61
Employment in sector (million)	14.0

Source: National Fisheries Development Board

Table 20: Status of Fishery in India

Resources	
Coastline	8129 kms
Exclusive Economic Zone	2.02 million sq. km
Continental Shelf	0.506 million sq. km
Rivers and Canals	1,91,024 km
Reservoirs	3.15 million ha
Ponds and Tanks	2.35 million ha
Oxbow lakes and derelict waters	1.3 million ha
Brackishwaters	1.24 million ha
Estuaries	0.29 million ha

Source: National Fisheries Development Board

Fish Production Status in India

Resources	
Coastline	8129 kms

Exclusive Economic Zone	2.02 million sq. km
Continental Shelf	0.506 million sq. km
Rivers and Canals	1,91,024 km
Reservoirs	3.15 million ha
Ponds and Tanks	2.35 million ha
Oxbow lakes and derelict waters	1.3 million ha
Brackishwaters	1.24 million ha

Source: National Fisheries Development Board

The Government of India established National Fisheries Development Board in 2006 in Andhra Pradesh to carry out following activities;

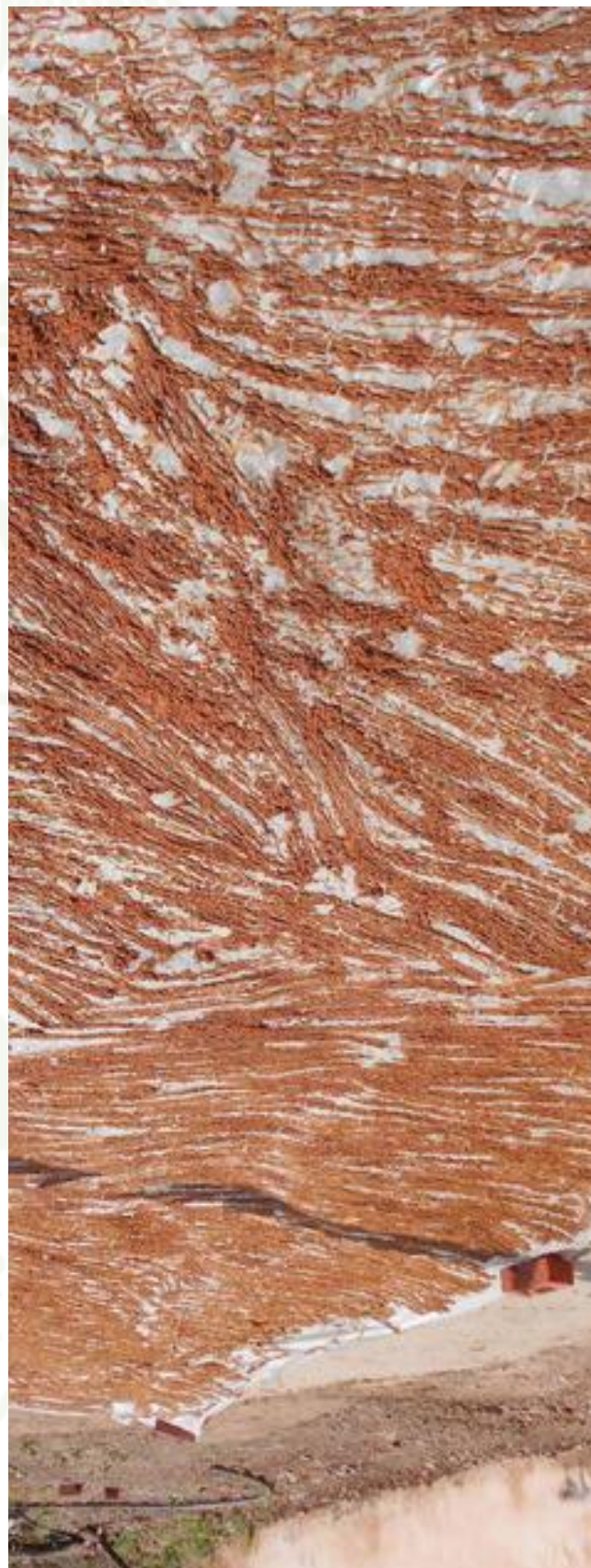
1. Intensive Aquaculture in Ponds and Tanks
2. Fisheries Development in Reservoirs.
3. Coastal Aquaculture
4. Mariculture
5. Seaweed Cultivation
6. Infrastructure: Fishing Harbours and Landing Centres
7. Fish Dressing Centres and Solar Drying of Fish
8. Domestic Marketing
9. Technology Upgradation
10. Deep Sea Fishing and Tuna Processing

Maharashtra has been one of the state known for producing sizeable quantum of fish from inland and marine sources. From the year 2006-07 to 2013-14, state has been producing on an average more than 550 thousand MT of inland fish. However, with increasing demand for ornamental fish, the State has demonstrated some progress in farming of ornamental fish in remote tribal pockets of the State. The best practice under discussion covers such initiatives of the Tribal Development Department and a local NGO in Maharashtra who have promoted cultivation of ornamental fish using cage culture / farming technology.

Project Background

The practice of cage culture in a scheduled tribe dominated area is an outcome of construction of a dam, known as Dimbhe dam. The dam was filled to capacity in 2000, inundating 2202 ha. land of tribals in the Ambegaon block of Pune district. The catchment area of the dam, once-green paddy terraces and the small, peaceful hamlets with quaint, red-tiled roofs and the bustling market town of Ambegaon submerged in the water. The tribal people of this area, who lost their land due to the dam were evacuated to faraway resettlement colonies. Because of the dam, 11 villages were submerged fully and another thirteen villages were partially affected which displaced 1253 families from their home land. Today nineteen villages are situated on the fringes of the Dimbhe reservoir, which provides irrigation to about 14,000 hectares of land. The face of the command area has changed completely due to irrigation. The fields are lush green round the year and farmers grow all sorts of vegetables, fruit and flowers. Nineteen dam-displaced villages, populated almost completely by tribals, are situated on the fringes of the Dimbhe reservoir which has an average fishing area of 1,278 hectares.

The displaced and affected families were bound to suffer the backlash of development. They lost all their best lands near the river and forced to displace to the hill slopes above the water level, to somehow eke out a living on stony land. When it comes to water as a natural resource and its use, the thought process primarily revolves around agriculture and drinking. It never struck the mind of the tribals that dam water can also be used for Pisciculture. The exciting 10-years' journey started with that realization which brought the tribals of the fringe villages and 214 fisher families together and motivated to fish farming. They have successfully used state-of-the-art techniques of rearing fish in floating cages & pens for the last five years. Tribal women are rearing goldfish in cages as well. The tribal fishers would like to have their own hatchery, about a third of them still do not have boats, the fish has grown too big and their nets are small, yet the struggle continues and hope burns bright.



Dimbhe Reservoir Area Poverty Alleviation Program

Shashwat Organisation is working in this remote hilly forested area since 1981. The Organisation have been trying to formulate a holistic area development plan based on the sustainable development of natural resources and the skills and traditional knowledge of the local tribal people. It basically envisaged a catchment development program for the Dimbhe dam and the main activities included sloping land development for erosion control-paddy field terracing, drawdown land cultivation, fishery, horticulture & forestry. The then Divisional Commissioner, Pune Division, Mr PD Karandikar, after his visit to the area in Feb. 2004, put most of the suggested activities together under one development frame. Accordingly, an integrated program was initiated by him for poverty alleviation of 38 tribal villages situated in the catchment area of the reservoir. Fisheries, cultivation of drawdown land which becomes available at the edges of the reservoir when the dam water level goes down, and the making of new paddy fields with stone bunds on steeply sloping lands owned by the tribal farmers, were the 3 main activities taken up.

On invitation of the Divisional Commissioner, Central Institute of Fisheries Education (CIFE) Mumbai was invited and made their first visit to the reservoir area in June 2006. Shashwat and the local tribal people provided all the information. Regular review meetings were held by the Div. Commissioner, especially with the Departments of Revenue, Co-operation, Fisheries, Irrigation, Tribal Development etc. This led to the convergence of schemes for greater impact with the enthusiastic participation of the tribals.

The dam was emptied twice by the Irrigation Dept. for operational reasons between 2000 and 2002, as a result all the available fish in the reservoir died. Then the dam was under the control of a private fish contractor from 2003 onwards, who did not do enough stocking. The local tribals started to organize themselves and were getting ready to participate in the fishing activity, when the fishery contractor brought in fishermen

from outside the locality for fishing. Such activity of the contractor was opposed by the local tribal and their association. The local fishermen's organization opposed the fish contractor through Satyagraha and their objections were upheld by the Fisheries Dept. Kusum Karnik, founder of Shashwat, helped the community to get the fishing lease in the name of their newly registered fish co-operative society, and thus the Dimbhe Jalashaya Shramik Adivasi Machhimar Sahakari Sanstha Maryadit, Digad, was registered on 29th May 2006. The tribal women came together to form 32 SHGs. Today the 214 members of the Dimbhe Jalashaya Shramik Adivasi Machhimar Sahakari Society Maryadit, Digad, own over 147 such boats, have over 2000 kg of nets and harvest up to 27 tons of fish annually amounting to gross sales of Rs.7.03 lakh.

Membership in the Cooperative

Sl. No.	Particulars	Caste/ Tribe	No. of Members
1	Katkari	Primitive Tribe	68
2	Thakar	Sch. Tribe	11
3	KoliMahadev	Sch. Tribe	76
4	Nav-Bauddha	Sch. Caste	01
5	Muslim	OBC	01
		Total	157

A fishing contract was offered by the Dist. Fisheries Dev. Officer to this cooperative society on 22nd June 2006. They were asked to deposit Rs. 1,21,000/- towards contract amount & Rs. 36,360/- towards security deposit, totaling to Rs. 1,57,360/-. Society members collected Rs. 201/- as membership fee (entry fee) and Rs. 800/- towards value of their share. Due to poor economic condition, some of the members from Katkari PVTG could not able to deposit the money but they were accepted as members. As the collected amount was short of requirement, the Shashwat organization could arrange a credit of Rs. 50,000/- without interest for them and for the first time the fishing right in the reservoir came under the control of the local tribals.

The process was started in the Year 2003 & they

formed the Fishery cooperative in the year 2006, in the year 2007 they started to adopt new technologies. In between 2007- 2010 they succeed in the implementation of Cage Fish Culture. Then in the year 2010, 37 tribal women started Ornamental Fish culture in the cages.

Institutional Arrangement

Tribal Development Department, Govt of Maharashtra has provided funds to Shashwat for Cage & Ornamental Fish Culture.

Fishery department, Govt of Maharashtra: The Department has been supportive to this initiative and provides both technical & financial support.

Shashwat Organisation: The organisation is working in this area since 1981. In the year 2003, it started working for the local people in intensive way focusing on fishery sector. The organization mobilized tribals and initiated the Fishery Cooperative. The organization also facilitated in mobilizing funds from Govt. to implement the project.

The administration/service provider doing everything possible from initiation of project to providing technical solution. The hand holding support provided by government is of as per the need of the tribal fishermen. Apart from this, the NGO Shashwat mobilized and formed the association of the tribal fishermen for collective action. The Tribal development, Fishery & Irrigation department provided technical & financial support for the programme.

Gender Inclusion

Initially, about 15 women were involved among others in fishing activity. Fisher-women were going out to lay the nets alone or with their men-folk, bring the catch in and also participate in selling the catch. Recently the cooperative has offered membership to all women fishers of the present member families on membership fees of Rs.101/- as against Rs. 3500/- for others. As a result, no. of women members in the cooperative is

increasing. Presently the total number of members in the cooperative is 214.

Earlier only men are involved in the process of catching fish, but after formation of Fishery cooperative now around 70 women are active member of this cooperative & 5 of them are in the board of the cooperative. So, in the 11 members board, participation of women has increased substantially.

Strategy and Process

In 2003, around 25-40 fishermen were venturing into the reservoir on tubes and catching fish using about 50 kg of gill nets. Their catch was meager and not enough to sustain their livelihoods. At that juncture, Mr. Budhaji Damse of Shashwat realized the issue of the tribals and planned to utilize the available natural resource to improve the quality of life of the tribals in a sustainable manner. So, he started meeting and discussing with the tribals at village level for the amicable solution of the issue. He started organizing the tribals in all the nineteen villages around the reservoir. Initially Friends & fishermen from the Bargi Dam Displaced & Affected People's Association, Jabalpur, guided them. The villagers decided to come together and formed an association with a token membership fee. In the year 2003, the NGO introduced the first three boats (they call it Madhya Pradesh type boats) made of a galvanized iron sheet fixed over a wooden frame. The people found them useful and easy to operate.

Election / Selection of Board of Directions

The five-year term of the first Board of Directors of the Dimbhe Tribal Fish Coop Soc. ended in June 2011. Elections for the next Board of Directors were announced by the Asst. Registrar (ADF) Pune. The Co-op. Dept. on its own decided to appoint Mr. Budhaji Damse, Project Coordinator of Shashwat, as Election Facilitator and the fish society members elected their new Directors unanimously. Unanimous selection of members helped the cooperative to save almost Rs. 50 – 60 thousand towards election expenses.

Ornamental Fish in Cages

In 2010, the tribal women put in goldfish in 2 cages on the suggestion of the CIFE scientists. The goldfish turn a gorgeous shiny red-gold colour after about 2 months in the Dimbhe waters. By 2011, 37 tribal women participated in 8 trainings at different places and acquired required knowhow on rearing ornamental fish. They successfully reared goldfish and raised it up to 75-100 mm size and provided the same as brooders to CIFE thrice a year. Ornamental fish are even more delicate creatures, but among them goldfish and angel-fish are somewhat sturdy. It was in 2009 that Mrs. Bababai Wagh, the Vice Chairperson of the Fish Co-op and herself of the Katkari primitive tribe, spoke boldly to the Director of CIFE that “we have 23 women’s SHGs, please give us some work for our hands”. It was from this that the idea of ornamental fish rearing by tribal women came. About 50-70 women attended the first training on ornamental fish farming. Around 8-10 tribal women at an initial stage came forward and take care of their goldfish in cages. Gradually they applied the lessons learnt with regard to adoption of package of practices for culturing ornamental fish. They were cleaning the cage nets, feeding the fish at proper time and taking measurements of length & weight of sample fish periodically. It is a delight to see the shiny red-gold creatures gently moving against the backdrop of the green-blue waters of the dam lake. The National Fisheries Development Board NFDB had sanctioned 16 cages for a two-year project through the CIFE to give hands-on training to tribal women on rearing ornamental fish, as also another 32 cages to provide an opportunity to the tribal fisher-folk to familiarise them with rearing advanced fingerlings. The first crop of goldfish and angel fish is now to come out of these cages. A new dawn is emerging.

Advanced Fish Culture Techniques—Cage Culture

In 2007, the CIFE introduced the first four floating cages for protected fish culture. In 2010, the fishers of Dimbhe have successfully reared 3 lakh 90 thousand 500 advanced fingerlings in cages & pens and released

them in the reservoir. Dimbhe reservoir, with fishing area of 1278 hectares, needs to be stocked with 9 lakh fish seed of fingerling size (25-35 mm) every year, as per the contract conditions. However, the survival rates for such small size fish seed in such a large reservoir are barely 10-15 % due to high waves and other reasons. If the stocking could be done with fish seed of advanced fingerling size, i.e., 100-150 mm, the survival rate increases up to 85-90%. Nylon nets of mesh size 4 to 6 mm, in the shapes of cages of size 3 metres long, 3 metres wide and 3 metres deep are tied on to floating platforms in deep waters and stocked with about 2500 numbers fish seed of Catla/ Rohu/ Mrigala of size 30-40 mm. in each cage. They are fed twice a day with rice bran and groundnut oil cake in proportion to their body weight. Every week the cage nets are cleaned with long-handled brushes to ensure good exchange of water inside & outside the cage. In about 3 ½ months the fish seed grows up to 100-150 mm. They are then carefully taken out of the cages, counted and gently released in the reservoir. It is quite a job to care for the small delicate fish fingerlings in cages floating in deep water. In the rainy season, there is so much floating debris that the nets have to be cleaned almost every other day. If for some reason 3-4 fish seed die, they are removed immediately so that it will not affect the living ones. Floatation is provided by sealed 200 litre PVC barrels. Sometimes the barrels leak or the develop cracks and the waves go over the cage tops. If a small gap develops in the joint of the top and side nets due to carelessness, the inside fish seed floats out and away. So, required care is taken in this regard to prevent seeds / fingerlings flowing out of cage to the open water. Shashwat and the tribal fisher folk put in a lot of effort to take 2 crops of advanced fingerlings in the first year itself. Seeing the zeal of the tribal people, the CIFE provided another 16 new cages to them.

Pen Culture was first tried by the fisher-folk in 2009 at Bendharwadi. They tied a 4 metre long nylon net across a depression between 4-5 fields near the edge of the reservoir, with the help of a framework of bamboo and wooden poles. When the water level rose, the water

came towards that side of the pen enclosed by the net. 33 thousand fish seed were released into the pen and given the same feed. But in 2009 the dam did not fill to capacity and the water entered in the pen only to a height of 2 to 3 ft. Soon the waters of the dam were released for irrigation through the canals and the reservoir water started receding. They got barely 21 days for the fish seed to grow. Still the fish seed increased in size from 25-35 mm to 70-75 mm. The net was then lifted at a few places and the large sized fish seeds went into the reservoir by itself. In 2010, the Fish Society set up 4 pens in the villages Bendharwadi, Digad & Savarli. Again, that year the dam filled up late, but due to heavy rains, the water overtopped the net in one pen, hence stocking of this pen got delayed. The tribals run a net across the pen a few times to promote growth. Every 3-4 weeks, samples of fish seed are taken out and their length and weight recorded, but this task is more difficult to carry out in the pens. Pens are less costly than cages but there is an element of uncertainty about when the water would come into the pens erected and to what level it would stay for how many days in dam reservoirs.

Outcome and impact

The team observe and fill positive impact of this good practice on the beneficiaries in both men and women. The giant achievement is that, the beneficiaries got full employment in this activity with safety which leads to improve their socio-economic standard. Engagement in fish farming has also reduced migration from the village to other locations for employment. The women are also having scope to get involved in this process with ornamental fish culture and got optimum exposure and employment at their door step out of their domestic work.

Level of income:

The income level of the tribal fisher folk has increased with more catch and also from ornamental fish farming. They are getting income throughout the year from this activity. The monthly income of each member, after adopting cage culture is about Rs.4000-5000.



Total Catch and Wage Payment

Total Catch and Wage Payment to Members by Cooperative

Year	Fishing days	Local Fish (Chela/Kolas /Vakanz) in Kg.	IMC (Catla/ Rohu/ Mirikal/ craps) in Kg.	Total Annual Fish Catch in Rs.	Annual Gross sales in Rs.	Total Annual Wage paid to Fishermen in Rs.
2006-07	72	16860	3670	20530	436388	196492
2007-08	139	23780	10240	34020	769137	361416
2008-09	175	16260	11568	27828	703386	300012
2009-10	147	4281	10341	14622	552488	238114
2010-11	151	1474	5151	6625	345818	154584
2011-12	248	5191	9599	14790	668788	422536
2012-13	290	4034	27083	31117	1994237	850581
2013-14	150	1320	11351	12671	857198	391833
2014-15	282	7600	10363	17963	1137915	600520
2015-16	323	2949	9914	12863	996020	680860
Total	1977	83749	109280	193029	8461375	4196948

The Dimbhe reservoir is normally free from pollution, as the upstream areas are all well forested and practically no chemical fertilizers or pesticides are used which are having the potential to pollute the water of the reservoir. So, fish from the reservoir normally fetch a higher price. Discussion with the local fishermen folk reveals that about 16-17 local fish species existed in the area before dam construction, but their population is gradually reducing. Further there are no takers in the market for special local species like Kolas & Loli as these fishes are highly bony. On the other hand, local species like Humbli (Chela spp) are liked only by the poorest slum dwellers because of its less cost in comparison to other species.


Technical skill:

Before implementation of project they were following traditional fish farming system but now they are involved in commercial way of Pisciculture adopting

new technologies in their farming system which has increased their catch and hence income. Now the beneficiaries are using cage fish culture for nursery & ornamental fish production. Previously the tribal fisher folk were fishing using tubes (inflated tubes of bus / truck) and small nets. Because of these practices, catch was less and sometimes they were facing accident in the dam. After getting the hand holding support from the local NGO and government, they get technical support with boats and nets. The fishery department also releasing fish seeds regularly to increase the fish stock / volume in the dam, which lead to their increase in income. The activity also balancing the ecosystem by releasing fish seeds in the dam.

Social relation:

The community people were not free to talk with external persons, including government officials, specially the women were not coming out to talk to any



outsider. After getting exposure and regular meeting with different official and experts, they created a good network which enhance their social relation. The female are now able to share their problem what they are facing in fishery activities and marketing. After the intervention of the project the beneficiaries express that now they are economically sound. Now their dependency on small credit providers has reduced and hence exploitation.

Challenges Encountered

There have been many heart-breaks, and difficulties galore have hounded them. In 2008, a pest attack on large numbers of teak trees around the reservoir resulted in their green leaves dropping into the water and forming a sticky mass; the resultant effect was that the nets put in the water by the fishers get stuck together like ropes and no fish could get caught. For the tribal fisher folk, it was taking a couple of hours on daily basis to scrub and wash the net with detergent to make the threads loose enough to put in the water again. The problem reduced after the water level fell considerably due to canal releases. Perhaps due to environmental considerations, the catch reduced substantially in 2010, when even 40 kg of nets laid out would not get even 4 kg of fish catch. In 2009 and 2010 the dam did not fill to its fullest capacity which affected fish availability and its growth.

On 28th Aug. 2011, all 5 gates of the Dimbhe dam were opened for about 1 ½ days due to heavy precipitation and this led to loss of about 3 tons of fish. The fishers have incurred a revenue loss of about Rs. 2.5 lakhs.

The morning after the gates were opened, people were lined up all along the river at least up to Gangapur, about 5-6 km downstream of the dam and were collecting fish which had come down with the water. The fish died due to impact after falling down from 72 meter high spillway. People holding 3-5 nos. of fish of 4-6 kg size was a common sight of that day.

Unprecedented rain across western Maharashtra in 2007 led to severe loss of fisher people's nets being washed away due to heavy flood. It was at this time that floods entered a large number of villages and towns of Sangli & Kolhapur district. On the request of the Divisional Commissioner, Pune Division, a group of 12 fishermen from the Dimbhe dam area went with 10 boats to the flooded areas; they were among the first to reach, transport having been provided by the Revenue dept. They saved over 700 persons from the flood waters in the most remote villages in the first 2 days before the speed of the flood waters became too much for the flat bottomed manual boats.

The fishers have incurred a revenue loss of about Rs. 2.5 lakhs in their operation. But looking at the initiative, the Tribal Development Department sanctioned near about Rs. 1 core for cage fish culture & fishery equipment to the cooperative.

What are the possibilities of extending the good practice more widely?

With increasing fish catch, the fishermen of Dimbhe are now thinking of their own small hatchery and looking for fund support for establishing a small ice plant of

their own. About 50 PVTG fishing families still do not have their own boats and looking for motor boats for catch and transportation of catch to the local landing station. Now they are having nets that are meant to catch small size fish (up to 7 Kg.). Nets of bigger size can help them further to catch bigger size fish from the reservoir. Infrastructure support for stocking for the next 3-4 years seems to be a necessity which is equally required for ornamental fish business of tribal women. While the Dimbhe fish co-operative society seems now well set on the road to self-sufficiency, it is expected to take another 3-4 years to meet all their costs and carry out fish seed stocking in the reservoir. They would like to expand operations & hope to be

able to help the fisher-folk of the other 6 medium dams within 30-40 km from here to increase their fish production and improve their quality of life.

Reflective Practices

By doing Fishery cooperative, they are minimizing their cost & mobilising resources & maximising their profit.

It has been an exciting time, the coming together of tribal fisher-folk- women & men, a voluntary organization, various Govt. departments and scientists of a national level research institute. Together, they have made a difference to the situation.

Summary of Good Practices

Key Conditions required:-

Dam Fish Culture & Cage fish culture is a successful model of Fish culture, which minimizes the cost of production by natural way of practice. The Fish seeds (Fries) are reared in the cage & released in the Dam after reaching 100- 150 gms. The increase of fish population in the dam leads to more production & financial benefits the beneficiaries. There are certain conditions required for successful replication of this activity. Such as:-

- 1. Natural water bodies (Dams) are required.*
- 2. People should be properly mobilized & united under a group may be Cooperative or Society.*

A proper institutional (NGO) support is highly required for the proper implementation of the activity. Here SASHWAT is organized the beneficiaries & mobilized the resources from Govt. as well as other. Govt. departments have to take effective part in the activities for both technical & financial services. Capacity Building activities & proper marketing strategies highly required.

The beneficiaries are getting full employment in fish catching & getting income of an average of 300 to 500 per day. Women are also engaged in the Cage fish culture practice & getting wage. It also reduces the migration among tribal from the village to other locations for search of employment.



4.4.2 Producer Group Approach for Fishery Promotion

Introduction

The multiple functions of the natural resources in supporting various production systems and livelihoods are more pronounced in rain fed areas. The numerous water bodies that dart the rainfed areas are part of such a multi-functional natural resources infrastructure built over time. The traditional fish production systems in these water bodies of rainfed areas have evolved within this complexity; but are at a very low level of productivity. It is perhaps owing to this innate complexity of fish production and related value chain development that the small water bodies are largely neglected and the fish-potential remain underused, in-spite of their potential to contribute to overall production and livelihoods.

The district of Malkangiri is not known for fishery though, existing tanks have the potential to augment fishery activity and production of fish.

Among the community, the programme aims to

State	:	Odisha
District	:	Malkangiri
ITDA Area	:	Malkangiri
Block	:	Mathili
GP	:	Dalapatiguda
Village	:	Ramaguda
Institution	:	Maa Dulardevi Fishery Producers' Group
Activity	:	Fishery





introduce simple technical and scientific know-how among the farmers, while keeping their traditional practices intact, in order to realise and fulfil the fishery potential in Malkangiri.

Revitalising Rain-fed Agriculture (RRA), an NGO has promoted a Network of local non-government organisations in Malkangiri for the development of tribals in the district. The network, known as RRA network, initiated the fishery programme with the objective of improving the livelihood of the tribal communities of Malkangiri district. Before this initiative, fishery was largely practised as an income generating activity by the resettled Bengali refugees. They were the main players in the production, rearing and marketing of fish.

Convergence Approach

Initially, the RRA network started a pilot project in the year 2012-13 in 200 tanks to improve own understanding on feasibility of taking up small tanks under fish farming, involving the local tribals. The success of pilot project encouraged the Network to cover more tanks under fishery, involving the local tribals directly in the process. In the year 2013-14, they planned to cover 1,000 tanks under fishery and could able to cover 800 tanks.

Based on the suggestion of the then District Collector, Mr. Muthukumar, it was decided that to make fishery

a success programme, basic inputs will be provided through Integrated Tribal Development Agency (ITDA), Malkangiri. The original plan was sourcing required inputs from Fishery Department, Malkangiri, but due to untimely rainfall and other reasons, they were unable to meet the demand. Thus, as an alternative, another hatchery was identified who could supply requirement of 15, 00,000 fingerlings. But, local hatchery owners were unable to meet the demand. At last, fingerlings were procured from the famous fish market- Naihati, West Bengal through a local hatchery that had got the tender from ITDA.

With the support of district administration, the programme was scaled up in a convergent manner. Technical support on fish farming was provided by the Fishery Department and financial support by ITDA, Malkangiri.

RRA Network's fishery programme's foundational support base to reach out to the community and create experts on scientific fishery among the community itself are the Community Resource Persons (CRPs). They were selected by partner NGOs who were working at the village level. The selected youths were shortlisted and finalised by Department of Fishery, based on basic criteria of reading, writing ability and level of interest in fish farming. While payment is made to them on task basis from RRA's funds, their preliminary training was conducted by Fishery Department in 4 batches at

the beginning of the season in the month of June.

Stocking: Process & Challenges

Initially, based on expert's opinion, the supplied fingerlings were stocked in a local hatchery for at least 3 days to condition them to the local climatic condition. While this approach was feasible technically, but its acceptance by the fish farmers was poor as the process of delivery was getting delayed. The network could not be able to deliver the fingerlings by August while farmers were interested to get it in the month of June and July. Though fishery experts suggested that ponds could be stocked till September middle, the farmers were not getting confidence to have a good harvest.

It was a technicality that was good in the long run since the weak fingerlings would die off during this period itself before being given to farmers, but the situation at the field was worsening. The farmers were getting quite agitated about when they would stock their ponds. Generally by this time of the year stocking was done with (August) and though fishery experts suggested that ponds could be stocked till September middle, the farmers were getting restless. For most of them, fingerling supply was easy, since there is a system of middle men who travel around these interior villages on their bikes supplying fingerlings door to door. Though in this situation the farmer got only 300-400 fingerlings while thinking he was purchasing a 1000, and the quality was not assured for, many were refusing to wait longer. This is where RRA Network lost out on a huge number of potential farmers to work with.

DFO checking quality of fingerlings at hatchery before distribution to farmers

However, the process of distribution started and went on for almost ten days, covering 30 panchayats. The farthest place of distribution was more than 70 Km. away from point of distribution. In the process, they could not be able to supply 8,50,000 fingerlings and 4,500 yearlings. The decision to distribute yearlings was sudden and though well-intentioned but not



well received by the farmers. So, the members of the network again initiated the process of convincing the farmers about the benefit of year lings. The hatchery that was supplying fingerlings, suddenly declared that they run short of stock and it would take them at least a week to replenish their stock. By that time, the farmers were impatient to receive the fingerlings, the network organisations were forced to think of alternative. After consulting few experts on fisheries as well as the hatchery, it was decided that yearlings, which were readily available, can be supplied to the farmers. The matter was discussed with the Collector and DM of the district, fishery department and ITDA. The department agreed to the proposal and the collector gave his consent to this approach. Based on the discussion, another tender was floated by the ITDA for the supply of yearlings. However, ready acceptance to yearlings

by the farmers was still an issue. The reasons were stronger to override the fact that yearlings (because of their bigger size) had lesser mortality and would grow bigger than fingerlings within the same stipulated time frame. Most of the farmers refused to listen to the scientific benefits of stocking yearlings in seasonal ponds and suggested for fingerlings.

Their primary apprehension was that they had never heard or seen yearlings and secondly, the cost of yearlings would be more than fingerlings (Rs. 8 compared to Rs 1.). At that juncture, it was important for the network to make the farmer understand about the importance of the yearlings. But many farmers were still reluctant for which the network forced to keep both the options of fingerlings and yearlings open.

Programme Coverage

Sl. No.	Blocks	Partner NGO	No. of GP	No. of Village	No. of Water Bodies	Fingerlings Stocked	Yearlings Stocked
1	Mathili	ODC	6	33	218	190480	900
2	Gumma	Parivarttan	2	9	35	35170	1500
3	Khairput	Parivarttan	1	1	23	9135	1780
4	Podia	TSRD	2	2	28	19000	139

Institution Building

Since the ITDA was supporting the RRA Network in this fishery programme by providing fingerlings, the collected amount was deposited as corpus fund of fish producer groups that were formed at the village level. Each Fish Producer Group (FPG) has an average of 12 members with a President and Secretary. Each FPG having an account in its name where the collected amount (towards fingerlings / yearlings) were deposited. The plan is that these FPGs will be treated as entities from now on to provide any sort of input, material and/or technical assistance, since it may be difficult for an individual farmer to access required inputs on time. Another reason that led to formation of these FPGs is the belief that after initial 2/3 year's support, they can sustain themselves both financially and technically. Hence, it was essential now to prepare plans by individual farmer /water body wise and looking at management aspects in a group centric manner.

The future plan is to develop an institution which will be registered, at the block level, of which all the farmers belonging to FPGs of that block will be the members of the apex body. This legal body at the block will be the resource centre for farmers and Department for flow of information and services. The CRPs would then be integrated into this self-sustaining resource centre.

The Community Resource Persons (CRPs) have been trained with the responsibility of monitoring feed and growth of the fingerlings that have been provided. Initially at the stage of distribution, high mortality was reported in few places (the one furthest from the hatchery of supply), as of now the situation seems stable. No major disease outbreak has been reported and farmers were being made to feed at regular intervals.

The composition of feed that is promoted consists of agricultural waste that can be sourced locally and will not be difficult for the farmer to procure next time even if there is no external support. An innovative source of supplementary feeding was used for the first

time in which the leftover of food mix / chatua powder (husk of Gram, Ground nut) was provided to the fish as feed. This is highly nutritious since chatua is being supplied to children and pregnant mothers through ICDS, by processing groundnut, wheat and horsegram. The waste produced during its processing is generally thrown away, however, this time the women SHGs, that are engaged in processing, packaging and supply of this dry food mix powder were asked to keep the leftover. These left overs was sold to the fish farmers at a minimal price, thus also contributing to the income of the SHG. This nutritional feeding practice needed to be inculcated since many are of the opinion that once the pond is stocked, fishery activity has come to an end and they will only harvest in appropriate time.

Feeding and Netting

In order to introduce feeding and netting as essential activities of the fishery programme, both feed and nets have been supplied to farmers for the season. The fish feed was procured from traders through tender process by ITDA. The composition of the feed that has been provided consists of groundnut cake, mustard oil cake and rice polish in suitable quantities. The total cost mobilised for this purpose was around Rs. 2,94,000 which has been provided by ITDA in full subsidy but following the fingerling pattern, money collection for this too has taken place (at 50% of the actual cost). Hence, the corpus of the fisher producer groups has been growing by that. In many FPGs, the fishermen have started independently making monthly contribution of a small amount to their respective accounts.

Net Support and User Fee Collection

The fish farmers have been supplied with fishing nets through their groups, financed by ITDA through an order placed by Fishery Department to Orissa Pisciculture Development Corporation, Bhubaneswar. Three types of nets have been supplied to each group, keeping in mind the requirement at different times of the season, hence 5 plankton nets, which are used for checking plankton growth in the pond, 3 cast nets, that

are used for netting to monitor growth and condition of fish throughout the season, 1 fry drag net that is used for harvesting at the end, has been supplied to each of the fish producer group. The total cost of these nets, that has also been mobilised from ITDA, has come to nearly Rs. 9,00,000. Towards the cost of the nets, no share money collection has taken place but each group has been made to write resolution that identifies the terms and conditions for usage of these nets, hence a minimum user fee is charged by the group for every time the net is used by a fish farmer (member or non-member) and this money collection can be later used for maintenance or other costs involved in safekeeping of these nets.

Traditionally the tribal fish farmers do not possess net to catch fish. Generally they hire net at the time of catch from nearby Bengali fish farmers for which they pay Rs 100/hour. There is also another arrangement at the local level. At the time of harvesting, the Bengali fish farmers come to the pond owning tribal farmers with their own nets and harvest the fish. In this arrangement, the pond owning tribal family pay a higher price to the concerned fish farmer for his service. In some cases, the service provider take away 75.0 percent of the catch and leave 25 percent of the catch for the tank owner. However, with this initiative by the partners of the RRA network, this practice is now changing.

Farmer Contribution

RRA Network NGOs	Fingerlings	Feed
TSRD	182600	46112
SOMKS	90000	10000
GDS	192440	8051
PARIVARTTAN	90535	27083
MODE	9500	3000
ODC	142100	24287
TOTAL	707175	118533

Capacity Building

In the month of October, 2015, RRA Network, Malkangiri organised a refresher training for the CRPs which also included an exposure visit to a non-tribal farmer who has achieved great success through his own entrepreneurship activities. An exposure for fishermen groups is in the offering.

In the month of January, 2016, 10 CRPs were sent to Fishery Training Institute, Balugaon, for intensive fish farming training for a month. After their return from training, panchayat level sharing meeting was organised where the trained CRPs shared their knowledge with other fellow fishermen. Block level capacity building trainings were also organised for group representatives in order to orient them on significance of institution building and skills involved for managing community based institutions, like FPGs.

SHG as Fishery Co-operative

In the month of January, 2016, a number of water bodies dried up but before that harvesting was completed by the concerned fish farmer.

In Bara village of Kartanpalli Panchayat, Mathili block, three SHGs, namely Ma Ladrimata, Buruadei & Jagakalia came together to do fishery activity in the village community pond. They jointly paid for the cost of fingerlings and other inputs. Duties to feed and clean were also distributed among the SHG members. After stocking a total of 4000 fingerlings in August 2015, they harvested in April 2016 (after 9 months). The harvest was quite satisfactory, while personally for them, a delightful catch of 1.82 quintile. Hence after an investment of approximately Rs 5,500 (primarily fingerling and feed cost), each SHG earned Rs. 18,200. Each SHG also received a grant of Rs 5,000 each from Fishery Dept. for fishery activity. After discussion with RRA team, these groups have planned to use the funds for developing the community pond into a nursery pond in the coming season. This diversification and new business venture is expected to give them higher return in the season.

On the day before their chaitra parba, fish farmers of some of the other villages, namely Balakati, Dudameta panchayat, Korkunda block, decided to harvest the fish in their community pond in order to prepare for the next day feast. After stocking 6000 fingerlings through RRA Network's fishery programme and spending approximately Rs. 3,000 for the feed, a total catch of 2.33 quintile was harvested. The catch was equally distributed among all the families of the village and total collection towards fish share was Rs. 25,000. The fund was kept in the village fund for future use like observing festivals, celebration of events, meeting unforeseen expenses, cost towards fingerlings, cost of feed etc. The investment and net profit made out of this venture was collectively shared among the villagers, like most of the other activities of the tribal community.

Another positive aspect is that demand for fish in this area is high and hence marketing is not an issue for the fisher folk. Infact, in many places where harvesting is under process, the fish is getting sold at the pond site at an average price of Rs. 110/kg.

Villagers gather around while the catch from their community pond will be weighed and distributed

The Technical Support

Throughout this process, RRA Network able to involve the District Administration in every step, mainly in planning, implementation and monitoring. Malkangiri has also been fortunate enough to learn and exhibit its rich natural water body resource to a number of experts from different parts of the country. Former Director, CIFA, Bhubaneshwar and CIFE member and senior Aquaculture Specialist ICLARM, Bangladesh, Dr Tripathy visited Malkangiri for a preliminary study on fisheries, in the month of June last year. RRA Network's Fisheries Node Anchor person, Neelkanth Mishra, has also made various trips to the CP to guide and plan the fishery programme. A team from CIFA visited the area as well and has offered to formulate a Business Development Plan (BDP) and also suggested another portable hatchery at Kalimela Block.

Amount Mobilized From ITDA

Sl. No.	Heads	Amount (INR)
1	Fingerlings	1039150
2	Yearlings	45190
3	Transportation of Fingerlings	80,083
4	Feed	295461.65
5	Transportation of Feed Distribution	15000
6	Fish Net	9,25,500
	Total	24.00.384.65

Development of Entrepreneurs

After a long and difficult search for brooder fish, the portable hatchery at Gumma provided by CIFA has been stocked and the first cycle with Indian Major Carp (IMC), rohu and katla species has taken place. The surrounding water bodies will get their supply of fingerlings from this local hatchery that will be run by an individual tribal farmer as a business, on whose area the hatchery has been set up. This will make distribution of fingerlings much more convenient, cutting down transportation costs and also provide for timely supply. Apart from the local farmers being benefitted and decentralising of the fish seed production monopolised business, Ramo, the farmer who has been supported with the hatchery, has set out to become the first tribal farmer in the district with a hatchery! He has been sent for various trainings and exposure visits in order to take forward independently this lucrative activity.

The programme has also set up its own nursery pond network which will ensure smooth, timely and good quality seed (fingerlings/fry) to the farmers as well as ensure additional source of income for those farmers whose ponds will be used as nursery ponds and will be developed on entrepreneur model. The Sania and Bhagwan FPG in Dalpatiguda panchayat of Mathili

block have been bold enough to experiment with the concept of nursery ponds and having the plan to stock a total of 1.05 quintal of fry. They have a robust business plan in place to provide their reared fingerling to almost 65 farmers within a radius of 4 km of their nursery network.

Way Forward

After attending a FPO session in CIFA, Bhubaneswar, the RRA Network team has finalized Business plan with the experts' suggestions, for three main activities, i.e., fingerling rearing, fish feed processing and value added products of fish. Though the results of the past two years fishery programme has been satisfactory, most farmers are yet to achieve the true potential of their water bodies. However, the minor but significant scientific interventions introduced through the programme in the last season will go a long way in realising the complete fisheries potential of the district and spread the process to the other rainfed areas as well.

The district administration had sanctioned the proposal submitted by Network of an amount of Rs 11,77,000 towards development of inland fisheries under ITDA's Action Plan 2014-15.

The Fish Producer groups of the programme will be linked with NRLM for harnessing any type of financial and/or material support that is available. As for the season 2014-15, the groups have been assigned asset support in the form of ice boxes, nets, trays etc. and at present there are 104 groups (60 from last season and 44 this season, a total of 1172 water bodies at present) within the programme. One hundred number

of farmers who have been part of the programme for the past two years, have been identified and trained for integrated fish farming with duck rearing and vegetable/fruits cultivation. Also as part of the 2014-15 ITDA sanctioned programme, RRANetwork has proposed three numbers of small scale fish feed processing units that will be managed by women SHGs for providing locally made cost effective feed to the FPGs in their block.

Apart from building on individual farmer's capacity, this year the main task would be strengthening community institutions, in the form of a Fishermen Producer Company, and pave the way for "Ama Machha Chasha" to function in a self-sustaining manner in the near future.

Outcome / Impact

Due to the sustained efforts of the NGOs associated with the RRA network, many of the tribals are now engaged in fishery related activity. The perception that the tribals are not serious fishermen is shared by hatchery owners as well; hence they were amazed when they heard of the programme by RRA Network. Another achievement of this programme so far has been the collection of money for the fingerlings that they have been provided. Each farmer also contributed Rs. 1/fingerling (which is also the market price) and hence the RRA Network challenged the common believe that the rural farmers adopt new practices only because of government subsidy. The beginning of farmers' interest and their active participation in the process paved the way for the community's complete ownership of this programme.



4.5 Status of Agriculture

Introduction

Agriculture plays a vital role in India's economy. As per Population Census 2011 of India, about 55% of the population is engaged in agriculture and allied activities which contributes 17% to the country's Gross Value Added Product (current price 2014-15, 2011-12 series). As per the land use statistics 2012-13, the total geographical area of the country is 328.7 million hectares, of which 139.9 million hectares is the reported net sown area and 194.4 million hectares is the gross cropped area with a cropping intensity of 138.9%. The net irrigated area is 66.1 million hectares.

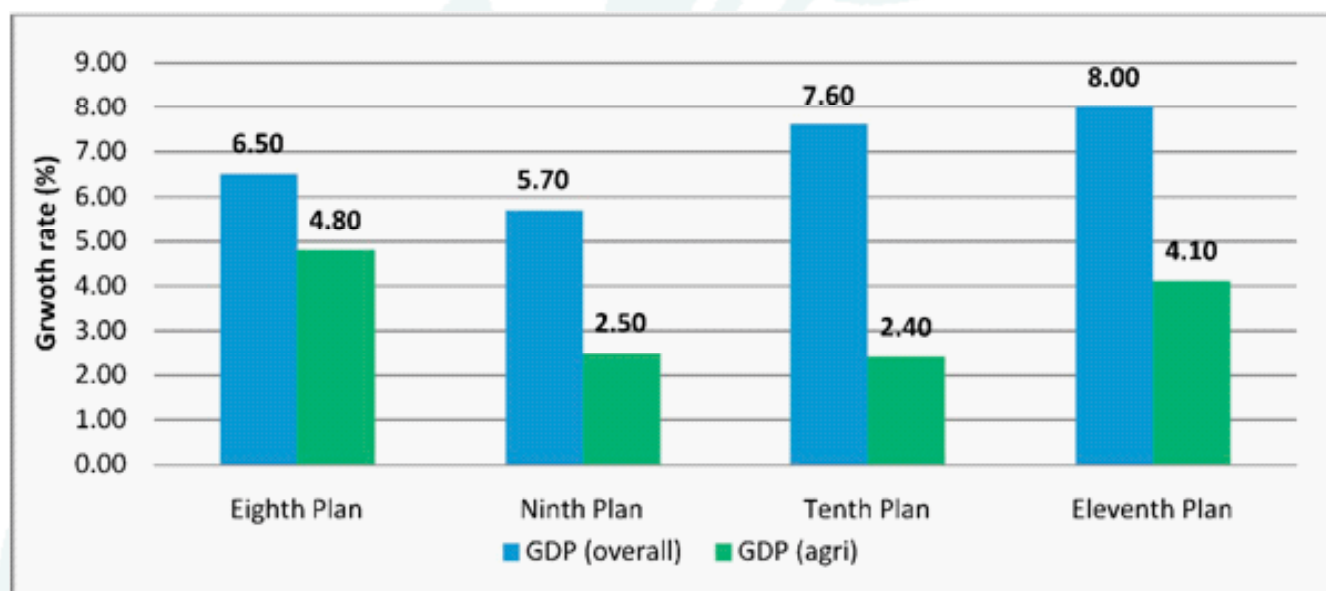
Growth of the Agricultural Sector

Since the beginning of economic reforms in 1991, growth in agricultural GDP has shown high volatility. It has fluctuated from 4.8 percent per annum in the Eighth Five Year Plan (1992-96) to a low of 2.4 percent

during the Tenth Plan (2002-06) before rising to 4.1 percent in the Eleventh Plan (2007-12). As per the new series, the Gross Value Added Product (GVA, earlier referred as Gross Domestic Product) at 2011-12 basic prices for the agriculture and allied sectors reveals the growth of Rs. 15.82 lakh crores in 2014-15 from Rs. 15.79 lakh crores in 2013-14 (0.2 percent).



Agricultural Growth Rate during Different Plan Periods



Source: State of Indian Agriculture 2015-16, Figure 1.1, Page No. 29, Government of India, Ministry of Agriculture & Farmers Welfare, Department of Agriculture, Cooperation & Farmers Welfare, Directorate of Economics & Statistics, New Delhi

The GVA growth rate for the agriculture and allied sector during 2013-14 was 4.2 percent; the sub-sectoral growth in agriculture including livestock was 5.6 percent, in forestry and logging was 1.5 percent and in fishing, the growth was 7.6 percent. The slower rate of growth in the agriculture sector during 2014-15 was mainly on account of a deficient monsoon, which affected the production of kharif crops. The situation aggravated due to unseasonal rainfall and hailstorms in certain parts of the country in 2015 during February and March, which affected the production of Rabi crops. The Agriculture and Allied sector witnessed a growth of 1.5 per cent in 2012-13, 4.2 per cent in 2013-14 and -0.2 per cent in 2014-15 at 2011-12 basic prices. The percentage of growth of GVA in agriculture, livestock, forestry and fishing (at constant 2011-12 prices) are depicted in the following chart and table.

Sector-wise Growth Rate of GVA at 2011-12 Prices



Source: Agricultural Statistics 2016, Chart 1(b), Page No. 9, Government of India, Ministry of Agriculture & Farmers Welfare, Department of Agriculture, Cooperation & Farmers Welfare, Directorate of Economics & Statistics, New Delhi.

Percentage Growth of Gross Value Added (GVA) at 2011-12 Prices

Year	Agriculture, Forestry & Fishing	Crops	Livestock	Forestry and logging	Fishing and aquaculture
2012-13*	1.5	0.2	5.2	0.3	4.9
2013-14*	4.2	4.2	5.6	-1.5	7.6
2014-15#	-0.2	-3.2	7.3	-1	5
2015-16 (PE)	1.2	-	-	-	-

Source: Central Statistics Office (As per Provisional Estimates of Annual National Income, 2015-16 released on 31.05.2016).

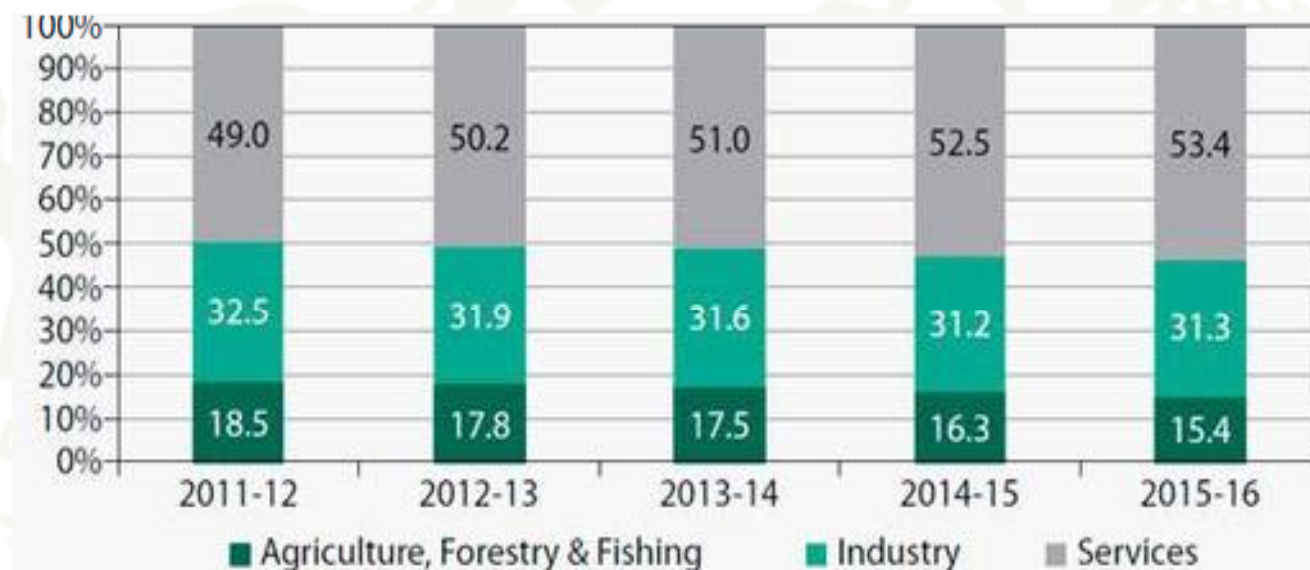
PE : Provisional Estimates;

: 1st Revised Estimates (New Series); * : 2nd Revised Estimates (New Series).

Source: Agricultural Statistics 2016, Table 1.5, Page No. 8, Government of India, Ministry of Agriculture & Farmers Welfare, Department of Agriculture, Cooperation & Farmers Welfare, Directorate of Economics & Statistics, New Delhi

As a natural consequence of economic growth and structural changes in the economy, the share of agriculture and allied sectors in the total GDP declined from around 18.5 per cent in 2011-12 to 15.4 per cent in 2015-16, calculated Gross Value Added (GVA) at 2011-12 Prices. If the shares of forestry and fishing are removed, agriculture (including livestock) accounted for about 16 per cent of the national GDP. However, with around 50 percent of the population still dependent on agriculture for its livelihood, the sector continues to play a vital role through its multiplier impact on the economy.

Sector-wise Share in Gross Value Added (GVA) at 2011-12 Prices



Source: Agricultural Statistics 2016, Chart 1(a), Page No. 9, Government of India, Ministry of Agriculture & Farmers Welfare, Department of Agriculture, Cooperation & Farmers Welfare, Directorate of Economics & Statistics, New Delhi.

Percentage Share of Gross Value Added (GVA) at 2011-12 Prices

Year	Agriculture, Forestry & Fishing	Crops	Livestock	Forestry and logging	Fishing and aquaculture
2011-12*	18.5	12.1	4	1.5	0.8
2012-13*	17.8	11.5	4	1.5	0.8
2013-14*	17.5	11.3	4	1.4	0.8
2014-15#	16.3	10.2	4	1.3	0.8
2015-16 (PE)	15.4	–	–	–	–

Source: Central Statistics Office (As per Provisional Estimates of Annual National Income, 2015-16 released on 31.05.2016).

PE : Provisional Estimates;

: 1st Revised Estimates (New Series); * : 2nd Revised Estimates (New Series).

Source: Agricultural Statistics 2016, Table 1.4, Page No. 7, Government of India, Ministry of Agriculture & Farmers Welfare, Department of Agriculture, Cooperation & Farmers Welfare, Directorate of Economics & Statistics, New Delhi

Gross State Domestic Product of States:

Gross State Domestic Product of States at Current Prices (2011-12 base) (As on 01.08.2016)

State/UT	Value (Rs. Crore)					Growth over previous year (%)			
	2011-12	2012-13	2013-14	2014-15	2015-16	2012-13	2013-14	2014-15	2015-16
Andhra Pradesh	379230	410961	468494	532922	603376	8.37	14	13.75	13.22
Maharashtra	1272967	1448466	1647506	1792122	NA	13.79	13.74	8.78	NA
Odisha	225283	255273	277271	309807	332329	13.31	8.62	11.73	7.27
All-India GDP	8736039	9951344	11272764	12488205	13567192	13.91	13.28	10.78	8.64

Source: Economic Survey of Odisha 2015-16, Annexure 2.5.1, Page No. 45

Regional Variations in Agricultural Growth

The share and growth of the agriculture and allied sector at the state level presents a very different picture from that at the national level. While at the national level, the agriculture and allied sectors contributed about 14 per cent to the GDP in 2013-14 (at constant 2004-05 prices), a number of states showed a much larger share of agriculture in GSDP. As shown in table below, about 13 states have over 20 percent of their GSDP from agriculture, and only 7 states earn less than 15 per cent of their GSDP from agriculture sector.

Share of Agriculture and Allied Activities in State GSDP at constant 2004-05 prices

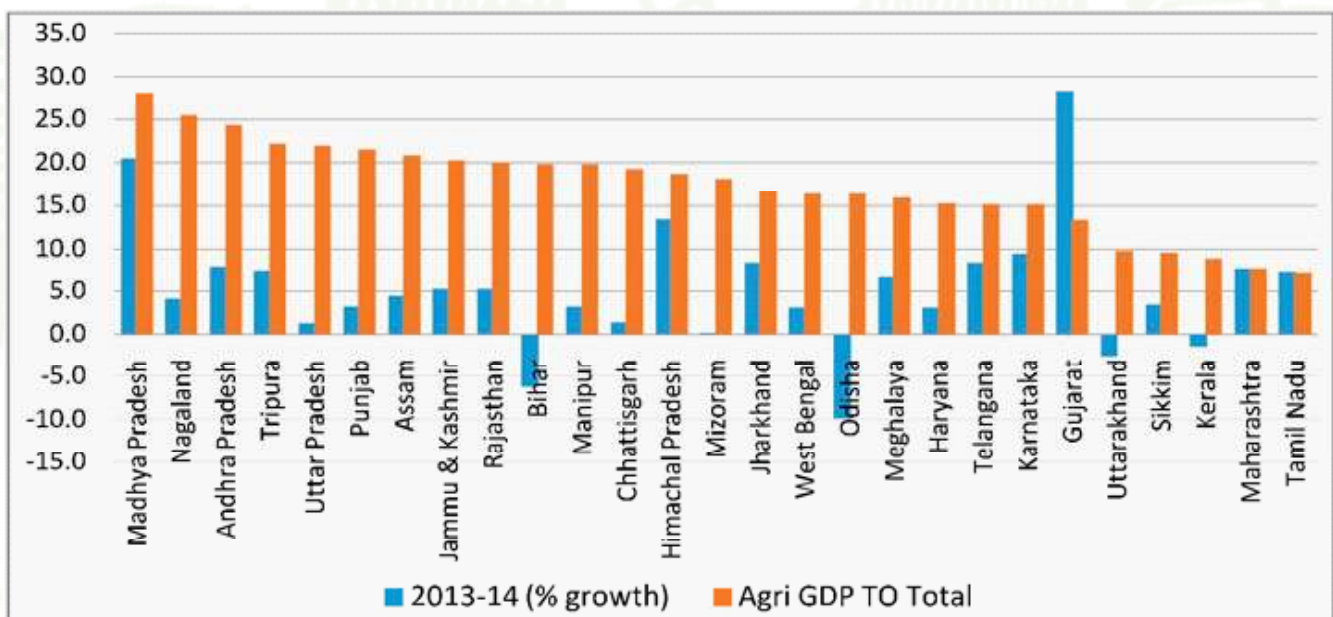
Share of agriculture and allied sector in GSDP	States
30% and above	Arunachal Pradesh
20 – 29 %	Andhra Pradesh, Assam, Bihar, Chhattisgarh, Jammu and Kashmir, Madhya Pradesh, Manipur, Nagaland, Punjab, Rajasthan, Tripura, Uttar Pradesh
15-19%	Haryana, Himachal Pradesh, Jharkhand, Karnataka, Meghalaya, Mizoram, Odisha, Telangana, West Bengal
Less than 15%	Goa, Gujarat, Kerala, Maharashtra, Sikkim, Uttarakhand, Tamil Nadu

Source: Agricultural Statistics 2016, Table 1.1, Page No. 5, Government of India, Ministry of Agriculture & Farmers Welfare, Department of Agriculture, Cooperation & Farmers Welfare, Directorate of Economics & Statistics, New Delhi.

The growth of the agriculture and allied sector at the state level differs from that at the national level. For instance, at the national level, the GDP from the agriculture and allied sectors grew at the rate of 4.7 per cent in 2013-14 (at constant 2004-05 prices), but the states of Gujarat, Madhya Pradesh and Himachal Pradesh registered double-digit growth during the same period. Almost 50 percent of the states were estimated to have experienced more than 5 percent

growth in the agriculture and allied sectors during 2013-14. The Twelfth Plan document identifies states like Odisha, Madhya Pradesh, Bihar and Chhattisgarh as the major drivers of agricultural growth. These states are showing growth momentum, while soil fatigue is observed in the earlier green revolution states of Punjab and Haryana because of their continued focus on conventional crops, in which there is little yield growth.

State-wise Growth and Share in Agriculture-GDP (2013-14)



Source: Agricultural Statistics 2016, Figure 1.6, Page No. 6, Government of India, Ministry of Agriculture & Farmers Welfare, Department of Agriculture, Cooperation & Farmers Welfare, Directorate of Economics & Statistics, New Delhi.



Foodgrains: Area, Production and Yield during 2014-15 and 2015-16 in major Producing States Alongwith coverage under Irrigation

Area: Million Hectares; Production: Million Tonnes; Yield: Kg./Hectare

States	2015-16#					2014-15					Area under Irrigation % 2013-14*
	Area	% to All India	Production	% to All India	Yield	Area	% to All India	Production	% to All India	Yield	
Andhra Pradesh	4.14	3.37	10.57	4.19	2555	3.96	3.19	10.19	4.16	2650	66.6
Maharashtra	10.12	8.25	8.07	3.2	797	11.45	9.21	11.31	4.49	988	18.6
Odisha	5.37	4.38	6.59	2.61	1226	5.17	4.16	8.98	3.56	1738	29.2
All India	122.65	100	252.22	100	2056	124.3	96.52	252.02	100	2028	51.9

Source: Directorate of Economics & Statistics, DAC&FW.

Note: * Provisional; # : Fourth Advance Estimates

Source: Agricultural Statistics 2016, Table 5.1, Page No. 40 & 41, Government of India, Ministry of Agriculture & Farmers Welfare, Department of Agriculture, Cooperation & Farmers Welfare, Directorate of Economics & Statistics, New Delhi





4.5.1 Farm Mechanization

Introduction

Farm mechanization implies the use of various power sources, improved farm tools and equipment, with a view to reduce the drudgery of the human beings and draught animals, thereby increasing crop production and productivity. About 65 percent of the Indian population depends on agriculture for their livelihood. In recent years, reduced availability of farm labours and increasing cost of labour forcing many farmers to mechanize their farms and over the last few years, there has been considerable progress in agriculture mechanization. Efficiency of farm mechanization reveals that if the mechanization used properly, a farmer can save seeds 15-20 percent, fertilizer by 20-30 percent, time by 20-30 percent, labour by 5-20 percent and increase in cropping intensity by 10-15 percent

State	:	Maharashtra
District	:	Gadchiroli
ITDA Area	:	Gadchiroli
Block	:	Gadchiroli
GP	:	Mulchera
Village	:	Korsapur
Activity	:	Farm Mechanization

Objective

To improve the economic standard as well as improve social status in Agriculture sector

and attending improvement in productivity by 15-20 percent. According to Surendra Singh (2008), Verma (2008); the cropping intensity can be increased to 165, 156 and 149 percent in case of tractor-owning, tractor hiring and bullock operated farms, respectively. During 1960-61, the animate power contributed 92 percent of the total farm power and mechanical and electrical together contributed about 8 percent. However, in 2004-05 the contribution from animate power reduced to 16 percent and from mechanical and electrical power, it increased to 84 percent. During the past, few decades a large number of farm tools, implements and machines have been developed for different farm operations. In Maharashtra, about 68 percent of the rural population depends upon agriculture-based industries. Improved farm mechanization can play a significant role in the development of agriculture in Maharashtra.

The Agriculture Dept. took the initiative to mobilize the community to participate actively in the process, as the community people were practicing this cultivation early it was not too difficult to improve the level of participation, there was a difficult to implement the project in the initial stage regarding open grazing of domestic animals and marketing part. The implementing agency as well as facilitation of govt agency taken initiative to mobilize the community for active participation of the all adult members in the process, as the community people were practicing this cultivation early it was not too difficult to improve the level of participation, there was a difficult to implement the project in the initial stage regarding

open grazing of domestic animals and marketing part. The implementing agency as well as facilitating agency imparted capacity building program and provided minimum support to the beneficiaries.

The women were also participated in this process apart from their domestic work, the women were engaged work like planting, watering, preparation of field, and the aged person of house hold also participated to taking care of the farm duly. The male members were engaged with land preparation like land development work, finishing work and other heavy duty lating agency imparted capacity building program and provided minimum support to the beneficiaries.

Risk and Vulnerability Reduction

Now the targeted people are getting full days of work in their village. Implementation of the project has been helpful to reduce the percentage of migration as comparison to earlier situation. This project has helped them to have more income and improve their economic standard as well as social status.

Stakeholders and Partners

The Schedule Tribes community households are the targeted group of this initiative. Basically, those ST population who were cultivating their own agricultural land or encroach forest land since a long and able to show the evidence/proof of last 3 generations, during then verification by the department, also there was other norms and criteria under FRA-2006 to get all facilities. The schedule tribe community under the ITDP are the targeted group of the practice.

Current Family Composition & Occupation Status

Name	Age	Sex(M/F)	Marital Status	Education	Occupation
Sadasiva Omsa	52	M	M	Primary	Agriculture
Nirmala Bai	42	F	M	Illiterate	Agriculture
Ratnamala	22	F	Unmarried	10th	Agriculture
Abhisha	20	F	Unmarried	+2	Agriculture
Ashis	18	M	Unmarried	+2	Agriculture



Tribal Department, Govt of Maharashtra:

The Tribal Development Department allocates funds to Agriculture Department to implement different developmental activities in the tribal areas, as per the plan of the Department.

Agricultural department, Govt of Maharashtra:

The Department takes up various activities for agricultural promotion in the tribal areas, as per the funds available to them from Tribal Development Department. The department has been providing technical support, especially training and supply of subsidised agricultural instruments, seeds, pesticides and fertilizer to the beneficiaries.

The beneficiaries were not getting full time job at their village. So, the male members usually going out to get a job.

Methodological Approach

According to the community, initially, a Gram Sabha was organised at the village level by the Gram Panchayt before implementation of this initiative. Villagers participated in the Gram Sabha and decision was taken unanimously. The decision of the Gram Sabha

and the beneficiaries selected by the Gram Sabha were communicated to the concerned department for appropriate action.

As the department provide support like development of land, provide seeds, technical training, Dug Well, motor pump and manure and pesticide everything directly to the beneficiaries in different time. Through the contractor, the department took up land development work, so that the beneficiaries can start the agricultural activities immediately.

The Sarapanch as well as the village head promote women participation in all decision-making process. During Gram sabha they put responsibility on women like arrangement of meetings, moderate the session also.

Impact

Change in cropping pattern and cropping intensity

The cropping pattern has been changed after farm mechanization in many areas. Overall, 83% of farmers are adopting different cropping pattern. Korsapur farmers are in front in this aspect. Feared changing cropping pattern due to labour shortage and uncertainties of rainfall and climate change.



As viewed by Beneficiaries, after farm mechanization programme under ITDP, there is no change in livelihood pattern. The existing beneficiaries are getting benefit out of the programmed but the programmer has not yet attracted people from other livelihood to agriculture. On discussion with beneficiaries, a rough estimation of cost-benefit of various types of machineries/ implements has been made. While calculating the cost-benefit ratio, cost of the implements to the farmers have been taken and for benefits, the total benefit out of the implement is calculated from benefits drawn by the farmer during the life span of the implement cost benefit for various implements/ machineries/ pump sets supplied under ITDP Nagpur. It is observed that instruments like power operated implements, Dug well, pump sets, power tiller, self propelled reaper etc. provides more than double benefit as compared to cost. All other instruments are also beneficial for farmers. For the beneficiaries of farm mechanization,

local market is the main market place for sale of their agricultural products. Overall, 48% beneficiaries' sale the products in local market and 25% sale at block. Selling of agriculture products is an important problem for framers. In all the Villagers, more than 70% of farmers are facing problems of selling their products at remunerative prices. They neither get reasonable price for their products nor are able to sale all their surplus products at a time. So the prices they get do not help them for good investment and do not help them to meet expenses for socially bound occasions.

After use of agriculture implements, farmers have realised farm mechanization is a very good cost saving programme. This is like a god's gift when the price of agricultural inputs has been increasing rapidly. Overall, 90% of beneficiaries say farm mechanization is a cost saving programme in agriculture.

Impact on food security

Farm mechanisation has positive impact on food security. Farmers are now producing more crops spread throughout the year thereby improving food security. Overall 78% of beneficiaries said the programme had positive impact on food security. For 21% of beneficiaries the programme did not have any impact on food security.

Impact on education

Half of the beneficiaries felt that farm mechanization had indirect positive impact on education of children as the farmers can now provide better educational facilities to their children and pay for additional coaching. The other half felt that it was too early to assess the impact of farm mechanization on education.

Impact on health

When the impact of farm mechanization on health was discussed with the beneficiaries surprisingly 60% of them said the programme has not impacted on the health status of their family. Only 40% of beneficiaries said that with additional income, their family members are accessing better health facilities.

Impact on life style

With the increase in agricultural income farmers have changed their (family) life style. After work, they now spend more time for leisure with family and friends. Overall, 65% of beneficiaries are seeing the change in their life style. For 26% of beneficiaries there is no impact of the programme on their life style.

Impact on gender

Farm mechanization has made the agricultural activities easy and time saving. That is why women farmers are now showing their interest for farm activities. of beneficiaries are now seeing more involvement of women in agricultural activities. But some of the beneficiaries feel that after farm mechanization they do not need more labour, so women's involvement has gone down.

Impact on draught animal

Farm mechanization has reduced the labour use – human (farmer) and animal used for agricultural activities. Purchasing a pair of bullocks / buffalos is quite costly and very few small and marginal farmers can afford them. In this situation, farm mechanization has to a great extent sorted out their draft animal problem as now cultivation and intercultural, transportation of inputs and outputs have become less costly.

Impact on environment

Overall, 80% of beneficiaries express their view in favour of positive impact of the programme on environment. 20% of beneficiaries say no impact. The impacts are i) reduction in soil erosion due to green coverage on soil and ii) better soil and water conservation, etc.

Validation of Good Practice

The members of the group express their satisfaction and share their experience that, whatever steps taken by the administration, implementing agency and technical service provider agency address the need properly with involvement of beneficiaries, as it taken much time to aware and bring change in their mind set

to execute the proposal to meet the objective of the group. In the initial stage all group members also faced obstacles. With regular meeting and interaction with community it able to understand the root cause of the community people and able to short out.

After identification of the need of the village people, the entire stake holder provided all kinds of support each and every step as per their need and require during implementation of project.

The service provider agency monitoring the activities regularly from project planning to execution, they are also monitoring the activities in a regular basis to meet all kinds of challenges and overcoming the problems. The group is organizing regular meeting with the service provider agency in each and every aspect of their activities.

Innovation and Success Factors

In this practice the different played vital role for effective implementation, from local governance or Gram sabha level to different departmental officers taken interest to implement this project sincerely Which may helps to reduce the venerability of poverty as well as employment.

Constraints / challenges

During conduct of Gram sabha the women were not coming due to some social restriction, the male are always participating in the process.

The beneficiaries were uncertainty for their livelihood as well as home state land It was very difficult to make a good and friendly environment with targeted group to accept the new technology and seeds for more production as they are expert for traditional methods of agriculture.

The regular interaction and counselling helps to improve the level of acceptance and the new things among the tribal, this process helps them to create a social network with Govt. Officials, and other stake holder.

Generally, the targeted community depends on agricultural work and traditional food practice (non cultivable forest produces) for their livelihood, due to lack of irrigation facilities they depend only on rain water for agricultural purpose.

During their crisis or natural calamities, the male maximum the youth members of community goes out of district for search of work because they have no other alternative for survival.

Replicability and/or up-scaling

The overall adoption of farm mechanization practices by the farmers was presented in. Nearly 50 per cent of the respondents belonged to medium category of adoption. These findings are in line with the. Interestingly, majority of the paddy growers implemented the basic and most required implements viz., mouldboard plough, harrow, cultivator, peddler, combine harvester, sprayer and thresher. More than 90 per cent of the respondents were using the combined Harvester, MB ploughs Harrow and peddler in the paddy cultivation. About 89 per cent and 67 per cent of respondents were using of cultivator and sprayer, respectively. Whereas, least numbers of the farmers were using paddy transplanted and cone -weeder. The paddy growers were not using the cheapest and oldest implement i.e., cono-weeder. It was due to the fact that now-a- days, the spacing between rows is not maintaining in the paddy field.

Conclusion

It can be concluded from above that, of the respondents belonged to medium level of knowledge regarding farm mechanization practices in paddy cultivation. This

implies a vast scope for the Developmental Departments to intervene and improve the knowledge level of farmers about farm mechanization practices. That though the paddy is cultivated by all the farmers in the locality area, but their scientific knowledge about the farm mechanization in paddy crop and scientific adoption of the farm implements was not up to the mark in certain implements. So, one of the best ways to overcome this is to vigorously utilize the scientific expertise of Krishi Vigyan Kendras for organising Field and Farmers' Day and agriculture machine exhibitions which help and encourage the farmers to know about the advantages of mechanization.

As per the beneficiaries of the respondents had medium level of knowledge about the farm mechanization. This was due to the fact that the farm mechanization was slowly increasing in this region and farmers of this reason still were not exposed to improved agriculture implements used in the paddy cultivation. The knowledge level of farmers about various farm mechanization practices in paddy cultivation respondents had knowledge about the cage wheel and peddler, respectively. On the other hand, more than 80 percent of the respondents had the knowledge about the MB plough, thresher and combined harvester. While the least Percent of the respondents had knowledge on the cono-weeder and paddy transplanted. Because cost of paddy transplanted is very high and hence farmers were not able to afford to use such type of implements. With respect to cono-weeder, most of them were not known. This was due to the fact that the transplantation of the paddy is done by manually and there is no scope for row spacing Hence the paddy growers were not aware of the cono-weeder.



4.5.2 Money Making Farm Pond

Introduction

Under ITDA, the Maharashtra Government through the Department of Fisheries intervened in the activities of the small & marginal farmers especially of the Chandrapur Kawdjor Village by way of creating multipurpose farm ponds and introducing fish culture and agriculture in these ponds and changed their lives. These beneficiary farmers regard these multipurpose farm ponds indeed as their “Money Making” ponds owing to their amazing success.

Fisheries Scenario

In Maharashtra, Inland fisheries contribute around 15% of total fish production and Marine Fisheries contributes to the rest. Maharashtra has a total area of 4 to 5 ha of inland water bodies and these are used for Fish Culture in the traditional way. All these water bodies are monsoon dependent and thus,

State	:	Maharashtra
District	:	Chandrapur
ITDA Area	:	Chandrapur
Village	:	Kawdjor
Activity	:	Money Making Farm Pond

highly seasonal. The limited water retention period of 4 to 6 months in these water bodies necessitate meticulous planning with respect to fish production and subsequent stocking to achieve satisfactory fish production.

3.4.12.3 Intervention Strategy and Process

Creation of Water bodies in the form of Farm Ponds in agricultural lands appeared to be the best option for increasing the area under agriculture and fish

farming which required voluntary participation by agriculturists. The Department of Fisheries, and Agriculture Department, with the support of ITDP through demonstrations, convinced the farmers by showing the multiple benefits of farm ponds like water retention, ground water recharge, and irrigation for agricultural crops besides getting additional income from the fish culture. The acute drought that occurred in Maharashtra during 2012-13 taught a bitter lesson to the farmers who had lost their valuable crops just because they could not give a life-saving irrigation to their crops. The farmers realized the benefits of having a Farm Pond in their fields. This realization of farmers led the Department of Fisheries to positively intervene and moot two exclusive proposals under the Integrated Tribal Development Programme agency Chandarpur of Nagpur ATC for introduction of fish culture in farm ponds of drought affected district in Chandarpur and propagation of fish culture in farm ponds in Maharashtra during the year 2015-16, making

the farm ponds Multi-purpose ponds. during the 2015-16, an amount of Rs.2.5 lakhs was sanctioned for the project "Introduction of Fish culture in Multi-Purpose farm ponds of Drought affected Village in Kawdior" for Fish culture in farm ponds under ITDA Chandarpur.

The Farm Ponds of size 15 m x 15m x 1.5m were excavated in the sites of Small & Marginal farmers, identified through assessment by the Assistant Director of Fisheries/Inspector of Fisheries of the concerned district and officials of Rural Development Department along with the beneficiaries. Farm Ponds were excavated under the MGNREGS and fish culture is encouraged under ITDA Chandarpur. Input subsidy assistance to the tune of 100% is extended to Small & Marginal farmers for irrigation purpose and fish culture. After seeing and believing in the profitability of fish culture in farm ponds, many farmers have expanded their pond size by excavating additional area. About 35 ponds were taken up for fishery activity in Chandarpur district in the initial stage.

Before and After Slutation

Before	Area	Seeds	Fertilizer	Pesticide	Labour Cost	Production	Total
Paddy	2 Acre	Rs.750	Rs.1000	Rs.500	Rs.6500	9 quintal	Rs.14000
Vegetables	0.50	Rs.200	Rs.300		Rs.750	8quinta	Rs.6800
Fish	0.50	0	0	0	0	0	0
Total						Rs.10250	Rs.20800
							Rs.10550
After							
Paddy	2 Acre	Rs.750	Rs.1000	Rs.500	Rs.6500	14 quintal	Rs.18200
Vegetables	0.50	Rs.300	Rs.300	Rs.250	Rs.750	12 quintal	Rs.10000
Fish	0.50	Rs.1000	Rs.1000		Rs.750	1.5 quintal	Rs.15000
Total					Rs.13100		Rs.43200

Summary of Good Practices

About half of India's population depends directly on agriculture. The severe drought prevailing in the country has caused distress in more than 250 of 600-plus districts across 11 states, affecting about 330 million people. According to ASSOCHAM, the drought may have cost the country some Rs 6.5 trillion (\$97 billion). Over 40 percent of food production in the country depends on adequate and timely rainfall. It is high time for the country to explore ways to make farming sustainable by reducing its dependency on uncertain monsoon. Constructing farm ponds to store and manage precious water better could be one of the solutions.

Key Condition require

- Create awareness among farmer group on farm pond (sharing with first hand experience)
- Formation of farmer producer group base on what they have grown in that vicinity irrespective of farm pond beneficiaries
- Selection of farmers with affinity for sustainable development to take him as model in that vicinity.

Support Service Require

- Timely financial assistance with documentation and implementation flow chart
- Comprehensive Continuous monitoring and evaluation of the progress with GPS photography and coordinates for future reference
- Provisioning farm pond with forward and backward linkage support for their produces
- Value addition to their produces
- Ensure third party inspection

Beneficiaries Dimension

- Maintain the peer group pressure
- Beneficiaries to be identified in Grama sabhas
- Identified list to be displayed in HRCs/ Grama panchayat
- Preference shall be given to small & marginal farmers SC, ST ratio shall be scrupulously followed.
- Online registration of farmer in HORTNET is compulsory







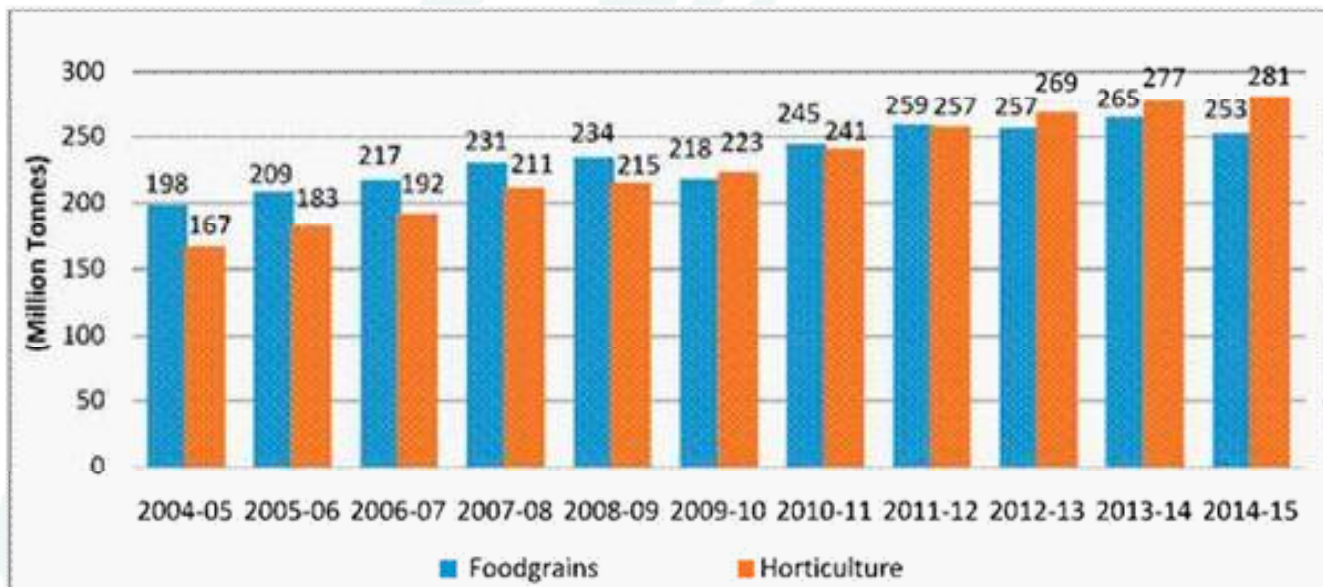
4.6 Status of Horticulture

Introduction

In response to changing dietary patterns, the composition of agricultural production has diversified over the years. As a result, the horticulture and livestock sectors have emerged as major drivers of growth in the agricultural and allied sector. On the production and productivity front, the horticulture sector outperformed conventional food crops. Between 2004-05 and 2014-15, horticultural output achieved an annual growth of about 7 percent as compared to around 3 percent growth in foodgrains production. This increase in production has come from an increase in acreage and even larger increase in productivity. While the area under horticulture crops grew by about 2.7 percent per annum, productivity increased by more than 30 percent between 2004-05 and 2014-15. As a result, India has maintained its second rank in the global production of fruits and vegetables, next only to China.



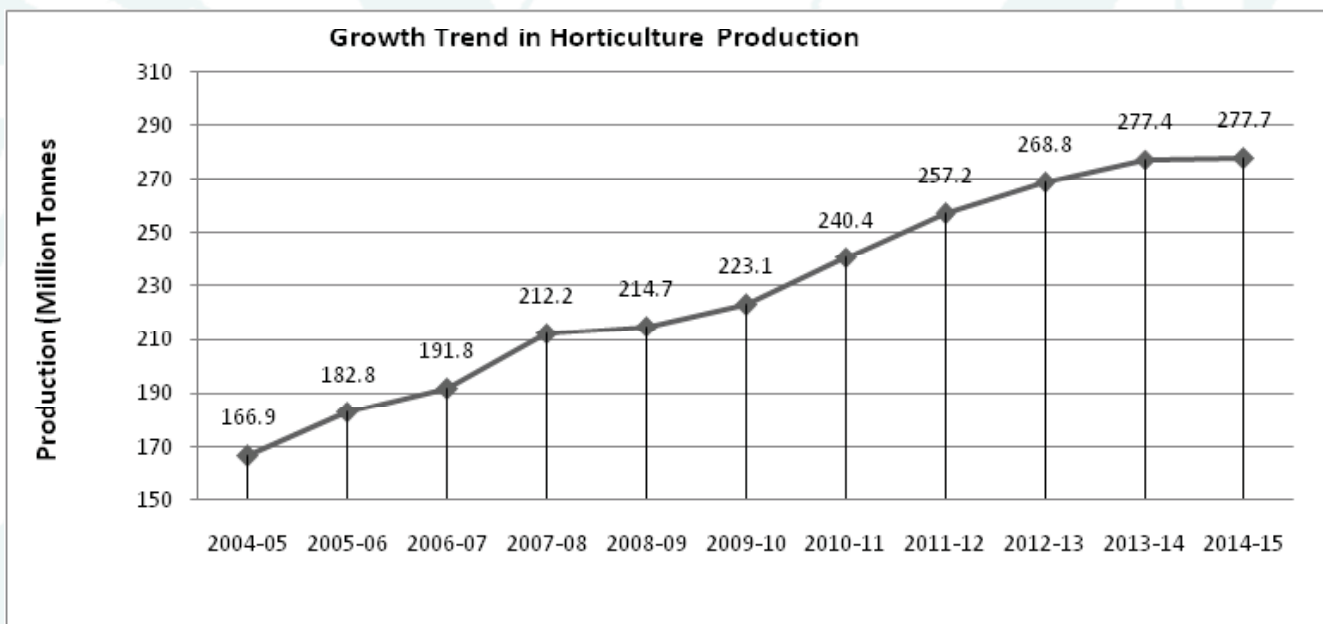
Trend in Foodgrain and Horticulture Production



* Based on Fourth Advance Est. for Foodgrains and Third Advance Estimates for Horticulture

Source: Agricultural Statistics 2016, Figure 1.1, Page No. 11, Government of India, Ministry of Agriculture & Farmers Welfare, Department of Agriculture, Cooperation & Farmers Welfare, Directorate of Economics & Statistics, New Delhi.

The horticulture sector has been a driving force in stimulating growth in Indian agriculture. India is currently producing 283.35 million tons of horticulture produce from an area of 23.78 million hectares. The special attention given to the sector, especially after the introduction of the National Horticulture Mission (NHM) in the 11th Plan, has borne bumper fruit.



With a production of 89.5 million tonnes, fruits account for about 31.8 per cent of total production of horticulture crops in the year 2014-15. The area under fruit crops cultivation during 2014-15 was 6.2 million hectares, which is about 27 percent of total area under horticulture cultivation in India. A large variety of fruits, such as banana, mango, citrus, papaya, guava, grape, sapota, pomegranate, pineapple, aonla, litchi, pear, plum and walnut are grown in India. It accounts for about 13 percent of the total world production of fruits and leads in the production of mango, banana, papaya, sapota, etc. Maharashtra stood first in terms of fruit production with a 12.22 percent share in total production during the year 2014-15 followed by Andhra Pradesh with 10.57 percent.

Area and Production of different Horticultural Crops in India

Crop	2014-15				2015-16*	
	Area (in '000' ha)	% of Area to Total	Production (in '000' MT)	% of Production to Total	Area (in '000' ha)	Production (in '000' MT)
Fruits	6235	26.63	89514	31.86	6405	91443
Vegetable	9417	40.22	166566	59.28	9575	166608
Aromatic	659	2.81	1000	0.36	617	1156
Flowers	249	1.06	2143	0.76	243	2236
Honey		0.00	81	0.03		89
Plantation Crops	3534	15.10	15575	5.54	3683	15477
Spices	3317	14.17	6108	2.17	3264	6350
Total	23411	100.00	280987	100.00	23787	283359

*As per 3rd Advance Estimate

Source: Agricultural Statistics 2016, Table 6.1, Page No.52, Government of India, Ministry of Agriculture & Farmers Welfare, Department of Agriculture, Cooperation & Farmers Welfare, Directorate of Economics & Statistics, New Delhi

Among the fruits, banana is the most cultivated fruit accounting for 33 percent of total production, followed by mango at 21 percent, citrus at 14 per cent, papaya at 6 percent, guava at 4 percent, grapes at 3 percent, apple at 2 percent and others with a 16 percent share in the country.

State-wise Area Production and Productivity of Banana

States	2012-13			2013-14			2014-15 (2nd Adv. Est.)		
	Area in '000 ha	Production in '000 Tonne	Productivity in Tonne/ha	Area in '000 ha	Production in '000 Tonne	Productivity in Tonne/ha	Area in '000 ha	Production in '000 Tonne	Productivity in Tonne/ha
Maharashtra	82	3600	43.90	83	4830.6	58.20	61.31	3557.97	58.03
Andhra Pradesh	92.65	3242.8	35.00	90.48	3166.9	35.00	84.26	2949.03	35.00
Odisha	27.49	521.31	18.96	25.06	476.6	19.02	24.73	467.73	18.91
Total	776	26509.1	34.16	802.57	29724.55	37.04	879.88	30008.16	34.10

Source: Pocket Book on Horticultural Statistics at a Glance 2015, Table No.7.4.2, Page No.228, Government of India, Ministry of Agriculture & Farmers Welfare, Department of Agriculture, Cooperation & Farmers Welfare, Directorate of Economics & Statistics, New Delhi

Vegetables

India is the second largest producer of vegetables after China and is a leader in the production of vegetables like peas and okra. Besides, India occupies the second position in terms of production of brinjal, cabbage, cauliflower and onion and the third position in the production of potato and tomato in the world. Vegetables occupied an area of 9.4 million hectares during 2014-15 with a total production of 166 million tonnes having average productivity of 17.6 tonnes per hectare.

Area Production and Productivity of Vegetable Crops in India

Vegetables	2014-15			2015-16*		
	Area (in '000' ha)	Production (in '000' MT)	Productivity (tonnes per hectare)	Area (in '000' ha)	Production (in '000' MT)	Productivity (tonnes per hectare)
Beans	218	2204	10.1	217	2135	9.8
Bitterguard	76	770	10.1	90	983	10.9
Bottleguard	108	1826	16.9	144	2407	16.7
Brinjal	673	12589	18.7	664	12552	18.9
Cabbage	386	8585	22.2	388	8755	22.6
Capsicum	32	183	5.7	21	268	12.8
Carrot	64	968	15.1	79	1254	15.9
Cauliflower	411	7926	19.3	426	8199	19.2
Cucumber	43	678	15.8	64	1024	16.0
Chillies (Green)	181	1998	11.0	238	2392	10.1
Elephant Foot	24	678	28.3	26	677	26.0
Mushroom		51		5	76	15.2
Okra	504	5709	11.3	485	5507	11.4
Onion	1173	18927	16.1	1225	20991	17.1
Parmal(pointed gourd)	18	347	19.3	16	243	15.2
Peas	476	4652	9.8	497	4814	9.7
Potato	2076	48009	23.1	2134	43770	20.5
Radish	168	2307	13.7	193	2743	14.2
Sitaphal/Pumpkin	49	1122	22.9	54	1197	22.2
Sweet Potato	107	1228	11.5	130	1472	11.3
Tapioca	208	4373	21.0	204	4554	22.3
Tomato	767	16385	21.4	760	18399	24.2
Others	1655	25051	15.1	1515	22196	14.7
Total Vegetables	9417	166566	17.7	9575	166608	17.4

*As per 3rd Advance Estimate

Source: Agricultural Statistics 2016, Table 6.1, Page No.52, Government of India, Ministry of Agriculture & Farmers Welfare, Department of Agriculture, Cooperation & Farmers Welfare, Directorate of Economics & Statistics, New Delhi

The major vegetable crops grown in the country are potato, tomato, onion, brinjal, cabbage, cauliflower, peas, okra, chilly, beans, melons, etc. Amongst vegetables, potato is the most cultivated vegetable accounting for 22 percent of the total production of vegetables in the country, followed by onion (12.5 percent), tomato (8 percent), brinjal (7 percent), cabbage (4 percent), cauliflower (4 percent), peas (5 percent) and others in the country during the year 2014-15.

All over the country West Bengal has been maintaining the lead in vegetable production in the country; contributing about 16 percent to total production, while Uttar Pradesh is producing almost 14 percent of vegetables in the country with the difference being

that the productivity of vegetables in Uttar Pradesh is as high as 21 tonnes per hectare against 19 tonnes per hectare in West Bengal. Other leading vegetable producing states are Bihar with an 8.6 percent share, Madhya Pradesh with an 8.75 percent share, Gujarat with a 7 per cent share, Odisha with a 6 per cent share, Karnataka with a 5 per cent share, Tamil Nadu with a 3.4 per cent share and others.

Among sample states, Maharashtra is the leading vegetable producing state which contributes highest shares (7 percent) to the total vegetable production of the country, followed by Odisha with 6 percent and Andhra Pradesh with 5 percent during the year 2013-14.

State-wise Area and Production of Vegetable Crops, 2012-13 to 2014-15

States	2012-13			2013-14			2014-15 (2nd Adv. Est.)		
	Area in '000 ha	Production in '000 Tonne	Productivity in Tonne/ha	Area in '000 ha	Production in '000 Tonne	Productivity in Tonne/ha	Area in '000 ha	Production in '000 Tonne	Productivity in Tonne/ha
Andhra Pradesh	686.08	12104.65	17.64	439.64	8149.76	18.54	294.07	5458.44	18.56
Maharashtra	474	8008	16.89	726	10161.83	14.00	599.86	8289.01	13.82
Odisha	688.14	9463.99	13.75	677.33	9433.66	13.93	670.35	9372.13	13.98
Total	9205.19	162186.57	17.62	9396.05	162896.91	17.34	9541.43	168300.4	17.64

Source: Horticulture Statistics Division, DAC&FW

Note: * Estimates for Telangana for 2013-14, although it was part of Andhra Pradesh for majority of the period

Source: Pocket Book on Horticultural Statistics at a Glance 2015, Table No. 7.2.3, Page No. 162, Government of India, Ministry of Agriculture & Farmers Welfare, Department of Agriculture, Cooperation & Farmers Welfare, Directorate of Economics & Statistics, New Delhi

Though horticulture emerges as a major driver of growth in the agriculture and allied sector, but this sector is also facing several challenges. These are like pressures emanating from climate change; post-harvest losses; bio-security concerns; absence of market linkages and resultant price fluctuations; changing quality consciousness; and global competition. These concerns need to be addressed in order to sustain the growth momentum in horticulture. The focus of growth strategy, therefore, needs to be on raising productivity by supporting high density plantations, protected cultivation, micro irrigation, quality planting material, rejuvenation of senile orchards along with post-harvest management to ensure that the farmers do not lose their produce in the transit from the farm gate to the consumer's plate.





4.6.1 Diversion Based Irrigation (DBI), Kucheipadar

Introduction

Vegetable production in Odisha is yet to be taken up in a commercial scale and still is very sporadic and rudimentary. Most of the vegetables produced by the tribals are consumed at the household level, exchanged with the relatives and neighbors and the surplus is sold in the local markets. Though farmers know that vegetable cultivation can be an important source of family income, due to the lack of irrigation infrastructure, timely finance and technical know-how, many farmers do not venture into commercial vegetable production. The tribals do not have the food consumption habit which includes vegetables as one of the prime diet component and hence often suffer from malnutrition. Contradictorily, many perennial water resources are available in the village. But due to lack of awareness about profitability from vegetable cultivation and lack of technological know-how, farmers do not bother to harvest and utilise these water sources for vegetable

State	:	Odisha
District	:	Rayagada
ITDA Area	:	Rayagada
Block	:	Kashipur
GP	:	Kucheipadar
Village	:	Kucheipadar
Beneficiary Name:		Ratanakar Majhi
Activity	:	Diversion Based Irrigation and Vegetable Cultivation

cultivation. However, in some cases wherever there is awareness and progressive thinking, the constraint is lack of available market mechanism to sale the produce. Absence of required skills to communicate with the traders and dealing with them like a business also discourage these tribal farmers to go for large scale vegetable cultivation. Very often the middle men exploit these farmers by taking the lion share of profit generated from the sale of vegetables.



Objectives:

- To enable poor families of the village to take up commercial vegetable farming and earn an incremental income
- To create employment opportunities for rural tribals in their locality
- To enhance capacity of the rural families and their institutions like cooperative / producer Company, etc.

**State: Odisha, District: Rayagada, Block: Kashipur
GP: Kucheipadar, Village: Kucheipadar**

ST Beneficiaries of the Village		
Name of the Beneficiary	Total Land (in acre)	Irrigated Area under DBI (in Acre)
Ratnakar Majhi	2.5	1
Santhosh Majhi	1	1
Dina Majhi	1	1
Kathua Majhi	0.5	0.5
Rama Majhi	1	1

Kashipur block has seen substantial growth in industrial and mining activities in the last decade. Such upsurge in industrial and mining activities has developed a fear psychosis in the minds of the tribal farmers regarding possible alienation from land and related livelihood. In this scenario, Renaissance, an NGO is working with the tribal families that have been affected and displaced due to the establishment of Utkal Alumina plant in the Kashipur block of Rayagada District. Renaissance, in partnership with Utkal Alumina, has taken up activities that promote sustainable livelihoods, both in the farm and non-farm sector, with an overall objective of promoting inclusive growth in the periphery of the plant area.

The village Kucheipadar is predominantly a tribal concentrated village with about 77 percent are tribal. The tribal families of the village primarily depend upon agriculture. Due to lack of irrigation, agriculture is



mostly Kharif based with limited harvesting. Subsistence agriculture is characterised by low holding size coupled with low agricultural productivity. People of this area as well as nearby areas of this village have the practice of growing vegetables in Rabi season mainly wherever water for irrigation is available. In rainy season, farmers mostly go for cereals, irrespective of type of land they hold. Due to lack of technical knowledge they refrain themselves from growing vegetables in large scale. The ITDA is trying to promote vegetable in Kharif, Rabi and Summer season on continuous basis by ensuring irrigation facilities through DBI.

Due to the establishment of Utkal Alumina Project in this area, as like other things, demand for vegetables has gone up but in the same time production of vegetables has been low due to various reasons. Increasing market demand has created enough scope to improve vegetable production and meet the growing demand. The area is having required potential for vegetable cultivation by providing improved farming and marketing linkages. Commercial scale of operation can provide employment and enhance level of income of the marginal and small farmers of the locality. Vegetable cultivation is also having the potential to promote entrepreneurship among the educated local youths. For this purpose, ITDA, Rayagada with the support of local NGO and Utkal Alumina Pvt. Ltd., promoted irrigation facilities to improve agricultural activities and thereby strengthen the livelihood. As a part of the overall initiative, a farmers' club has been

established in the village.

Utkal Alumina (UAL) has been supportive and helping the farmers in this regard. Till now it has helped in establishing 21 farmers' clubs involving 358 members from 21 peripheral villages. The farmers club at Kucheipadar was started in the year 2014. The farmers' clubs look at collective marketing, provide facilities and services under different government schemes, and enrich knowledge through exchange of ideas and information. UAL under CSR is extending its support for commercial vegetable farming, helping farmers to improve their income through supplementary sources, and extending basic support to improve the living condition of the tribals. UAL, through its agriculture experts, also provides technical support to farmers on crop protection and training to increase crop yield. The company has also been extending its support to organize vegetable fairs at the periphery areas of UAL where ample opportunities are available to market the crops, as a result to make farmers self-reliant"

Demographic Profile of the Village

Parameters	Female	Male	Population
Total Population	741	789	1530
Child Population (0-6 years age group)	132	143	275
Sex Ratio (per '000 male)			939
Literate Population	130	383	513
Literacy Rate	21.35	59.29	40.88
Total Work Force	387	370	757
Non-Work Force	354	419	773
Work Participation Rate	53.00	47.00	49.48
Distribution of Work Force (in %)			
Farmer (in %)			52.58
Agricultural Labour (in %)			42.01
Other Workers (in %)			5.42

Source: Census of India 2011

Initial situation in the village:

- Taking up of some minor millets and maize in the rainy season
- The land remained fallow in rabi and summer seasons.
- The human resources remained unutilised in rabi and summer season.

Preparatory Process:

In the preparatory process work for institution building, working for a common goal under a single platform (emergence of leader, development of leadership, conflict resolution), etc, was initiated. Following actions also done under the preparatory process.

- Transect and feasibility study by all the stakeholders
- Villagers select the beneficiary and their land
- Village committee prepared list of farmers
- Field survey and measurement for pipeline networking by the ITDA in support of other stakeholders
- Acceptance and validation of approved estimation
- Plan of action for implementation was prepared by the village committee.
- Field work like trench digging, pipe laying, etc started
- Plan of action for crop planning, water management, water distribution, redressal of dispute has been prepared by the village committee

Traditional Practice

Farmers in the rural areas have the practice of growing vegetables in the Rabi season. Due to lack of technical knowledge they refrain from growing it on a commercial basis. So, growing vegetables is not altogether an alien culture to them. With little effort, these subsistent vegetable growers could be converted into regular

commercial vegetable producers.

Marketing method

Kucheipadar Krushak Sangh (the farmers' clubs) markets the vegetables to the big traders at Tikiri, Nuapada, Dangasil, Sunger, Kashipur and Rayagada. Corporate body outlet like Reliance Fresh is being tied up for selling of agricultural produces. Wholesale markets in big cities like Bhubaneswar, Berhampur, Raipur and Rourkela are also planned to be explored in the near future depending upon the production and demand. The cooperative / producer company would also emphasize promotion of retailing in urban centers along with marketing in rural pockets. From the sorting and grading centers, the producer group can take vegetables to sell in the local markets and urban centers.

Future Market

- Raipur, Vijaynagaram, Rourkela, Reliance fresh in Bhubaneswar, Berhampur.
- Local Haats and urban centres. One vending shop to be opened in all urban centres, (Tikri, Nuapada, Kashipur, Rayagada)

Market support by Utkal Alumina

As discussed, Utkal Alumina Pvt. Ltd. is providing assistance for construction of market yards free of cost. The weekly market in this area remain open in different days of the week in adjacent to the villages. Thursday weekly market is organised in the campus of Utkal Alumina wherein the market yards provided to the members of this farmer clubs free of cost. The Friday weekly market is set up at Tikiri which is a Gram Panchayat level market and an open market. Tikiri market is urban type market wherein everyday market is going on. Sunday weekly market is organised at the nearby village Nuapada. Farmers are selling their produces individually in these markets. The members of the farmer's club shared that there is no problem in marketing the produces in the locality.

Whatever vegetables they are producing, all are sold out at the local market at a good price. Distress sale of grown commodities is rare for them as demand of such commodities in the market is high. Due to more number of buyers like employees of Utkal Alumina and Tikiri open market, distress sale of their produce is rarely happens.

Challenges faced during implementation

- Adherence to age old traditional method of cultivation, non-believing the business aspect of farming and adoption of new technology;
- Lack of co-ordination during initial period of implementation.
- Not believed with the outsiders who went to implement the work.
- Creating disturbances while organising meeting
- Mindset and vision of farmers, non-cooperation of farmers,
- Lack of common understanding among the farmers;
- Non-acceptance to new practices like use of drip kits, raised bed method of cultivation, system of distribution of water in turn

Risk Reduction Strategy

- Proper and timely crop planning
- Scheduling irrigation
- Skill development and filling knowledge gap on farming
- Spending time for discussion, meeting and decision making

Water Supply through DBI

24 hour X 365 days with free of cost to the crop land through field channel system

Project Outcome

- Initiation of green development after availing

irrigation facility through DBI

- Promotion of soil and moisture conservation practices
- Promotion of organic practices vermin composting, etc. for conservation of soil fertility
- Promotion of inter cropping and mixed cropping practices to reduces food and nutritional security issues and their addresses
- Improved agricultural crop management practices and protection measures promoted resulting in improved crop yield
- Creation of water resources through diversification based irrigation (DBI) system
- Varieties of crops especially vegetables crop are now taken up as commercial cultivation.
- At present three crops taken place in most of the farm areas of the village whereas it was one crop (Kharif crop) in a year.
- The land remained fallow in rabi and summer seasons. Now that land is being used three seasons for agricultural and horticultural crops.
- Most of the human resources are being utilised throughout the year whereas it was remained unutilised in Rabi and summer season.

Distress Migration Checked

Distress migration in the in village has been checked in the villages. All the households who used to make distress migration in the previous years are now involved in the farm activities and most of the households have been able to get engage in the cultivation throughout the year. Regular interactions with the villagers and by organizing regular interfaces with the ITDA, the target communities are able to avail government provisions & facilities.

Food Security and Nutritional Level Improved

Irrigation for 24 hour X 365 days with free of cost and intercropping has significantly improved food production in the intervene village. The village has already become vegetable and pulses surplus area. At present green vegetable and pulses has become part of the daily meals of majority of the households which directly contributing to the health of Women & Children of the village.

Income Generation

The diversification of crops not only provided a rich nutritional diet for the members of the household, but also supplemented the family income as the surplus was sold in the local haats. On an average, each associated farmer is now able to earn additional income of Rs.15000 to Rs.18000 annually from his farm. These earnings have enabled them to strengthen their social assets too, in terms of repairing their houses, purchasing bicycles, bullocks and other household needs.

Village: Kucheipadar, Beneficiary Name: Ratanakar Majhi, aged: 35								
Crop and Season	Crop Area in acre		Cost of Production in Rs		Gross Value of Produce in Rs		Net Returns Rs	
	Before	Present	Before	Present	Before	Present	Before	Present
Kharif								
Paddy	1	1	6800	9500	8700	19200	1900	9700
Kharif Total	1	1	6800	9500	8700	19200	1900	9700
Rabi								
Cabbage	0	0.3	0	5400	0	12400	0	7000
Cauliflower	0	0.3	0	5500	0	14500	0	9000
Radish	0	0.1	0	3200	0	5500	0	2300
Tomato	0	0.3	0	4500	0	11200	0	6700
Rabi Total	0	1	0	18600	0	43600	0	25000
Summer								
Paddy	0	1	0	10200	0	19600	0	9400
Summer Total	0	1	0	10200	0	19600	0	9400
Total	1	1	3500	38300	8700	82400	1900	44100



4.6.2 High Density Banana Cultivation

Introduction

In Labanya Nagar village in Tumudibandha GP of Kandhamal district of Baliguda Sub-division of Odisha. Among the major crops, after rubber, only banana shows a steady increase in area and production. According to latest statistics available, the crop is growing in an area of 1 ha. It assumes first position in providing livelihood security to the poor and marginal farmers of the district. The steady demand for banana due to its varied uses and wide adaptability to different farming situations makes it small farmer's favourite crop. The dwindling farm holdings also make this crop a practical alternative for the farmers. The G9 variety occupy majority of the area under cultivation and is consumed as raw fruit, cooked as vegetable or fried to make chips. In the district, banana cultivation occupies around thirty percent of the area. However,

State	:	Odisha
District	:	Kandhamal
ITDA Area	:	Baliguda
Block	:	Tumudi Bandha
GP	:	Labanya Nagar
Village	:	Labanya Nagar
Activity	:	Banana Cultivation

compared to varieties as G9 that can produce bunches weighing more than 30 Kg. to 40 Kg it produces bunches with average weight of 7-10 kg only, pushing down productivity and profits. Since more than 30% of banana cultivation is done on leased lands by resource poor farmers, obtaining maximum income from unit area under cultivation becomes important for them.



Many research institutes have developed different technologies for pushing up productivity of banana cultivation. High Density Planting of banana is one such technology developed by Odisha Agricultural University that helps the farmer to earn higher profits from his limited land resources. In 2016, Integrated tribal development Agency (ITDA) Baliguda started popularising this technology in the district. By organizing farmer participatory research trials, demonstrations, seminars, trainings and field visits in the subsequent years, the ITDA, Baliguda effectively popularised the technology for easy adoption by the farmers. The technology helped the farmers to harvest an yield of 27.74t/ha while the non-adopters got only 8.2t/ha. From the small demonstration plots of 0.25 ha in 2015, the technology has spread rapidly and in 2016 occupy more than 15ha under cultivation involving more than 150 farmers in the district.

Planting Technology

By planting G9 at the recommended spacing of 2m x 2m, 2500 G9 plants can be planted in one hectare of land. In high density planting, banana rows are made

at a distance of 3m and pits of 50 cm x 50cm x50cm size are taken at a spacing of 2m in each row. Then banana plants are planted in each pit at a spacing of 30-45 cm, perpendicular to the direction of rows. The modified plant spacing reduces pit numbers to 15/ha but increases the total number of plants planted to 2500 in one hectare of land. Thus, the farmers were able to accommodate 33 % more plants in unit area and reduce labour cost for pitting by 44%. The double-planted pits were given only 25% more fertilizer than the single plants, thereby reducing fertilizer cost by 37.5%.

According to Sri Devendra jani who is one of the progressive farmer of the Baliguda sub-division of Kandhamal district, double planting helps the plants to utilize water and fertilizer more efficiently through increased root density. “Double planting helps the plants to resist winds more effectively and reduces cost for staking considerably. According to him, “he was able to avoid stakes by tying both the plant together or by using only one stake for both the plants”. Uniformly growing tissue cultured G9 plants are the best planting



Cost and Benefit Analysis of Banana Cultivation

Particulars	Before	After
Area (in Ac.)	2.0	2.0
Value of Paddy Seeds (in Rs.)	1200.00	0.0
Value of Banana Seedlings (in Rs.)	0.0	3000.00
Land Levelling Expenses	0.00	10000.00
Fertiliser (In Rs.)	700.00	2500.00
Pesticides (in Rs.)	0.00	3500.00
Labour Cost (in Rs.)	5000.00	0.00
Electricity Charge (in Rs.)	0.00	1500.00
Cost of Bamboo (in Rs.)	0.00	2000.00
Total Expenditure (in Rs.)	6900.00	22500.00
Production (in Qt.)	10.00	90.00
Price per Quintal (in Rs.)	1200.00	1080.00
Price of Total Production (in Rs.)	12000.00	97200.00
Net Profit	5100.00	74700.00

material for doing high-density banana cultivation. However, sucker plantations can also be raised successfully if due care is given to plant equal weighing suckers in the same pits. Planting banana suckers of different sizes in the same pits lead to uneven growth and reduces yield.

Summary of Good Practices

In Labanya Nagar village in Tumudibandha GP of Kandhamal district of Baliguda Sub-division of Odisha. Among the major crops, after rubber, only banana shows a steady increase in area and production. According to latest statistics available, the crop is growing in an area of 1 ha. It assumes first position in providing livelihood security to the poor and marginal farmers of the district. The steady demand for banana due to its varied uses and wide adaptability to different farming situations makes it small farmer's favourite crop. The dwindling farm holdings also make this crop a practical alternative for the farmers. The G9 variety occupy majority of the area under cultivation and is consumed as raw fruit, cooked as vegetable or fried to make chips

Key Condition Require

- Most of banana products except chips are not very popular among the consumers. It is basically due to lack of awareness on the potential of using banana in various forms both among growers and consumers
- Market intelligence to the farmers and traders
- Cooperative marketing system (Mandi House) for banana procurement

Support Service Require

- institutional credit and crop insurance coverage for banana

- Lessing Chain of intermediaries between the producers and the final consumer's viz., village merchant, itinerant traders, wholesalers, commission agents, pre-harvest contractors and the retailers. At all levels a margin is cut which is due to the farmers.
- Most of banana products except chips are not very popular among the consumers. It is basically due to lack of awareness on the potential of using banana in various forms both among growers and consumers. In some states like Kerala where more number of banana based products are popular, and it has remained as a household profession. Many have not attempted to commercialize it.
- Extraction of banana fibre to enhance grower income and inter mediatory livelihood for others marginalised group.

Beneficiaries dimension

- Maintain the peer group pressure
- Beneficiaries to be identified in Grama sabhas
- Identified list to be displayed in HRCs/ Grama panchayat
- Preference shall be given to small & marginal farmers SC, ST ratio shall be scrupulously followed.
- Online registration of farmer in HORTNET is compulsory



4.6.3 Production Augmentation through Improved Farm Practices

Introduction

Before the intervention of the project, agriculture was mostly mono cropping during Kharif. Farmers of the village Bilamal were involved in cultivating minor millets and maize in the rainy season. The land was remaining fallow during Rabi and Summer seasons due to lack of irrigation facility. As Agriculture was the prime source of livelihood, in the absence of agricultural activities, the farmers were mostly remaining unemployed or having less income from other sources. The subsistence agriculture was the common trend in the locality which resulted with poor economic condition of the tribal.

Objective of the Initiative

In view of the vulnerable situation of the tribal farmers, the local industry, Utkal Alumina extended his hand to ITDA, Rayagada to improve the agriculture scenario of the locality as these villages are the fringe villages of the corporate establishment. The overall objective of the intervention was to improve the irrigation

State	:	Odisha
District	:	Rayagada
ITDA Area	:	Rayagada
Block	:	Kashipur
GP	:	Tikiri
Village	:	Bilamal
Beneficiary Name:		Maa Manikeswari Krushak Sangha
Activity	:	Farmers' Club and Vegetable Cultivation

Financials

Total Cost: Rs. 17, 71, 761.00

Share of ITDA, Rayagada: Rs. 10, 00, 442.00

Share of Horticulture Department: Rs. 6, 00, 705.00

Share of Farmers (Labour & Other): Rs. 1, 70, 624.00

(This cost is excluding the programme support cost provided by Utkal Alumina International Ltd, Doraguda.)



potential by optimizing the available water resources and improving its efficiency and productivity. Best possible and efficient use of scarce resources like water and land for augmenting vegetable production / productivity on commercial basis was focused with emphasis on leaving no land of the selected plots of farmers unutilized at any point of time in a year. So, an intensive farming approach was adopted, focusing on vegetables.

Process Approach and Methodology

Preparatory phase: In the preparatory phase, institution building was focused taking farmers as the members of the farmer's institution / organisation. Working for a common goal under a single platform was planned out where vegetable production remained the prime thrust along with improving irrigation efficiency and improved coverage of land under irrigation. (Emergence of leader, development of leadership, conflict resolution)

Implementation phase: In the implementation phase, crop planning, quality inputs supply and its application, capacity building of farmers on vegetable cultivation, post-harvest management and marketing of the produces etc. were focused. Adoption of relevant agricultural technologies like raised bed method of cultivation of vegetables for better crop growth, aeration and light and better yield was promoted. Use of drip irrigation system for efficient use of water covering more land with same volume of water, reduction in drudgery and labour, saving of time, utilisation of labour in other productive works were taken up in the farmer's field.

Before the inception of the work, the technical team from facilitating agencies conducted a transect walk around the area and the field of the farmers to assess the ground situation. Field level data were collected from the farmers through focused group discussion. Available secondary data were also reviewed to understand the production and productivity situation of different crops in the region. Based on the assessment, a detail plan was prepared and validated with the tribal farmers of the village before implementation.

Suggestions of the farmers and their organisations were also included in the overall implementation framework. The followed process details are presented in the table.

Process	Involvement	Remarks
Transect and feasibility study	Villagers	Facilitation by RSMS
Selection of land and beneficiary	Villagers	Facilitation by RSMS
Recommendation of farmers list	Village committee and farmers	
Field survey and measurement for pipeline networking	Beneficiaries, womenfolk and committee members	Measurement, calculation and technicality by RSMS
Acceptance and validation of approved estimation	Village committee	
Preparation of plan of action for implementation	Committee and farmers	Facilitation by RSMS
Indent for funds requisition to ITDA, Rayagada and placement of order for supply of pipes and related items and remittance of funds to the suppliers	Village committee	Facilitation by RSMS
Field work like trench digging, pipe laying, trench filling etc.	Farmer beneficiaries and monitoring but committee members	
Construction of masonry works like elevated tank, tank stand, intake structure	Village committee and famers	
Resolution for electrification of pump set	By committee	Facilitation by RSMS
Selection of electrical contractor, awarding contract and remittance of funds	Village committee	Facilitation by RSMS
Digging of pit, installation of poles, drawing of wire etc.	Farmer beneficiary support	Execution by contractor
Operation of pump set and norms for management of water distribution, payment of bills, redressal of dispute etc.	Village committee and farmers	
Crop planning	Village committee and farmers	Facilitation by RSMS
Capacity building and institution building	Village committee and famers	Facilitation by RSMS
Maintenance of drip system and pipe networking and pump set	Farmer groups	





The initiative looked in to the adherence to the new farming technologies at the farmer level imparting required skill and knowledge base on vegetable farming to the involved farmers, apart from in-situ guidance and support during agricultural seasons, mostly in Rabi. Required agricultural productive asset base like lift irrigation point, drip irrigation system, seeds and fertilizers for cultivation, marketing yard inside the Utkal Alumina Township Campus, etc. also provisioned for the vegetable growing farmers.

Stakeholders and Partners

In this initiative, different stakeholders are involved at different stages of the project. The Odisha Tribal Empowerment and Livelihood Project (OTELP) remain a prime facilitating and financially supporting agency, along with Private body, i.e., Utkal Alumina and other Government agencies like Horticulture Department and ITDA, Rayagada. A local non-government development agency (RSMS) was also associated in the implementation process. Different other agencies also supported this initiative like provision of power supply by SOUTHCO, supply of drip irrigation units by Jain Irrigation Pvt. Ltd. Etc. Details of stakeholders associated in the process are presented in the table.

Financial Support Agency	Technical Support	Implementing Agency	Facilitating Agency	Supporting Agency
OTELP, Bhubaneswar	OTELP, Gunupur	Village Development Committees	RSMS, Tikiri	SOUTHCO Utility, Rayagada
ITDA, Rayagada	ITDA, Rayagada			
	Farmers Clubs	Shakti Organisation, Kashipur	Jain Irrigation Pvt. Ltd	
Horticulture Department, Rayagada	Horticulture Department, Rayagada			Ori-Plast, Balasore through Mahabir Traders, J.K.Pur
Utkal Alumina International Ltd, Doraguda	Harsha Trust, Bissam Cuttack			Odisha Lift Irrigation Corporation, Rayagada
	PANTFPCL, Bissam Cuttack			



Outcome and Impact

Because of this initiative, small holding tribal farmers could able to irrigate more area with same available water by adopting drip irrigation system. It helped to reduce associated environmental and financial risk and increased production and productivity. Return on investment was also increased with available market channels in the locality. The practice also helped to minimise crop loss which was a common phenomenon in earlier days due to failure of monsoon or sporadic rain fall. Irrigation associated drudgery was also reduced as farmers no more fetch water to irrigate their field. Improved practices and cropping in Rabi season helped to reduce wage based migration from the village to the nearby locally and outside state as days of engagement in agricultural activities increased with assured irrigation, production and market.

1. More area under crops, increase in cropping intensity and gross cropped area;
2. Increased production and productivity of vegetables and other crops in the area;
3. Climate resilient farming system, i.e., less use of water, less evapo-transpiration,
4. Reduction of irrigation related top soil loss and restoration of soil fertility;
5. Improved water use efficiency and water productivity;
6. Environment friendly farming practices, a step towards green environment;
7. Reduction of drudgery with regard to fetching water, manual application and distribution;
8. Getting employed in their own agricultural field throughout the year;
9. Reduction in seasonal migration (not seen last year);
10. Agricultural land used for single crop before, now utilised for three seasonal crops;
11. Increased days of field engagement in comparison to previous years;



12. Family getting nutritious foods (vegetable) throughout the year, even in post-monsoon;
13. Increased economic status and social standing of the tribal farmers in the locality;
14. Access to consumer durables and valuables due to increment in level of income.

Challenges:

During the inception of this initiative, farmers were very apprehensive of the approach due to traditional farming practices and lack of knowledge on modern farming technologies. Cooperation among the farmers was lacking and mutual learning process and extension support provision was also not at a desired stage. In the service side, a convergent approach was missing to augment the production / productivity and improved adoption of scientific farming system. The support provisions like drip kit, water lifting pumps etc. were either not available or having poor coverage. A concentrated and focused approach was missing from different earlier initiatives. The tribal farmers were also not acquainted with agricultural / arming technologies like raised bed method of cultivation, system of distribution of water in turn etc. Most importantly, farmers were not having required financial support and knowhow to take up various other alternatives in agriculture.

The agriculture / horticulture promotion measure through drip irrigation system found to be useful by the farmers after its adoption and getting benefit out of the adopted practices. Regular meetings were organised at the village level, with the help of experts and associated agencies to ensure that the tribal farmers understand the importance of the improved farming system and irrigation efficiency through drip irrigation. Capacity building and exposure visits helped the adoption mechanism further as farmers got convinced about the benefit of this approach. Most importantly, cropping after Kharif and focus on Rabi has been an attractive option before the farmers.

Sometimes, it happens that pipe network and drip system goes out of order and require maintenance. Some outsiders / intruders also damage the system intentionally. Load shedding and burning out of pump set also happens. So, for the maintenance of the drip irrigation system, funds have been collected in advance for bulk maintenance. Apart from this, for basic maintenance of the system, associated farmers are trained so that they can take up general maintenance activities on regular basis.

Drip Kit Beneficiary list of Bilamal village

Sl. No.	Name of the Farmer	Father's Name	Sl. No.	Name of the Farmer	Father's Name
1	JadMajhi	MatriMajhi	23	HadibandhuMajhi	GainlaMajhi
2	GobindaMajhi	JadMajhi	24	SingiMajhi	GuraMajhi
3	AnantMajhi	LunkaMajhi	25	JayadhanaMajhi	ChacheriMajhi
4	Nanda Majhi	DiribiMajhi	26	TapuMajhi	ChheliaMajhi
5	SarathiMajhi	Nil Majhi	27	SiriMajhi	Ram Majhi
6	ReliMajhi	PilukuMajhi	28	NiranjanaMajhi	TimaMajhi
7	DasariMajhi	Ana Majhi	29	BishuMajhi	SamuduMajhi
8	RanjuMajhi	LashuMajhi	30	BinaMajhi	SamunduMajhi
9	SyamMajhi	RadhabMajhi	31	NilakanthaMajhi	GahelaMajhi
10	DayaMajhi	Das Majhi	32	MalatiMajhi	KatuMajhi
11	TariaMajhi	SanuMajhi	33	AbhiramMajhi	BayamaniMajhi
12	HariMajhi	SonuMajhi	34	SurendraMajhi	GobarddhanMajhi
13	KisanaMajhi	Sundarmajhi	35	Bijaya Kumar Majhi	GobardhanMajhi
14	SitiaMajhi	Sundarmajhi	36	BhagarathiMajhi	TipanaMajhi
15	JituruMajhi	Das Majhi	37	BanamaliMajhi	TipanaMajhi
16	DumburiMajhi	KimidiMajhi	38	KrutibasMajhi	RamachandraMajhi
17	KaanraMajhi	DasaruMajhi	39	Ram Majhi	KasamaMajhi
18	BastraMajhi	AsiriMajhi	40	KambaMajhi	RamachandraMajhi
19	SuaiMajhi	UmbriMajhi	41	JogabandhuMajhi	HadabandhuMajhi
20	BaidMajhi	AsiriMajhi	42	Beria Majhi	ChheliaMajhi
21	DibaniMajhi	Bharat Majhi	43	BhikariMajhi	PilukuMajhi
	DikiMajhi	LachhiaMajhi	44	SastuMajhi	GuraMajhi
22	TankadharaMajhi	SadanaMajhi	45	MangaluMajhi	BidyaMajhi
	PurusatiMajhi	PadanMajhi			

Adopting a Newer Techniques For Better Vegetable Gardening fusing Trellis Method

Farmer's Name: Bishu Himirika Vala

Village: Bhakurguda,

Dist: Rayagada, Farmers Age: -47

Education Qualification: Illiterate

Caste: General, Gender: Male

Crop: Tomato, Bitter Gourd Variety: "Asmita" -Bitter gourd and "Abhinav"- Tomato

Mr. Bishu Himirika, age about 47 years belongs to Bhakurguda village of Rayagada District. He was growing vegetables for years following age old traditional methods of farming. Because of the followed practices, production of vegetables was relatively low and its quality was also not remarkable. He was not using quality planting materials which could have given him quality products. By this time, he got information on improved technologies and practices from ITDA Rayagada which is known as "trellis system". This technology provides more production as well as quality vegetable due to non-attachment of fruit to the soil. Under the practice, the plants are given the support of bamboo or wire or any other staking material so that it will remain hanging or intact with this stake. Bishnu adopted this technique, along with using quality planting material in his field and got higher profit from limited cultivated area.

Before	land	Expenditure				Production	Rate
		Seeds	Fertilizer	Pesticides	Labour		
Paddy	1 Acre	Rs.350	Rs.500	Rs.200	Rs.2500	5 quintal	Rs.6500
Vegetables	0.20	Rs.195	Rs.100	0	Rs.200	1 quintal	Rs.1000
				T. Expen.	Rs.5045		Rs.7500
After							
Paddy	0.70	Rs.350	Rs.400	Rs.350	Rs.1500	4 quintal	Rs.5200
Tomato	0.50 Acre	Rs.265	Rs. 500	Rs.800	Rs.3500	20 quintal	Rs.10000
Bitterguard		Rs.150				1.5 quintal	Rs.6000
Brinjal		Rs.50				7 quintal	Rs.7000
Chilly		Rs.45				1.5 quintal	Rs.12000
Total Expenditure		Rs.5315				Total Production	Rs.35000
Total Income		Rs.29685					



4.6.4 Production Augmentation through Improved Farm Practices

Introduction

The village Gangapur is surrounded by forest from all sides; situated around 130 km away from district headquarters. The tribal village is a small habitation of around 37 households with total population of 177. Agriculture is the primary source of income of the tribals of this village. Other than agriculture, they depend on forest products to meet their needs. They collect Mahua flower, Jhuna (latex), Kendu leaf and other forest products for their livelihood. The substance agricultural does not produce as per the requirement to maintain the family for the whole year. Both male and female put their possible effort in their agricultural field for more production, but due to uneven and erratic rain fall, they frequently face crop loss. Low production due to crop loss mostly effect their day to day life and livelihood. Previously, there was a small water reserve (check dam) which was built by watershed mission. But, unfortunately that water source got destroyed due to poor maintenance

State	:	Odisha
District	:	Gajapati
ITDA Area	:	Paralakhemundi
Block	:	R.Udayagir
GP	:	Chelagarh
Village	:	Gangapur
Activity	:	Vegetable Cultivation

and management. Due to lack of irrigation facility, the farmers were only cultivating paddy, millets, oilseeds & pulses (Dal) during Kharif. Rabi crop cultivation was almost negligible for which major part of the agricultural land was remaining fallow. The male members of the community and youth were going out of the district or own locality in search of employment. Still, earning from other sources was not sufficient to meet their needs. In this backdrop, the externally aided project OTELP was implemented in the area through ITDA to improve the livelihood condition of the tribals.



Approach and Process

Of late, it was realised that if agricultural income of the tribal farmers is to be augmented for making them financially better off, it is essential to make irrigation provision in the locality. Protective irrigation during Kharif and availability of irrigation facility during Rabi can improve the crop intensity, minimise land remaining fallow, minimise crop loss and improve agricultural production and productivity. By this time, another programme, that was externally aided in the name of OTELP was implemented by Tribal Development Department of Govt. of Odisha. With the support of the implementing agency ITDA, the project OTELP organised Palli Sabha at the village in the year 2000 to renovate the check dam for irrigation purpose. The NGO SWWS undertaken numbers of sensitization program at community level. With the active participation of SHGs and its members and other villagers, the facilitating bodies prepared their micro level plan to identify the root causes of their poverty and other issues. During the preparation of MLP they able to identify most venerable sectors and individuals / households. In that micro plan, they identified local available resource, its current utilisation pattern and potential for future utilisation to improve the socio-economic condition of the tribals.

In the year 2005, the tribal women of Gangapur village formed two groups named Bedamata and Bhairabi SHG with the support of Society for Welfare and Weaker Section (SWWS), an NGO working in the locality. The group started savings activity with Rs.20 per member per month. In the year 2008, they received financial support from ITDA and OTELP to start vegetable cultivation and to take up other livelihood activities. Members of both the group were engage in vegetable cultivation. The NGO was supporting these groups and helping them in implementation of farm based activities along with providing required technical and management support.

During the planning process, the SHG members express that, as they were cultivating different vegetable

items for their self-use in their kitchen garden and already they have basic expertise on that work, all the group members took decision to take up vegetable cultivation in a mass scale. For this purpose, the NGO provided training and capacity building training to the group members. OTELP and OTDA provided financial support as well as distributed motor pump for lift irrigation. The tribal farmers have also been irrigating their land through diversion based irrigation system, and this support was provided by ITDA. The District horticulture department provided seed of different kind of vegetables, pesticides and fertilizer on subsidised rate so that tribal farmers can grow vegetables and earn a better income. The concern project officials and department personnel also provided required training to the beneficiaries before implementation of the project.

Around 27 beneficiaries in the village were having their own cultivation agricultural land previously, and after implementation of FRA in the year 2006, they applied for individual forest right of encroach land. In the year 2009-2010, the forest dweller got their individual entitlement in the year 2011 under the Act. The district horticulture mission supported plantation of fruit bearing trees and rendered other required support under WADI project. Gradually, the forest dwellers started this mission in the year 2010-11 effectively with the involvement of all households. The objective of the project initiative was to improve the economic condition of the tribal families of the village and empower the tribal women for self-reliance with promotion of sustainable livelihood options. Now, the tribal families have put around 20 hectares of land under vegetable cultivation and around 10 hectares under fruit bearing trees like mango, pine apple, orange, leman and banana.

The local NGO (SWWS), involved in the process took initiate to mobilize the community for active participation in the process. There was difficulty to implement the project in the initial stage due to open grazing of domestic animals and issue of marketing of agricultural commodities. The implementing agency



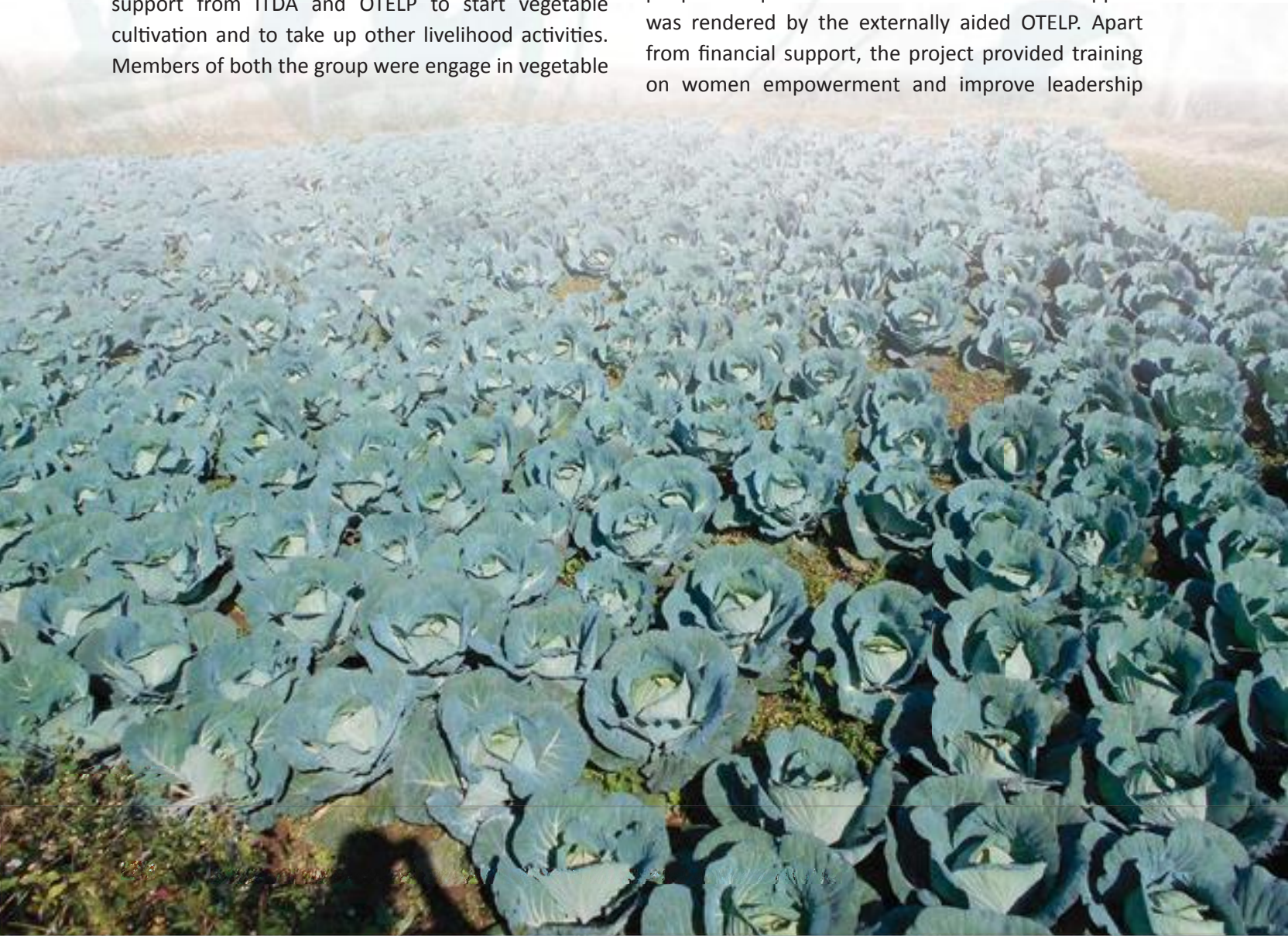
as well as facilitating agency imparted capacity building program and provided minimum support to the beneficiaries so that they can have scale of production and thereby improved market access. The women members of the community also participated actively in this process apart from their other domestic engagements. They were engaged in planting, watering, preparation of field whereas the aged person of family started taking care of the farm. The male members were engaged in land preparation, land development and other farm related activities.

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cultivation. The NGO was supporting these groups and helping them in implementation of farm based activities along with providing required technical and management support.

Stakeholders and Partners

While the schedule tribe community under the ITDA remained the targeted group of this initiative, different institutions / organisations facilitated the process to ensure that the benefit of development reaches to the tribal families and they improve their status. The local ITDA (Gajapati) provided support as implementing agency, monitored the implementation of the project and supported marketing. At the same time, the local NGO helped in mobilising the community, generating awareness among the people on income generating activities, imparting training on IGA and motivating people. Required financial and technical support was rendered by the externally aided OTELP. Apart from financial support, the project provided training on women empowerment and improve leadership



quality. The Horticulture Department also supported this initiative with inputs like seeds, fertilizer and rendering required technical knowhow.

The service providing agencies kept themselves associated in various stages of the project, starting from planning to execution. They monitored the activities regularly and addressed all kinds of challenges in association with the community. The group organized regular meeting with the service providers in each and every aspect of the activities.

Outcome and Impact

The members of the group express their satisfaction and shared that, steps that were taken by the project administration, implementing agency and technical service providing agency, addressed the need of the tribal farming community properly with the active involvement of the beneficiaries. However, it took much of the time to aware and bring change in the mindset of the community to execute the project and to meet the objective of the development initiative. In the initial stage, all the women group members faced obstacles from different front but with determination, they moved ahead and executed the project. After the identification of the needs, different stakeholders provided support at each and every step, as per the need and requirement during implementation of the project.

The group members are now economically sound to meet their minimum needs. They are now able to provide nutritious food to their children. The beneficiaries express that, after the intervention of the project, now they are economically better off. Their frequent dependency on local money lenders has reduced. Now, they are in a position to spend more in their tribal festivals, marriage ceremony and other social events.

Increment in days of field engagement has reduced the distress migration and percentage of migrants as comparison to pre-project situation. this project helps them to more income improve their economic



standard as well as social status. The women are also getting full time job apart from their domestic work. With increment in economic status of the target mass, their household asset base has also increased. Discussion with women group members reveals that at present, most of the households has TV and mobile phone for entertainment and communication which was a dream for them before.

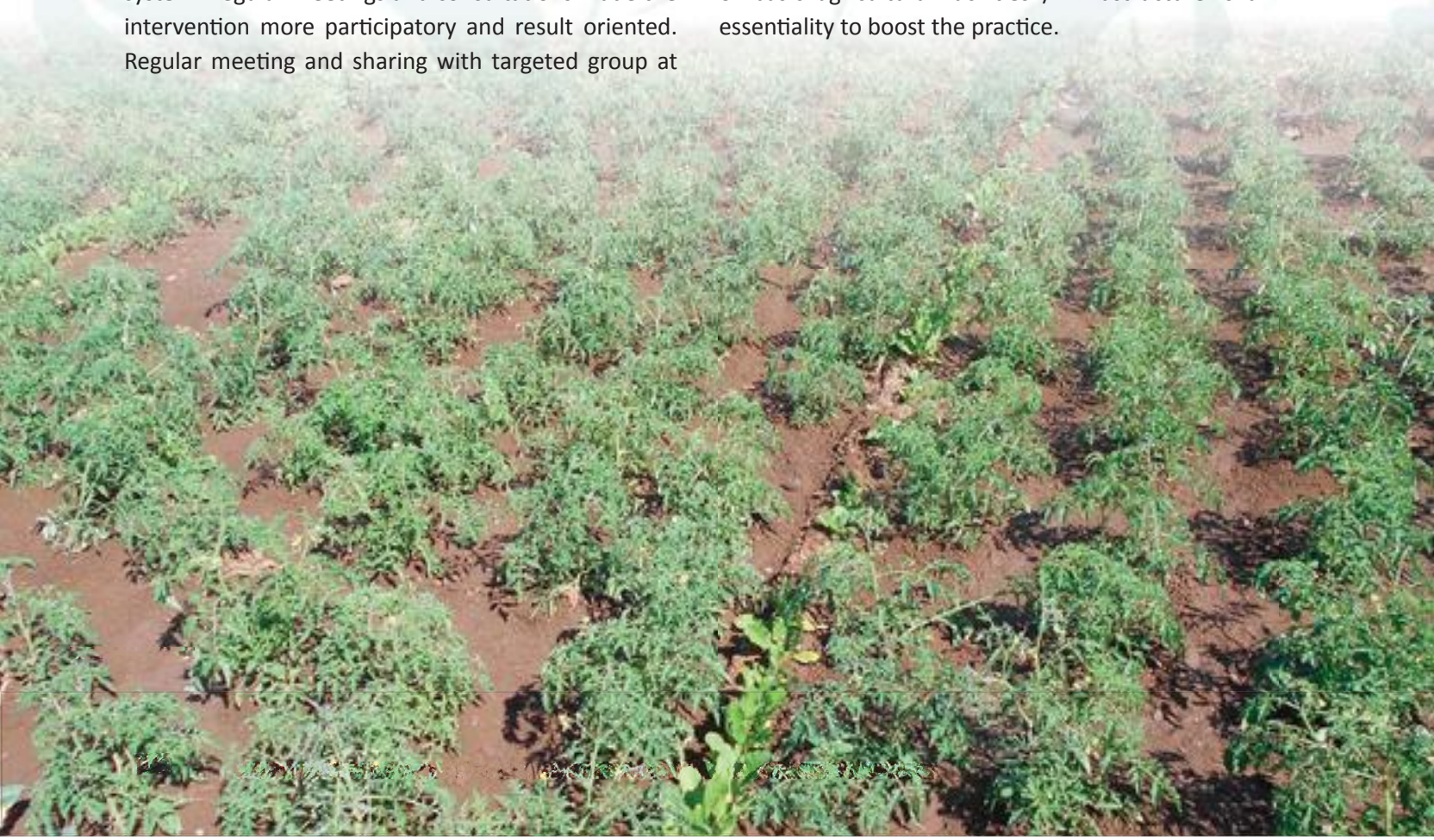
Innovation and Success Factors

Institutional: in this case, different agencies played vital role for effective execution of the project. While the local governance mechanism (Palli Sabha / Gram Sabha) played a vital role in approving the execution of the project, different departments took interest to implement this project with sincerity. Apart from collaborative and convergent approach, interest of the tribal farmers to get associated in this process made the initiative a success in the village / locality. In one hand, financial support helped the farmers to take up and minimised the investment at their level, the technical support services helped them to acquire skill and knowledge base on modern farming system. Regular meetings and consultations made the intervention more participatory and result oriented. Regular meeting and sharing with targeted group at

village the level and participation of Govt. officials from different departments in the process on regular basis helped to address the issues / challenges. The regular interaction and counselling helps to improve the level of acceptance and the new things among the tribal.

Replicability / Up Scaling

Replicability / up scaling of this practice require similar measures in a larger scale where more number of tribal villages can be benefitted. However, it requires similar support provisions from the service providing agencies as per the need of the farmers. The institutional support system should be in terms of making the farmers acquainted with new farm technologies, collectivizing the effort and attaining a scale of production for market access and retaining their bargaining power. Motivational inputs and exposure to demonstrated success cases can further help in replication and scaling up of the practice. At the same time, it is also required to promote and strengthen community organization, in shape of farmer's association where farming related decisions can be taken up. Most importantly, provision of basic agricultural facilities / infrastructure is an essentiality to boost the practice.





4.6.5 Horticulture Andhra Pradesh (Potato, Paderu)

Background:

The Potato (*Solanum Tuberosum* L.) has been one of the major vegetables consumed world-wide and a dominate vegetable in Indian consumption pattern. Annual world production of potatoes surpasses that of all other vegetables and ranks with wheat and rice. Growing tuber crops has been one of the major farm based activities of the tribal community and they have traditional skills in growing tuber crops. Besides, cole crops like cabbage, cauliflower, they grow carrot, beet root, radish in tribal area especially in Araku valley, Dumbriguda and Anathagiri mandals. Because, the climate is very much suitable and there is huge market demand for these vegetables and there is good scope to sell their produce nearby towns and city like Visakhapatnam. Last year, state horticulture department in association with pepsico MNC and 50% financial support of ITDA conducted trials of potato cultivation with 20 farmers in Araku and Dumbriguda mandals of Visakhapatnam agency area. They provided

State	:	Andhra Pradesh
District	:	Vishakhapatnam
ITDA Area	:	Paderu
Activity	:	Scaling up Potato Cultivation in Agency Areas

Objectives:

The objective of this initiative was to improve the income of tribal farmers through adaption of potato cultivation in paderu agency and other suitable areas of Parvathi puram and Seethampeta and expand the extent of potato cultivation.

FC3 variety and result was good and yield was about 5-6 tons/acre. It was observed that Still there is potentiality to improve the yield by adapting all the agronomical practices in effective way.

Project intervention:

Based on the previous experiences and looking at the favourable climatic situation prevailing in the operational area of the ITDA, it was planned to scale up potato cultivation in ITDA operational area of Visakhapatnam as well as other ITDA areas of parvathipuram and seethampeta, where there are similar climatic conditions favourable for this potato cultivation. As the quality of seed material plays an important role in production, it is proposed to provide good variety of seeds like Kufri swarna, kufri Alankar or variety recommended by horticulture department. Required consultations were made with the Central potato research station. Based on this scale up approach in potato production was taken up where cost of inputs like manures, seed treatment and plat protection measures cost provided under the project to the farmers because such practices contributes immensely in production and productivity. It was also thought off that this high yielding seed material can be used as next crop. Under convergence, it was also explored to access the departmental subsidy which can be provided towards seed material amounting to Rs 6000/-per acre.

The rest of expenditure like field preparation, weeding, fencing, irrigation, intercultural operations and harvesting etc., was carried out by the farmer. The beneficiaries were identified and oriented on all agronomical practices of potato cultivation in all the possible ways. Exposure visits were also organized to make farmers oriented and take experience of other progressive farmers. Extension support activities like trainings and exposures were leveraged from RKVY / MIDH (Mission of integrated development of

Horticulture). Apart from this, it was also planned to encourage small scale cultivation of potato in the homestead lands with local varieties. After this intervention, the farmers would generate their own seed for their next crop cycle and can provide the material for further expansion.

3.4.16.3 Proposed area and number of farmers:

Initially it was proposed to take up the upscaling of Potato cultivation with 500 farmers with majority of the beneficiaries Visakhapatnam ITDA area and rest from neighboring ITDA areas of Parvathipuram and Seethampeta.

Sl. No	Proposed Areas	Proposed Mandals	Proposed farmers
1	Paderu agency area of visakhpatnam	Dumbriguda, Araku, Ananthagiri, Pedabayalu	400
2	Parvathipuram agency area of Viziannagram District	Saluru, Gumma Laxmipuram Pachipenta	50
3	Seethamapeta agency area of Srikakulam	Seethampeta Bhamini	50
Total			500

Budget:

The unit cost per farmer was finalized at Rs.40, 000/- / Acre. The major expenditure will be on seed procurement followed by other soil fertility and plant protection measures as the details shown below.

Planned Budget (approx.) for Scaling up of Potato cultivation:

Total beneficiaries: 500

Proposed extent : 500 Acres

Sl. No.	Activity	Budget/ Farmer (Rs)	Description	Total project cost (Rs)
1	Cost of seed potato (800-1000 Kgs per farmer)	24000	500 farmers @Rs24000	1,20,00,000
2	Land preparation	2000	500 farmers @Rs2000	10,00,000
3	Manures and fertilizers	4000	500 farmers @Rs4000	20,00,000
4	Plant protection measures	2000	500 farmers@Rs2000	10,00,000
5	Intercultural operations, making ridges, Earthing up, weeding etc	4000	500 farmers @Rs4000	20,00,000
6	Fencing	1000	500 farmers @Rs1000	5,00,000
7	Irrigation	1000	500 farmers @Rs1000	5,00,000
8	Harvesting	2000	500 farmers @Rs2000	10,00,000
	Total	40,000		2,00,00,000

While the total unit cost per farmer per acre was estimated to be Rs.40,000/-, Horticulture Department provided subsidy to the tune of 15%, i.e., Rs.6000/- towards cost of the seed; about 60.0 percent subsidy provided under TSP/TRICOR amounting to Rs.24,000/- towards seeds, manures and plant protection measures. The remaining 25.0 percent was contributed by the selected farmer beneficiaries in the form of labour which amounts to Rs. 10000/- towards land preparation, intercultural operations, weeding, irrigation and harvesting etc.

3.4.16.5 Expected out comes:

Improve the household income of the tribal beneficiaries by Rs.50, 000 to Rs.60, 000 per family

Inculcate the adaption of potato cultivation and its further expansion;

To create enabling atmosphere to initiate potato based small industries in those areas.

Abstract of acquaintance so far received for the supply of Potato Seed Tubers in Paderu ITDA



Sl. No.	Mandal	Panchayat	Village	Area Coverage (in acres)	Beneficiary Coverage (No.)	Quantity of Potato seed distributed (in Kgs)
1	Munchingput	Dodiputtu	Dodiputtu	33.00	33	21250
		Darela	Petamaliput	28.00	28	21050
		Pedaguda	Gudamaliput	20.00	20	16000
			Sub-Total	81.00	81	58300
2	Arakuvalley	Chanalabudu	Malisingaram	26.50	20	21200
		Madagada	Madagada	7.50	10	6000
		Pedalabudu	Pedalabudu	7.50	8	4800
		Chanalabudu	Hattaguda	10.00	18	8000
		Chanalabudu	Manjuguda	4.00	6	3200
		Chanalabudu	Thudumu	1.50	3	1200
		Chanalabudu	Chinalabudu	6.50	7	5200
		Chanalabudu	Turaiguda	5.50	10	4400
		Chanalabudu	Doravalasa	3.00	5	2400
		K.Balluguda	Gadyaguda	4.00	4	3200
		Bondam	Kaliyaguda	5.00	10	4000
		Chompi	Chompi	20.00	33	16000
		Chinalabudu	Arakuvalley	19.91	20	13900
		Chinalabudu	Malivalasa	25.50	50	15700
			Sub-Total	146.41	204	109200
3	Dumbriguda	Kollaputtu	Busiputtu	25.00	36	16000
		Rangilisingi	Rangilisingi	40.00	40	24000
		Arma	Badimela	40.00	40	24000
		Guntaseema	Guntagannela	10.46	10	5000
		Arma	Gomaguda	14.64	10	5000
		Guntaseema	Guntaseema	14.29	10	5000
		Arma	Arma	40.04	14	7000
		Sovva	Dumbrivalasa	10.00	10	7900
		Sovva	Sovva	20.00	20	12400
		Sovva	Malivalasa	10.00	10	7600
		Gasaba	Marriguda	20.00	20	15600
		Gasaba	Gadiyavalasa	10.00	10	8000
		Potangi	Potangi	36.00	36	16000
			Sub-Total	290.43	266	153500
		Total	517.84	551	321000	



4.7 Sericulture

Introduction

Silk, the “Queen of Textiles” is the most elegant textile in the world. On the other hand, it provides livelihood opportunity for millions owing to high employment oriented, low capital intensive and remunerative nature of its production. With its rural base and enormous employment generation potential, it is one of the most appropriate avenues for socio-economic development of tribals. Sericulture industry provides employment to approximately 8.25 million persons in rural and semi-urban areas in India during 2015-16. Of these, a sizeable number of workers belongs to the economically weaker sections of society, including women.

Indian sericulture farms manufacture four types of silk - Mulberry, Tassar, Eri and Muga of which Mulberry silk accounts for 90 per cent of the total silk production in the country. It can be taken up in rain fed areas,

to provide remunerative return to the growers. The silkworm *Bombyx Mori* is reared throughout the year. The total life span of this silkworm is 50 days. At the end of the larval duration, the silkworm emits silk from its mouth and builds a cocoon on scaffolding. The average annual yield of cocoons in India is as low as 150 kgs under rain-fed conditions and 400 kgs under irrigated conditions. There are over 60 lakh persons are engaged in various sericulture activities in the country. Sub-humid to dry semi-arid climate is most suitable for sericulture. Sericulture involves two steps, i.e., the cultivation of mulberry gardens, as mulberry leaves are the only form of food for silkworms. The second is the construction of a shed to ensure specific climatic conditions of humidity between 70 to 80 percent and a temperature of 27 degrees Celsius. The process from egg to cocoon takes around a month.

Silk Production in India

India has the unique distinction of being the only country producing all the five known commercial silks,

namely, mulberry, tropical tasar, oak tasar, eri and muga, of which muga with its golden yellow glitter is unique and prerogative of India. Mulberry sericulture is mainly practised in five states namely, Karnataka, Andhra Pradesh, Assam and Bodoland, West Bengal, Jharkhand and Tamil Nadu are major silk producing states in the country. North East has the unique distinction of being the only region producing four varieties of silk viz., Mulberry, Oak Tasar, Muga and Eri. Overall NE region contributes 18% of India's total silk production.

India is the second largest producer of silk in the world. Among the four varieties of silk produced in 2015-16, Mulberry accounts for 71.8% (20,434 MT), Tasar 9.9% (2,818 MT), Eri 17.8% (5,054 MT) and Muga 0.6% (166 MT) of the total raw silk production of 28,472 MT. The demand for superior quality bivoltine silk is increasing in India for domestic consumption as well as value added silk products for the export market. The Ministry of Textiles Government of India and Departments of Sericulture in various states provide technical and financial assistance for enhancing the bivoltine silk production.

Policy Initiatives

Sericulture is the functional area under the Ministry of Textiles. Some of the recent policy initiatives taken by the Ministry to promote sericulture are as follows.

1. Sericulture is included as agriculture allied activity under RKVY. This enables the sericulturists to avail the benefits of the scheme for the entire sericulture activities up to reeling.
2. The CSB (Amendment) Act, Rules and Regulations have been notified by the Govt. of India to bring quality standards in silkworm seed production.
3. Forest Conservation Act has been amended to treat non mulberry sericulture as forest based activity enabling the farmers to undertake Vanya silkworm rearing in the natural host plantation in the forests.
4. Anti-dumping duty on Chinese raw silk - The Director General of Antidumping & Allied Duties (DGAD), New Delhi has recommended imposition of antidumping duty on Chinese raw silk of 3A Grade & Below in the form of fixed duty of US\$ 1.85 per Kg on the landed cost of imported raw silk vide notification No.14/17/2014/DGAD dated 4-12-2015.
5. CDP-MGNREGA convergence guideline have been issued to help sericulture farmers to avail assistance from MGNREGA scheme.





4.6.1 Sericulture in Maharashtra

For more than 200 years, the tribals living in remote area of Gadchiroli, Chandrapur, Bhandara, and Gondia District are engaged in Tasar cultivation. About 2200 tribal families of “Dheever” community which belong to category of Nomadic Tribes are the poorest of poor and traditionally produce Tasar cocoon in the adjoining forest. Tasar industries in Gadchiroli and Chandrapur have wide scope for development due to abundance of tasar food plant. The Terminalia tomentosa, locally named as “Ain” tree, is naturally available in the forest. The Agro climatic condition is also suitable for Tasar culture. Tasar silkworm rearing is practiced in tribal areas of District Gadchiroli, namely Armori, Deulgaon, Katali & Wakadi sub centers.

The district Gadchiroli is situated in the eastern / south-eastern part of the state of Maharashtra. It is the second least populous district of the State after Sindhudurg and it is bordered by the states of Chattisgarh and Andhra Pradesh. The district is covered with hills and forests and is considered as a tribal area.

State	:	Maharashtra,
District	:	Godchiroli,
Block	:	Armori
ITDA Area	:	Nagpur
GP	:	Armori
Village	:	Armori

The Directorate of Sericulture was established by the Government of Maharashtra in the year 1997 for the fulfilment of the following objectives.

1. *Employment generation for tribal farmers, women and entrepreneurs;*
2. *Maximising per ha. Income of the farmers;*
3. *Bridging the gap in demand and supply of silk in state and country;*
4. *Supply of disease free laying, kits of rearing and transfer of latest technology;*
5. *To cover maximum area under food plantation of Tasar.*



It is well known for its Tendu leaves and bamboo. The main agriculture produce of the district is paddy. Other agricultural products include linseed, wheat, jowar and tur. The Armori taluk is the home for tasar sericulture activities. The district has a population density of 74 inhabitants per square kilometre and its population growth rate over the decade 2001-2011 was 10.46%. Gadchiroli has a sex ratio of 982 females for every 1000 males and a literacy rate of 72.42%. Scheduled tribe and scheduled caste population in the district is 54.45% and 38.71% respectively. Seven languages are spoken in the district namely, Gondji, Madiya, Marathi, Hindi, Telugu, Bengali, Chattisgadi. There is no large-scale industry in the district except the paper mill at Ashti in Chamorshi Taluka, and the paper pulp factory at Desaiganj. There are many rice mills in the district. In 2006, the Ministry of Panchayati Raj named Gadchiroli as one of the country's 250 most backward districts

and it is one of the twelve districts in Maharashtra that was funded under Backward Regions Grant Fund (BRGF).

Gadchiroli district is one among the poorest districts in the State of Maharashtra. The district can be categorized as tribal and undeveloped district and most of the land is covered with forest and hills. The district is famous for bamboo and Tendu leaves. The sex ratio in the district is comparatively better than many other districts of the State and involvement of women in agriculture and allied sector is at substantial level. Sericulture is one of the forest based livelihood activities that is adopted by the tribal communities living in the forest villages.

In order to improve the livelihood of the forest dwelling tribal households, a project was taken up by the District Sericulture Office of Government of Maharashtra in sericulture sub-sector. It was planned that the proposed sericulture project would exploit the benefits of recent advancements in the sericulture and technological up gradation to extend the livelihood opportunities to existing and newer clusters, covering families with no prior experience of improved technologies of sericulture and enabling them to access mainstream markets and sustain economic gains.

The women households in the proposed project area are yet to be equipped with knowledge about latest technology in sericulture. This leads to disempowerment of women participating in decision making process. The project under Mahila Kisan Shashaktikaran Pariyojana



(MKSP) has been formulated with this idea in mind. It seeks to cover 5790 beneficiaries in six blocks in Gadchiroli, two blocks in Gondia and one block each in Chandrapur and Yavatmal districts. It seeks to empower women with focus on enhancing their stake and involvement in the income generating activities like sericulture.

Project Objective

The project objective, which is in line with the overall objective of Tasar Sericulture promotion in the district has been to;

1. Promotion of Large scale Tasar Based Livelihood in Godchiroli District of Maharashtra State;
2. create employment and self-sustainable livelihood source for the interested tribal households;
3. assist the target group through new technical support and knowledge for improve the socio-economic standard of tribal people.

Institutional Framework and Implementation Arrangement

The District Sericulture Office, Gadchiroli: The promoting, facilitating and implementing agency of Sericulture in different parts of the district.

Tribal Department, Govt of Maharashtra: The respective department receive the fund from Centre and State and implementing the scheme as well as providing fund to other departments for implementation of different projects in tribal areas for the development of tribals.

Pre-Project Status

The beneficiaries are normally the marginal workers and not getting full time employment at their village. The male members were mostly remained engaged in agricultural work (cultivation of paddy, tur) in kharif season. The male members were generally working hard like ploughing the field, land levelling etc., i.e., the work that demand more physical strength. But



the women were engaged with other major works like planting, weeding, harvesting etc. and caring of domestic animals. As mono cropping system is more prevalent in this locality, male members were usually going out in search of employment.

After harvesting of Kharif crop, the male were working with road construction and other earth works taken up under MGNREGA. Duration of engagement was not adequate for male labourers during the lean periods. The women/female worker unable to get required days of wage employment. The female were looking for only domestic work and not getting other options of earning. As per discussion the female were getting 40-50 days of work in their surrounding apart from domestic work.

Approach and Process

The District Sericulture Office as implementing agency organized Gram Sabha at village level and share the project objective and planned activities to the community. The villagers participated and realized the need of the initiative which is beneficial to them. Afterward, some educated tribal women came forward to get associated in the process. Looking at the interest of these women, other female members of the community also expressed their interest to get involved in the process. They realized that the available resources can be utilized optimally to improve their engagement and income in a sustainable manner.

Through the Gram Sabha and regular consultation meetings, the implementing agency able to mobilize the community. Regular meeting with the community people and interaction with different household helped to improve the level of participation. The implementing agency also organized training and exposure visits for them from time to time. The forest department took up required measures to provide all kinds of skill and facilities to improve their livelihood and economic conditions. The infrastructure that are available for sericulture promotion in the district are as below.

Table : Infrastructure for Sericulture

Sl. No.	Details	Particulars
1	Forest Area (in Ha.)	7521
2	Cocoon Production in Villages	52
3	No. of Beneficiaries	760
4	Departmental Farm (in Ha.)	Armori: 50 Ha.
		Deulgaon: 75 Ha.
		Katali: 50 Ha.
		Wakadi: 50 Ha.
		Yewali: 75 Ha.
5	Seed Production Centre	Armori: 08 Nos.
		Wakadi: 05 Ha.
		(Mudhouse Total: 13 Nos.)
6	Reeling Unit	Armori: 01 No.

Association of Women inclusiveness

The project has been mostly for the tribal women workers to improve their engagement and ensuring their livelihood. However, there is no discrimination in terms of gender for work because at the household level, male members have been supportive to their female counterpart.

Outcome and Impact

The positive impact is that the women from the tribal community get a secured and guaranty engagement near to their place of living. With minimal or no risk (as the community reveals) they found a good source of income which they can carry out easily and in the same time they can perform their domestic work along with keeping themselves engaged in this activity. The risk of marketing is also managed by the implementing agency who have been supportive to them in marketing (marketing is done by the implementing agency).

As compared to previous situation of the each and every household those who participate in the process, this livelihood initiative has been contributing to the engaged families. The most important part of this initiative is that they are getting employment throughout the year. The initiative is also having a cascade impact on the nearby other villages. Now other villagers are also expressing their interest to get involved in the process.

Production details in the year 2007 to 2016

Sl. No.	Year	Reeling Cocoon production	Ghicha Cocoon production	Total Production	Reeling Yarn Production	Ghicha Yarn Production	Total Yarn Production
1	2007-08	454085	1310056	1764141	229.505	602.875	832.380
2	2008-09	509420	855000	1364420	260.155	307.699	567.854
3	2009-10	401485	1414070	1815555	185.100	549.730	734.830
4	2010-11	579550	996390	1575940	286.500	411.525	698.025
5	2011-12	5000	1987132	1992132	2.000	759.850	761.850
6	2012-13	444900	876575	1321475	197.345	464.525	661.870
7	2013-14	-	1798215	1798215	-	831.599	831.599
8	2014-15	167074	1287310	1454384	66.650	502.300	568.950
9	2015-16	64310	1387507	1451817	21.800	579.000	600.800
10	2016-17	318065*	757335	1075400	96.000	294.400	390.400

Note: * up to 30 august 2016

Year 2015-16

Year	Head/ Sub Head	Sanction Amount Rs in Lakh	Propose Amount Rs. In Lakh	Amount Received from DPC	Expenditure in %	Expenditure Head	Rupees
2015-16	Sericulture Industries Dev.	50.00	50.00	50.00	100%	DFL Purchased	8,59,320
						Farm wages/ develop	22.77.242
						Grange wages	6.64.492
						Reeling wages	6.35.319
						Chemical Purchased	3.38.538
						Electricity Exp.	1.00.600
						Adv./News Exp.	29.991
						Training Exp.	94.496
						Total	49.99.998

Year 2014-15

Year	Head/ Sub Head	Sanction Amount Rs in Lakh	Propose Amount Rs. In Lakh	Amount Received from DPC	Expenditure in %	Expenditure Head	Rupees
2014-15	Sericulture Industries Dev.	40.00	40.00	40.00	100%	DFL Purchased	4.33.260
						Farm wages/ develop	19.67.341
						Grange wages	7.75.193
						Reeling wages	5.99.361
						Chemical Purchased	0
						Electricity Exp.	1.17.020
						Adv./News Exp.	23.480
						Training Exp.	84.341
						Total	39.99.996

Year wise Reeled & Gheecha yarn Production

Year 2011-12 to 2015-16 Up to 15 feb.2016

Particulars	Year 2011-12	Year 2012-13	Year 2013-14	Year 2014-15	Year 2015-16
Cocoon Utilized for Reeling	19.92.132	13.21.475	17.98.215	14.54.384	11.90.700
Reeled Yarn Production Kg.	2.000	197.345	0	66.650	68.967
Gheecha Yarn Production Kg.	759.850	464.525	831.599	502.300	484.800

Five Year Progress in Sericulture

Year	Numbers of farmer	DFLs Supply	Cocoon Production
2011-12	1022	3.13.944	89.98.279
2012-13	777	3.43.314	67.78.650
2013-14	445	2.09.523	53.58.200
2014-15	658	3.42.260	1.23.570
2015-16	760	3.73.867	1.40.57.700

Stok Reeling Thread	Geecha Yarn	16.00 Kg	Rs.2000per kg		
	Chaka best	27.00 Kg	180.00 per kg		
	Casa coti	100.00 Kg	180.00 per kg		
	Gheecha Koti	176.00Kg	180.00 per kg		
	Chaka best	27.00 Kg	180.00 per kg		
	Reeling threat	14.72 kg	Per kg-Rs.5000		
Cocoon available	Cocoon	No	Cost	10.73.879	
	Seed cocoon	4000	7200.00	5.92.739	Rs.1.48.158
	Peats cocoon	4000	2280.00	2.33.670	Rs.58.47.
	Pears coon	4000	400.00	2.47.470	Rs.24.743
				Total	Rs.2.31.348

Present status

After the intervention of the project, the targeted beneficiaries / group are getting around 170-180 day of work at their agricultural field as they are producing numbers of different crop per year. So, the male as well as the female members of the community are getting same opportunity to work. The labour movement. i.e., going out as daily wage labour has decreased. The female members are also going for selling their products in the nearest market or mandi. The women are also dealing with market dealers which was earlier the job of male persons. The females are now getting various exposures on different agricultural technologies. Now a female worker is spending about 4-5 hours per day apart from their domestic work in economically productive activities. The male workers also get enough employment at their door steps. Even the aged person of the family also remains engaged in their agricultural work that are less physical labour intensive like watch and ward.

Sl. No.	Particulars	Unit	01Apr15-15Nov.2016	01Apr16-15Nov.2016-17
1	Tasar Plantation Area Utilize	Ha.	3536.25	4491.15
2	Beneficiary	Nos.	726	698
3	A) State DFLs Production	Nos.	199500	199860
	B) Private DFLs Production	Nos.	33907	52795
	DFLs Production(A+B)	Nos.	233407	252655
4	(C) DFLs received from (CSB) Center Silk Board	Nos.	45565	98380
	D)DFLs Received From AP Govt.	Nos.	8850	15400
	E)DFLs Received From NGO	Nos.	50600	63250
	Total DFLs Received (C+D+E)	Nos.	105015	177030
5	DFLs Production& DFLs Received A to E	Nos.	338422	429685
6	Numbers of Unhitched DFLs	Nos.		
	Total DFLs (5-6)	Nos.	338422	429685
7	Total DFLs Supply	Nos.	350187	449085
8	Cocoon Production	Nos in lakh	20.19	14.75

Sl. No.	Particulars	Unit	01Apr15-15Nov.2016	01Apr16-15Nov.2016-17
9	Department Raw Silk Production	Reeled Yarn Kg	-	118.760
		Geechaa yarn Kg.	356.750	348.600
	Total Yarn Production	Kgs	356.750	467.360
10	Estimated Raw Silk production	Kgs	1100.270	803.814
11	Employment generation	Mandays	165040	120572

Beneficiary Satisfaction

The beneficiaries have expressed their satisfaction on this initiative. They were also of the opinion that all kind of facilities and support have been provided on time and properly by the implementing agency. Apart from this, people were also of the opinion that it is planned for extending the project benefits to more households (tribal family) in the coming days.

The tribal women are more labours as comparison to male members of the community. During the identification of beneficiaries for sericulture, the implementing agency organized gram Sabha for selection of the beneficiaries. During this process, priority was given to the women participation and their involvement in the project. The women of these villages were not having other livelihood opportunities apart from collection of forest produces. They engaged with agricultural work for few months and after harvesting, they normally remain jobless. The forest department distribute the individual rights or patta on encroach agricultural land in the same time. Increasing employability of women has been the other major objective of the project for the enhancement of livelihood with women entrepreneurship. Women are fully engaged with the production of tasar and having a good income from this source. They are also getting jobs for throughout the year and also involved in project implementation process. The initiative has created a platform for women to share their issues related to livelihood and tap other opportunities to improve their economic condition.

Success Conditions

Institutional: the implementing agency must monitor the program regularly to understand each aspect of the project activities and its implementation. The agency adopted required accountability norms and transparency mechanisms.

Social: Understanding of the need of primary stakeholder is important in such initiative. Their engagement can only be ensured when they realise that it is going to be beneficial for them in the long run and such initiatives support their livelihoods.

Economic: The target beneficiary must realise the economical aspect of such initiatives and its implications on their livelihood. Once the target mass understand that it will be economically beneficial for them, the task of implementing the scheme becomes much easier.

Sericulture in Odisha

Mr. Kadamba Naik age about 42 years, live in Khuntagaon village, which is a small interior village situated in Bonai tehsil of Sundargarh district, Odisha. Initially the farmer, with the support of his two cousin brothers, was growing sugarcane as well as cash crop like cotton along with vegetables, onion etc. Nearer to his village, there is a cotton ginning factory which gives him assured market for cotton.

As amount of rainfall has declined in recent years, it has been affecting water availability for sustaining sugarcane, as it is a water intensive crop. Secondly fluctuation in rainfall and occurrence of dry spells affecting cotton plantation and its growth. Due

to these reasons, the farmer decided to shift to other activities that are equally or more remunerative than the present ones. They got the information about Sericulture from one of their relative which is supported by ITDA Bonai. Convinced with the advantages of sericulture like low and one time input cost, less water requirement for mulberry garden, high return and less risk that sericulture enjoys, he decide to take up sericulture. It was a complete new venture for him and to his family. Initially, his brothers motivated and support him to start Sericulture.

Before taking up sericulture, he discussed with the sericulture extension worker of state sericulture department on selection of land, location of rearing shed etc. Than he started sericulture by planting 2.00 acres of V1 variety replacing orchard. In 2014-15 after plantation, he received training from CST&TI Mysore for Ckawki rearing, also from other successful farmers from the nearby areas. He observed that even during water stress condition, mulberry plants were surviving whereas other farmers who were cultivating other crops, couldn't able to survive their plants in such a water scarcity situation.

In the year 2014-15,he took 2150 Disease Free Laying (DFLs) and produce 750 Kg cocoons from 2.00 acres and his income was about Rs. 2,38,265/- (Two lakhs thirty-eight eight thousand two sixty-five only).According to him, he got more income from sericulture in

comparison to his earlier income.Due to constant and sustainable income from sericulture,he has given his fabrication workshop on rent basis to another person in Pune. During 2015-16 he took up 1950 DFLs which yield 1410 cocoon fetching an income of Rs.132673/-. His family has been helping him in rearing. He has been selling cocoons to Khuntagaon Cocoon society in Khuntagaon as he gets better price than Government cocoon purchasing centre and any other privet purchasers. During the year 2015-16, we constructed a RCC Chawki room to run Chawki Centre.

Because of his interest and support of his brothers, he picked up the required skill and knowledge of sericulture in a very less time and also procured required equipment. Beside this, he availed required assistance from the sericulture department through ITDA Bonai which helped him to do sericulture in a better manner with improved productivity.

The ITDA supported him with equipment worth of Rs.7000/- per acre in first year along with bearing the labour cost of Rs.5000/- for plantation. In second and third year, we availed support worth of Rs.3000/- per acre. In his opinion, Sericulture helped him to improve hisway of living. The returns from the activity helped his family to renovate their house. He also purchased a motor bike from this income which is also utilised for his business purposes.





4.7.2 Sericulture in Odisha

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State	:	Odisha
District	:	Sundargarh
ITDA Area	:	Bonei
Block	:	Lahunipada
GP	:	Khuntagaon
Village	:	Khuntagaon
Activity	:	Sericulture

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Summary of Good Practices

Sericulture is one such activity that can not only increase the income of the people, but can also generate employment opportunities, particularly for women. And it will go a long way in increasing the income of the beneficiaries and raising their standard of living. It is capable of creating employment as well as alleviating poverty for large sections of population in the countryside. Sericulture suits both marginal and small-scale landholders because of its low investment, high assured returns, short gestation period and rich opportunities for enhancement of income and creation of family employment round the year. The net returns in case of Mulberry sericulture (when a farmer has one acre of Mulberry plantation using family labor) is estimated at about Rs 98,000/- per annum, which is substantially high compared to that of other tropical crops. Also it is an activity, which does not depend on season, but can be carried out throughout the year.

Promotion of Large scale Tasar Based Livelihood in Godchiroli District of Maharashtra State;

Create employment and self-sustainable livelihood source for the interested tribal households

Social: Understanding of the need of primary stakeholder is important in such initiative. Their engagement can only be ensured when they realise that it is going to be beneficial for them in the long run and such initiatives support their livelihoods

Key Conditions require

- Proper precautions and preventive measure to be taken up by farmers during process work as occupational disorder is high in this sector
- Extreme temperature to be avoided (humid area with stream and semi cold region are suitable)
- Strengthening supply chain system with both forward and backward linkage
- Support Service require
- Producer group formation to create awareness on precaution and preventive measures as well as have the peer group support
- Provisioning and ensuring irrigation facility with sprinkling system
- Supply of safety gears/ equipment
- Ensure spurious products in the name of silk.
- Supply of disease free laying, kits of rearing and transfer of latest technology;
- Beneficiary Dimension
- High employment potential: Generate kind of employment especially in rural area. Hence, sericulture is used as a tool for rural reconstruction.
- Provides vibrancy to village economics: Gross value of silk fabrics flows back to the cocoon growers with share of income to different groups under cocoon grower, reeler, twister, weaver and trade.
- Low gestation, High returns:
- Women friendly occupation:
- Ideal program for weaker section of the society.
- Eco-friendly activity.
- Satisfies equity concerns.





4.8 Rubber Plantation

4.8.1 Rubber Plantation (Gajapati, Odisha)

Introduction

Rubber cultivation in Munising village has scripted turnaround a case of success. It is observed while visiting this village that socio-economic status of the tribal residents has visibly changed. Rubber cultivation has not only impacted positively on their life and livelihood but also more number of areas of this village and nearby villages which were once left as barren are turning green.

State	:	Odisha
District	:	Gajapati
ITDA Area	:	Parlakhemundi
Block	:	Gumma
GP	:	Munising
Village	:	Munising
Activity	:	Rubber Plantation

Climatic Conditions for Optimum Growth of Rubber Tree

1. Rainfall of 2000 to 3000 mm evenly distributed without any marked dry season and with 125 to 150 rainy days per annum
2. Maximum temperature of about 29oC to 34oC and minimum of about 20oC or more with a monthly mean of 25 to 28oC
3. High atmospheric humidity of the order of 80%
4. Bright sunshine amounting to about 2000 h per annum at the rate of 6 h per day through all the months
5. Absence of strong wind

Only a few regions in India meet all these requirements. Fortunately, rubber can be grown successfully under moderately deviating conditions too.

Table 26: Rubber Plantation in Studied Locations

Year of Planting	Name of the Village with area under Plantation (in Ha)					Total
	Munising	Abarsing	Sukei	Regeda	Badigaon	
1997	9.73	-	-	-	-	9.73
1998	6.52	-	-	-	7.88	14.40
1999	1.19	2.33	-	5.19	-	9.04
2000	-	---	4.98	-	-	4.98
2001	-	1.10	1.30	-	-	2.40
Total	17.44	3.43	6.28	5.19	8.21	40.55

A small pilot project of the government and Rubber Board, which was undertaken in the year 1997, has moved a long way in combating the livelihood issue of the district in general and the tribal of small villages in particular. The present scenario is that about 50 tribal farmers of this village who are directly involved in the rubber farming sector.

About rupees 1 lakh every year, from one-hectare of land is an unbelievable proposition for all those thought a small farmland is unprofitable. But BudhaBhuyan has made this proposition into a reality. BudhaBhuyan who has studied upto 10th class earning five lakh rupees annually from his 5 ha. of land under rubber cultivation. He said he has started cultivation of rubber in another five hectares of land which are yet to be produced. After 3 years, he would be able to earn another five lakh rupees from the land which is yet to be produced. He said, all total he may be able to earn rupees 10 lakh per annum from his 10 ha. of land at the current market price.

Training & Exposure visit:

The farmers were given training and exposure on rubber plantation and its management. With the support of Rubber Board, they got their lessons from Kerala and other major rubber producing states.

Incentive provided for Rubber Cultivation by the ITDA

Though the initiative for rubber plantation and rubber

production was initiated by the Rubber Board, Govt. of India, gradually, it has been taken over by the ITDA, Paralakhemundi. ITDA has been providing incentive to the rubber farmers in terms of (1) Planting Material Subsidy, (2) subsidy for Fencing, (3) planting grant, (4) subsidy for smoke house and (5) subsidy for sheet rollers.

Block Plantation Project, Munising, Sukei and Abasing

Sl. No.	Particulars	Details
1	Project / Plantation Area (in Ha.)	40.41
2	Project Cost (in Lakh)	30.80
3	Rubber Board Share (in Lakh)	19.64
4	ITDA Share (in Lakh)	4.56
5	DRDA Share	6.60

In Gajapati district, Rubber Board started first Block Plantation (BP) project along with ITDA during the year 1996-1999 in an area of 40.41Ha. comprising 94 beneficiaries at Munising, Sukei and Abasing villages. After maturity, only an area of 29.50 Ha. is available for tapping and balance area perished due to drought. Rubber Board has executed three new BP projects (1. BP Sukei; 2. TRRPP Gajapati; 3. TRRPP Barangsing and Kintesing) along with ITDA Gajapati during 2012 and 2013, which comprises in an area of 418 Ha in six villages i.e. Sukei, Munising, Munjuli, Taraba, Barangsing and Kintesing. Plantations of 1,66,080 Rubber stumps have been completed in an area of 346

ha. covering 319 beneficiaries in above villages. The projects wise details are presented in the Table.

Name of the village	Year of planting	No. of beneficiaries	Area (ha)
Munising	1995-96	62	17.50
Sukei	1996-2000	27	8.50
Abasing	1999-2000	5	3.50
Grand Total		94	29.50

Present status of the Block Plantation Project (BPP) Munising

Originally, the project was designed for 94 selected beneficiaries with an area coverage of 40.41 Ha. While, the project benefit was received by all the 94 beneficiaries, the actual area of benefit reduced to 29.50 Ha. as 64.5 ha. area perished due to drought. Matured plantation is handed over to the beneficiaries. Tapping and processing is continuing with the support of facilitating agencies.

Block Plantation Project, Village Sukei:

In Sukei, it was planned to cover 50.0 Ha. of area under rubber plantation under the project with

Project Extent : 50.00 Ha.

Project Cost : 124.20 Lakhs

Rubber Board Share: 55.890 Lakhs

I.T.D.A Share : 55.890 Lakhs

Beneficiaries Contribution : 12.42 Lakhs

Rubber plantation completed in the year 2012 and 2013

Year	Area completed (Ha)	No. of beneficiaries	Permits	Remarks
2012	11.35	18	36	Maintenance and infrastructure works are in progress
2013	38.65	40	57	
Total	50.0	58	93	

ITDA share of project cost with Rubber board as on 31/03/2014 :

12,48,705/-

Expenditure incurred for the project : 4,29,037/-

Amount balance for utilization during 2015-16 :

8,19,668/-

3.4.8.7 Tribal Rehabilitation Rubber Plantation Project Gajapati:

Project Extent : 226.00 Ha.

Project : 1128.60 Lakhs

Rubber Board Share : 451.44 Lakhs

I.T.D.A Share : 564.30 Lakhs

Beneficiaries Contribution : 112.86 Lakhs



Village	Year	Propo-sed area	Area completed (Ha)	No. of beneficiaries	Remarks
Munising	2013	66	66	70	Mainten-ance and infrastr-ucture works in an area of 226 Ha. planting area in progress
Munjuli	2014	44	44	57	
Taraba	2014	52	52	37	
	2015	64	64	51	
Total		226	226	215	

ITDA share of project cost with Rubber board as on 31.03.2014 : 87,06,877/-

Expenditure incurred for the project : 40,26,375/-

Amount balance for utilization during- 2015-16 : 46,80,502/-

Total rubber production (Sheet and scrap) was 15,060 Kgs. during the 2014-15, which generated income an amount of Rs. 15,56,050/-. Total income generated from the rubber plantation through sale of sheet and scrape for the last Six years is coming to an amount of Rs. 1,38,74,687/-. The detail year wise production is mentioned Table:

Year	Sale of Sheets		Sale of Scraps		Total Production (kg)	Total income (Rs.)
	Quantity (Kg)	Amount (Rs)	Quantity (kg)	Amount (Rs)		
2009	10500	12,70,500	1210	45,228	11710	13,15,728
2010	12000	23,76,000	1240	1,20,000	13240	24,96,000
2011	16000	31,97,009	1300	1,43,000	17300	33,40,009
2012	13000	23,40,000	1400	1,16,000	14400	24,56,000
2013	16200	25,92,000	1450	1,18,900	17650	27,10,900
2014-15	14050	14,75,250	1010	80,800	15060	15,56,050
Total	81,750	1,32,50,759	7,610	6,23,928	89,360	1,38,74,687

Detailed Project Cost of Rubber Plantation (in one Hectare) (Amount in Rs.)								
Sl. No.	Item of expenditure	I Yr	II Yr	III Yr	IV Yr	V Yr	VI Yr	Total
I	MATERIALS							
1	Planting material	15000	750					15750
2	Farmyard Manure	6000	0	0	0	0	0	6000
3	Fertilisers	2000	2000	2000	2000	1750	1750	11500
4	Plant protection chemicals and others	1800	1000	1000	1250	1250	1250	7550
5	Cover crop seeds	450						450
6	Tools and implements	500	250	250	250	250	250	1750
7	Insurance	955						955

Detailed Project Cost of Rubber Plantation (in one Hectare) (Amount in Rs.)								
Sl. No.	Item of expenditure	I Yr	II Yr	III Yr	IV Yr	V Yr	VI Yr	Total
	Sub total	26705	4000	3250	3500	3250	3250	43955
II	OPERATIONS							
1	Land clearing	1500						1500
2	Terracing, lining, pitting	16500						16500
3	Filling and planting	11250	450					11700
4	Weeding and mulching	12000	15000	9000	9000	5400	4500	54900
5	Manuring	750	1500	1500	1500	1500	1500	8250
6	Plant protection	1500	1500	1800	300	300	300	5700
7	Establishment of cover crop	1950	450					2400
8	Drainage and other miscellaneous work	1050	300	300	300	300	150	2400
9	Boundary protection and foot path	2550	1050	1050	750	750	750	6900
10	Watch & ward	450	450	450	450	450	450	2700
	Sub total	49500	20700	14100	12300	8700	7650	112950
	Total	76205	24700	17350	15800	11950	10900	156905
	Rounded off	76200	24700	17400	15800	12000	10900	157000

Year-wise Bank Loan and Margin Money (in one Hectare)					
Year	Unit Cost	Margin money (10%)	Bank loan (rounded off)	Rate of interest (%)	Repayment period (years)
1	76200	7600	68600	12	13
2	24700	2500	22200		
3	17400	1700	15700		
4	15800	1600	14200		
5	12000	1200	10800		
6	10900	1100	9800		
Total	157000	15700	141300		

Bank Loan Repayment Schedule of Rubber Plantation (in one Hectare)										
Year	Bank loan disbursed	Loan Outstanding	Interest	Deferred Interest	Surplus for Repayment	Repayment of			Total Outgo	Net Surplus
						Deferred Interest	Interest	Principal		
1	68600	68600	8232	8232						
2	22200	90800	10896	19128						
3	15700	106500	12780	31908						
4	14200	120700	14484	46392						

Bank Loan Repayment Schedule of Rubber Plantation (in one Hectare)										
Year	Bank loan disbursed	Loan Outstanding	Interest	Deferred Interest	Surplus for Repayment	Repayment of			Total Outgo	Net Surplus
						Deferred Interest	Interest	Principal		
5	10800	131500	15780	62172						
6	9800	141300	16956	79128						
7		141300	16956	93284	11300		2800	2900	5700	5600
8		138400	16608		61200		16608	15300	31908	29292
9		123100	14772		75600	1000	14772	23000	38772	36828
10		100100	12012		97500	11500	12012	26000	49512	47988
11		74100	8892		112200	20500	8892	28000	57392	54808
12		46100	5532		112200	24000	5532	28000	57532	54668
13		18100	2172		112200	37284	2172	18100	57556	54644

Cost and Benefit Analysis of Rubber Plantation (in one Hectare)			
Year	Cost	Benefit	Net Benefit
1	76200	0	-76200
2	24700	0	-24700
3	17400	0	-17400
4	15800	0	-15800
5	12000	0	-12000
6	10900	0	-10900
7	56200	67500	11300
8	36300	97500	61200
9	36900	112500	75600
10	37500	135000	97500
11	37800	150000	112200
Year 12 to 15	37800	150000	112200
Total	399500	712500	313000





Marketing

Rubber is a non-perishable and long term sustainable cultivation which is the key advantage for which farmers of these villages have started adopting it. Besides, for the marketing of the produce, they have found the linkage, including private tyre producing company, Birla tyres, recently.

Replicability

The block plantation method of rubber production can be considered as an important practice and a success story which was initiated by the Rubber Board with the support of ITDA. The reasons for its success are given below.

1. For block plantation, the required lands are identified in advance and in contiguous areas rather than scattered individual plots. This has resulted in economies of scale. This has acclaim from all quarters. Rate of mortality in the block plantation is very low as compared to other forms of rubber plantation;
2. Block plantation requires active participation of the stakeholders in raising, maintenance and in protection of the plantation;
3. Community processing established at the block plantation level helps generate additional income;



4. In case of block plantation, entire family is considered as equal stakeholder. All the members of a family participate, which generates a sense of belongingness and responsibility;
5. Rubber plantation has been accepted by the tribals as a culturally compatible and sustainable means of livelihood. For economic upliftment of tribal families, rubber plantation is considered as better and suitable for them because of eco-friendly method;
6. The initiative of Block plantation helps the tribal farmers to provide regular long term income and settled form of livelihood. It also promotes eco-friendly method of cultivation. This has encouraged them to take up rubber cultivation in massive scale with their own funds and mobilizing financial assistance from other sources.





4.8.2 Jadunathpur Rubber Society (Mayurbhanj)

In the similar line, as in Gajpati, the Rubber Board started its first innovative Rubber Block Plantation project scheme at Jadunathpur tribal village of Mayurbhanj as a pilot project during 1995-96 in Odisha with 55 farmers. It was launched in collaboration with the District Administration (ITDA & DRDA). This Block Plantation scheme envisages to pool the small patches of tribal land together making a block & then planting rubber there with the work force of the beneficiaries involved as daily wagers. This scheme was meant for their economic rehabilitation & proper use of their unutilized waste land. Till 1998, it was the plantation period and at present there are 13000 plants in 100 acres of land which has started producing. Apart from plantation, ITDA and Rubber Board facilitated to form a society of rubber cultivators which is now called Jadunathpur Rubber Society. Now 77 Farmers

State	: Odisha
District	: Mayurbhanj
ITDA Area	: All ITDAs of Mayurbhanj
Village	: Jadunathpur & Kendugadi
Institution	: Jadunathpur Rubber Society and Kendugadi Rubber Producer Society
Activity	: Rubber Block Plantation

are members in this society. Apart from 100 acres, additional 400 acres are planted before 4 years in this village under MGNREGS. Farmers are getting around Rs.40, 000 to Rs.45, 000 per acre per year. Year wise production and person days generated and gross income (in Lakh) is presented in the table.

YEAR	Production (in Kg)	Person Days Generated	Gross Income (in Lakhs)
2005-2006	3880	3500	2.85
2006-2007	15729	4219	12.95
2006-2007	25938	7088	22.62
2007-2008	37981	5606	29.29
2008-2009	30443	7181	36.83
2009-2010	29647	6892	55.3
2010-2011	37376	9054	70.15
2011-2012	43416	9000	66.77
2012-2013	45860	9000	63.94
2014-2015	50962	9000	56.87
2015-2016(till date)	47000	9000	46.8
Total	368232	79540	464.37

Jadunathpur village has become an island of success and glory amidst an entire tribal population of the adjoining areas. This prompted to take up plantation in the adjoining sub-division of Kaptipada almost a half kilometer away from Jadunathpur Plantation Site, i.e., at Kendugadi.

KENDUGADI RUBBER PRODUCER SOCIETY

Plantation at the site was carried out in between 1999 -2001 covering 92 families. Presently there are 14000 plants which are being tapped for latex.

Year	Production in Kg	Amount in Lakhs
2010-2011	11235	21.01
2011-2012	20250	36.6
2012-2013	28000	41.37
2013-2014	39482	54.43
2014-2015	48700	53
2015-2016 (till date)	39000	37.2
Total	186667	243.61

j The Sheets produced by both the societies are being marketed at the doorsteps of the society by Rubber Manufacturer and dealer both from Odisha and other states as per the rate mutually agreed upon. Apart

from this, these societies have also signed an MOU with ORMAS to market the Sheets to Birla Group from next Financial year (2017-18).

Looking at the rate of success, rubber plantation was taken up in other areas of the district. As per the available information now four Rubber Producing Societies (RPS), registered under Rubber Board, are operating in the district, namely, Shamakhunta RPS Under ITDA, Baripada; Bisoi RPS Under ITDA, Rairangpur; Matiagarh RPS Under ITDA, Karanja; and Bholagadia RPS Under ITDA, Kaptipada are ready for production of sheets. Another two RPS are already formed and in the process of registration whereas another five societies are under formation.

Lateral Income Generating Ideas

Generation of Quality Bud-Grafted Stumps

Despite the prime objective of the block planting project, i.e., the production of quality rubber sheets, Rubber Board also initiated implementing some other innovative ideas to supplement the income of the rubber farmers. Production & marketing of quality

bud-grafted rubber stumps is one of these. There are two way of getting benefit by this programme, i.e., income generation out of the marketing of quality bud-grafted rubber stump and secondly, generation of additional wage-earners to carry out various nursery activities like, nursery raising, bud-grafting & other connected operational activities. The Jadunathpur Rubber Producers' Society started generating quality B.G. rubber stumps since 2010-11 as a pilot project. Production and price details of BG stumps are presented in the table.

Year	Production of B.G. rubber Stumps	Selling Price per Stump (Rs.)	Price (in Rs.)	Generation of Person Days
2010-11	2,717	25	67,925	1,400
2011-12	12,227	20	2,44,540	2,800
2012-13	40,000	20	8,00,000	3,700
2015-16	27,000	20	5,40,000	4,000
Total	81,944		16,52,465	11,900

In-spite of its varied advantage, during last 20 years, only 1069 acres of block plantations have been taken up in Mayurbhanj district by Rubber Board. Although there are vast stretches of uplands i.e. about 40% of the entire agricultural land available in Mayurbhanj District, only 1069 acres of land involving 1048 beneficiary families have been taken up by Rubber Board which is quite lower than expected. The reason for this is that Odisha is treated as a non-Traditional area by the Rubber Board and for non-traditional area, the role of the Rubber Board has been limited to acting as a facilitator and to provide some demonstrative models in the State. Further shortage of funds at the farmer level for investment has also been a limiting factor for Rubber Board for further expansion. In a non-traditional area, the gestation period, in terms of mobilizing farmers and involving them in the process takes more time than a conventional rubber grown area. Perhaps, this is the reason, the scale up of operation has been remaining slow in all the demonstrated districts of the State.

Expansion of Rubber in Mayurbhanj District

1. Rubber is a commercial species which if cultivated, can develop the economic condition of the tribal people of this district;

2. Rubber can generate income to the tune of Rs.72,000 to Rs.90,000 per acres per annum. No other plant species can generate such an income for the tribal people of Mayurbhanj district;
3. The agro-climatic condition of Mayurbhanj district is also moderately suitable for rubber cultivation;
4. About 40.0 percent of land in Mayurbhanj District is up lands and hence they are suitable for rubber cultivation.

Modus operandi of the Expansion of the Project

Considering these aspects, the Govt. of Odisha and the District Administration, Mayurbhanj decided to take up large scale rubber plantation in Mayurbhanj district in coming 10 years with the direct involvement of ITDAs for the economic development of the tribal people of Mayurbhanj. The year 2012 was watershed in terms of rubber plantations in Mayurbhanj district. During this year rubber plantation was taken up as a "Focused Intervention" for livelihood improvement of the tribal population of the district by the District Administration. This herculean task, to take care of the livelihood aspect of tribal families by means of rubber plantations was given to the Integrated

Tribal Development Agencies functioning under the ST & SC Development Department of the Government of Odisha by means of the Focus Area Development Programme (F.A.D.P). In this context, a ten years perspective plan was formulated and decided to take up plantations in 40,000 acres of land of tribals in Mayurbhanj District directly by the ITDAs. Perspective Plan” has been prepared by the ITDAs in convergence model, a unique of its kind where funds will be dovetailed from different state and national flagship schemes like (1) MGNREGS, (2) National Horticultural Mission, and (3) Jananidhi (Agriculture Department, Govt. of Odisha Scheme).

During the year 2012-13, funds available under MGNREGS was converged with SCA to TSP (Special Central Assistance to Tribal Sub-Plan) and Jananidhi to make this programme successful. Labour component which involves the various physical activities like land development, pitting, weeding etc. and materials component that involves the meeting of requirement of cost of fertilizers/ manures, plant protection items, cost of mulching materials etc. are met out of MGNREGS in the ratio of 60:40 (Labour component to material component ratio). SCA to TSP has been converged with State schemes like Jananidhi (Agriculture Department) & Biju Krushak Vikash Yojana (BKVY of Lift Irrigation Corporation) to install bore well facility in the plantation areas. For Jananidhi either 50% or Rs. 50,000/- (whichever is less) is given as subsidy to the beneficiary by Agriculture Department & the rest amount is met out of funds from SCA to TSP. In those places where Biju Krushak Vikash Yojana (BKVY of Lift Irrigation Corporation) has been taken up, 90% subsidy is availed by the beneficiary out of funds of Biju Krushak Vikash Yojana (BKVY of Lift Irrigation Corporation) & the rest amount is met out of funds from SCA to TSP. Similarly, for mulching and drip irrigation support, 90% & 80% subsidy assistance is met out of funds from National Horticulture Mission & the rest from SCA to TSP on behalf of the beneficiary. Various flag ship schemes that are converged in rubber plantation has been presented in the table.

Sl. No.	Activity	Schemes converged with
1	Nursery Preparation	Special Central Assistance to Tribal Sub-Plan (SCA to TSP) & Jananidhi
2	Plantation Activity	MGNREGS (for labour and material component); SCA to TSP & BKVY / Jananidhi (Irrigation), National Horticulture Mission (Drip and mulching)



Area Covered under Rubber Plantation and Beneficiary Coverage

Name of ITDA	ITDA BARIPADA		ITDA KAPTIPADA		ITDA RAIRANGPUR		ITDA KARANJIA	
	Area in Acer	Beneficiary	Area in Acer	Beneficiary	Area in Acer	Beneficiary	Area in Acer	Beneficiary
2013-2014	584	348	416.25	425	172.85	95	200	263
2014-2015	915	780	560.03	874	324.83	102	356.3	254
2015-2016	375.06	506	351	369	150	115	250	79
2016-2017	345.08	150	106.38	158	107	44	70	27
Total	1874.06	1634	1327.28	1668	647.68	312	806.3	596

Name of the Other Agency implemented through ITDAs during- 2015-16	Area in acre	Beneficiary
DDH (Under ITDA Baripada,ITDA Kaptipada,ITDA Karanjia)	765	319
PD WATERSHED under ITDA,Baripada	368.56	311

Outcome and Impact

Rubber Block Plantation project is a boon to Mayurbhanj tribal communities. It has been found impacting the tribal life and livelihood in many ways such as;

1. A new opportunity than has been found beneficial in terms of strengthening tribal economy and enhancement in per household income of rubber cultivators;
2. Creation of opportunity of employment for the rural youths and other employment seekers;
3. Protects environment and act as green shield for the locality
4. Acceptance by tribal community because of environment friendly source of income generation that provide income to them in a sustainable manner;
5. Strengthening rural economy with the development of rubber clusters;
6. Expansion of rubber plantation has brought economic and social transformations to local populations, particularly tribal, who were having difficulty to meet their bare basic needs;
7. Economic use of degraded and fallow / barren land to generate income;
8. Improvement in quality of life of rubber cultivators and improved food security.

It's a new line of hope for many others social disadvantaged section of the rural areas of the district and State. Therefore, scaling up of this venture may be thought of to infuse a paradigm shift in agriculture / horticulture and agrarian transition, creating sustainable livelihood and contributing in achieving overall development of all sections of the society.

Tribal Block plantation under RO, Baripada

Sl .no	Name of the block plantation	Name of the ITDA	Year of planting	Planted area (Ha)	Production area (ha)	Clone	No of beneficiaries enrolled	Project cost (lakh)	Status of plantation	Name of RPS	GPC	Status of RPS	Production during 2015-16(MT)	Income during 2015-16(lakh)	Remarks
1	Jadunathpur	Baripada	1995	40	33.5	PC,RRIM-600,RRIL-105	75	38.25	Under production	Jadunathpur RPS	Constructed	Production, marketing done by RPS	47.6	44.43	
2	Kendugadi	Kaptipada	1999	40	35.7	RRIL-105	60	49.3	Under production	Kendugadi RPS	Constructed	Production, marketing done by RPS	44.12	43.12	
3	Mati-garh	Karanija	2000	40	15.7	RRIM-600, RRIL-105	106	49.3	Under production	Mati-garh RPS	Constructed	Production, marketing done by RPS	7.24	6.47	Tapping started during Oct'2015
4	Shyamakhunta	Baripada	2000	40	26.84	RRIM-600, RRIL-105	98	49.3	Under production	Shyamakhunta RPS	Constructed	Production, marketing done by RPS	3.23	2.6	Tapping started during Feb'2016
5	Bisoi	Rairanapur	2000	40		RRIM-600, RRIL-105	94	49.3	Under production	Bisoi RPS	Constructed	Production started during 2016			
6	Bhologadia	Kaptipada	2006	40		RRIM-600, RRIL-105	170	54.74	Under production	Bhologadia RPS	Not constructed	Production started during 2016			
7	Astia	Baripada	2006	40		RRIM-600, RRIL-105	104	54.74	Under production	Under process	Not constructed	Production started during 2016			
8	Tadli	Kaptipada	2008	50		RRIM-600, RRIL-105	170	103.2	Immatured area	Under process	Not constructed				
9	Saratchandrapur	Baripada	2008	50		RRIM-600, RRIL-105	83	103.2	Immatured area	Under process	Not constructed				
10	Kumardagla	Baripada	2008	50		RRIM-600, RRIL-105	87	103.2	Immatured area	Under process	Not constructed				
11	Raotrapur	Baripada	1014	80		RRIL-105, RRIL-430	79		Immatured area	Under process	Not constructed				
		Total		510	111.74		1126						102.19	96.62	

Summary of Good Practices

Activity: Block Plantation of Rubber

The block plantation method of rubber production can be considered as an important practice and a success story which was initiated by the Rubber Board with the support of ITDA.

Key Conditions: For success key conditions are given below.

1. For block plantation, the required lands are identified in advance and in contiguous areas rather than scattered individual plots. This has resulted in economies of scale. This has acclaim from all quarters. Rate of mortality in the block plantation is very low as compared to other forms of rubber plantation;
2. Block plantation requires active participation of the stakeholders in raising, maintenance and in protection of the plantation;
3. Community processing established at the block plantation level helps generate additional income;
4. In case of block plantation, entire family is considered as equal stakeholder. All the members of a family participate, which generates a sense of belongingness and responsibility;
5. Rubber plantation has been accepted by the tribals as a culturally compatible and sustainable means of livelihood. For economic upliftment of tribal families, rubber plantation is considered as better and suitable for them because of eco-friendly method;
6. The initiative of Block plantation helps the tribal farmers to provide regular long term income and settled form of livelihood. It also promotes eco-friendly method of cultivation. This has encouraged them to take up rubber cultivation in massive scale with their own funds and mobilizing financial assistance from other sources.

Geographic Location: Rubber can be cultivated in

the certain geographical area with specific climatic conditions

- Hilly Area
- Climatic Conditions for Optimum Growth of Rubber Tree:
 1. Rainfall of 2000 to 3000 mm evenly distributed without any marked dry season and with 125 to 150 rainy days per annum
 2. Maximum temperature of about 29oC to 34oC and minimum of about 20oC or more with a monthly mean of 25 to 28oC
 3. High atmospheric humidity of the order of 80%
 4. Bright sunshine amounting to about 2000 h per annum at the rate of 6 h per day through all the months
 5. Absence of strong wind

Technical Support Services

- Mobilisation / Awareness of beneficiary through FNGO:
- Training & Capacity Building arrangement for beneficiary by technical expert of Rubber Board of India and FNGO
- Handholding: Extended handholding support by technical expert and FNGO
- Provision for Exposure Visit:

Financial Support Services

- Bank Linkage & Credit Support
- Government / Departmental Support: ITDA should provide incentive to the rubber farmers in terms of (1) Planting Material Subsidy, (2) subsidy for Fencing, (3) planting grant, (4) subsidy for smoke house and (5) subsidy for sheet rollers
- Beneficiary Contribution: Labour Work, Shed Preparation (labour component) are to be borne by the Farmer.
- Market Linkage/ Support or Buy Back System
- Convergence with Government Departments/ Schemes especially MGNREGS

Benefit

- Economic / Income Benefit: On an average, each beneficiary is now able to have an additional earning of at least Rs.50000 to Rs.70000 annually from 1 acre farm.
- Social Benefit
 - o Creation employment opportunity and reduction in distress migration:
 - o Food Security:
 - o Improvement in Health and Sanitation:





4.9 WADI

Introduction

The wadi concept is a holistic development approach that takes into account all aspects of rural life. It covers the development of a designated area of land and its inhabitants in the form of a wadi cluster. It has dimensions of farm production, natural resource management, social mobilisation and economic upliftment. From an individual farm perspective, it is a tree-based farming system, more specifically a wadi system, in which the agri-horti-forestry unit interacts with other production components of the farm such as annual crop fields and livestock. At the level of the physical land unit, the wadi plot is an agri-horti-forestry arrangement of beneficial plant species. This concept has turned out to be a practical strategy for the development of smallholders in dry areas who cannot take the risk of investing in high-input intensive agriculture because of poor land quality and limited water availability.

State	:	Odisha
District	:	Kalahandi
ITDA Area	:	Th. Rampur
Block	:	Th. Rampur and Lanjigarh
Activity	:	WADI and DBI in Agency Area

Activities in the broader framework of the wadi concept can be for natural resource management, adoption of sustainable farming practices and the overall socio-economic elevation of rural communities. Individually, farmers may construct water conservation structures within their farms, but the benefits can be manifold if this is taken up as a community initiative. Hence area-based treatment, as in watersheds or comparable large land areas, is advocated in wadi programmes for soil and water conservation. Not only this ensures uniformity and contiguity in the measures implemented, but also makes sure that plots of common and community land in the locality are also treated. Examples of other



benefits due to community action are: water bodies and waterways can be developed to harness rain water, coordinated effort by neighbouring farmers can control pests and diseases effectively and better prices can be realised for the produce.

Another feature of the wadi concept is the empowerment of people through social mobilisation and capacity building to address issues beyond farming and agroforestry. This can be seen in the formation of people's organisations that assume the responsibility of managing local issues. It creates opportunities for people, especially women, to work together as small groups and earn additional income. Other key components of the wadi programme are community health, drinking water and sanitation. Thus, at the individual farm level, wadi is an agri-horti-forestry intervention. The picture at the macro-level, however, is one where the wadi programme is an approach to comprehensive rural development through a farming system approach.

Wadi system

The influence of other enterprises of the farmer on the agroforestry unit is given due recognition in the wadi concept. Whereas the interaction among the components in most agroforestry systems is in the tree-crop interface, it is generally in the carry over form in wadi. For example, the fodder from the forestry species in the wadi is used as fodder for livestock and the dung or farmyard manure is returned to the interspaces where annual crops are grown. Similarly, there is interaction among the wadi and non-wadi land in sharing labour and inputs. Taking these factors into consideration in the design and execution contributes towards the success of wadi. The wadi system also includes activities such as production of seedlings or grafts in nurseries and post-harvest handling of processing and marketing of produce.

Wadi plot

The wadi plot is usually a piece of land measuring 0.4-1.0 ha. It has agricultural crops, horticultural trees and

forestry species as constituents. The arrangement of these species generally centres around the horticultural component. Fruit and nut trees like mango, cashew and amla are the common horticultural species in wadi and they are planted at the recommended spacing; for example, 10 x 10 m for mango and 7.0 x 7.0 for cashew. As intercrops are grown in the spaces between the trees, what they produce is an additional yield from the land and it does not come at the expense of fruit / nut yield. The third component of the wadi system is the forestry species such as subabul and gliricidia. These multipurpose trees are planted at relatively close spacing along the border of the land designated for wadi. The shift from rainfall-dependent single crop to at least three species in the wadi enhances the ecological sustainability of the farm. At the same time, the product diversity in the form of food, fodder, fuelwood and small timber increases the economic sustainability of the farmer.

Well over 50,000 farmers in the states of Gujarat, Karnataka, Maharashtra, Rajasthan and Uttar Pradesh have developed more than 30,000 ha of land under wadi. The background of most of these farmers is remarkably similar: their farms became fragmented through division among the children; continuous cultivation rendered the land low in fertility; unpredictable rainfall resulted in repeated crop failures. The combined outcome of all these conditions is their migration to work as labourers and earn a livelihood. Their turnaround success story has a similarity as well: they participated in a project to develop their land under wadi; they received inputs such as grafts, seeds and manure besides guidance on improved farming practices; the returns during the first 3-4 years were from the crops grown in the tree interspaces, yet it was more than what they earned as labourers; their toil paid off when the fruit / nut trees started bearing and they now look forward to a bright future.

It is evident that the background of the people is a key factor in the success of the wadi programme. Introduction of tree-based system makes small holders realise that their land is a valuable resource.





As a result, they build a permanent relationship with their land and devote more time and energy towards its development. Wadi may not be the best option for fertile lands with irrigation facility where 2-3 crops can be raised successfully in a year. Wadi has succeeded among people who do not own fertile land and water facility. A basic requirement in wadi programme is the initial support for inputs as subsistence farmers do not have the reserves to invest. This support has to be further strengthened by providing technical information on improved farming practices. Eventually, however, wadi farmers create a productive resource where the major input is their own labour.

Conditions for Success

Another factor to be incorporated in wadi programming is the simultaneous planning and implementation of all the wadi plots in a cluster so that there is uniformity in tree stands, soil conservation measures and water resource development. The emergence of wadis and the associated development activities in a compact cluster transform the usually prevalent community

fellowship into synergy and group dynamism that is focussed towards well-defined goals. The benefit of this community mobilisation continues even after the initial phase of wadi establishment in managing and solving problems as and when they emerge.

The product range of the wadi system opens up possibilities of value addition through forward linkages. Therefore, while planning a wadi programme, it is essential to build in post-production strategies and linkages for processing and marketing. Some of these activities are ideally suited for women and can be made use of for their empowerment. Thus, the development spectrum of wadi includes rural non-farm activities like tailoring and operating flour mills for the empowerment of women.

The long gestation period of perennial crops in the wadi (E.g. mango, cashew) can be reduced to about four years by the use of grafts or other vegetative propagation practices. But four years is also a relatively long period of time for small farmers, so alternative sources of income have to be incorporated

in the wadi programme. Raising intercrops with improved cultivation practices is one avenue of income generation. Interestingly, the wadi approach opens up opportunities for a number of local enterprises like nurseries to produce grafts / seedlings, dairy / goat husbandry and compost making. Complementing the primary intervention of wadi, these allied activities widen the sources of income for the rural population. At the same time, critical inputs such as planting material and compost become locally available at a reasonable price.

Background of the Good Practice

Thuamul Rampur (also call T. Rampur) is one of the blocks of the Kalahandi district which is primarily a tribal-dominated block. The population here belongs mainly to the Kondha Paraja tribe, who traditionally depend on shifting cultivation. Subsistence agriculture in dry land farming conditions and collection of Non-Timber Forest Produces (NTFPs) are critical to their livelihood. Both these sources normally remain inadequate to meet the livelihood requirement of the family. Climatic factors coupled with agricultural practices in combination perpetuated the fragility in livelihood of the tribal people and ultimately led to distress migration in the region. Some of the factors, that are responsible for adoption of an innovative farming approach are;

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that are responsible for adoption of an innovative farming approach are;

Erratic Rainfall and lack of measures to use rain water properly: People faces problem in immediate passed monsoon period to sustain delayed main crops or vegetables due to erratic rain fall during monsoon. In case delayed rain, there is hardly any scope left for harvesting a good crop.

Low land holding: Average land holding is very low in the project area. Further small and marginal farmers have less resource to take up improved agricultural practices.

Grazing: Cattles are generally let out to graze in the field during off season which also compels the farmers not to grow crops in Rabi season, even with small irrigation facilities near the stream.

Adoption of mono cropping (rain-fed crops): On an average 50% of the total precipitation and almost 99 % of runoff drains out of the area during the four monsoon months leaving the area dry for the rest part of the year. This has badly affected the survival and growth of the local flora and fauna. This has ultimately arrested the growth of agriculture and limited the capacity to invest for multi cropping.

Regular crop failures due to seasonal climatic aberration: There is a frequent phenomenon of mid dry during monsoon for last many years. As the project area is situated in rain-fed upland and undulated terrains, so the moisture regime. Most of the farmers are vulnerable as majority depend upon agriculture which is shrinking gradually and leading towards excessive pressure on natural resources i.e. forest.

Block	GP	Village	HHs Involved	Area (in ac.)
Th. Rampur	12	53	976	1044.75
Lanjigarh	09	39	409	411.50
Total	21	92	1385	1456.25

A feasibility survey was conducted by the A.O, DAC(OPSL), Horticulture Expert, Forestry Officer of

O TELP/ ITDA, Th. Rampur and the study found that the soil & climate in the ITDA areas i.e. Th.Rampur and Lanjigarh are conducive for fruit crops. Fruits like Mango, Jackfruits, Custard Apple, Pineapple and Litchi are found in the tribal areas. These fruit crops provide food and income to the tribals. At present, indigenous Mango varieties are found in all most every village from which the villagers prepare “Ambula” from raw mango, “Champabati” a dried mango product from ripe mango and “Ambasada” from mango juice and sell those products in local markets. In few villages, Litchi plantations are there and it is giving remunerative yield.



There is need of introducing improved varieties of mango & litchi in this area to generate income and food source for tribal farmers. The climatic condition in Th.Rampur is favorable for litchi plantation. Last year ITDA/ O TELP attempted to introduce litchi under “WADI” Plantation by O TELP in area of 5.20 Ha. In earlier years, steps taken by different departments for introduction of fruit crops mostly Mango, but it has not been fully successful due to the reason that the provision of long term assistance to take care of the plantation has not been thought up during project conceptualization stage. As the tribals are financially & technically not sound, they are not able to meet the allied expenses of the fruit crops like fencing, fertilization, irrigation and expenses towards other operations from own sources.



Particulars	ITDA / OTELP Model
Motivation behind the model	Reduce Migration through Natural Resource Management and provide local Income Generation Opportunities.
Process Adopted	Soil and Water Conservation, promoting WADI, Creation of CBOs.
Stakeholders Participated	State Government Agencies like DRDA/ Watershed/ITDA/OTELP/ NHM.
Target Beneficiaries	Tribal Households
Benefits	<ul style="list-style-type: none"> -Capacity building of people and institutions. -Women's Empowerment. -Improved decision making at community level. -Less external dependency. -Asset building at household as well as village level. -Priorities to children's education.
Stages of livelihood Security Attained	<ul style="list-style-type: none"> -Ecological Security -Food Security -Financial Security -Social Security

Considering the above facts, a holistic approach was needed in dealing with the livelihood of vulnerable rural tribal households. The ITDA, Th. Rampur came forward for the upliftment of the marginalised sections among the scheduled tribes in the villages under this ITDA to promote self-reliance in farming. Plan for orchard development was initiated along with the revival of intercropping and crop diversification in several villages. Care has been taken for a long term programme, i.e., for a period of five years has been drawn up which will be helpful for raising successful orchards in tribal farmer's field. The WADI programme with mango in Lanjigarh in 100 acres and Mango with Litchi in 300 acres at Th. Rampur block has been prepared. The Action Plan has been drawn up keeping in view the provision made in National Horticulture Mission (NHM) by Horticulture Department and the MGNREGS by DRDA and a part of the expenditure has to be borne by the participating farmers and rest to be funded out of SCA to TSP allotment. The ratio of the plan outlay has been kept as 51:49 in respect of Beneficiary + MGNREGS component and subsidy component under both NHM and SCA to TSP which is admissible under SCA.

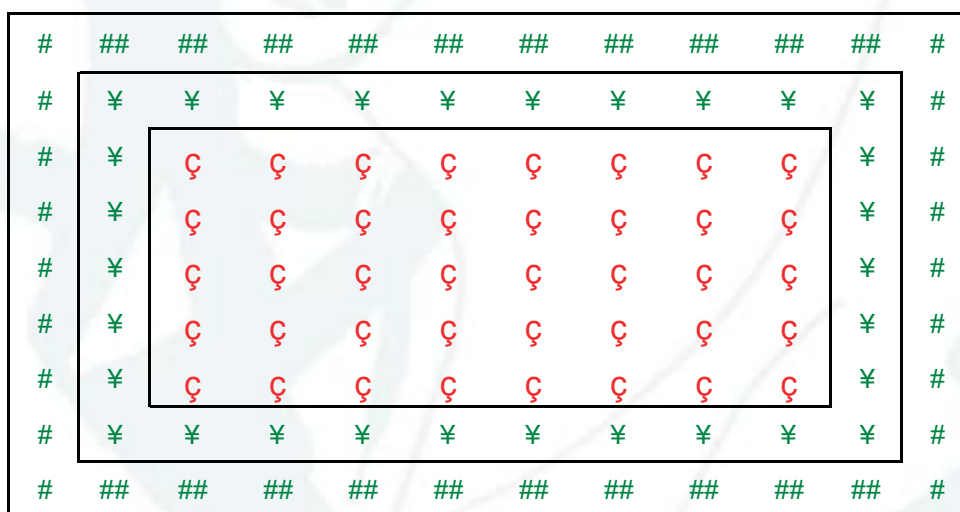


Objectives

WADI project was started in the block with the following objectives.

- Remunerative self-employment and settlement in own environment.
- Shift in focus from farmer centric to family centric.
- Improving efficient utilisation of land and water resources.
- Prevents seasonal migration and shifting cultivation.
- Promoting food-security, improve quality of life and a clean environment.
- Improvement in agricultural practices and technologies
- Reduced dependency on forest for fuel wood & fodder.

A Model Field Layout under WADI (Mango):



Convergence Plan

WADI project was implemented in a convergence manner with different schemes, such as schemes of Agriculture and Farmers' Empowerment Department, schemes of Fisheries and Animal Resources Development Department, Forest and Environment Department etc. A detail convergence plan by Department / Directorate is presented in the table.

Convergence Plan	
Agriculture Department / ATMA	Free Mini Kit/ Vermin compost
NHM	Planting Material/ Vermin compost / Floriculture
Veterinary Department	Vaccination/ Deworming/ (Cattle & Birds)
MGNREGS	Land Development, Farm Pond
Fishery	Fingerlings
DWM / OTELP	Soil & water conservation, Plantation
Forestry	Bamboo/ Chakunda/ Neem/ Acacia

Note: The above convergence programme is decided by a District Level Committee Meeting on Dt. 05.08.2011

Post-Harvest Management and Market Linkage

Under the project, for post-harvest management and market linkage, it was planned to establish mini cold storage of 15 MT capacity at the block level, engaging a vehicle, known as welfare express for transportation of commodities to minimize transportation cost and promote market complex at block and district headquarters for selling of commodities.

With the support of ITDA, Kalahandi, Wadi project was implemented in several villages under this ITDA. Under this project, farm inputs such as mango and lychee saplings were provided to several farmers covering 250 acres of land during the year 2015-16. Two or more crops were selected in the WADI plots to minimise climatic, biological and marketing risk.

Storage	Transportation	Immediate selling at Locality
Mini Cold Storage: One at each Block HQ (15 MT Capacity)	Welfare Express provided earlier by ITDA: 4 nos. (TATA ACE- HT)	One Welfare Market Complex at each Block HQ/ one at Dist. HQ.
Engagement of Supporting staff	A Detail Rote Chart to connect every WADI village.	Involvement of SHGs

Village-wise No. of WADI Plantation Area 2015-16			
Sl.No.	Village	No. of Beneficiary	Total Area (in acre)
1	Bhitarguma	9	9
2	Chulbadi	8	8
3	Gokulama	13	13
4	Jhudngijore	8	8
5	Kathaghara	21	21
6	Khandala	8	8
7	Korang	17	17
8	Kutruguda	3	3
9	Madangguda	25	25
10	Merkatara	10	10
11	Ranpur	20	20
12	Sialipadar	5	5

Village-wise No. ofWADI Plantation Area 2015-16			
Sl.No.	Village	No. of Beneficiary	Total Area (in acre)
13	Signi	7	7
14	Simelapadar	9	9
15	Tarapadar	12	12
16	Tentulipadar	5	5
17	Th.bhataguda	17	17
18	Tikraguda	5	5
19	Tundamuin	9	9
20	Turibhejiguda	29	29
21	Upampadar	10	10
	Total	250	250



Village-wise No. of WADI & Vegetable Beneficiaries for the Year 2016-17		
Block	WADI Villages	No. of Beneficiary
Lanjigarh	Bhaluchanchara	12
	Gopalpur	13
	Madang-dani	9
	Madhupur	4
	Patbhaler	6
	Pipalpada	6
	Ramachandrapur	10
	Lanjigarh Total	60
Th.Rampur	Amjhola	17
	Anikona	16
	Chachikona	7
	Dengen	8
	Kirkicha	9
	Latiaguda	17
	Melghara	19
	Nichimaska	24
	Phuldumer	12
	Pitmandi	16
	Raimal	7
	Sorisbundel	10
	Srimaska	22
	Taragaon	21
	Turibhejiguda	12
	Udiguna	12
	Ushamaska	11
	Th. Rampur Total	240
Total	300	

Under the project, different inputs were provided by the ITDA to the WADI farmers so that their initial investment cost will be reduced and it will not be a burden on them in the way of achieving more sustainable livelihood. Different inputs the project provided to the farmers are mentioned in the table.

Type of Inputs Provided to the Beneficiaries under WADI and Vegetables activities	
WADI / Vegetables	Type of Inputs
Wadi Inputs	Mango (in Nos.)
	Organic Fertilizer (50 Kg)
	Neem Cake (50 Kg)
	Vermi Compost (30 Kg)
	Neem Pesticide (1 Ltr.)
	Choloro Dust (1 Kg)
	Gabian (40 Nos.)
	Boarder Species (300 Nos.)
Vegetable Inputs	Tricho-derma (1 Kg)
	Azoto-bactor (1 Kg)
	PSB (1 Kg)
	M-45 (250 GM)
	Tamato (10 GM)
	Brinjal (10 GM)
	Beans (500 GM)
	Couli-flower (10 GM)
	Cabbage (10 GM)

Abstract of WADI Estimate- Convergence with MGNREGS for the Year 2016-17

Sl. No.	Component	Amount (in Rs.) For		Converg-ence with
		1 Ac.	300 Acs.	
A	Labour Component:			
	Land Development	4920	1476000	MGNREGS
1	Lay out and demarcation	328	98400	MGNREGS
2	Digging of pits (1mt x 1mt x 1mt)	4100	1230000	MGNREGS
3	Filling of pits (carrying of manure / products mixing with soil and basal dose of fertilizer.	820	246000	MGNREGS
4	Planting followed by watering	492	147600	MGNREGS
5	Irrigation- Drip System	8200	2460000	MGNREGS
6	Intercultural operation (Hoeing, Weeding, application of fertilizer, manuring)	820	246000	MGNREGS
7	Intercrop Vegetables Cultivation	6560	1968000	MGNREGS
8	Application of PP Chemical	328	98400	MGNREGS
9	Gabion & Mulching (installation)	660	198000	MGNREGS
10	Collection of fencing material and fixing.	4100	1230000	MGNREGS
11	Collection of staking materials and fixing	492	147600	MGNREGS
12	Unforeseen labour works	656	196800	MGNREGS

Sl. No.	Component	Amount (in Rs.) For		Convergen- ce with
		1 Ac.	300 Acs.	
B	Materials Component:			
1	Cost of Planting material (@ Rs.32.50 per Graft) including 10% gap filling of last year.	1070	321000	SCA-TSP
2	Cost of Organic manure / fertilizer & other Organic Products (Azoto, PSB,NeemCake,Trico.V,Neem Oil etc.)	3000	900000	SCA-TSP
3	Cost of Organic PP Chemical	420	126000	SCA-TSP
4	Cost of fencing materials including cost of forest species seedling (@ Rs. 6.50 / Pc. Approx.).	1950	585000	SCA-TSP
5	Cost of Gabion & Mulching (100 micron Poly mulch)	7000	2100000	SCA-TSP
6	Cost of Intercropping Vegetable Cultivation (Seeds, Organic fertilizer, Pesticides etc.)	3500	1050000	SCA-TSP
7	Cost of Pitchers.	1000	300000	SCA-TSP
8	Cost of Display Board	520	156000	SCA-TSP
9	Transportation Charges- WADI inputs	2500	750000	SCA-TSP
10	Miscellaneous expenditure	250	75000	SCA-TSP
C	Capacity Building & Manpower Support Component:			
1	Cost of Training & Capacity Building	330	99000	SSD
2	Cost of Exposure Visit (in or outside district)	330	99000	SSD
3	Cost of Awareness Camp (i.e. Theatre / Puppet Show / Road Show etc.)	330	99000	SSD
4	Semi-Skilled Person (i.e., UddyanSathi) for supervision of WADI @ Rs.226/- per day basis.	1100	330000	MGNREGS
Sub-Total: MGNREGS Component		33576	10072800	
Sub-Total: SCA Component		21210	6363000	
Sub-Total: SSD Component		990	297000	
Total:		55776	16732800	

Village-wise Total Area and No. of Beneficiaries under DBI and WADI Project										
Village	Gram Panchayat	Total No. of Farmer	No of Farmers		Total Area		Kharif Cultivation		Rabi Cultivation	
			DBI	WADI	DBI	WADI	Area (In Acre]	Crop	Area (In Acre]	Crop
Madang-guda	Gunpur	60	30	10	30	10	58	Paddy, Maize, Ragi, Koshala, Kutting, Kandul	15	Vegetable as (cauliflower, cabbage, tomato, brinjal, beans, barbuti), nizer, mustard, sunflower, paddy.
Simelp-adar	Gunpur	35	22	13	22	13	33		18	
Karnibel	Nakrundi	20	20		20		18		12	
Kumuda-bahal	Kaniguma	36	20	16	20	16	34		16	
Ranidumer	Kaniguma	42	25	17	18	17	36		15	

Organic Way of Farming

In the project, organic way of farming is being promoted which has been transforming the current practices making the agricultural produces more healthy. This environmental conducive practice touching all segments of the farm and transforming practices and bringing a holistic perspective to environmental friendly farming. It relates agriculture to nature and culture that are going together. Further it does not exploit the land rather nourishes it and make it more productive.



Inter Cropping

To make use of the available land optimally and to meet the short-term requirements, the project promoted intercropping and crop diversification within the WADI plot. Farmers are oriented accordingly to take up a range of crops like grams, pulses and vegetables. For example, vegetables like tomato, brinjal, beans, chilly, pumpkin and various pulses such as cow pea, arhar, and black gram were grown by the farmers under the project. The WADI plot is provided with irrigation facility round the year through Diversion Based Irrigation (DBI) system.



Project Outcome

Reduction in Distress Migration

There is reduction in distress migration at the household level in most of the WADI villages. All the households who used to migrate are now involved in the project activities. At least one member from such households has been engaged in the WADI activities throughout the year. Regular interactions with the villagers and by organizing regular interfaces with the ITDA, the target communities are able to avail government provisions & facilities.



Food Security

Irrigation facility created under the project, intercropping and mixed cropping along with detail crop planning has improved food production significantly in all the WADI villages. The villages have already become vegetable and pulses surplus area. At present green vegetable and pulses have become part of daily meals of the tribal households which directly impacting on the health of family members.

Improvement in Health and Sanitation:

As compared to earlier day's awareness among the villagers have increased. Regular meeting of GoanKalyanSamitees are organized with support of OTELP / ITDA with the Village Development Committee (VDC). Regular use of Mosquito Net and use of safe drinking water practices is increasing. Presently the women groups of the WADI villages are keeping close relation with ANGANWADI, ASHA, ANM and acting as the peer pressure group of the village on health & sanitation.

Open grazing was a big threat to young plants in Wadi plots. A stronger fence on the border has helped the farmers to protect their plants from destruction. Elaborated planning and on time inputs helped the farmers to optimize return from the field. The benefits are tremendous as they have made much profit out of their waste lands. The mixed and intercropping system has helped farmers alongside fruit trees like mango and other fruits that fetch much higher returns. The Wadi project is more than just improving

rural livelihoods in a sustainable way. It has dimensions of farm production, natural resource management, social mobilisation and economic upliftment.

Income Generation:

The diversification of crops not only provided food security, but also supplemented the family income as the surplus was sold in the local haats. On an average, each farmer is now able to have an additional earning of at least Rs.15,000 to Rs.18,000 annually from his farm. This earning has enabled them to strengthen their asset base, in terms of repairing their houses, purchasing bicycles, bullocks and other household needs.

Savings and Credit

Women are now organised through the Self-Help Groups (SHG) which provides them a platform where they can interact amongst themselves and simultaneously with all villagers. These groups function as credit and savings groups. SHGs in the project area have been motivated towards substantial savings and inter loaning activities amongst the group members. The members are trained on maintaining their basic documents and carrying forward their group activities in a desired direction.



Case of a WADI Village

Village: Madangguda, Beneficiary Name: Dhaneswar Majhi								
Crop and Season	Crop Area in acre		Cost of Production in Rs		Gross Value of Produce in Rs		Net Returns Rs	
	Before	Present	Before	Present	Before	Present	Before	Present
Kharif								
Maize	2	2	14200	15400	16100	21600	1900	6200
Paddy	2	2	23700	29544	25000	38400	1300	8856
Kharif Total	4	4	37900	44944	41100	60000	3200	15056
Rabi								
Cabbage	0	0.5	0	10300	0	30000	0	19700
Cauliflower	0	0.5	0	11410	0	35000	0	23590
Mustard	0	1	0	0	0	0	0	0
Paddy	0	2	0	31344	0	38400	0	7056
Rabi Total		4	0	53054	0	103400	0	50346
Summer								
Summer Total	0	0	0	0	0	0	0	0
Total	4	4	37900	97998	41100	163400	3200	65402

Village: Similipadar, Beneficiary Name: Ravan Majhi								
Crop and Season	Crop Area in acre		Cost of Production in Rs		Gross Value of Produce in Rs		Net Returns Rs	
	Before	Present	Before	Present	Before	Present	Before	Present
Kharif								
Bhendi	0	0.25	0	4060	0	6000	0	1940
Paddy	2	2	5300	31344	6000	38400	700	7056
Ribbed gourd (Janhi)	0	0.5	0	8150	0	16000	0	7850
Bottle gourd	0	0.25	0	4150	0	12000	0	7850
Kharif Total	2	3	5300	47704	6000	72400	700	24696
Rabi								
Brinjal	0	0.25	0	4425	0	10500	0	6075
Cabbage	0	0.25	0	5225	0	15000	0	9775
Cauliflower	0	0.25	0	5705	0	17500	0	11795
Onion	0	0.5	0	11650	0	0	0	0
Potato	0	0.5	0	12600	0	0	0	0
Tomato	0	0.25	0	4640	0	11250	0	6610
Rabi Total	0	2	0	44245	0	54250	0	34255
Summer								
Paddy	0	2	0	31344	0	36000	0	4656

Summer Total	0	2	0	31344	0	36000	0	4656
Total	2	2	5300	123293	6000	162650	700	63607

Village: Similipadar, Beneficiary Name: Pramodini Majhi								
Crop and Season	Crop Area in acre		Cost of Production in Rs		Gross Value of Produce in Rs		Net Returns Rs	
	Before	Present	Before	Present	Before	Present	Before	Present
Kharif								
Paddy	1	1	3500	15672	4000	19200	500	3528
Kharif Total	1	1	3500	15672	4000	19200	500	3528
Rabi	0	0	0	0	0	0	0	0
Cabbage	0	0.25	0	5225	0	15000	0	9775
Cauliflower	0	0.25	0	5705	0	17500	0	11795
Radish	0	0.25	0	2990	0	5500	0	2510
Tamato	0	0.25	0	4640	0	11250	0	6610
Rabi Total	0	1	0	18560	0	49250	0	30690
Summer								
Paddy	0	1	0	14400	0	16800	0	2400
Summer Total	0	1	0	14400	0	16800	0	2400
Total	1	1	3500	48632	4000	85250	500	36618

Village: Similipadar, Beneficiary Name: Balsingi Majhi								
Cropping Season	Crop Area in acre		Cost of Production in Rs		Gross Value of Produce in Rs		Net Returns Rs	
	Before	Present	Before	Present	Before	Present	Before	Present
Kharif								
Maize	0	0.5	0	3850	0	5400	0	1550
Paddy	1.5	1	5300	15672	6000	19200	700	3528
Kharif Total	1.5	1.5	5300	19522	6000	24600	700	5078
Rabi								
Brinjal	0	0.3	0	5130	0	12600	0	7470
Cabbage	0	0.2	0	4420	0	12000	0	7580
Cauliflower	0	0.3	0	6576	0	21000	0	14424
Chillies Dry	0	0.25	0	2915	0	12250	0	9335
Chillies Green	0	0.25	0	2915	0	10200	0	7285
Tamato	0	0.2	0	4002	0	9000	0	4998
Rabi Total	0	1.5	0	25958	0	77050	0	51092
Summer								
Summer Total	0	0	0	0	0	0	0	0
Total	1.5	1.5	5300	45480	6000	101650	700	56170

Village: Kumudabahal, Beneficiary Name: Dumen Majhi								
Crop and Season	Crop Area (in acre)		Cost of Production (in Rs.)		Gross Value of Produce (in Rs.)		Net Returns (in Rs.)	
	Before	Present	Before	Present	Before	Present	Before	Present
Kharif								
Maize	0	0.5	0	3850	0	5400	0	1550
Paddy	1.5	1	5300	15672	6000	19200	700	3528
Kharif Total	1.5	1.5	5300	19522	6000	24600	700	5078
Rabi								
Brinjal	0	0.3	0	5130	0	12600	0	7470
Cabbage	0	0.2	0	7720	0	36000	0	28280
Cauliflower	0	0.3	0	9726	0	58000	0	48274
Onion	0	0.25	0	5900	0	9600	0	3700
Potato	0	0.25	0	6525	0	12300	0	5775
Tamato	0	0.2	0	4002	0	9000	0	4998
Rabi Total	0	1.5	0	39003	0	137500	0	98497
Summer								
Paddy	0	1	0	14400	0	16800	0	2400
Summer Total	0	1	0	14400	0	16800	0	2400
Total	1.5	1.5	5300	72925	6000	178900	700	105975

Village: Kumudabahal, Beneficiary Name: Ujala Majhi								
Crop and Season	Crop Area (in acre)		Cost of Production (in Rs.)		Gross Value of Produce (in Rs.)		Net Returns (in Rs.)	
	Before	Present	Before	Present	Before	Present	Before	Present
Kharif								
Paddy	1	1	3500	15672	4000	19200	500	3528
Kharif Total	1	1	3500	15672	4000	19200	500	3528
Rabi								
Brinjal	0	0.2	0	3720	0	8400	0	4680
Cabbage	0	0.2	0	4420	0	36000	0	31580
Cauliflower	0	0.3	0	6576	0	42000	0	35424
Radish	0	0.1	0	1556	0	2200	0	644
Tamato	0	0.2	0	4002	0	9000	0	4998
Rabi Total	0	1	0	20274	0	97600	0	77326
Summer								
Paddy	0	1	0	14400	0	16800	0	2400
Summer Total	0	1	0	14400	0	16800	0	2400
Total	1	1	3500	50346	4000	133600	500	83254

Village: Jamchuan, Beneficiary Name: Godara Majhi								
Crop and Season	Crop Area (in acre)		Cost of Production (in Rs.)		Gross Value of Produce (in Rs.)		Net Returns (in Rs.)	
	Before	Present	Before	Present	Before	Present	Before	Present
Kharif								
Bottle gourd (Bada Potal)	0	0.25	0	4150	0	12000	0	7850
Paddy	1.5	1	5300	15672	6000	19200	700	3528
Ribbed gourd (Janhi)	0	0.25	0	4150	0	8000	0	3850
Kharif Total	1.5	1.5	5300	23972	6000	39200	700	15228
Rabi								
Beans	0	0.2	0	2716	0	6400	0	3684
Cabbage	0	0.25	0	5225	0	45000	0	39775
Coriander (Dhania)	0	0.05	0	860	0	3480	0	2620
Onion	0	0.25	0	5900	0	9600	0	3700
Potato	0	0.25	0	6525	0	12300	0	5775
Sweet Potato	0	0.25	0	3000	0	9000	0	6000
Tomato	0	0.25	0	4640	0	11250	0	6610
Rabi Total	0	1.5	0	28866	0	97030	0	68164
Summer								
Summer Total	0	0	0	0	0	0	0	0
Total	1.5	1.5	5300	52838	6000	136230	700	83392

Village: Jamchuan, Beneficiary Name: Duti Majhi								
Crop and Season	Crop Area (in acre)		Cost of Production (in Rs.)		Gross Value of Produce (in Rs.)		Net Returns (in Rs.)	
	Before	Present	Before	Present	Before	Present	Before	Present
Kharif								
Kandul	0.5	0	0	0	0	0	0	0
Paddy	0	1.5	0	23508	0	28800	0	5292
Kharif Total	0.5	1.5	0	23508	0	28800	0	5292
Rabi								
Banana	0	0.2	0	3660	0	30000	0	26340
Brinjal	0	0.2	0	3720	0	8400	0	4680
Cabbage	0	0.2	0	4420	0	36000	0	31580
Coriander (Dhania)	0	0.05	0	860	0	3480	0	2620
Onion	0	0.25	0	5900	0	9600	0	3700
Potato	0	0.25	0	6525	0	12300	0	5775

Village: Jamchuan, Beneficiary Name: Duti Majhi								
Crop and Season	Crop Area (in acre)		Cost of Production (in Rs.)		Gross Value of Produce (in Rs.)		Net Returns (in Rs.)	
	Before	Present	Before	Present	Before	Present	Before	Present
Radish	0	0.1	0	1556	0	2200	0	644
Sweet Potato	0	0.25	0	3000	0	9000	0	6000
Rabi Total	0	1.5	0	29641	0	110980	0	81339
Summer								
Paddy	0	1.5	0	23508	0	28800	0	5292
Summer Total	0	1.5	0	23508	0	28800	0	5292
Total	0.5	1.5	0	76657	0	168580	0	91923

Village: Jamchuan, Beneficiary Name: Maheswar Majhi								
Crop and Season	Crop Area (in acre)		Cost of Production (in Rs.)		Gross Value of Produce (in Rs.)		Net Returns (in Rs.)	
	Before	Present	Before	Present	Before	Present	Before	Present
Kharif								
Paddy	0	1	0	15672	0	19200	0	3528
Ragi	0	0.5	0	2340	0	4400	0	2060
Kharif Total	0	1.5	0	18012	0	23600	0	5588
Rabi								
Bhendi	0	0.2	0	3368	0	4800	0	1432
Cauliflower	0	0.3	0	6576	0	42000	0	35424
Chilies Green	0	0.25	0	2915	0	10200	0	7285
Onion	0	0.25	0	5900	0	9600	0	3700
Potato	0	0.25	0	6525	0	12300	0	5775
Tomato	0	0.25	0	4640	0	11250	0	6610
Rabi Total	0	1.5	0	29924	0	90150	0	60226
Summer								
Paddy	0	1.5	0	14400	0	16800	0	2400
Summer Total	0	1.5	0	14400	0	16800	0	2400
Total	0	1.5	0	62336	0	130550	0	68214



Summary of Good Practices

Key Conditions:

- *Diversion Based Irrigation: Hilly area, plentifully available of perennial source of water throughout the year*
- *Farmers having at least 1 acre of land in a single patch*

Third Party Support

- *Take Support of Facilitating NGO (FNGO)*

Technical Support Services

- *Mobilisation / Awareness of beneficiary through FNGO:*
- *Training & Capacity Building arrangement for beneficiary by technical expert and FNGO*
- *Handholding: Extended handholding support by technical expert and FNGO*
- *Exposure Visit:*

Financial Support Services

- *Bank Linkage & Credit Support*
- *Government / Departmental Support*
- *Convergence with other Scheme*

Convergence Plan

Convergence Plan	
Agriculture Department / ATMA	Free Mini Kit/ Vermin compost
NHM	Planting Material/ Vermin compost / Floriculture
Veterinary Department	Vaccination/ Deworming/ (Cattle & Birds)
MGNREGS	Land Development, Farm Pond
Fishery	Fingerlings
DWM / OTELP	Soil & water conservation, Plantation
Forestry	Bamboo/ Chakunda/ Neem/ Acacia

- *Beneficiary Contribution: Labour Work, Field Preparation, Pit Digging, Irrigation, Intercultural Operation, FYM and operation are to be borne by the Farmer.*

- *Market Linkage/ Support*

Benefit

- *Economic / Income Benefit: On an average, each beneficiary is now able to have an additional earning of at least Rs.15000 to Rs.18000 annually from his farm.*
- *Social Benefit*
 - o *Creation employment opportunity and reduction in distress migration: At least one member from beneficiary households will be engaged in the WADI activities throughout the year.*
 - o *Food Security: Increase in additional production of vegetable and pulses which will become part of daily meals of the tribal households which directly impacting on the health of family members.*
 - o *Improvement in Health and Sanitation: Impact of Regular meeting of Goan Kalyan Samitees (GKS) are organized with support of ITDA, FNGO and also when income increases health cautious increases*



4.10 Coffee Plantation

Introduction

Podu cultivation by felling of forest is the general practice of the tribals in the area. Agricultural crops like Ragi, Sama, Paddy, Rajmah, Niger and other pulses are raised in the area for one or two seasons. After cultivation of the above crops for one or two seasons, they move on to the nearest new forest areas since the soil becomes depleted and repeat the same process of destroying the forest. The practice of podu/shifting cultivation caused denudation of forest, which causes serious threat to the ecology, results in soil erosion and siltation of the river basins. De-forestation on such a vast scale had adversely affected the natural flora and fauna and also affected Eco-climatic and edaphic conditions of the Eastern Ghats. All these tribals are living below the poverty line and the income realized from these rain-fed crops is meager. In addition to this, tribal farmers were also dependent on collection of Minor Forest Produces to sustain their livelihood.

State	:	Andhra Pradesh
District	:	Vishakhapatnam
ITDA Area	:	Paderu
Block	:	Arakuvalley
GP	:	Getuvalasa
Village	:	Getuvalasa
Activity	:	Coffee Plantation

Keeping in view the economic upliftment of ST farmers and to increase their standard of living, the development of Coffee Plantation program in ITDA area was initiated to counter the fast depleting forest cover and to maintain ecological and environmental balance in the hilly areas. To provide required technical guidance for successful coffee cultivation, training programmes were organised for the tribal coffee growers, nursery beneficiaries and field functionaries with the help of the Coffee Board.

The Climatic condition suitable for Coffee plantation is Hilly area with shade plants of green vegetation,



elevation more than 1500ft. MSL with Annual rainfall more than 1200 mm.

Objective of the Initiative

1. Transformation of tribals from shifting cultivation (podu) to sustainable agriculture;
2. Rehabilitation and re-colonization of tribal families;
3. Accrual of multiple benefits of soil and water conservation, preservation of ecosystem etc. by afforestation;
4. Conversion of waste land in to productive lands;
5. Maximisation of return through diversification;
6. Increase in value of production and export earnings;
7. Provide gainful employment to the local tribals in coffee cultivation and downstream processing sectors;
8. Overall improvement of socio-economic status of tribals.

Historical Development of Coffee Plantation

Coffee was first introduced in Andhra Pradesh during 1898 by Mr. Brodi, a Britisher in Pamuleru Valley of East Godavari and Sircilla in Karimnagar District. Establishment of small coffee holdings in pullangi (East Godavari) and gudem (Visakhapatnam) agency tracts followed this. By the year 1920, Coffee was spread to Ananthagiri, Araku and Chintapalli areas in Visakhapatnam District. Presently, coffee expansion is restricted to the hilly regions of Visakhapatnam District. The Forest Department, Government of Andhra Pradesh started coffee plantation from 1960s and handed over the coffee plantation during the year 1985 to Andhra Pradesh Forest Development Corporation (APFDC) to maintain with more functional autonomy. So far, an area of about 10,100 acres covered under coffee in the Reserve Forest area.

Initial Project preparation:

M/s. Girijan Co-op. Corporation Limited, Visakhapatnam, which was involved in the welfare of the tribals, was identified by the Coffee Board as one of the agencies to take-up coffee plantations in the Tribal areas. A “Coffee cell” was created within the Girijan Co-op. Corporation Limited with the main objective of developing 4000 hectares among the tribal growers and take up expansion programme of Coffee from 1975 to 1985. Subsequently, M/s. Girijan Co-op. plantation Development Corporation was formed exclusively during the year 1986 for developing Coffee in the tribal lands. All these plantations developed by G.C.C. and G.C.P.D.C. were handed over to the tribal farmers who were employed in these plantations, i.e., around 2 acres of coffee planted area to each tribal family. The G.C.P.D.C. temporarily wind up during July 1997 and presently all these plantations/staff being absorbed by ITDA, to take up coffee expansion programme. Till 2015-16, total area under coffee plantation was 1, 58, 021 acres & total nos. of beneficiaries were 1,54, 413 in 11 Blocks of Paderu ITDA. Initially, the tribal development department took up a number of activities to motivate the tribals for plantation. In the year 1992 govt. distributed the forest rights to the tribals in the coffee plantation area. Coffee & Pepper was planted by the department & ownership of land hand over to the tribals for maintenance and production to prevent deforestation.

Stakeholders

In the overall process, the Tribal Development Department, Coffee Board & Forest Department are directly involved along with the tribals and their community organisations.

The Tribal Development Department, Govt of AP is the major stakeholder of the overall process. The Department has been implementing the scheme as well as providing fund to other departments like Forest Department as per the plan. This programme was sponsored from the State Budget.



Forest & Revenue department, Govt of AP: Forest Department of the State has been another important stakeholder of the overall process as they not only benefitted from the project but also facilitated its execution along with tribal development department. The allocation of planted land and forest land for coffee plantation was handed over by the forest department to the tribals, after joint verification with Department of Revenue.

The Coffee Board provided required technical guidance for successful coffee cultivation, organized training programmes for the tribal coffee growers, nursery beneficiaries and field functionaries. The Coffee Board also provided 50% subsidy on Hand operated baby pulpers & 727 nos. baby pulpers were distributed to the tribal farmers growing coffee.



Approach and Process

In the beginning, the Tribal Development Department, Forest department & Coffee Board started plantation of coffee in forest area & later handed over to the tribals for harvesting. When tribals got huge profit from coffee, they started participating actively in the process. Awareness and training programmes were organised from time to time by Coffee Board to create awareness among the tribal farmers about improved agronomical practices including the usage of Organic/Bio-Fertilisers in coffee plantations and the Post-Harvest practices in Coffee production. It is observed that due to the training and on-field guidance coupled with adoption of improved practices, the yields of coffee increased & thereby income of the tribals.

The coffee plantation was started since 1920 in this area during British Rule in small quantity, but after involvement of ITDA with convergence of MGNREGA & technical support from Coffee Board, now the achievement is 1,58,021 acres and 1,54,413 nos. of beneficiaries are involved in the process.

Implementation strategy

1. **Pre-planting:** Identification of area and beneficiaries for coffee;
2. Procurement of seed coffee from Coffee Board and sowing in primary nurseries;
3. Bag filling, transplantation of coffee seedlings into polythene bags and maintenance of

secondary nurseries;

4. Bush clearance, Line Marking, Opening of pits;
5. Planting of coffee seedlings in main fields and pit closing;
6. **Post Planting:** Pit terracing, Bench Terracing, Weeding, Soil scuffling, Fire path;
7. **Processing:** Harvesting of coffee, pulping in baby pulpers, washing, drying and marketing.

All the above process is implemented directly by farmers with the help of ITDA. The total plantation cost is met by the department & maintenance and harvesting cost by the farmers.

Outcome & Impact

Most of the Tribals has no land holding & earlier they use to destroy the forest for Podu cultivation. Agricultural crops like Ragi, Sama, Paddy, Rajmah, Niger and other pulses are raised in the area for one or two seasons. After cultivation of the above crops for one or two seasons they move on to the nearest forest areas since the soil becomes less fertile and accordingly production reduces. The practice of podu/shifting cultivation caused destruction of forest cover, which causes serious threat to the ecology. But after Coffee & Pepper plantation, the practice of shifting cultivation has gone down drastically with improved economic gain from coffee and Pepper.

The Coffee plantations has been providing sustainable income to the tribals which is much higher than what they were getting earlier from shifting cultivation. The tribal coffee growers are realising better returns from coffee for the last 2-3 years, i.e., 125 Kg per acre which is giving them an income of Rs.120-00 to Rs.150-00 per kg. Pepper that has been introduced in the coffee plantations as intercrop is also giving an average yield of around 60 Kgs per acre from which they are getting an income of Rs.400/- to Rs.500-00 per Kg. Finally, the practice of podu/shifting cultivation has reduced drastically and in most of the places, it is already stopped, which leads to the conservation of forest and great impact on environment.

The Coffee Plantations in the lands of STs has been found sustainable income to the tribal farmers and the cultivation of coffee is giving relatively better income to the farmers than growing other crops. The highest income from coffee is about 30,000/- and other agricultural crops is only around 8,000/-. The tribal coffee growers are realising better return from coffee for the last 2-3 years at the rate 125 Kg per acre is giving income at Rs.120-00 to Rs.150-00 per kg. Pepper that has been introduced in the coffee plantations as intercrop is also giving an average yield at 60 Kg per acre and income at Rs.400/- to Rs.500-00 per Kg. The success of coffee plantation can be visualized from the opinion of some progressive farmers at Arakuvalley, like Sri Kora Ramanna and Sri Kora Srinu who are earning on an average Rs.65,000-00 per annum from coffee plantations.

Innovation and Success Factors

- In anticipation of the sanction of Special Coffee Project, action is taken to raise Coffee Nurseries from December 2008 onwards.
- On receipt of the scheme sanctions, due to the preparedness of the staff, immediately advance works like Pitting was completed in coordination with Coffee and EGS staff.
- In view of the advance work of pitting, though there is failure of regular monsoon, the erratic rainfall helped in the conservation of moisture, which in turn helped the survival of Coffee Seedlings.
- The coffee plantation was taken up in the higher reaches under the shade, where the moisture conservation is good.
- Subsequently, SMC (Soil Moisture Conservation) operations in the coffee plantations i.e., Countour bunding, mulching, hutting etc., enhanced the survival of coffee.
- As on today, the survival for coffee plantation of current year is around 90%.
- Time to time monitoring, trainings and technical

guidance given by the Coffee Board staff contributed for the success of the planting programme.

The Inter Departmental coordination & convergence with other schemes highly helped to make the initiative success.

Lessons learned

Proper Technical knowledge, Scientific harvesting process & Proper maintenance of plantation leads for more income in an environmental friendly manner.

Sustainability

If all the department work with proper coordination & convergence, then remarkable changes may take in tribal areas.



Replicability / up-scaling

This can be adopted in the above geographic & climatic condition with the help of Govt. Departments.

Addressing Challenge

Natural calamities like, Cyclone, Fire are the risk factors which can affect the plantation. In the year 2014, due to cyclonic storm "HUDHUD" many shade plantations got damaged & Coffee, Pepper plants are severely affected & exposed to Sun light. In view of the situation, the ITDA supplied Coffee plants for rejuvenation and Forest department supplied Silveroak trees for Shade Plantation.

Summary of Good Practices

The Coffee plantation has been providing sustainable income to the tribals which is much higher than what they were getting earlier from shifting cultivation. The Climatic condition suitable for Coffee plantation is hilly area with shade plants of green vegetation, elevation more than 1500ft. MSL, annual rainfall more than 1200 mm.

The Departmental coordination & convergence with other schemes a highly needed. The beneficiaries should be mobilized properly with sensitization of impact & outcome of the activity. Exposure visits may be arranged for them for better implementation. Govt. departments have to take effective part in the activities for both technical & financial services. Capacity Building activities & proper marketing strategies (buy-back arrangements) are also highly required. Convergence of other govt. schemes may further help to minimise the inisial cost of farmer.

The tribal coffee growers are realising better returns from coffee for the last 2-3 years, i.e., 125 Kg per acre which is giving them an income of Rs.120.00 to Rs.150.00 per kg. Pepper that has been introduced in the coffee plantations as intercrop is also giving an average yield of around 60 Kgs per acre from which they are getting an income of Rs.400/- to Rs.500.00 per Kg. Finally, the practice of podu/shifting cultivation has reduced drastically and in most of the places, it is already stopped, which leads to the conservation of forest and great impact on environment.



Case of a Coffee Farmer

Name of the Farmer:- Kora Ramanna
(3 member family, himself, wife & 1 daughter)
Village & GP:- Getuvalasa
Mandal:- Arakuvalley
ITDA:- Paderu

The Farmer has got 4 acres of Forest land in the Year 1992 from forest department & started Coffee plantation with the help of GCC. In the year 1998, he started Pepper plantation as mixed/Inter cropping. Earlier, he planted 3600 Coffee plants & 800 pepper plants. But in the year 2014 in October the Cyclonic Strom HUDHUD damaged the plantation and now he has got 3000 coffee plants & 400 Pepper plants.

In Year Dec 2015 & March 2016, he got the production.

Coffee: 1050 Kg

Pepper: 400 Kgs.

Gross Income in the year 2015 was;

Coffee: 1050 Kg X Rs.156/Kg= 1, 63, 800

Pepper: 400 Kg. X Rs.600/Kg= 2, 40, 000

Total Income: Rs. 4, 03, 800

He had sold this to Girijan Cooperative Corporation of Tribal Department of AP.

Expenditure:

Annual Maintenance (Labour, organic Manure etc.):Rs. 1,00,000

Harvesting Cost (Labour& Transportation): Rs.50,000

Total Expenditure: Rs. 1,50,000

Net Profit: Rs.2,53,800.00 (Rs.4,03,800 – Rs.1,50,000= Rs. 2,53,800)

He used the earning for the marriage of his daughter and construction of house. This year (2016), in December, he sold 750 Kg. of Coffee seeds to GCC and got Rs.1,08,000. Due to his health problem this year he cannot maintain the field properly, so production is expected to be low. But he is expecting to get more production from pepper in March 2017, when harvesting will take place.







4.11 Multi-Sector Livelihood Support

Introduction

In certain specific cases, where animal husbandry is taken up with other livelihood promotion activity, the outcome observed to be more beneficial for the target household. So, it can be said that multi-livelihood support provision, where individual household is the unit of receiving support, is more beneficial than single support provision, provided the target household is selected appropriately and support is provisioned as per the requirement of the family.

Such demonstrative initiatives have been taken in Andhra Pradesh by the ITDA in Seethampeta block of Srikakulam district. In this model of livelihood enhancement, deserving tribal households provided with more than one support to ensure that these supports stabilise the income of the family and multiple support supplement each other in strengthening the livelihood. A case that is documented in this context to understand how this support system has been

State	:	Andhra Pradesh
District	:	Srikakulam
ITDA Area	:	Seetampeta
Block	:	Seetampeta
GP	:	Kusumi
Village	:	Bangaruguda
Activity	:	Multi Sector Livelihood Support

beneficial for an economically weaker family is discussed here to understand the benefit of the model.

Situation Analysis

Miss Sabar Sushila, aged about 27 years, is living in Bangaruguda tribal village under Kusumi Gram Panchayat of Seethampeta block of Srikakulam district of Andhra Pradesh. She belongs to a two members' tribal family, herself and her father. Due to landlessness, they were working as agricultural labourer to earn their livelihood. Poor economic condition did not allow her to educate herself. So, for survival, easily

available opportunity was to get engaged in wage works that are available. Daily labour was the one source of income that was available in the vicinity to her for managing the family. As a woman labour, she was receiving less wage, i.e., Rs.100 to Rs.150 per day when her male counterparts were receiving Rs.200 to 250/per day. In a year, she was able to get around 80 days of wage labour and rest days she faces difficulty in managing her family due to scarcity of employment. From the overall engagement, she was earning about Rs.10,000/- as daily labour in a year.

Livelihood Support Provision

In the year 2015-16 she was selected by the ITDA, Seethampeta to get financial support for initiating a self-employment activity to strengthen her family economically. ITDA, Seethampeta supported her with Rs.20,000 under CCD programme. She spent about Rs.5,000/- in purchasing a sewing machine and in the rest Rs.15,000, she purchased three numbers of male goats @ Rs.5,000 each. To run the tailing unit, she spent addition Rs.1,200 in purchasing accessories and materials for tailoring work. With little knowledge on tailoring, she started a tailoring shop in her locality. Though she had not received any formal training on tailoring activity but she dared to start the shop with whatever little knowledge she had. It was a perfect and desirable blend of livelihood activities for her to support and supplement her income.

Institutional Mechanism

Implementation of the scheme is primarily by the concerned ITDA. No other institution or organisation is associated in the process. The selection of the beneficiary was more direct as it is an individual household approach for livelihood improvement. Required monitoring and guidance support is rendered by ITDA from time to time to the beneficiary to make the venture economically beneficial.

Outcome

She was not only laborious, but her behaviour towards her customers was appreciable for which she would be able to get repeated work from her customers. Now she has proved herself as a good tailor in her village and getting sufficient work like stitching new dresses and dress repair works. She is getting approximately an average net profit of Rs.200 to Rs.300 per day working at the village level.

Table 19: Household Income, Before and After

Annual Income Before and After		
Particulars	Before	After
Sources of employment	Daily wage labour	Tailoring, Goat rearing, Wage labour (rarely)
Days of employment in a year	90	Tailoring: 210 Goat Rearing: All round Household Wage: 25 days approximately
Per day income in Rs.	Rs.100 to Rs.150 per day	Rs.200 to Rs.300 per day on an average
Annual Income (average)	Rs.10,000	Tailoring: Rs.45, 000 Goat Rearing: Rs. 3, 500
Other Income (average)	2500	2500
Total Income (Rs.)	12500	51000

She purchased only male goats as selling price of male goat is higher than that of female. She is planning to sell out her goats after a month or two and expects to get about Rs.10,000 to Rs.12,000 for each goat. She is expecting to get profit of about Rs.5, 000 to Rs.7,000 per goat.



Individual Women Oriented Enterprise

*State: Andhra Pradesh, District: Srikakulam, ITDA Area: Seetampeta, Block: Seetampeta, GP: Kusumi
Village: Bangaruguda, Activity: Individual Women Oriented Enterprise*

Mrs. Bangarama Savara is a divorced lady (for 10 years), aged about 30 years, resides at Bangaruguda village of Kusumi GP, of Seethampeta Block of Srikakulam District of the state of Andhra Pradesh. To maintain her small family, she was running a petty business which was attached to her house. But the income from the business was not substantial to meet the family requirement. So, she was interested either to expand her present business or to take up other earning sources which can fetch her more income. Meanwhile, she came to know about the available support provision for tribal families for taking up income generating activities. With the wish of availing a credit, she approach ITDA Seethampeta,. She shared her interest of availing a credit for expansion of her existing business or to take up a new business. In the year 2016, she applied for the support and was selected as a beneficiary.

The concerned ITDA provided financial assistance of Rs. 30, 000/- and also facilitated for accessing a credit of Rs.70, 000/- from Indian Bank, Kusumi. With this support, she started a flour mill named “Savara flour Mill” in the year 2016 with the help of her one son. She used the bank loan of Rs.70000 to improve the milling capacity by purchasing additional three sets of machineries. Looking at the demand, she employed one person from the locality to run the mill. By this time, she has repaid his total bank loan. The Manager of the Indian Bank was very appreciative towards her effort to become an entrepreneur. In the process, she was on regular contact with the ITDA Seethampeta and bank authorities and constantly updating them about the progress of her business activity. Mrs. Bangarama has maintained excellent contact with farmers and with the market where she is able to sell her products. She is one of the successful entrepreneurs under IGA scheme. Along with the flour mill, she is also running her old business for a higher income.

Before / After	Type of business	ITDA contribution	Bank finance	Own contribution	Total investment	Total return (annual)	Net income (annual)
Before	Petty business	-	-	5000.00	5000.00	35000.00	15000.00
After	Petty business	-	-	5000.00	5000.00	35000.00	15000.00
	Flour mill	30000.00	70000.00	15000.00	115000.00	96000.00	60000.00
Total		30000.00	70000.00	20000.00	120000.00	131000.00	75000.00

A Success Story of Enus Rait

Mr. Enus Raita, aged about 32 years, S/o Sandur Rait is living in Bhaghamari tribal village of Bhaghamari Gram Panchayat of Mohana Block in Gajapati district. He belongs to a tribal family having seven members, including his three children, wife and parents. In the land holding category, he is a marginal farmer withown land of 0.5 acre (patta land) and 2 acres of encroached forest land in hill area.

The living condition of Enus was not smooth as it is now. He was managing his family, cultivating paddy and pulses on his encroached forest land and from daily wage. He was getting around Rs.10000/- from selling of pulses and some additional income from wage. When externally aided OTELP Plus project was implemented in Bhaghamari village, through the facilitating NGO Suraksha, the Village Development Committee (VDC) selected his family as a potential project beneficiary. The VDC, after discussion, submitted a planning meeting resolution to OTELP/ITDA, Paralakhemundi to extend support for tailoring shop, as Enus had the sewing skill.

Enus received assistance under the project, as per the resolution of the VDC, amounting to Rs.45000/- for tailoring materials, cloths and room repairing. With this productive asset base, he started the tailoring work in the village. Gradually, his customers increased and people of nearby villages also approached him to stitch / repair their cloth. By this time, he has proved himself to be a good tailor in the locality and getting sufficient work for stitching new dresses like pant, shirt, blouse and petticoat / saya. He is getting approximately a net profit of around Rs.5000/- to Rs.6000/- per month in a tribal remote village from the invested amount of Rs.45000/-from tailoring unit/shop. Now, to manage increasing workload, he has now employed one assistant to help him in his work and paying him Rs.1500/- per month.



This assistance for self-employment proved to be beneficial for Enus. With this sewing unit, he has improved his social and economic condition. Now, he is having a bank A/c and has started saving Rs. 1000/- per month. He has now become an example and people realised that skill based self-employment opportunities can bring them a fortune and can contribute to enhance their status.



4.12 Wild Honey Collection and Processing Unit

Briefs of Honey Processing Unit:

Wild honey collection is an agro-forested based activity which is being undertaken by farmers/landless labours in rural tribal areas. The raw material for production of honey is available free from nature. Traditionally in forest area people are collecting wild honey from the forests. The honey collector needs only to spare a few hours in a day to look the bee colonies. Then in the evening they collect the honey by using scientific techniques & equipments. Honey Collection has been a resource of sustainable income generation to the rural and tribal farmers. It provides them valuable nutrition in the form of honey, protein rich pollen and brood. Bee products also constitute important ingredients of folk for traditional medicine.

- The Shivramkhed village is a tribal village nearer to the Ghat Reserve forest area.

State	:	Maharashtra
District	:	Nanded
ITDA Area	:	Kinwat
Block	:	Kinwat
GP	:	Ambaditanda
Village	:	Shivaramkheda
Institution	:	Madhya Sankalan Kendra, Shivaramkheda
Activity	:	Wild Honey Collection and Processing

- People are depending upon forest from ancient time for different forest produces.
- Earlier people are collecting honey from Forest by traditional method, killing bees & destroying the honey nest (chata), exposing to fire.
- So due to the traditional unscientific method, people were getting less quantity of honey.

- In the year 2013, ITDA, Kinvit started to work with the tribal people, who are collecting honey from the forest.
- 5 people formed a Samiti named as, Gond Banaupaj Byabastapak Samiti. Under this, they started collecting & processing of Wild honey.
- ITDA provided Funds of Rs.11 lakh for building construction with equipment in the year 2013
- Around 70 persons were trained on collecting of honey using modern equipment.
- 3 sets of kits were provided per Group (5 members per group), Total 3 kit sets to 3 Groups. By using this kit they are collecting honey from bee lives without killing the bees. So that the honey collection can be done in a regular manner in a specific interval.
- Technology supports provided by Medha Forest Right Committee of Gadachiroli and PO of Chandrapur ITDP
- Exposure visits were organized to Medha of Gadachiroli wherein 47 persons participated for 2 days training.
- Now 120 nos. of Gond, Kolam Tribals are involved in collecting wild honey from 7-8 villages.
- They are selling the collected honey in local markets by branding as “Kinvat Honey”.

- Purchase honey from the people @ Rs.150 per kg
- Sale honey after processing @ Rs.350 per kg
- Profit on selling of honey per kg Rs.60
- Last year production honey was 17 Qtl.
- At present bank balance is Rs.1.50 lakh

Summary of Good Practices

Name of the Unit: Kinwat Honey Processing Centre (Madha Sankalan Kendra), Shivaramkheda

Wild honey collection activity is a successful model which can be adopted at the dense forest area. By using the technical skill & modern collection equipments, the quantity of honey is more without killing the honey bees.

Govt./ Ngo can intervene in the activity for proving technical skills for honey collection, equipments for honey collection & processing unit.

The honey Collector can get Rs. 150 per Kg. from raw wild honey, but after processing it can be sold in Rs. 350/kg. In a month a collector can earn up to Rs.5000.





4.13 Herbal Processing Centre

A. Maharashtra

Introduction and Context

Gadchiroli district is one of the most backward districts of the state of Maharashtra. With little employment opportunities in the urban sector, low HDI index and lack of industrial growth. Majority of the people are poor among the tribals who primarily depend upon agriculture, forest produces and daily wage. With more than 50% of the geographical area under forest, the district provides abundant scope for taking up NTFP based livelihood activities. One of such livelihood activity was taken up in the Non-Timber Forest Produce, i.e., Collection and processing of herbs. In Wadsa Forest Division the forests are predominantly of the Southern Tropical Dry Deciduous Forests with plenty of miscellaneous species and a few patches of Teak interspersed with bamboo. An inventory of the forest areas revealed the presence of several NTFPs

State	:	Maharashtra
District	:	Gadchiroli
ITDA Area	:	Gadchiroli
Block	:	Gadchiroli
GP	:	Gadchiroli
Village	:	Gadchiroli
Activity	:	Herbal Processing Unit

like Mahua, Hirada, Beheda, Kusum, Karanj, Amla, Dhawda, Karu, Palas, Charoli etc. Thus, generation of livelihood for the local people through NTFP collection remains a viable option. Already the people were engaged in collection of Tendu and Bamboo and through the project, it was planned to expand the scope of products to be collected. Also, the collection of the NTFP was going on in the division but in an unorganized manner.



In this background, forest department, with the support of the district administration, started a NTFP based project. The beginning of the project was marked with the declaration of a minimum support price for NTFP items and wide publicity was given on this front. This ensured a minimum rate to the collectors from the government. Also, it prevented people from the cheating of the contractors who had been offering low rates for the produces. The district has deep rooted tradition and known for traditional healers who use medicinal herbs to treat health alignments. In this backdrop, Gondwana Herbs Project was started by Gadchiroli Forest Department to revamp the traditional health practices.

Objectives

- To provide a livelihood opportunity to the forest dwellers through collection of NTFP and medicinal produces
- To conserve the medicinal plants species which are present in Gadchiroli Forest division and preserve the traditional health care practice
- To identify the traditional knowhow and registering intellectual property rights
- Training the people in non-destructive collection (Sustainable harvesting) of medicinal plants and aiming at sustainability.
- To develop an organized market for the medicinal plants.
- Identifying the organic active constituents in the herbal components
- To develop/preserve or save medicinal plant developing areas.

Flora of Gadchiroli

“A checklist of vascular plants of Gadchiroli district “- by Santhosh yadav and Rashmi chakravarthi under technical guidance of Prof. M.R.Almeida highlights presence of 1909 plant species in the forests of

Gadchiroli. In the book, medicinal plants are given special focus. The book also guides people on how to prepare people's biodiversity register. The book has got pictorial and location details of the plant species that are found in the district. The book is like a mirror to the forest flora of Gadchiroli district. The publication also has got special sections on interesting plants of Gadchiroli district like Bhulan vel etc.

Methodological Approach

Discussion with different stakeholders reveal that initially, the tribals were not interested to get involved in this process at the initial stage because they had been selling their forest products through local brokers / middlemen and getting immediate cash, though it was less. They were not aware of their exploitation in the hands of the middle men for which they were trusting them and selling their collections. With the help of community, the implementing agency, i.e., the Forest Department prepared a resource map through using of PRA tools and a forest work plan. During preparation of resource plan, the community identified the most potential areas of the forest, where they are collecting different type of forest produces in different seasons. In this community plan, they gave more focus on participation of women in the process.

The community level meetings were organized through Gram Sabha to sensitize the peoples on their right and objective of implementing the project. The implementing agency also called village level meeting to aware the community on their rights and entitlements. After this sensitisation and planning, the tribal community got involved in the process of collecting different herbs, along with other NTFPs, after they realise its importance. In the initial stage, it was difficult to market to get good price and value. For appropriate management of the collection and its processing, a structure was designed by which the taluka level federation collects the herbs from village level or GP level and then channelize it to the district level. The primary collector gets the real price fixed by the government which is remunerative for them.

The primary collectors, after collection of produces, hand it over to the panchayat level committee. The block level committee collect these herbs from the panchayat level committee and place it at the district level. The Vaidya Manch collect all the items and verify each raw material. The executive committee pay the due amount to the collectors through account transfer. The members of the executive committee also visit to the community and discuss with them regarding issues





relating to collection of forest produces and online payment system.

The District Vaidya forum and VSS played an important role in community mobilization and organizing Gram Sabha with the support of Forest Department and Tribal Development Department. In the inception stage of the project, Govt. department and CBOs conducted ground level survey to know how many households can be engaged in the process and what could be the total collection. Basically, it was a feasibility assessment to understand the business dimension of the of initiative. The CBOs and other line departments organized a number of trainings at village level for the primary collectors to make them understand the basics of herb collection process and related aspects.

To make the initiative a success, the implementing agency provided training to the local community on sustainable harvesting and forest management as well as the work process at processing unit. The women SHG members were also get engagement in raw material processing work. In the project activities, both male and female are involved. The women SHGs are also involved in this process. Through the Gram Sabha,

all decisions have been taken in the presence of line department and implementing agency. At the time of requirement, the forest dwellers also suggest to the implementing agency for the effective implementation of the project.

The overall process was carried out with the active support and cooperation of Tribal Development Department, Forest Department, local CBOs and other institutions like Gram Sabha. Gram Sabha as a platform of the people involved actively in the overall process. Both the male and female participated in this process from the initial stage. As the tribal women are more familiar with the local forest, they were given priority in the project. The CBOs and implementing agency discussed with the tribal women to ensure their maximum participation in the process to address the key challenges.

In general, few years ago, i.e., before the inception of the project, women were collecting different forest produces in different sessions only for their self-consumption with limited marketable surplus. They were selling their collections in the nearby market or to a local vendor for a very less price. In this process, they



were getting exploited by these local vendors. In the meanwhile, the District Vaidya Manch took initiative, with the support of forest department and planned for establishing processing unit where the primary collector can fetch a good return against their labour. The local tribal women expressed their interest to get associated in the process. Accordingly, the project placed its faith on them and involved them in different stages of implementation of the project.

Organization of Vaidhu Sammelan:

Three Vaidhu Sammelans (traditional healers workshop) were organised by forest department of Gadchiroli in which the traditional healers were gathered and shared their knowledge on herbal medicines, which were recorded. The workshop was attended by nearly 250 people from all over the district. It is like breaking of ice and an eye opener which removed the misconception that traditional medical practitioners do not reveal / share their knowledge.

In the second sammelan (workshop), a Ayurvedic doctor room was opened in Semana garden where the Vaidhus carried out examination of patients who visited the park. Enlisting of specific plants which are required in larger quantities and some in minimum

quantities which are becoming extinct was listed out during this sammelan and district level federation of vaidhus was formed during this sammelan.

During the third sammelan, field visit of taxonomist and Vaidhu was arranged to the MPCA area, an in-situ conservation area, to bridge the gap between local name and scientific name. Group discussion at the field level on the available plants, based on its medicinal value was organized and near about 107 medicinal plants of various uses and disease specific species listing was carried out. A buyer seller meet was also organized in this sammelan.

Development of Bio-Diversity Park

The biodiversity parks are established with Elliptical gardens with the sector design of 108 medicinal plants to treat different ailments. These parks act as ex-situ conservation area of medicinal plants.

Establishment of Medicinal plant processing centre:

The collection and processing unit of medicinal plant was started on 2 October 2013 under the trade mark of Gondwana Herbs. This facility centre is being operated by the members of district Vaidya federation. Minimum

support price for 100 herbs has been declared and as of now, 42 different medicinal plants have been collected and their products are being produced by this centre. The drying areas, pre-pulvirizer, pulvirizer and sievers are made to use in the centre. Weighing and packing areas are also present in the processing centre.

The records of the material reaching the centre and the place of origin and other details are being maintained properly. The centre is taking its shape based on the suggestions made by the dignitaries and medicinal herb specialists and other stakeholders. Recently, an outlet for sale of these products is also opened by forest department in different areas of the district headquarters and other districts of the State.

Apart from processing, the centre is gradually transformed to an educational centre as students from ayurvedic college do visit the area and gather information. The products developed in the centre were also sent to labs for testing of alkaloid contents and other active ingredients present in these products.

Sl. No.	NTFP	MSP (Rs./Kg)
1	Mahua Flower	15
2	Mahua Seed	15
3	Gum	150
4	Harida Seed	5
5	Harida Seed Cover	20
6	Behada	5
7	Behada Seed Cover	20
8	Awala	25
9	Charoli	100
10	Palas Flower	20
11	Broom Grass	25
12	Karanja seed	13
13	Honey	12

The herbal unit also applied for drug licensing also.

Thus, the initiative by the forest division, Gadchiroli is bringing up awareness about traditional health practices, providing employment to the medicinal plant collectors, supplying pure, natural and organic

products to the consumers. Collection of medicinal plants has generated employment for 147 families and collection of medicinal plants worth Rs.3.5 lakhs as on date.

Stakeholders and Partners

The ST households have been the primary stakeholder of the project who perform the role of primary collector of medicinal plants.

Forest Department: The department provided financial support as well as worked as implementing agency at the community level and district level.

JFMC: Joint Forest Management Committee played a vital role in the implementation of the project at the grassroots level and mobilize the community to participate effectively in the implementation of the project.

Tribal Development Department: The Department receives fund from Central and State government and place the fund with the line department to implement different tribal development projects.

VSS: Vana Surakshya samiti is the primary institution who helped in mobilizing the community at the inception stage of the project.

District Vaidya Forum: This forum has been playing a major role in the implementation of the project. They also provided training on sustainable harvesting of forest produce. The team also monitors the processing of collected raw material to finished product.

Impact

The primary source of livelihood of the forest dwellers is agriculture and collection of forest produces. In the initial sstage, they were collecting NTFP items only for their self-consumption and in rare cases, they were selling out their collection. In this process, they were not getting appropriate price of their collection from the local vendors. So, they were not much interested to collect NTFP items for distress value.

At present, the forest dwellers get a best platform to sell the product in a fair price. As per the discussion with the president of Gandwana Herbs, a committee was formed at the district level, with the association of all registered traditional medicine practitioners or Vaidya and out of which they form an executive body at the state level, involving one BAMS doctor and senior expert Vaidya. They sensitize the tribal community to form a committee with the association of JFMC. The committee monitors the process of collection of herbs at village level.

The women are playing a vital role in collection of the forest produces and its processing. They know the traditional method of harvesting or sustainable harvesting system. After formation of district level Vaidya forum, the forest dwellers could be able to sell their produce with a better price. As it is a traditional occupation and one of the major sources of livelihood, the women of the community show their interest to get involved in this process.

There are positive impacts of this initiative on the livelihood of the people, which covers both male and female members of the local tribal community. People of the local area got employment opportunity and able to sell the forest produces with a fair price which contributes to their livelihood. Through this project, the forest department also got opportunity to save the bio-diversity and traditional plants through the help of JFMC and community people. This project has been helpful to stop forest fire and misuse of plants or tree, and the tribal community has been adopting sustainable harvesting practices for the collection of forest produces. Both male and female are getting engagement and able to have additional earning throughout the year to meet their immediate needs. The project has been an opportunity for the community to get benefit of exposure through the implementing agency to acquire knowledge on sustainable harvesting and forest protection process.

The implementing agency has opened a joint bank account in the name of both men and women. So,

the women were also able to withdraw their earned money for their own expenditure. Earlier, women were not getting any exposure or availing any scope to participate in exhibitions. But now they are going out of the district and state for seminars and workshops to present their products.

The community members are now getting employment at the village level with regard to collection of forest produce. Previously, they were going to nearby urban areas in search of jobs once they complete agricultural harvesting. After the establishment of this herbal collection and processing unit, the forest dwellers got to sell the produces in a remunerative price which is fixed by the Government of Maharashtra and the executive committee and protect themselves from the external vendor from any kind of exploitation. This change happened due to the direct intervention of the implementing agency and the district Vaidya forum. People also adopted this new process because they have been involved directly and participating in the decision-making process.

After the establishment of this unit, it has been helpful to reduce migration to urban areas. Now they keep themselves engaged in plantation and forest management works. Apart from this, some tribal families also keep themselves engaged in bamboo crafting and sell the produces in the nearby markets.

These tribal families have improved their financial status due to the establishment of this processing unit. As per the discussion with the executive members of the district Vaidya forum, each year, a tribal household get around Rs.20,000.00 from forest produce collection. They also able to save some amount for their future out of their income. The implementing agency (Forest Department) has been able to maintain the bio-diversity in a much better way, whereby the community people are also involved in this process after the implementation of the project.

The project can be termed innovative in a sense where collection of herbs and preparation of herbal medicines used as a vehicle of change for the development of

tribal community. This practice has demonstrated the optimal utilisation of available resources for the development of tribals. This initiative has created opportunities of employment for the local residents. From planning to implementation of the project, in every step, local community has been involved through the Gram Sabha and participating in decision making processes. The local practitioners have also been playing an important role in implementing the project and sensitizing the community regarding the medicinal resources that are available locally and importance of other forest produces for the betterment of their quality of life.

The entire component like institutions, economic, social and environmental part is highly essential for effective implementation of the project to make it a good practice. All components is playing independent and effective role. The institution like CBOs, JFMC and implementing agency mutually worked with the

community in a coordinated manner. These institutions mobilized the community and implemented the project in consultation with the Gram Sabha. The economic aspect has also been playing a vital role in effective implementation of the project. The community decides the price of forest produce as per govt guideline and the implementing agency also ensures to pay on timely basis to the primary stakeholders.

Conclusion

Initially, the processed verbal products were used locally by the tribal people. After discussion with the experts, they initiated marketing of their products to visitors at a low cost. Proper and elaborated training resulted in conservation of these plants; tribal people initiated cultivation of selected plants in their farm and their harvesting by using sustainable methods. These practices lowered the burden on forest and improved availability of medicinal plants.



Budget on Infrastructure, trainings and other capital expenditure

3 year budget		2015-16	2016-17	2017-18	Total (lakh rs)
Phase 1	Completed				
Phase 2	A) Establishment of nursery:-				
	1) Land preparation	5.50	0.00	0.00	5.50
	2) Fertilizer shed	3.00	0.00	0.00	3.00
	3) Borewell with submercible pump	1.00	0.00	0.00	1.00
	4) Inner road	2.00	0.00	0.00	2.00
	5) Store room	0.00	2.00	0.00	2.00
	6) Fencing	10.00	0.00	0.00	10.00
	7) Electric room	2.00	0.00	0.00	2.00
	Total of A	23.50	2.00	0.00	25.50
	B) Establishment of infra., cfc, one step processing, cold storage, tissue culture				
	1) Godown 1,2	20.00	0.00	40.00	60.00
	2) Drying shed	0.00	5.00	5.00	10.00
	3) Processing room	0.00	0.00	10.00	10.00
	4) Cold storage	0.00	10.00	10.00	20.00
	5) Tissue culture lab	5.00	5.00	15.00	25.00
	6) Machineries	0.00	5.00	10.00	15.00
	Total of B	0.00	25.00	90.00	115.00
	C) Developing plantation of medicinal plants and maintenance				
	1) Medicinal plantation, Ret plantation, Elliptical garden	20.00	10.00	10.00	40.00
	2) Maintenance 2nd, 3rd, 4th, 5th year	0.00	5.00	5.00	10.00
	Total of C	20.00	15.00	15.00	50.00
	D) Carrying out research on organic components and active components of the medicinal plants				
	1) Testing lab	2.00	0.00	0.00	2.00
	2) Lab staff- contractual basis	4.00	3.00	3.00	10.00
	3) Research unit	0.00	10.00	0.00	10.00
	4) Maintenance	0.00	2.50	2.50	5.00
	Total of D	6.00	15.50	5.50	27.00
	E) Preparation of protocol for handling different herbs for cultivation and processing	0.00	5.00	0.00	5.00
	Total of E	0.00	5.00	0.00	5.00

3 year budget		2015-16	2016-17	2017-18	Total (lakh rs)
Phase3	A) Marketing and advertisement				
	1) Label,Exhibition, Advertisements, Expenditure	5.00	5.00	5.00	15.00
	Total of A	5.00	5.00	5.00	15.00
	B)Extention activities promoting use of ayurveda				
	1) Panchkarm room	2.00	0.00	0.00	2.00
	2)Retail shop	3.00	0.00	0.00	3.00
	3)Doctors room	2.00	0.00	0.00	2.00
	Total of B	7.00	0.00	0.00	7.00
	C)Convergence with agri. Department for cultivation of medicinal plants				
	1) workshop and trainings	5.00	5.00	5.00	15.00
	2)frontline demonstration	0.00	0.00	0.00	2.00
	Total of C	5.00	5.00	5.00	15.00
	D)Training to Vaidu, collectors, entrepreneurs and SHGs involved in marketing	4.00	3.00	3.00	10.00
	Total of D	4.00	3.00	3.00	10.00
	E) Tie up with bigger industries to sell the raw drugs.	0.50	0.50	0.00	1.00
Total of E	0.50	0.50	0.00	1.00	
Total	71.00	76.00	123.50	270.50	

Annual Budget for non-capital and recurring expenditure

Sl. No.	Personal	Main Power	Per month Rs.	Month	Total in Rs.
1	Salary for programmer Coordinator	1	25000.00	12	300000.00
2	Honorarium for Tahashil Coordinator	12	6000.00	12	864000.00
3	Honorarium for central facility persons	5	5000.00	12	300000.00
4	Sales and Advertisement Coordinator	1	10000.00	12	120000.00
5	Honorarium for Ayurvedic practices	2	15000.00	12	360000.00
6	Ayurvedic Technician	2	12000.00	12	288000.00
7	Accountant/MIS Operator	1	6000.00	12	72000.00
8	Seles Operator	2	5000.00	12	120000.00
9	Miscellaneous like power bill and Transportation	1	15000.00	12	180000.00
				Total	2604000.00

B. Andhra Pradesh

Background

Mrs. Bangarama Savara is a divorced lady (for last 10 years) aged about 30 years, resides at Bangaruguda village of Kusumi GP, of Seethampeta Block of Srikakulam District of the state of Andhra Pradesh. To maintain his small family, she was involved in a petty business which is attached to her house. She wanted to earn more from either from own business or from any new business. In the mean time she heard from one of his relatives, about the ITDA Seethampeta which has been providing financial support. She was interested for loan and wanted to start a new business. In the year 2016 he applied and was selected as a beneficiary. She had started a flour mill named "Savara flour Mill" in the year 2016 with the help of her one

son with the financial support of Rs. 30000 from ITDA. She was given a bank loan of Rs.70000 from Indian Bank, Kusumi, which was used to develop his mill by purchasing additional three sets of machinery. He was able to expand not only on capital assets but also in human resources. She has able to employ 1 people in the unit. She has repaid his total loan amount and the Indian bank manager was very appreciative dealing with Mrs. Bangarama in this matter. She liked the fact that he keeps regular touch with ITDA Seethampeta and bank authorities and constantly updates them about his activities. Mrs. Bangarama has maintained excellent contact with farmers and with the market where he is able to sell his products. He is reaping four times profit compared to the starting year due to diligence and hard work, which leaves him a satisfied woman. She is one of the successful entrepreneurs under scheme.

Business status	Type of business	ITDA contribution	Bank finance	Own contribution	Total investment	Total return (annual)	Net income (annual)
Before	Petty business	-	-	5000.00	5000.00	35000.00	15000.00
After	Petty business	-	-	5000.00	5000.00	35000.00	15000.00
	Flour mill	30000.00	70000.00	15000.00	115000.00	96000.00	60000.00
Total		30000.00	70000.00	20000.00	120000.00	131000.00	75000.00

During the financial year 2016-17, she has repaid bank loan amounting Rs.10000.00 in and Rs7000.00 to village organization.





Section Five: **Good Practices in Education**

According to Chambers & Conway, a livelihood comprises the capabilities, assets and activities required for a means of living (Chambers & Conway 1988).





Introduction

For imparting quality education to the students of Scheduled Tribe Community, Government planned to establish quality residential schools for the promotion of education, in the name of Eklavya Model Residential Schools (EMRS). The EMRS was conceptualised for ST students among other institutions like Jawahar Navodaya Vidyalayas, the Kasturba Gandhi Balika Vidyalayas and the Kendriya Vidyalayas. Eklavya Model Residential Schools (EMRS) are set up in States/UTs with grants under Article 275(1) of the Constitution of India. The State Governments asks for new EMRS after ensuring that all the existing EMRSs have been made functional.

The Ministry's support for the EMRSs programme and its expansion subject to the States/UTs ensuring high quality of management and running of the schools. Quality management indicates timely and smooth transition of funds allocated from the State Government/UT Administration to the management societies/schools; ensuring the recruitment of the

desired number of teachers; ensuring the provision of medical facilities to staff and students; clean and hygienic surroundings and food for the children and providing a healthy, happy environment for the academic and overall development of the children. If the progress in the EMRSs is seen to be poor as a direct result of poor management and lack of adherence to standards the States/ UTs concerned would be unable to claim any more funds from the Ministry for this programme.

4.1.2 Objectives of EMRS

The objective of EMRS is to provide quality middle and high level education to Scheduled Tribe (ST) students in remote areas, not only to enable them to avail of reservation in high and professional educational courses and as jobs in government and public and private sectors but also to have access to the best opportunities in education at par with the non-ST population. This would be achieved by following means



1. Comprehensive physical, mental and socially relevant development of all students enrolled in each and every EMRS. Students will be empowered to be change agent, beginning in their school, in their homes, in their village and finally in a larger context.
2. Focus differentially on the educational support to be made available to those in Standards XI and XII, and those in standards VI to X, so that their distinctive needs can be met,
3. Support the annual running expenses in a manner that offers reasonable remuneration to the staff and upkeep of the facilities.
4. Support the construction of infrastructure that provides education, physical, environmental and cultural needs of student life.



5.1 Centralised Kitchen in EMRS, Maharashtra

There are approximately 6 lakh tribal students studying in 1108 ashram schools and 490 hostels which are supported by the Tribal Development Department. The state government spends Rs.1997/- per head per month in ashram school. The Department spends substantial amounts of funds for their nutritional needs through the daily meal provision apart from the other developmental activities.

However, the challenge has always been in its delivery. Malnutrition in other side is a complex problem among the school going children of the tribal communities. In order to improve the nutritional status of the tribal children and to have regular supply of high quality nutritionally balanced meal every day. To provide nutritious meal to children is the only way that directly

State	:	Maharashtra
District	:	Nashik
ITDA Area	:	Nashik
Block	:	Igatpuri
Village	:	Mundegaon
Institution	:	Annapurna Central Kitchen, Mundegaon
Activity	:	Centralised Kitchen

addressing the issue of malnutrition amongst school going children of the tribal communities.

It is understood that children should enter adolescents and adulthood in a healthy state. And it is needless to say that centralized kitchens is a proven way to ensure quality and quantity not compromised therewith. It is also proven that centralized kitchen is economies of scale which better manages the available resources.

Under this situation, the Tribal Development Department joined hands with Tata Trusts and The AkshayaPatra Foundation to challenge this issue on PPP mode which is shape of Centralized Kitchen Project called 'Annapurna'. The aim of the project Annapurna Central Kitchen is to provide nutritional foods to tribal students by offering balanced meals every day.

An MOU was signed on 10th June 2015 between Tribal development department, Tata Trusts and The Akshaya Patra Foundation to initiate the Annapurna Centralized Kitchens Project. Annapurna Central Kitchen at Mundegaon was started a trail run on 3rd September with 503 children of the Mundegaon Govt. School. Finally, the project was commissioned on 4th September 2015. Presently, food is being provided to 3200 children with 4 times meals breakfast, lunch, snacks and dinner for 12 nos. of schools. The aim of the Mundegaon central kitchen is to prepare food for at least 20,000 students of 25 schools in the vicinity of Palghar and 18 ashram schools in the vicinity of Igatpuri. The kitchen is benevolence and funding from Tata Trusts through its Corporate Social Responsibility (CSR) initiative and Akshaya Patra is the technical adviser for the project.

Objective:

To provide four times meals throughout the year with wholesome nutritious food to the children (meals like breakfast, lunch, snacks and dinner).

Structure of EMRSs

1. Admission to these schools is through selection / competition with suitable provision for preference to children belonging to Primitive Tribal Groups.
2. Schools with play grounds, hostels, residential quarters, etc.;
3. Equal number of seats for boys and girls;
4. Free education to children in these schools;
5. Every class can have maximum 60 students preferably in 2 sections of 30 students each and the total sanctioned strength of the school would be 480 students;
6. At the Higher Secondary level (class XI & XII), there will be three sections per class for the three streams in Science, Commerce & Humanities. The maximum sanctioned strength of each section may be 30 students. In case of short fall in a section, ST students from other schools may be admitted following the procedures.

Convergence

This project is a unique public-private partnership project. The Tata Trust has ensured that thousands of tribal school children enjoy wholesome meals while continuing their education in tribal schools. Infrastructure like building, centralized kitchen equipment is provided by Tata Trust. The role of The Akshaya Patra Foundation (TAPE) is to support in (1) Erecting and commissioning of kitchen, (2) Training of manpower in kitchen operations, (3) Process and quality system management and (4) kitchen operation at regular interval for 5 years by TAPE trained staffs supported by Tata trusts. A total of 3356 beneficiaries across 12 schools, spread over distance of 7 Km to 70 Km have been benefitted due to this initiative. The estimated cost of the project is about Rs.4.4 crore.

Nutrition Value:

The cooked food contains high nutritive value. The recipes of meals are formulated, standardized under the guidelines of Tribal Development Department of Maharashtra and to suite tribal palate. Every day menu is designed that each meal contains following Nutritional Value (child/day)

Average NV 4 to 9 years: Protein – 35.5 g & Energy 1820 cal.

Average NV 10 to 12 years: Protein – 55.5 g & Energy 2080 cal.

Average NV 13 to 18 years: Protein – 69 g & Energy 2302 cal.

Menu Card							
Day/Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast	Soup Upma & Egg	Pav Bhaji & Egg	Poha & Egg	Pav Bhaji & Egg	Idly Sambhar & Egg	Sweet Upma & Egg	Poha & Egg
Lunch	Plain Rice	Plain Rice	Plain Rice	Plain Rice	Plain Rice	Plain Rice	Plain Rice
	Dal	Dal	Dal	Dal	Dal	Dal	Dal/ Chicken Curry
	Roti & Subji	Roti & Subji	Roti & Subji	Roti & Subji	Roti & Subji	Roti & Subji	Roti, Subji & Dry Sweet
Snacks	Seasonable Fruit / Lassi	Seasonable Fruit	Seasonable Fruit	Seasonable Fruit	Seasonable Fruit / Lassi	Seasonable Fruit	Seasonable Fruit
Dinner	Plain Rice	Plain Rice	Plain Rice	Plain Rice	Plain Rice	Plain Rice	Plain Rice
	Dal	Dal	Dal	Dal	Dal	Dal	Dal
	Roti & Subji	Roti & Subji	Roti & Subji	Roti, Subji & Dry Sweet	Roti & Subji	Roti & Subji	Roti & Subji

During visit it is seen that the students squat on the floor in a large hall and enjoy their meals. The food is simple – chapatis, vegetables, rice and dal and the children eagerly consume the food.

The meal is being prepared in a standard process. This process is charted out to ensure hygiene and quality of the cooked meal and also to adhere to the food safety standards. All the cooking equipment like cauldrons, trolleys, rice chutes and dal tanks, cutting boards, knives etc., are sterilized using steam before the cooking process begins. The vessels used in the kitchens are made of stainless steel of 304 grade and is best for cooking and handling food. The centralised kitchen units are equipped with necessary cooking equipment like chapati pans, cooking vessels for rice

and dal and vessels for transporting the cooked meals to the schools. Personal hygiene and Food Safety training are provided regularly to the kitchen staff to ensure hygiene standards are met.

Workmen:

About 69 men and women are working in this project. Out of them 60 nos. are workmen category and rest 9 nos. are executive and managerial category. Trained cooks are managing food production and supervisors are regularly supervises the food production. Critical Control Points (CCPs) like cooking temperature are checked and recorded at periodic intervals to ensure the right quality of the meal.

Food Laboratory:



The quality of food checked regularly by quality officer. To check the quality of the food, two food laboratories have been set up like (a) physiochemical laboratory and (b) micro biological laboratory. The lab is capable of carry out daily routine test of raw material, finished foods and water. The centralized kitchens adhere to Food Safety Management Systems (FSMS) to ensure safe handling, preparation and delivery of the food. The kitchen is highly mechanized units. Utmost hygienecare is being taken to reduce human contact with the food.

Packing, Transportation and Delivery Mechanism

After completion of cooking, cooked food is packed in steam sterilized stainless steel of 304 grade containers. These containers are transported through specially designed and customized transport vehicles to deliver food. Vehicles are steam sterilized before the loading for transportation. To reduce the temperature loss puffed body is used while transporting cooked meals. Logistic chart has been prepared for route optimization. To track the delivery vehicles for safety and on-time delivery GPRS system is being gradually prepared. Also, while transporting through vehicles, a honeycomb structure is used to hold the vessels upright and keep the freshness of the cooked meal intact till it is served to the last point.

Feed Back / Process of Post Delivery

To maintain the quality of the meal regular feedback process is adopted at the time of delivery on daily

basis. The person in-charge of quality of foods reviews the feedbacks and takes necessary corrective and improvement measures accordingly.

Training:

For continuous improvement training is an integral part. In TAF training is regularly provided to the concerned persons. In trainings, several types of subjects are covered like operation of equipments handled, maintaining of safety and hygienic in the plant, etc. are being covered.

Project Details

Civil Work:

- New loading by
- Utilities block
- STP/ETP
- LPG-LOT Gas station
- Workmen rest room
- Toilet
- Change room physio chemical and Micro analysis lab
- Office
- Stores
- Cold room
- Partition walls made with sandwich rock wool fire proof panels.
- All clean room doors provided.
- Vegetable washing area, vessel washing area

Utilities:

Mechanical

- a. Boiler house with 2 X 800 kgsthermax HSD fire Non IBR packaged boiler complete with accessories pressure reducing station and inter connecting insulated steam piping and culinary steam fitter for safe steam fit for direct injection.
- b. Water treatment system: Water Softener & 3 cum/Hr. RO system
- c. LPG-LOT system (Liquid off take system) – For

Roti machine and Seasoning

- d. STP/ETP (submerge system-combination of aerobic and anaerobic) – 30000 liters/day capacity providing recyclable water for gardening and floor wash.

Electrical:

- e. Power – Electrical distribution system 62.5 KVA compressing of PCC, MCC and power factor controller with inter connecting cable and switch gear.
- f. Energy efficient food industry complaint lighting system compressing of CFL, T-5, clean room fitting and flame proof fitting in applicable area.
- g. Central HVAC system (Heating, ventilation and air conditioning).
- h. High pressure hot water battery set
- i. Mechanical floor washing systems

Process Equipment:

1. SS304 and Rice cooking cauldrons (600 liters Capacity) – 4 Nos
2. SS 304 made Dal cooking cauldrons (1200 liters Capacity) – 2 Nos
3. SS 304 made Roti making machinery (20000 Nos / Hr.) – 1 No
4. Vegetable cutting machine (500 kg./Hr.) – 1 No
5. Rice washing machine (50kg/10 mins) – 1 No
6. Idly making machine (2500 – 3600 Nos/Hr.) 2 Nos
7. Wet grinding machine (40 liters Capacity) – 2 Nos
8. Shallow fryer – 2 Nos
9. Cold room (+4 deg C) capable of storing 2-3 tons vegetables
10. One lot kitchen utensils and serving containers

Food Lab:

1. Physiochemical laboratory
2. Micro biological testing laboratory capable of daily routine test for raw material, finished foods and water

Systems & Control:

1. Inventory management
2. Entry to Exit Procedures
3. Raw material Consumption
4. Utility consumption
5. Power consumption
6. Input and Output analysis
7. Process standardization
8. Physiochemical & Micro analysis for raw materials and finished goods
9. Manpower utilization
10. Preventive maintenance

Manning

1. Total 69 Nos.
2. Workmen category: 60 Nos.
3. Executive & Managerial category: 9 Nos.



Summary of Good Practices

Malnutrition is a complex problem among the school going children of the tribal communities. These children should enter adolescents and adulthood in a healthy state. To improve the nutritional status of the tribal children and to have regular supply of high quality nutritionally balanced meal every day. To provide nutritious meal to children is the only way that directly addressing the issue of malnutrition amongst school going children of the tribal communities. Such circumstance, centralized kitchens is a proven way to ensure quality and quantity without compromised therewith and it is economies of scale that manages better the available resources.

Key Conditions:

Selection of Clusters on the basis of nearby large number schools with more number of students

Convergence

Centralized Kitchen is a unique public-private partnership project. Apart from Government, Corporate sector can be participated in construction of infrastructure and creation of capital assets like centralized kitchen equipment, etc. The service provider organisation having proven good track records for at least 5 years (as like The Akshya Patra Foundation (TAPE)) on providing large number

quality steam meals should be selected who can regulate the centralized kitchen and canerecting and commissioning of kitchen, provide training of manpower in kitchen operations, process and quality system management and at least can workkitchen operation at regular interval for 5 years.

Workmen: The organization should have skilled with trained own workmen and workwomen of different categories as per the required. Trained cooks will manage food production and supervisors will regularly supervise the food production. Critical Control Points (CCPs) like cooking temperature are checked and recorded at periodic intervals to ensure the right quality of the meal.

Food Laboratory: The selected organization should have well-furnished food laboratory to test the food quality

Food Safety Management Systems (FSMS) for safe handling, preparation and delivery of the food.

Packing, Transportation and Delivery Mechanism

Logistic arrangement with GPRS tracking should be prepared for route optimization and smooth delivery of food items.



5.2 Making Students Competitive in EMRS, Maharashtra

Ekalavya Residential Public School

Eklavya Model Residential School (EMRS), Nashik was established in the 2000. The school is functioning under the guidance of a Society called as Maharashtra Tribal Public School Society (MTPSS), Nashik. This Society is functioning by a 12 Members Management Committee which was established under Trust Registration Act No Maharashtra/87393/2002/Nashik. The school has classes from Std. VI to XII with CBSE English Medium with Std. XI and XII Science stream. The intake capacity of the students through entrance test is sixty students, 30 boys and 30 girls in Std. VI. The Total capacity of each school is 420 students.

The students are studying in the Ashram Schools and other schools belonging to the ST category students are admitted through entrance examination in Std. V

State	:	Maharashtra
District	:	Nashik
ITDA Area	:	Nashik
Block	:	Nashik
Village	:	Aadivasi Colony, Peth Road, PIN-422004
Institution	:	EMRS, Peth Road, Nashik
Activity	:	Model Science Lab
Year of establishment of School	:	Date 20/11/2000
Affiliation No. :		1120002
School Code :		06851
Campus Area :		11Hectre 30 R

conducted by The ATC of the respective division. Each of six ITDP Projects conducts exam for its region in the month of February/March of each year.

About the School:

The school has classes from Std. VI to XII with CBSE English Medium with Std. XI and XII Science stream. The intake capacity of the students through entrance test is sixty students, 30 boys and 30 girls in Std. VI. Total capacity of the school is 420 students.

School Campus Area	11 Ha. 30 R
No. of Class Room	7
Hostel	8 Dormitories for boys and 8 Dormitories for girls
Staff Quarters	5
No. of toilets and bathrooms	20 toilets and bathroom, separate for boys and girls



Enrollment:

Year-wise Student Strength							
Year	Boys	Girls	Total	Year	Boys	Girls	Total
2000-01	29	21	50	2008-09	142	137	279
2001-02	49	41	90	2009-10	159	151	310
2002-03	82	59	141	2010-11	163	152	315
2003-04	104	83	187	2011-12	189	181	370
2004-05	129	109	238	2012-13	202	185	387
2005-06	129	109	238	2013-14	206	193	399
2006-07	127	111	238	2014-15	200	194	394
2007-08	148	126	274	2015-16	201	195	396



Academic Achievements:

Year-wise CBSE Board Results (in %) (Std. X & XII)		
Year	Percent Result of Std. X	Percent Result of Std. XII
2006-07	100	
2007-08	100	
2008-09	100	96.86
2009-10	98	42.86
2010-11	100	100
2011-12	100	100
2012-13	100	94
2013-14	100	40
2014-15	100	71
2015-16	100	100

Facilities for the Students:

- Free Food and Hostel accommodation
- Free academic stationary
- Bedding, soaps, hair oil, uniform, shoes, socks etc
- Mess Facilities – Milk, tea, food, breakfast, fruit, lunch and dinner
- Health Facilities – Regular health check up by staff nurse and Govt. medical officer.
- Potable drinking water facility by Nashik Municipality Corporation (NMC) and Borewell

4.4.6 Mathematics Lab:

Upper Primary Mathematics kit has been available, which enables the students to do various activities for learning mathematics concepts at upper primary level.

The items include cubes, strips, cutouts of various shapes, an innovative geoboard, abacus, etc. The kit has a manual to enable the students do the activities with kit items.

Mathematics kit for secondary levels are of different types which helps for learning concepts of mathematics at secondary stage. This kit consists of number of items like, Trigonometric Circle Board, Pythagoras Theorem Square with 5 cutouts, Algebraic tiles etc.

4.4.7 Curricular and Co-Curricular Activities

For all-round development of the students and to bring out and nurture the hidden talents among students several types of activities like hand writing competition, student parliament, art competition, dance & singing competition, debate and quiz competition, essay writing, solo song, fancy dress, class decoration, sports, drama/skit competitions are arranged in the school. Apart from the above some special events are also organized. These are like Science exhibition, health check camp, sickle cell check-up camp, national forensic lab visit, national festivals celebration, career guidance for class 12th, personality development, tree plantation in school camps, Swachhata Abhiyaan, etc.

The school has unique science centre with various exhibits and demo projects. A very good library with all kinds of books useful for the students to read is available in the school. School has a full-fledged and well equipped science laboratory. Separate laboratory for each subject like Physics, Chemistry, Biology and Mathematics. A well-equipped computer lab is also available.

Curricular, Co-curricular Activities and Day Celebration			
Sl. No.	Types of Competition	Sl. No.	Types of Competition
1	Hand witting competition	7	Essay writing
2	Art competition	8	Solo song competition
3	Students Parliament	9	Fancy dress competition
4	Debate competition	10	Class decoration
5	Dance & singing competition	11	Science Exhibition
6	Quiz competition	12	Drama/skit competition

Special Events Organised			
Sl. No.	Types of Competition	Sl. No.	Types of Competition
1	Health check camp	7	Carrier guidance for class 12th
2	Sickle cell checkup camp	8	Personality development
3	Science exhibition	9	Tree plantation in school campus
4	Adolescence Education Programme	10	Swachhata Abhiyaan
5	National Forensic Lab. Visit	11	Visits of Dignitaries
6	National Festivals celebration		

Successful Alumni Opting the Degree/Diploma in Higher Education				
Sl. No.	Degree / Diploma	Boys	Girls	Total
1	MBBS	5	2	7
2	Pharmacy	6	6	12
3	BHMS	3	2	5
4	BAMS	2	2	4
5	BE	32	20	52
6	B.Sc. Agri.	17	7	24
7	Polytechnic	1	2	3
8	B.Sc./BCA	23	3	26
9	B. Tech.	1	0	1
10	B.Sc. Nursing	0	9	9
11	Ph.D.	1	0	1
12	Other	71	67	138
	Total	162	120	282

Achievement:

Students are prepared for the various competitive exams like Maharashtra Talent Search (MTS), Maharashtra Olympiad Movement (MOM), Scholarship Exams and the other examinations conducted by the local organizations to development the competitive skills and personality. In the Academic year 2013-14, 86 numbers of students appear for the MTS examination, 43 students for MOM and 30 students appeared for scholarship exams and qualified for certificate. One of

the student name Miss Malti of Std. XII (Science) has scored 94% marks in AISSE in March 2015 Examination of CBSE Board. She is the topper girl of Maharashtra State among ST Category Students. She also the only girl selected among 100 students selected for the "UDDAN" a specially launched programme by CBSE for the toppers. She is only girl among ST category girls in Maharashtra state who has received a tablet computer from CBSE for the higher education study facilitation.



5.3 Ashram Sala / School Maharashtra (Digital Class room)

Introduction

Electronic learning, e-learning in short, literally means learning facilitated by electronic gadgets, listening devices or audio and visual systems. E learning is empowered with digital technology and computer enhanced learning. E-learning comprises all forms of electronically supported learning and teaching. In classrooms e-learning play a more supportive role to the teaching learning activities in an organized way. Teacher uses e-learning for his better teaching and a student for his needed learning for enhancing his/her understanding of the subject. In e learning programs and activities are planned and executed for the better presentation of the subjects. It is designed in such a way that it combined both the traditional classroom teaching and e-learning based presentation. As a result, a student can reap the benefits of both traditional and e-learning. All course modules are stored in the recorded CD-ROM and DVD format. The courses are

State	:	Maharashtra
District	:	Nanded
ITDA Area	:	Kinwat
Block	:	Kinwat
GP	:	Gokunda
Institution	:	Sashakiya Madhyamic Ashramsala
Activity	:	Digital Classroom

Equipment in Digital Classrooms

- Smart interactive whiteboard
- Classroom projector
- Laptop/computer
- Visualize / visual presenter
- Dry-tip pens
- USB cables
- Digitized Lessons with 3 D enabled



distinctively narrated and well-presented through multimedia presentation.

Digital Technologies in Ashramsalsas for Teaching and Learning

E-learning or say digital classroom are now bringing many exciting opportunities in the school. In ashramsalsas, e-learning is related with audio-visual and multimedia technology. In school, all classes

have well equipped with e-learning technology that provides higher quality of presentation for teaching and learning. Now, technology is the mechanism that delivers the content primarily. In e-learning, contents are digitized and are the high quality academic material and are delivered through technology. It ranges from new engaging, interactive and adaptive software to classic literature to video lectures. It is not simply a PDF of text or a PowerPoint presentation.

E-learning, otherwise digital learning technology has brought changes in the role of a teacher but it is not eliminating the need for a teacher. Through the digital learning system, teachers are able to provide the personalized guidance and assistance to ensure students learn and stay on track from class V to Class XII. In the e-learning system, teachers play as the guide of the student to make them understand and clarifying their doubts. In Ashramsalsas, E learning has been able to boost student's motivation and attentiveness which was less there previously. The digital classroom is having LCD projector, sound system, smart screen board with digitized lessons for class 5 to 12 on local language Marathi and English; covering mathematics, science, and social studies.

Impact

Digital classrooms have been beneficial in bringing in improved learning efficiently where digital assessments offer students rapid feedback on their understanding, allowing both students and instructors to concentrate their efforts on where further understanding is most needed. Now students are able to have improved learning experience through simulations, visualization, games, annotation technology, and videos with multiple instructors. It has been providing enriching learning environment toward a fuller understanding of different concepts. This education and learning model has been helpful for the students of the Ashramsalsas to learn in the best possible ways with active engagement, hands-on experiences, discussions and best practice cases and directly employs current theories of learning.



5.4 Sanitation in Schools: Swachha Bharat and Swachha Ashramsala

Introduction

Hand washing halts the spread of infection and is effective in preventing the spread the diseases like cholera, diarrhea, etc. Sanitation, Hygiene and Hand washing is a worldwide phenomenon. Knowledge alone on this is insufficient to change the behavior of hand washing. Bridging the gap between knowledge and practice is essential, especially among children. Earlier due to lack of functional toilets in the Ashramsala, students used to go outside the school for their bio-breaks. Corporal punishment, like lack of toilets for adolescent girls, was a major reason for dropouts. The lack of adequate toilets often necessitates the locking of toilets by teachers for their exclusive use.

When the newcomers, mostly poor rural children, come to school, most of them never experienced attending nature's call in a confined wall. They are accustomed with open defecation. When regular students coming back to school after long vacation, they got habituated

State	:	Maharashtra
District	:	Nanded
ITDA Area	:	Kinwat
Block	:	Kinwat
GP	:	Gokunda
Institution	:	Sashakiya Madhyamic Ashramsala
Activity	:	Digital Classroom





with old habits. At that time, they lack sanitary habits. For such reasons the issue of maintaining cleanliness sometimes arise. Regular hand washing practice with soap, before taking food, was a major challenge in the school. Initiative was taken for systematic behavioral change after several campaigns, organized awareness drive. Through regular monitoring, change in practices among students observed in the school. Apart from this, menstrual hygiene management was a greater challenge in the school. It is because availability of girl friendly infrastructures, accessibility, affordability and availability of the sanitary products at the door step and their disposal mechanism. Apart from this, availability of timely and appropriate hygiene education to the girl children was a major constraint.

Gender Separate Toilet Facility

Under the Swachh Ashramsala Campaign, the school maintained separate toilet facility for girls and boys. The teachers of the school explained that there is no disparity in terms of access to the facility. Separate toilets for boys and girls, with the toilet ratio of 1:5 established in the Ashramshalas for easy accessibility.

Hand Washing

The practice of hand washing was inculcated in the school through orientation and motivational inputs. For this reason, every year, 15th October celebrated as Global Hand Washing Day to spread the message on importance of hand washing habits among the school children. In the school, hand washing day observed wherein all the students and teachers were participated overwhelmingly. In this occasion, the key messages of regular hand washing with soap was spread among the students. Provision for hygienic and group and washing has been made at the designated place in the school campus.

1. Proper drainage (soak pit) for safe disposal of waste water
2. Safe Disposal of solid waste to keep the school environment clean



3. Height of door-knobs and locks within reach of every child
4. Urinals at different heights for children of different ages
5. Ensuring proper menstrual management for girls

In addition to latrines and urinal units, a provision for 2 enclosures with special fittings within the school sanitary block (girls section) is planned to take care of the needs of menstruating girls.

Hygiene promotion

Personal Hygiene taught at school has ripple effects, as children can act as primary agents for hygiene promotion and behaviour change in the communities they come from. Students are being encouraged in the school to communicate hygiene messages through joyful learning sessions and participate in different events like drawing / poster competitions, drama, wall paintings, quiz around the subject of safe water and sanitation and proper hygiene behavior. Apart from teachers, students are being encouraged to monitor and supervise hygiene promotion and behaviour change among fellow students and oversee maintenance and upkeep of the school sanitary block and drinking water facilities. Periodic awareness

campaigns have been arranged in the school to spread the messages of hygienic behaviour and practice and developing the skills to impart the same education among the students

Practices

The school has adequate number of sex based (boys and girls) hand washing outlets with sufficient flow of water and availability of soap/detergent at the designated places. All the students wash their hand before and after taking food using water and soap/ liquid hand wash. To ensure proper hand washing with soap, a designated time has been allocated, approximately 10 to 15 minutes before taking the food. Provision for group hand washing (at a time 10 to 12 students) has been made to wash hand. Group and washing with soap sessions are encouraged among students before the taking their food. The teachers are regularly supervising the techniques of good hand washing. The process and techniques of hand washing displayed on the wall painting at the outlets so that students can follow the hand washing techniques appropriately.

Drinking water

The school has own source of water. Adequate and safe water is available for 24X7 for all purposes including

for drinking at the school premises. Water for regular use stored in overhead tank. During discussion the Principal of school revealed that sufficient water is available for daily requirement. The overhead tanks have the capacity to store water for 3 to 4 days for regular uses.

All the facilities relating to water, sanitation, hand washing, etc. are regularly cleaned and made functional and well maintained.



Menstrual Hygiene

For better management of menstrual hygiene adequate private space for changing, adequate water for cloth washing, disposal facilities for waste, soap, an incinerator and dust bins are available.

Girls were taught regularly on menstrual hygiene management by the female teachers in a sensitive and supportive manner during the initiation of this activity. Girls were encouraged and supported by their female teachers during menstruation so they do not miss school. This involves menstrual hygiene education sessions at school, uses the facilities available at the school. And also girls are supported for storing extra sanitary napkins and clothes like school uniforms for emergencies. For enhancement of capacity building of teachers and awareness among the girl students training programmes are organized at school level with the support of UNICEF.

Regular maintenance work

Daily cleaning of toilets is not coerced in the school rather it is self-clean after use.

- Periodical visit has been arranged for regular supervision for sanitation and cleanliness
- Daily cleaning of indoors and outdoors floors of the whole school complex
- Daily cleaning toilets, urinals and hand washing outlets
- Daily cleaning of any water logging in the entire school premises
- Daily cleaning of dusting of general storage, desks and benches and toy/book storage for children
- At regular interval leaky taps, valves, etc are being checked
- Cleaning of blockage in the drains and waste water pipes.



5.5 Special Coaching Class for Tribal Students

The Schools under ST & SC Development Department in Kandhamal District performed well in the Board of Secondary Education during the year 2012-13 and 2013-14. The percentage of result was 87.64% and 96.91% respectively which is more than that of the State average. However, the percentage of 1st Division and 2nd Division was less which constituted only 26.34% and 8.12% in these years respectively. As such, the participation of 10th pass out students for preparing for the higher studies in Science and other professional courses was very negligible.

Keeping in view, the twin objective of achieving qualitative result as well as to represent more number of students in technical and professional courses, special coaching of tribal students was introduced during the year 2014-15. A total of 92 selected students, on an average 4 each from 21 High Schools were kept

State	: Odisha
District	: Kandhamal
ITDA Area	: Baliguda
Block	: All Blocks
Activity	: Special Coaching Class for Tribal Students

in Government (SSD) Girls High School, Kudutuli and Government (SSD) High School of K. Nuagam Block for a period of two months. After completion of training, it is ascertained that 81 students secured more than 60% marks. An amount of Rs.1,40,000/- was spent out of Interest money under PMS for the said purpose.

In the year 2015-16, 115 students, (5 meritorious students from each School) received Special Coaching Classes. Out of 115 students, 74 were girls and remaining 41 were boys. The duration of this Special

Coaching Classes started from 08.11.2015 and completed on date 15.02.2016,i.e., for a period of three and half month. Total amount of Rs.4,40,000/- was sanctioned under Article 275 (I) for this purpose.

It is observed that special coaching has been fruitful for the tribal students in getting clarity on different topics due to more focused approach in teaching. It is expected that this will be useful for them in future in securing greater percentage of marks in examination.

Special Coaching of the tribal student (2015-16)



Special Coaching at Govt. (SSD) Girls High School, Kudutuli



Meritous Tribal Students undergone the special coaching



5.6 Life Skill Education in EMRS, Odisha

Introduction:

EMRS, Pungaru was established on 15 th July, 2000 as per Article 275(1) of the constitution of India through OMTES, Bhubaneswar. It was affiliated to State Board until 2010 and then got affiliated to CBSE, Delhi having School No. 53107 and Affiliation No. 1520007. This School is managed by OMTES, supported by ST & SC Dev. Dept., Govt. of Odisha. The District Collector acts as Chairman of the SMC.

Geographical Coverage:

This School is situated near NH 26(In between Semiliguda and Pottangi) at Revenue Village Pungaru, Po-Kunduli, Via-Semiliguda, Dist- Koraput. It covers an area of 28 Acres having Plot No. 502/1055 and 502/984 under G.P. Kunduli and Semiliguda Tahasil.

State	: Odisha
District	: Koraput
ITDA Area	: Koraput
Block	: Semiliguda
GP	: Kunduli
Village	: Pungaru
Institution	: EMRS, Pungaru
Activity	: Life Skill Education in EMRS

Infrastructure:

- Main Building (Double Storied) having 22 rooms including Labs
- Dronacharya Multipurpose Conference Hall having 500 seating capacity with Toilet facilities
- Basket Ball court,

- Judo Mattresses,
- Archery Equipments,
- Watchman and Security Room,
- Waiting Hall for parents,
- 24 Staff quarters, 01 principal quarter,
- 05 Borewells(Electric run),
- 01 Bore well (Solar run),
- 10,000 L Over Head C.C. water tank,
- Wall Bounded 28 Ac land,
- Assembly Ground,
- Ganesh Temple,
- 02 Boys and 02 Girls Hostels,
- R.O Water Filtration Plant in Boys' and Girls' hostels.
- Filtered water facility in Main School Building,
- Play Ground,
- 02 Tube Wells,

- 01 badminton court,
- C.C and Tiled Dining Tables and Benches in Dining Rooms of Hostels
- 02 5KV DG Set
- Inverter Facility in School and Hostels
- Street lights (Electric and Solar)
- CC TV
- PA system in morning assembly
- Sick rooms in each hostel

Sanitation:

- Total No. of Toilets (latrines and wash rooms) available is 44 in hostels which qualifies 10:1 ratio
- Total No. of toilets in School Building and near School Building: 22
- Availability of sufficient Sanitary equipment and Cleaning materials like Stain Remover Liquids/ gel, Phenyl and Bleaching powderetc.

Ratio of students:

Boys: Girls= 1:1(204:202)

Class	Sanitation		Boarders			Day Scholars						Grand Total	
	Strength		Students			Sanctioned Strength: 10% of Boarders in Each Class							
	Boarders		On Roll			ST		SC		OBC			Total
	Boys	Girls	Boys	Girls	Total	Boys	Girls	Boys	Girls	Boys	Girls		
VI	30	30	26	27	53					01		01	54
VII	30	30	29	30	59	01				01	01	03	62
VIII	30	30	28	27	55		02					02	57
IX	30	30	28	30	58								58
X	30	30	28	24	52	01			01			02	54
XI (Science)	30	30	29	30	59	01				01		02	61
XII (Science)	30	30	30	29	59				01			01	60
TOTAL	210	210	198	197	395	03	02	0	02	03	01	11	406

Teaching Learning process/Teaching Quality:

As most of the PGTs and all the TGTs are well trained and experienced in their respective subjects, quality education using various TLM and methods is imparted viz, Play Way, Lecture, Demonstration, Analysis-Synthesis, Project, Inductive-Deductive, laboratory, Exploration, e-learning, Field Trip etc. as per need of child-centred education. This gives utmost importance to the needs of students keeping in mind the objective of education to prepare fittest future citizens being developed holistically.

Remedial Teaching:

The weak students are boosted by remedial teaching, imparted after School hour without hampering their Physical Exercise and Self Study hour. Self-Study hour is monitored by teachers on rotation basis. Extra coaching classes are being organised for Engineering, Medical and other competitive examination. Career Counselling classes are also organised regularly.

Life Skill Education:

It is imparted to all the students in different sessions either jointly or separately as per content to discuss the problems of adolescence and their solutions.

Skill Development of the Students:

This School provides basic education in gardening, food processing, electrical, fabrication, carpentry, masonry, Self Defence for Girls, etc.

Co-Curricular Activities:

This School provides CCA like Essay writing, Debating, Elocution, Group Discussion, Poster and Chart making, Slogan Writing, Creative writing, Recitation, Wall Magazines, Tribal and modern dance, music, Art and Painting, Quiz, Science Exhibition, Model and Project preparation etc.

Wall Magazines:

- PRAYASH for creative writing (Monthly literature corner)
- PRAYOG for Science articles (Monthly Science Corner)
- SHILPI for painting (Monthly Art corner)
- SHRUSHTI for Photo Gallery

Annual Souvenir named “AMRUTAKSHARA” is being published.

Extra-Curricular Activities:

This School provides NCC for Girls, JRC, YRC, Scout and Guide etc to develop their leadership, Co-operative, Physical, Moral and emotional development, patriotism, active citizenship, etc.

Problems: Shortage of rooms for above departments.

Sports and Games:

This School has facilities for indoor and outdoor games. Almost all students including the differently



able students participate in one or other game or sports. After the remedial and coaching classes, the whole scenario of the campus looks sportive. Even enthusiastic teachers also take part in different events.



Morning P.T.:

Daily from 5 AM to 6 AM, students practice P. T. Classes and Yoga under direct supervision of P.E.T and teachers.

Computer Skill:

Presently 22 number of computers are provided for students in IT Lab. Each group having strength 30 students do their practical and project work in the IT Lab. All students are computer skilled in soft skill and programming.



Problem: There is requirement of hall size computer lab along with 08 more computers for the smooth learning of students on 1:1 basis.

Science Skill and Labs:

There are 04 labs viz, Physics, Chemistry, Botany and Zoology which provide facilities for demonstration, exploration and practical work for the students. These labs strengthen their scientific attitude, curiosity, investigation of hypothesis, skill in handling devices, which helps in retention of their theoretical concepts.

Teachers Ratio: Male: Female= 11: 11

Teacher Relation:

There is harmonious, cordial, co-operative, friendly relationship among staffs, Staff with students, staff with parents and staff with community.

Teachers Activities:

- Along with regular Classes, remedial classes and Coaching classes are taken by the teachers
- House Mastership
- Supervision of Self study
- Conducting CCA and CCE
- Mess and Purchase Committee, Tender Process
- Conducting PTA, SMC, Entrance Examination, Admission Process, other official work as and when assigned
- Escorting students to hospital and educational visits
- Individual Career counselling and guidance
- Moral and Value system Education
- Participating /Monitoring of Sports and Cultural activities
- Life Skill Education, Motivation
- Mass Cleaning and gardening

Result Review:*Result of last Middle School Certificate Examination (Last 8 years)*

Sl. No.	YEAR	NO. OF STUDENTS APPEARED	NO. OF STUDENTS PASSED	% OF PASS
1	2003-04	57	57	100
2	2004-05	52	52	100
3	2005-06	55	55	100
4	2006-07	48	48	100
5	2007-08	65	65	100
6	2008-2009	63	61	97
7	2009-2010	61	61	100
8	2010-2011	58	58	100

Result of last High School Certificate Examination (Last 12 years)

Sl. No.	YEAR	NO. OF STUDENTS APPEARED	NO. OF STUDENTS PASSED	% OF PASS
1	2004-05	36	20	55.55%
2	2005-06	43	35	81.03%
3	2006-07	46	40	86%
4	2007-08	39	28	71.79%
5	2008-09	59	56	95%
6	2009-10	49	46	93.87%
7	2010-11	56	56	100%
8	2011-12	55	51	92.72%
9	2012-13	55	51	92.72%
10	2013-14	53	53	100%
11	2014-15	48	48	100%
1ST CBSE Batch				
12	2015-2016	55	45	82%

Result of +2 Science (CHSE Examination)

Sl. No.	YEAR	NO. OF STUDENTS APPEARED	NO. OF STUDENTS PASSED	% OF PASS
1	2007-08	37	15	48.64%
2	2008-09	32	27	84 %
3	2009-10	30	29	96%
4	2010-11	39	20	51.28%
5	2011-12	55	47	85.45%
6	2012-13	61	51	83.6%
7	2013-14	56	56	100%

Sl. No.	YEAR	NO. OF STUDENTS APPEARED	NO. OF STUDENTS PASSED	% OF PASS
8	2014-15	51	51	100%
9	2015-16	59	57	96%

Achievement and Outcome:

- a. YRC, Scout and Guide, Sports, Yoga, Karate, Music, CCA sections under trained teachers.
- b. School Magazine "Amrutakshyara"
- c. Monthly Wall magazine, Science corner, Art corner.
- d. Annual Science Exhibition, Annual Sports and Annual Function.
- e. First Ekalavya Shishu Utsav was hoisted and organized in the year 2011-12. Our School stood 1st in Sports and 2nd
- f. Dhemsha troupe (tribal dance) was selected to participate in Adivasi Mela, 2013
- g. 02 Science Projects participated in State level Exhibition-2013
- h. 01 Boy selected for National level Athletics in High Jump held at Rajnandagaon, Chhatisgarh in the year 2012.
- i. Our School has stood runners up in 2nd Ekalavya Shishu Utsav held at EMRS, Dhanghera in the year 2013.
- j. FIRST in Jana Sachetanatasibir at Pottangi
- k. Awarded Best Junior commander in 15th August at Koraput Ground
- l. 10 students awarded prize in District level Sargiphal Competition 2016 out of which two students namely Jayadev Majhi and Santosh Saunta sent to State Level Sargiphal 2016
- m. Jayadev Majhi won Second prize in General Quiz competition of State Level Sargiphal 2016
- n. Jayadev Majhi won Second prize in Slogan Writing of State Level Sargiphal 2016
- o. Students won Prize in 2016 Farmer's Exhibition organized by ICSR
- p. NCC Camp at Rayagada, Dec, 2016
 - Ku. Jasmin Pangistood 1st in Solo dance
 - Ku Kanti Mandinga stood 3rd in Debate
 - Ku Rashmi Badanayak stood 3rd in Rangoli
 - School NCC Girls Team stood 1st in Group Dance and Group Song
- q. NCC Camp at Rayagada, Oct, 2016
 - Ku Rashmi Badanayak stood 1st in solo dance
 - Ku Sumitra Santa stood 1st in Debate
 - Ku Kanti Mandinga stood 2nd in Debate
 - Ku laxmi Murjia stood 2nd in solo song
 - School Team stood 1st in Group Dance
 - School team stood 2nd in group song.
 - Ku Rashmi Badanayak and Ku. Priyanka Mandinga stood 2nd in Rangoli
- r. Participation of NCC Girls students in Trekking at Ajmer during Nov, 2016
 - Rashmi Badanayk
 - Ritu Dishari
 - Bishnupriya Khillo
 - Nalini Hikaka
 - Diptimayee Hikaka
 - Jashmita Pangi



5.7 Mini Gurukulam Changing Educational Landscape-Compulsory Primary Education of PVTGs

Introduction

The Andhra Pradesh Tribal Welfare Residential Educational Institutions Society, popularly called “Mini Gurukulam”, came to into existence w.e.f. 16.12.1999 to take care of enrolment and retention of tribal children and improvement in the quality of education imparted to them. At present, 174 institutions are functional under Mini Gurukulam including 80 new residential schools converted from Tribal Welfare (TW) Hostels. Out of the total 174 institutions, 99 are Boys and 75 are Girls institutions. A total of 39,579 students were admitted against the sanctioned strength of 46180 during 2016-17 out of which 22049 are Boys and 17530 are girl students

Objectives

1. To establish maintain control and manage Social Welfare Residential schools and colleges for the

State	:	Andhra Pradesh
District	:	Srikakulam
ITDA Area	:	Seethampeta
Block	:	Seethampeta
GP	:	Seethampeta
Village	:	Seethampeta
Institution	:	Mini Gurukulam
Activity	:	Mini Gurukulam Changing Educational Landscape (Compulsory Primary Education of PVTGs)





talented and meritorious children belonging to schedule Caste and other residing within the state of Andhra Pradesh and to do all acts and things necessary for or conducive to promotion of such schools and colleges.

2. To affiliate and accord recognition to similar social welfare residential schools established and run by any society and private persons in the state.
3. To prepare introduced supervise and modify from time to time the curriculum syllabus and other programmers and conduct of examination for the pupils in the social welfare residential schools and colleges established by or affiliated to or recognized by the society.
4. To organize and conduct study course conference lectures. Seminars, workshops study tours and the like for the benefits of the staff and students of the social welfare residential schools and colleges.

Process Approach and Methodology

Before the initiation of the educational initiatives, boys & girls were taking care of domestic work during the absence of their parents. At the family level, girls and women were taking more responsibility to manage their family and taking care of other children. The family members were of the opinion that if girls will go out for education, it will have impact on their family management and taking care of the children. Due to poor awareness and ignorance, parents were not serious about education of their children and its outcome. It was very difficult to sensitize the tribals and to involve them in this process. But the district administration, ITDA Seethampeta took the challenge and started the process of educating parents and mobilising the community. The local traditional leaders and PRI members, and some of the village people came forward to participated in the educational drive.

With regular meetings and awareness drive, people could able to realise the importance of education for their children. However, at the end, some parents

agreed to send their girls to school for learning.

After year-long awareness and sensitization drive, now the boys & girls are allowed to educate themselves in these schools. After one year of regular follow-up and counselling, some of the parents of the children agreed for the education of their children. After a year's effort, when admission opened, 160 ST students joined in the 1st starting year. Now, they have started taking common food at school. Both the school boys and girls are now using toilet with better sanitation facilities and practice, as well as they are promoting this practice at their village level.

The administration and implementing agency took care of each and every aspect of all identified educational issues by the community. In the initial stage, as the girls were not habituated for general food, the school management provided their traditional food and in the same time made practice the common food like Rice, Dal, Samber, Charu Upama, Idli and other food items. Within a year, the administration try to overcome all their issues related to infrastructure for hostel and school building. The Govt. provided common minimum facilities like school uniform, books, copies, medicine, along with other daily needs. The most important aspect is that the school is meant only for children from PVTGs category and students from other categories are not allowed to take admission. The administration has taken care to engage/appoint teachers from their local area and those who know tribal language, belongs from same community and understand them in a proper way.

Stakeholders of the Good Practice

The schedule tribe community especially for Jathapu, KondaSavara, KapuSavara, MaliyaSavara, Yerukala and Gadaba are the primary stakeholders of this initiative. The ITDA Seethampeta has been the Implementing agency and providing financial support for infrastructure and other facilities for the education of the students. The MADA, Seethampeta has been providing support for sustainable livelihood and empowerment of main tribes of the district, such as Jathapu, Konda Savara,



Kapu Savara, Maliya Savara, Yerukala and Gadaba. The District Administration along with Tribal Development Department provides financial and other required administrative support.

The district administration of Srikakulam and ITDA Seethampta organized sensitization meetings at the community level to educate and aware the tribals on the importance of education. The implementing agency played a vital role in motivating the parents for the education of their children. In addition, teachers were also appointed from the locality who can communicate with students in their language during teaching. It took around one and half year to get the initial result of all efforts taken at different levels. Other line departments such as forest department, education department also

played a vital role for community mobilization and ensuring their participation.

Outcome and Impact

After the implementation of the project, parents and children from PVTGs realised the value of education. Parents were also motivated for which more numbers of children are now taking admission. Because of the education of the children, now exploitation in the area has reduced. Cheating by local trader / middlemen, i.e., persons dealing with non-timber forest produces, has reduced as now children know how to estimate / calculate. After completing the schooling, both boys and girls are now taking admission in different local residential schools for higher education.





Section Six:
Skill Development





6.1 Equipping STs with Skill, Andhra Pradesh

Introduction

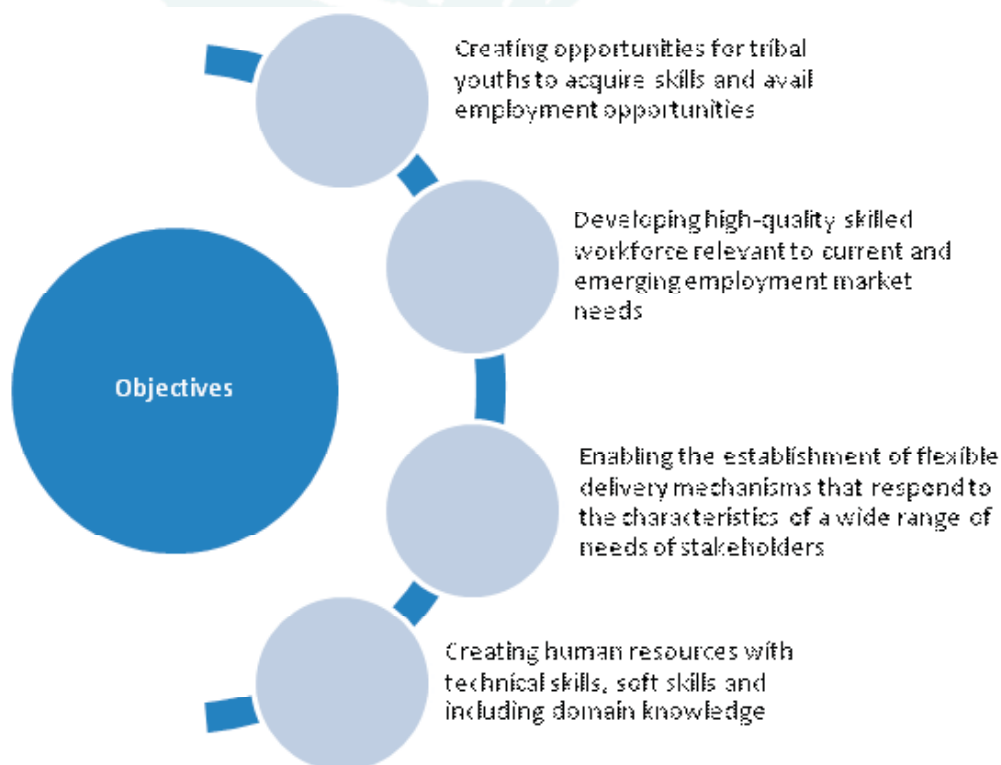
Technological changes have forced both Central and State Governments to arm their youths with the new and changing technological and professional skills. To accommodate with this changing technological environment, skill development and creation of job are inevitable now as professional skills and domain knowledge are the driving forces of socio-economic development in the present scenario. Acquiring professional and technical skills, including domain knowledge and soft skills have become more important at present than before. To cope with the upcoming technological changes and to transform state economy,

specialised skill sets are required for which training and skill development is primarily a prerequisite. To ensure gainful employment, either in public sector and/or in private sector, creation of required quantity and quality skilled human resources is very much essential.

Under such circumstances, Tribal Welfare Department of Andhra Pradesh has been scaling up skill development initiative with diversified activities to provide sustainable employment, in terms of skill based employment & self-employment for upliftment of tribal youth. It was understood that there is a need to emphasis on creating awareness among the ST youth on alternative employment opportunities in potential sectors and to turn them up for skill development trainings. In order to improve their participation in skill based employment and self-employment, trainings for Self-Employment and Pre-Examination coaching for

formal employment is also required, looking at their present skill status.

Objectives



Geographical Coverage

This practice covers the whole of Andhra Pradesh where Youth Training Center (YTC) / Skill Development Center for Excellence (SDCEs) is engaged in skill development of tribal Youths in Andhra Pradesh.

Skill Development Policy of the Tribal Welfare Department

- Impart Training in Basic & Soft Skills coupled with the sector specific skills as per the choice to enhance the employability opportunities of the ST Youth.
- Facilitate the access to wage employment through organizing Direct Placement Drives.

- To provide financial support during post placement period up to maximum of three (3) months in convergence with Andhra Pradesh State Skill Development Corporation (APSSDC)

Tribal Welfare Department of the Government of Andhra Pradesh, as per tribal empowerment policy, has initiated to strengthen infrastructure for skill up-gradation and training of tribal youths and facilitating their placement. The Department has prepared a report and proposed to utilize and equip the existing training centers, making to full-fledged operational training centers to serve as Skill Development Centers of Excellence (SDCE) for conducting skill up gradation activities for employability of the Scheduled Tribe youths. Initially, as a part of the plan the government decided to utilize these 28 Youth Training Centers

(YTCs) as Skill Development Centers of Excellence (SDCEs) for conducting skill up-gradation activities for employability of the Scheduled Tribal youths. As part of the initiation of the work, following actions have been undertaken.

- Preparing operational guidelines for the utilization of Youth Training Centers;
- Preparing indicative list of furniture and training equipment for each Youth Training Centre;
- Preparing the annual training calendar of Skill Development Centre of Excellence (SDCE);
- The Engineer-in-Chief (TW) is instructed to take further necessary action for early completion of all the remaining works of Youth Training Centers.
- Workshops at different levels were organized with proper roadmap and plan for execution of training programmes in 28 YTCs in collaboration with Andhra Pradesh State Skill Development Corporation (APSSDC), Employment Generation and Marketing Mission (EGMM), Department of Rural Development, Employment & Training Department and Technical Education

Department.

- To meet the expenditure towards maintenance of these YTCs / (SDCEs), budgetary provision has been made under Tribal Sub-Plan (TSP).

The objectives of the Skill Development activities in the State are.

Objectives

1	2	3	4	5
•To enhance employability of tribal youths (wage/ self-employment) and ability to adapt to changing technologies and labour market demands	•To improve productivity and living standards of the tribal youths through skill development, and training and capacity building	•To create opportunities for tribal youths to acquire skills and to provide employment for them after getting requisite training and skill development	•To develop a high-quality skilled workforce/entrepreneur relevant to current and emerging employment market needs	•To create of human resource professionals with technical skills including domain knowledge and soft skills

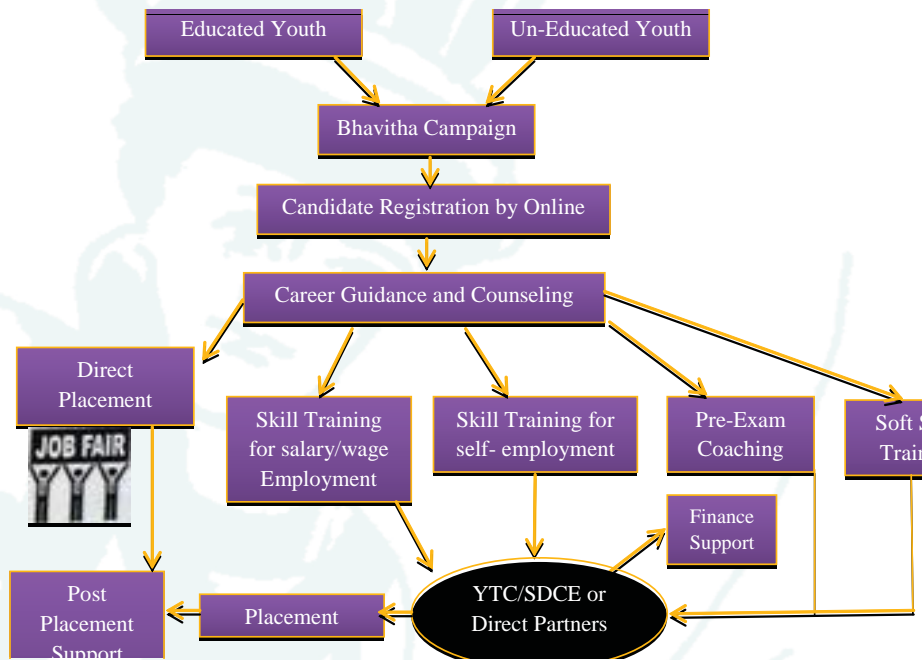
Technological changes have forced both Central and

Strategy

Based on the analysis of the existing situation of skill development in the state, following strategy is being adopted for effective implementation of skill development initiatives:



TWD Strategies for Skill Development



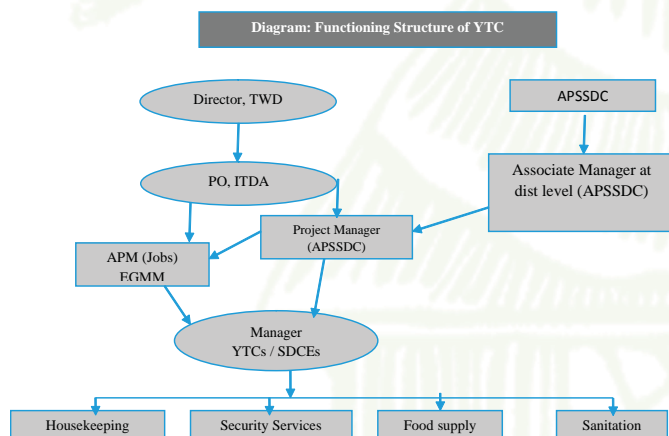
Category-wise Strategies		
Sl. No.	Category	Adopted Strategy
1	Creating awareness among the ST youth	Organizing 2-days residential orientation camps (Bhavitha) at mandal level to create awareness on various skill development initiatives.
2.	Career counseling and guidance	During Bhavitha camps, the APSSDC and ITDA staff will provide career counseling and guidance to the youth. So, the youth themselves can choose the best way based on his/her skills ability, interest etc. The same service available at YTC/SDCE
3.	Youth interest for placement oriented Trainings	Sponsoring the interested youth for basic/soft skills and sector specific skill trainings of TWD run through APSSDC training partners in the 28 YTCs.
4.	Youth interest for immediate private job (direct placement)	Mobilization of youth for direct placement drives (job mela) to provide them immediate wage employment in private sector. The TWD is also providing post placement support to ST youth to meet the food and accommodation when they joined in new job If the youth need skill training to get better jobs, the TWD will provide soft-skill trainings
5.	Youth interest for government employment	Wide publicity will be given in respect of government recruitment notification by utilizing “Bhavitha” as an effective forum Imparting pre-examination coaching in PETCs, i.e., Police/Para military, Railway recruitment, Banking recruitment, DSC & Civil services, etc. Sponsoring the youth for study circles for coaching and also providing competitive exam coaching through ASSSDC partners
6.	Youth interested in self-employment	Imparting training through VTIs in MES courses. Sponsoring youth to reputed technical training institutes for self-employment trainings. i.e., Rural Technology Part (NIRD), National Institute of Tourism & Hospitality Management (NITHM), CIPET, NIMSME, APBIRED & RSETI, etc. Tapping financial support of Economic Support Scheme (ESSO in respect of micro enterprises Tapping financial support of DIC, KVICs in respect of micro, small & medium scale enterprises.
7.	Youth need post placement support to continue in the new job	The TWD will provide the financial support to the youth who got the placement/new job opportunity at towns and other places. The small financial support will help them to meet their food and accommodation needs initially.

SDCEs as per the Plan

- Ten numbers of Skill Development Center of Excellence (SDCEs) were sanctioned under IAP, ACA during 2012-13,
- Seventeen numbers of Skill Development Center of Excellence (SDCEs) sanctioned under SCA to TSP during 2013-14
- SDCE, Yatapaka brought into the jurisdiction of residuary state of Andhra Pradesh as part of state reorganization which is earlier located in submerged mandal of Khammam district.
- Total 28 SDCEs were sanctioned with 27, 000 Sq. ft. area and accommodate capacity of 200 in each for organizing skill based trainings for tribal unemployed youths.

District-wise No. of YTCs / SDCEs							
Sl. No.	District	Places of YTCs / SDCEs (one at each place)	No. of YTCs / SDCEs	Sl. No.	District	Places of YTCs / SDCEs (one at each place)	No. of YTCs / SDCEs
1.	Srikakulam	Seethampeta, Srikakulam, Mandasa, Pathapatnam	4	7.	Kurnool	Srisailam	1
2.	Vizianagaram	Parvathipuram, GIL. Puram, Saluru, Vizianagaram	4	8.	Guntur	Guntur	1
3.	Visakhapatnam	Paderu, Pedabayalu, Chintapalli, Visakhapatnam, Araku Valley	5	9.	Prakasam	Yerragon-dapalme	1
4.	East Godavari	R.C. Varam, Maredumili, Kakinada, Rajamundry, Addateegala, Yatapaka	6	10.	Nellore	Nellore	1
5.	West Godavari	K.R. Puram, Eluru	2	11.	Chittoor	Tirupathi	1
6.	Krishna	Vijayawada	1	12	Ananthapur	Ananthapur	1
						Total	28

Functioning Structure of YTCs:



Key Partners of YTC/SDCE

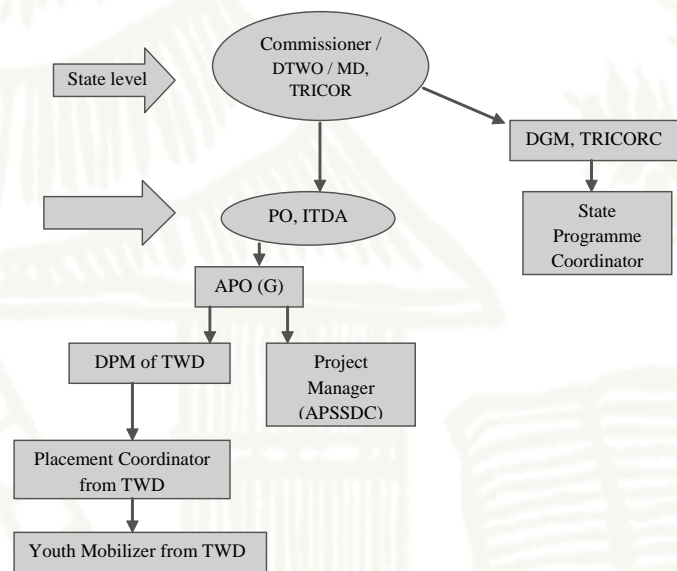
The skill development initiative has been implemented through the participation and coordination of different agencies which are;

- Andhra Pradesh State Skill Development Corporation (APSSDC)
- Employment & Training Department
- Employment Generation & marketing Mission (EGMM)
- Rural Self Employment Training Institutes (RSETIs)
- Technical Education Department

Human Resource Structure for Implementation at YTCs/SDECs

The management of Skill Development Centers of Excellence (SDCE) is handled by three way services i.e. Regular Govt. functionaries at senior level, manned by contract / outsourcing staff at intermediate level and outsourced services at lower level. One dedicated Manager / Care Taker takes care of day to day requirement (SDCEs). Other services like housekeeping, security services, gardening and sanitation outsourced as per the decision taken by the Monitoring Committees.

Organogram Structure for SDCEs



Utilization Plan of SDCEs:

- There are 6 class rooms & 6 trade labs in each SDCE, of which 2 class rooms & 2 trade labs are allotted to AP Skill Development Corporation/ Employment & Training Department as per requirement;
- One class room & computer lab is utilized for English Work Readiness & Computer (EWRC) training programme which is directly run by Employment Generation and Marketing Mission (EGMM) as its own programme;
- Remaining class rooms & trade labs are utilized for conducting local demanded training programmes such as self-employment, Pre-examination coaching & EDP (Enterprise Development Programme) trainings;
- Project Officer organize trainings as per the local demand i.e., self-employment, pre-examination coaching & EDP training programmes apart from placement linked trainings run by training partners with the prior approval of Commissioner of Tribal Welfare;

- Project Officer also conducts trainings /review meetings related to line departments working under his control to ensure 100% utilization of the Youth Training Centers;
- Project Officer take proper security measures in respect of women participants in the training programmes in SDCE premises;
- Career Guidance Cell / Job Facilitation Center opened in each Youth Training Center, integrating with Sub-Employment Exchange (SEE).
- All the skill Development related initiations such as Vocational Training Institute, Career Guidance Cell/Job Facilitation Center Cum Sub Employment Exchange, Pre-examination coaching center and training centers of EGMM/ TWD shall be organized in SDECs only so as to make the YTCs as skill Development Centers of excellence.

Furniture & Fixture

The following furniture & equipment provided to equip the SDCEs totake up various skill development initiatives.

- Class rooms equipped with white board, Desk benches, office table, display boards and Television;
- Trade labs equipped with lab tables, almirah, iron racks, chairs, anddust bins, 20 computersin computer lab, printer, scanner with LANconnection;
- Dormitories provided with bunk beds, mattresses, wooden cupboards,buckets& mugs and RO (reverse osmosis) plant for purified drinking water;
- Library equipped with reading tables, chairs, iron racks, display boardsand study material for competitive exams in addition tomonthly and weekly magazines;
- LCD projector, Tripod screen, conference tables, chairs, ACs and sound systemprovided in conference hall.



- Kitchen provided with rice boilers, plates, cooking vessels, grinder,water drums, fridze, iron racks, vegetable cutting tables and LPG gas connectionwith cylinders.
- All other items required for the (SDCE) is procured through Purchase Committee within the purview of the norms and procedures.

Supervision and Monitoring Mechanism:

A State level six member committee has been constituted to oversee the operation of the YTC by taking up Skill development initiatives in tribal areas. The committee comprises of following persons.

- Principal Secretary (TW) - Chairman
- Commissioner of Tribal Welfare - Vice -Chairman
- Managing Director, TRICOR - Member/ Convener
- Chief Executive Officer, EGMM - Member

- Chief Executive Officer, APSSDC - Member
- Engineer – in Chief, TWD - Member

Skill Development Activities:

Bhavitha Orientation

Department of Tribal Welfare making an attempt to create awareness among the tribal unemployed youth regarding employment opportunities in government, private and self-employment sectors on a massive mode in the name of “Bhavitha” programme. This is facilitating to realize the potential among the ST Youths and mentor them for the appropriate employable opportunities available in the open market by enhancing their self-confidence level. During 2015-16, 2295 ST youths participated in Bhavitha campaigns and sensitized about various skills trainings and placements.

Direct Placement

The TWD has been implementing the employment generation programmes in ITDA areas of which direct placements is one of the core activities. The direct placement aims to provide placement to unemployed youths in private companies/organizations. Strategy for achieving this has been bringing the unemployed youths and private sector players to a common platform, thereby providing work ready manpower to the industry, as per industry requirement. Youths who are having minimum skills will be selected and absorbed into the company without any kind of training. Previous experience reveals that there is a good potential in the tribal areas in getting ST youths through Direct Placement Drives (DPD) by the employing organizations and the achieved progress is through direct placement. During 2015-16, 989 ST youths got placement in private and Government sectors.

Trainings and Placement

The AP State Skill Development Corporation has initiated skill development training covering both basic skills, soft skills and sector specific skills for a period of 4 months through their empaneled training partners from 15 YTC/SDCE during 2015-16 and 2010 ST youths

got trained on various skills and placed in private and public sector companies.

The list of Trades in which specific technical skill trainings provided by APSSDC through various Training partners are like APITCO, APOLLO Med Skills (Full Center), Bollineni Med Skills, Centum Learning Limited, CIPET(Full Center), Dhatri Foundation, Don Bosco Tech (Full Center), IGIAT (Full Center), Interactive Institute of Job Skills Pvt. Ltd. Kites Computers, Vishakapatnam, Prabhat Educational Society, RAXA Academy, Skill Pro, St. Jhons Welfare, Synchro Serve, Talent Sprint, TATA Strive, Team Lease Services and Ultimate Energy Resource Pvt. Ltd.

List of Trades / Job fields – Skill Training Provided			
Sl. No.	Name of Trades / Job fields	Sl. No.	Name of Trades / Job fields
1.	AC & Refrigeration Mechanic	2.	Assistant Electrician
3.	Auto Mobile Sales	4.	Automobile Technician

Similarly, the NAC and CIPET are also providing skill training for the ST youth at their own training centers.

Pre-Examination Coaching for Formal Employment

In Central Government and State Government (Staff Selection Commission, UPSC) and nationalized banks, Indian Railways issuing notifications every year with number of opportunities. In addition to this, Military and Para-military including state civil police departments are also recruiting considerable number of youths based on available vacancies. Likewise, teacher vacancies are also being filled through DSC/Spl. DSC. It is felt necessary to provide required coaching to the ST youths so that they can compete with others for these jobs. In this regard, pre-examination coaching was organized for ST youths to prepare them for Government Jobs like, Police, Para-military, DSC, IBPS, etc. In the year 2015-16, 1884 numbers of ST youth attended pre-examination coaching for various governments’ competitive exams and few were qualified for further steps. Rests of them are trying jobs/placements in private & government jobs.

Self-Employment

Economic support schemes are being implemented through TRICOR every year. It is observed that the major constraint in the way of making the units operationally viable is due to lack of entrepreneurial skills. Further various line departments such as Agriculture, Animal Husbandry, Industries departments are also implementing the self-employment schemes under TSP. Therefore, building the entrepreneurial capacity of the ST youth will be of immense help not only for better access of the schemes but also to sustain income generation ventures. During 2015-16, 450 ST youths trained and started self-employment ventures.

Competitive Courses for Getting Private Sector High End Jobs for Professionally Educated Candidate

It is observed that considerable number of tribal youth who acquired professional courses but not getting Hi-end jobs in relation to their educational qualifications, due to lack of specific job oriented skills (D.Net, JAVA, SAP, etc.) and unable to compete with other youths in private sector. Therefore, it is planned to sponsor the qualified professional ST youth to the Center of Excellence (COE) of SIEMENS, being established by APSSDC in Tribal areas under TSP, for skill based training so that they can compete for hi-end jobs in Private Sector for Software and Hardware related opportunities.

Action Plan for the year 2016-17:

The TWD implemented the following activities in the current financial year 2016-17 in convergence mode by involving all key stakeholders, including APSSDC, EGMM, SERP, MEPMA & other line departments and director training and placement partners like CIPET, NAC, etc.

Major initiatives during the current financial year 2016-17:

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Major initiatives during the current financial year 2016-17:

Organising Bhavitha campaigns to mobilize ST youth

Conducting Job Melas and providing direct placements

- Provide Career Guidance and Counseling to ST youth
- Online MIS monitoring system (Individual candidate job history tracking)
- Provide placement support to who are not qualified in Competitive exams
- 70% of ST youth will get post placement support either direct placements, skill trained youth and others
- Online ST youth Job Website and provide job information through email / SMS alerts.
- Facilitating Self-employment schemes
- Providing skill trainings on 70 skill sectors training to ST at all Youth Training Centers (YTCs), Pool Training Centers, NAC & CIPET, etc.
- The APSSDC has issued work orders recently to the training partners to start the Placement Linked Training Programmes for ST youth. The work order issued by the APSSDC has been communicated to the respective ITDAs for mobilization to start training by the training partners.
- In order to improve the progress, the ITDAs have been organizing job melas to ensure direct placements to skilled ST youth in coordination with APSSDC and placement partners like VIKAS etc.

Sponsoring ST Youth for CIPET:

- CIPET is imparting trainings with 100% placements with a monthly remuneration ranging from 9,000 to Rs.12,000. A target of 800 ST youth allocated to CIPET by APSSDC. Till now CIPET has placed 30 ST candidates and 100 are under training at YTCs.
- The PO/DTWOs are organizing exclusive mobilization camps in coordination with CIPET and ensure sponsoring the candidates on immediate basis.

Entrepreneurship Development Program (EDP)

- In order to ensure better access to Start-Up India Program, TRICOR and DICCI jointly organized one day business opportunity workshop at Visakhapatnam for 252 ST candidates on 8th December 2016 for selection 50 ST candidates for the EDP program through Ni-MSME & DICCI.
- The training course comprises of 3 stages, initial one day orientation-cum-selection at Visakhapatnam, 15 days training at NI-MSME and 30 days training by DICCI.

Action Plan under Skill Development during the Year 2016-17		
Sl. No.	Activity	Sub-Activity
1.	Organising Bhavita campaigns in all tribal villages / Universities / colleges (50000 x Rs.500)	<ul style="list-style-type: none"> • Registration of Candidates • Provide Career Guidance / Counseling to ST
2.	Training and Placements Skill training for Salary / Wage employment (As per Sector Skill Councils) (Cat.1 : 9000 X Rs.10000 Cat. 2:1000 x Rs.100000)	<ul style="list-style-type: none"> • Skill training through APSSDC • Skill trainings through direct partners (CIPET, NAC, AP Tourism, APSRTC, etc.) • Skill trainings through EGMM / MEPMA
3.	Competitive Exams Coaching (5000 x Rs.10000)	<ul style="list-style-type: none"> • Pre-Examination Coaching for Groups, DSC, IBPS & RRB through APSSDC • Pre-Examination Coaching for Groups, DSC, IBPS & RRB through Direct Partners
4.	Placements (9500 x Rs.1000)	<ul style="list-style-type: none"> • Conducting Job Melas • Placement for Skill trained youth –m Salary / wage employment • Placement for Soft skilled youth – Salary / wage employment • Direct placement for ST youth • Management of Job information website for St youth and send job information through email and SMS
5.	Post Placement Support (4500 x Rs.6000)	<ul style="list-style-type: none"> • Provide financial support to ST youth after joining in the Job (for first 3 months)
6.	Skill training for Self-employment (as per Sector Skill Councils) (5000 x Rs.10000)	<ul style="list-style-type: none"> • Self-employment trainings through APSSDC • Self-employment trainings through direct partners (RTP-NIRD, SDI-MES, NITHM, APBIRED, RESETI, RUDSET, etc. • Financial linkage with EDP of TRICOR / TWD, KVIC & Banks
7.	Soft skills, Professional Tainings for better job / Placement linked jobs (500 x Rs.20,000)	<ul style="list-style-type: none"> • English Work Readiness & Computers (EWRC) and other soft skill, professional trainings through Direct partners
8.	Online MIS Monitoring and Reporting	<ul style="list-style-type: none"> • Design, Develop and Deployment of Online MIS software

Action Plan under Skill Development during the Year 2016-17		
Sl. No.	Activity	Sub-Activity
9.	Organise state and regional level workshops and Consultations	• Meetings, workshops and consultations with key stakeholders
10.	Documentation and Publications	• Printing a Handbook on Skill Development, Handbook on Career counseling, etc.
11.	Management of 28 YTCs/ SDCEs	• Ensure utilization of 28 YTCs in Andhra Pradesh for skill trainings
12.	State & District Level Review Meetings	• Monthly review meeting

Year-wise Overall Progress

The TWD reached the 5342 ST youths during 2015-16 by providing skill trainings and placements to unemployed youth through APSSDC, CIPET, NAC and other key stakeholders. The ITDAs are playing a key role to reach the skill trainings to the ST youths.

Year-wise Progress and Achievements				
Sl. No.	Progress Details	2014-15	2015-16	2016-17 (up to Jan 2017)
1.	Training & Placements	445	2010	6233
2.	Direct Placements	3396	989	4059
3.	Pre-exam Training / Competitive exam coaching	-	1884	2574
4.	Self-Employment	-	459	Not Available

Major Achievements under Skill Development Activities in the year 2016-17:

- 12960 no. of ST youth trained so far
- 2787 no. of ST youths placed so far in private placements
- 4059 no. of ST youths placed through direct placements
- 6571 no. of ST youths trained for formal employment

- 828 no. of ST youths are currently under training
- 1006 no. of ST youths undergone training for Group-II
- 50 no. of ST youths gone under Entrepreneur Development Programme (EDP) through Ni-MSME & DICCI
- 30 no. of ST youths are directly placed & 100 are under training at Eluru YTC
- 491 no. of ST youth placed through MEPMA,
- 2780 no. of ST youth placed through EGMM

Lessoned Learned and Action Taken:

Lessoned Learned	Action Taken / To be Taken
Candidate Registration: Lack of online monitoring, the candidates database is maintaining manually	Design, develop and management of Online MIS system with Adhar seeding
Setup counseling and career guidance centers at ITDA / YTC: There is need to provide counseling to ST youth to choose the better option based on their skill, ability and interest, etc.	To strengthen manpower, enhance the capabilities of HR on providing career guidance and counseling

Lessoned Learned	Action Taken / To be Taken
Post Placement support: Need to develop guidelines (How financial support provides to ST youth after joining in new job).	Develop comprehensive guidelines to provide post placement support top ST youth
Utilization of all YTCs / SDCEs: Some of the YTCs are under construction	Utilize all 28 YTCs.

Budget for implementation of Skill Development Activities during FY 2016-17:

The TWD / TRICOR provided various skill trainings and placements through APSSDC and other direct partners. The below table is explaining the APSSDC's training partners unit cost, each trade and course fee per candidate.

Course-wise Unit Cost during the Year 2016-17			
Sl. No.	Course Name	No. of Days	Course Fee per Candidate (in Rs.)
1	Assistant Electrician	45	7500
2	Auto Mobile Sales	60	10000
3	Auto Mobile Technician	90	14000
4	Banking Correspondence & Facilitator	60	10000
5	BPO	90	14000
6	BPO-Customer Care Executives	45	7500
7	Cell Phone Repairing	60	10000
8	CNC Operator	90	13000
9	CNC Operator	90	14000
10	Coir Door Mats Making	45	7500
11	Coir Handicrafts Making	45	7500
12	Coir Two Ply Yarn Making	45	7500
13	Computer Assistant	60	10000
14	Driving LMV	45	7500
15	Driving LMV	45	10000

Course-wise Unit Cost during the Year 2016-17			
Sl. No.	Course Name	No. of Days	Course Fee per Candidate (in Rs.)
16	Electrical	90	14000
17	Emergency Medical Technician - Basic	90	13971
18	General Duty Assistant	90	13971
19	General Duty Assistant	90	14000
20	Hardware Training	60	10000
21	Home Health Aid	90	13971
22	Hospitality Steward	45	7500
23	Industrial Sewing Machine Operator	60	10000
24	Industrial Sewing Machine Operator	60	6000
25	Java	60	10000
26	Logistic Clerks	60	6500
27	Logistic Executives	60	10000
28	Machine Operator - Plastic Processing with focus on Injection Moulding	90	14000
29	Masonry (Construction Sector Course)	90	14000
30	Multi Skills Technician	60	14000
31	Nursing Assistant	60	10000
32	Retail -Associate	60	10000
33	Sewing Machine Operator	45	7500
34	Solar Pump Installation	60	10000
35	Terracotta Jewels	45	10000
36	Welder	60	10000

In addition to above, the APSSDC has given following two new proposals to TWD/TRICOR for incorporation in the training activities.

APSSDC New Proposals				
Sl. No.	Training Partner	Trade	Duration	Cost (In Rs.)
1.	NTTF Bangalore	<ul style="list-style-type: none"> • Electronics Assembly Technicians • CNN Turning • Inspection Metrology 	One Year	100000
2.	Pre-exam coaching	<ul style="list-style-type: none"> • Competitive exam 	60 days	10000

In view of the above, the TWD allocated funds following two categories of training and placements, i.e.,

Category – 1:Target of 9000 @ Unit Cost Rs.10000

Category – 2:Target of 1000 @ Unit Cost Rs.100000

Budget for Skill Development for the Year 2016-17					
Sl. No.	Activity	Activity Description	Target	Unit Cost (InRs.)	Budget required (Rs. in Crores per year)
1.	Bhavitha	Program cost for organizing Bhavitha 2-day orientation camps to create awareness to 10000 St youth regarding employment opportunities	50000	500	2.50
2.	Training & Placements	Programme cost for organizing the placement linked trainings to 2700 ST youth through APSSDC (4 months training on Soft Skills	Cat. 1: 9000 Cat.2: 100	Cat.1:10000 Cat.2:100000	Cat.1: 10.00 Cat.2: 10.00
3.	Pre-examination Trainings	Program cost for conducting pre-examination coaching to 1000 ST youth	5000	10000	5.00
4.	Direct Placements	Cost for conducting Direct Placement drives to provide direct employment to 2500 ST youth	59500	1000	0.95
5.	Post Placement Support Money	Support Money for the ST youth to the Directly Placed 2500 candidates and Trained & Placed 2000 for 3 months @ Rs.3000 Rs.2000 and Rs.1000 per month respectively	4500	6000	2.70
6.	Competitive Courses for getting Private Sector Hi end jobs for Professional Studies Candidates	Programme cost for 500 competitive courses for getting private sector H-end jobs for professional studies candidates	500	20000	1.00

Budget for Skill Development for the Year 2016-17					
Sl. No.	Activity	Activity Description	Target	Unit Cost (InRs.)	Budget required (Rs. in Crores per year)
7.	Self-employment Training	Program cost for conducting self-employment training to 1000 ST youth	5000	10000	5.00
8.	Human Resource	Pay & allowance of the Skill Development staff at state level & district level including training to staff, monthly review meetings, exposure visit tot staff, vehicle hire charges, TA/DA to skill staff, office maintenance, etc.	82	Lump sum for 6 months	0.71
		Total			37.86

Skill Development Target and Achievement during 2014-15								
Sl. No.	ITDA	Training & Placement		Direct Placement		Total		% of Achievement
		Target	Placed	Target	Placed	Target	Placed	
1	Seethampeta	900	44	600	374	1500	418	28
2	Parvathipuram	960	62	640	1240	1600	1302	81
3	Paderu	960	195	640	417	1600	612	38
4	Rampachodavaram	900	114	600	359	1500	473	32
5	KR Puram	300	25	200	284	500	309	62
6	Srisailam	480	5	320	342	800	347	43
7	Nellor	0	0	0	380	0	380	100
	Total	4500	445	3000	3396	7500	3841	51

Physical Progress under Skill Development Activities 2015-16						
Sl. No.	ITDA	Training & Placement	Direct Placement	Pre-Examination Coaching	Self-Employment	Total
1	Seethampeta	225	226	19	42	512
2	Parvathipuram	111	247	450	199	1007
3	Paderu	394	35	1017	26	1472
4	Rampachodavaram	1019	350	100	90	1559
5	KR Puram	161	0	298	60	519
6	Srisailam	100	131	0	42	273
	Total	2010	989	1884	459	5342

Skill Development Target and Achievement during 2016-17

Sl. No.	ITDA	Training & Placement		Direct Placement		Total		% of Achievement
		Target	Placed	Target	Placed	Target	Placed	
1	Seethampeta	2000	898	1500	484	3500	1382	39
2	Parvathipuram	1500	738	1300	635	2800	1373	49
3	Paderu	2000	1773	1500	565	3500	2338	67
4	Rampachodavaram	3000	1640	2500	1151	5500	2791	51
5	KR Puram	1500	744	850	607	2350	1351	57
6	Srisailam	500	263	500	209	1000	472	47
7	Nellor	500	177	500	394	1000	571	57
8	Other Districts			1550	14	1550	14	1
	Total	11000	6233	10200	4059	21200	10292	49



6.2 Youth Training Centre, KR Puram, (WG, AP)

Aims:

Types of trainings suitable for ST unemployed youth taking their educational status into consideration even from 5th class to degree and focus on strengthening through self-employment and wage employment, earning livelihood.

Youth Training Center KR Puram (WG)

The Tribal Welfare Department (TWD) of Andhra Pradesh is implementing various skill development initiatives with diversified activities to provide sustainable employment in terms of wage employment and self-employment for uplift of tribal youth. As part of this, the TWD is creating awareness among the ST youth on alternative employment opportunities in employment, self-employment trainings and Pre-Examination coaching for formal employment.

State	:	Andhra Pradesh
District	:	West Godavari
ITDA Area	:	KR Puram
Block	:	Buttayagudam
GP/ Village	:	KR Puram
Institution	:	Youth Training Centre, KR Puram, (WG, AP)
Activity	:	Skill Development Training

Back ground

Youth Training Centre was opened 10th April 2015 by the Hon'ble Minister of Tribal Welfare of Andhra Pradesh.

The YTC is initiated the following activities in the ITDA area related to Skill Development and employability

Objectives:

- To enhance employability of tribal youths (wage/ self-employment) and ability to adapt to changing technologies and labour market demands
- To improve productivity and living standards of the tribal youths through skill development, and training and capacity building
- To create opportunities for tribal youths to acquire skills and to provide employment for them after getting requisite training and skill development
- To develop a high-quality skilled workforce/ entrepreneur relevant to current and emerging employment market needs
- To enable the establishment of flexible delivery mechanisms that respond to the characteristics of a wide range of needs of stakeholders

To create of human resource professionals with technical skills including domain knowledge and soft skills

- Registration for training/Employment
- Trainings for wage employment and placements
- Trainings for self-employment
- Pre-examination coaching for formal employment
- Imparting Entrepreneur Development training Programmes (EDP for youth availing self-employment loans
- Post Placement support to newly joined ST youth
- Career Guidance and counseling at YTC/SDCEs
- Online application for Government/private jobs
- Online tests for any recruitment

The National Policy for Skill Development and Entrepreneurship 2015 and Skill Development Policy of the TWD

Keeping in view of the Skill Development Policy of the TWD of Andhra Pradesh and the National Policy for Skill Development and Entrepreneurship 2015's vision, the YTC is emphasizing on to create an ecosystem of empowerment by skilling on a large scale at speed with high standards and to promote a culture of innovation based entrepreneurship which can generate wealth and employment so as to ensure sustainable livelihoods for ST youths in the state.

Impart skill training in Basic & Soft Skills for wage employment self-employment with the sector specific skill as per the choice to enhance the employability opportunities of the ST Youth in convergence with AP State Skill Development Corporation and other training partners.

The YTC conducts multiple type of trainings and awareness programmes to meet the quality human resources requirement and to ensure gainful employment to all these who seek employment in public or private sector or through self-employment programmes of the government.

The YTC is also facilitating to access of wage employment through organizing Direct Place Drives in support APSSDC. It has also been planned to provide three months financial support to tribal youths during post placement period in convergence mode with APSSDC and TWD.

Further, the YTC is also delivering the services like counseling, career guidance, online application for government / private jobs, training for wage employment, trainings for self-employment etc.

Achievements so far:

- Succeeded in arranging 3 persons who are in R & R package, Chegondapalli who joined already, as drivers in the project nearby and ultimately they became the brand ambassadors to this Youth Training Centre. The expenditure is to meet by PO ITDA, KR Puram

- 30 WSHGs were sent to YSR Horticulture University Krishi Vigyan Kendra, Venkataramannagudem to receive training on manufacturing of biscuits and some other bakery items which are supported with boarding and lodging facility.

Furniture & Fixtures:

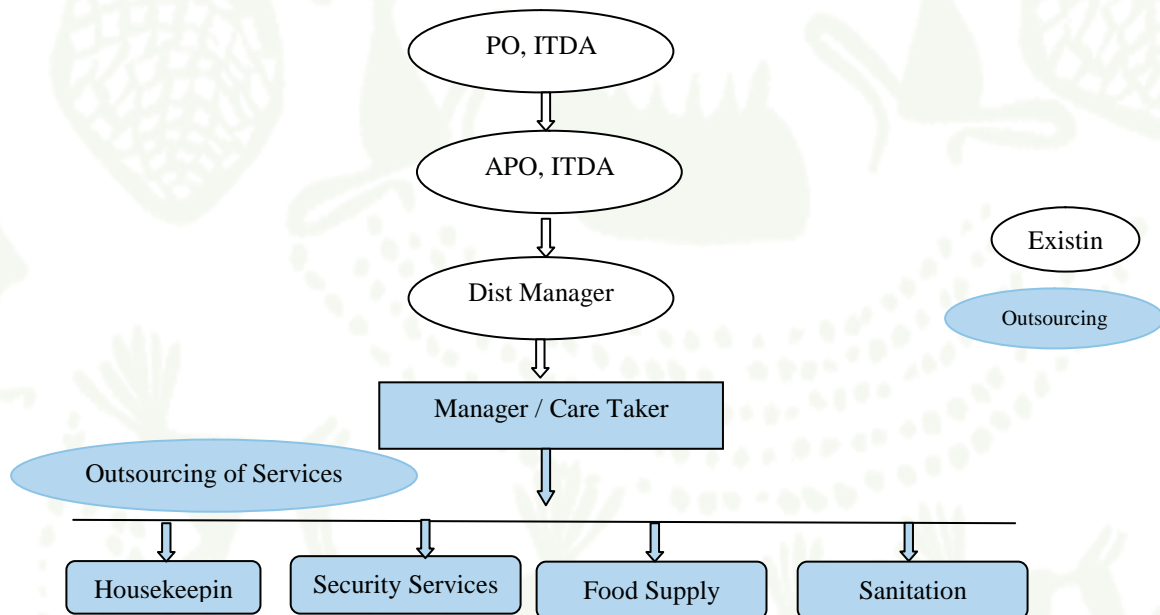
- Class rooms are equipped with Table, Desk benches, white board, display boards and Television.
- Trade labs are equipped with lab tables, almarah, iron racks, chairs, and dust bins, in respect of Computer lab with computers, printer, scanner with LAN connection and computer cubical will be provided.
- Dormitories provided with bunk beds, mattresses, wooden cupboards, buckets & mugs and RO plant for purified drinking water.
- Library is equipped with reading tables, chairs, iron racks, display boards and study material for civil services and other competitive exams in addition to monthly & weekly magazines.

- LCD projector, Tripod screen, conference tables, chairs, A.Cs and sound system will be provided in conference hall.
- Kitchen will be provided with rice boilers, plates, cooking vessels, grinder, water drums, fridge, iron racks, vegetable cutting tables and LPG gas connection with multiple cylinders.

Human Resource Structure:

- One Manager/Care Taker will be positioned at each SDCE on outsourcing basis through Mandala Mahila Samakhyas (MMS) to take care of day to day requirement of SDCEs.
- Housekeeping, security services, gardening, supply of food and sanitation will be outsourced to Mandala Mahila Samakhyas (MMS)/other private agencies as decided by the District Level Monitoring Committees.
- Monthly remuneration of SDCE staff and cost of outsourcing services will be met from maintenance fund of SDCE.

Organogram Structure for YTC/SDCE:



Budgetary Support:

Rs.40.00 lakhs was the budgetary provision of which Rs.33.00 lakhs towards cost of furniture & fixtures for class room, trade labs, dormitories, library & kitchen, audio & video visuals in auditorium and training aids etc., and Rs.7.00 lakhs towards the beautification & contingency fund of SDCEs. Rs.7.50 lakhs towards staff salaries, housekeeping & gardening, sanitation, Security services, purchase of cleaning material, monthly electricity charges, water bill/tax and electrical repairs /replacements etc. The required budget is made available from Tribal Welfare Department/Tribal Sub Plan

Maintenance Modalities:

- User charges towards boarding & lodging for all kind of trainings is claimed to generate the maintenance fund to run the SDCE on self-sustainable mode.
- YTCs has separate bank account and books of accounts
- Watch & ward, housekeeping, Security services and sanitation services is being outsourced and the expenditure is met from YTC/SDCE maintenance fund.
- Supply of food to the trainees is outsourced to ST SHGs and the payment is made by the concerned training provider based on biometric attendance.

- Minor/major repairs of YTCs/SDCEs are being taken up by engineering wing of TWD and the expenditure will be met from SDCE maintenance fund.

Supervision and Monitoring Mechanism:

- State Level & ITDA Level Committees has constituted to oversee the operation of the YTC by taking up Skill development initiatives in tribal areas.
- Jobs District Manager monitors the skill development trainings in YTC and furnishes the timely reports to POs of ITDAs.

Tribal Welfare Department constituted ITDA Level Monitoring Committee to oversee the operation of the YTC, and the committee consisting of:

Sl. No.	Committee Members	Role
1.	Collector	Chairman
2.	Project Officer/DTWO	Vice Chairman
3.	Asst. Project Officer (G)	Convener
4.	Addl. PD, IKP	Member
5.	Executive Engineer (TW)	Member
6.	GMS President	Member
7.	Representatives of AP Skill Development Corporation (APSDC) at District Level	Member



Skill Development Activities-APSSDC & ITDA, KR Puram Year 2016-17

Sl. No.	Place of Training	Partner Name	Course	Male	Female	Total	Course Duration (Days)	Placements
1	KR Puram	Dhatri Foundation	Computers	26	16	42	60	15
2	KR Puram	St. John Welfare Society	Driving	30	0	30	45	10
3	KR Puram	Dhatri Foundation	Nursing	30		30	60	20
4	Vizag	IGIAT	Welding	4	0	4	60	4
5	Eluru	Nadcap	Solar	12	0	12	90	6
6	Vizayanagaram	Redox	Production Assistant	16	0	16	90	14
7	Hyderabad	NAC	Contractors Development	3	2	5	90	5
8	Tanuku	NSL Textile (DP)	SMO			50		50
9	Vijayawada	TBR Infra (DP)	Security Services			53		53
10	Samarlakota	Apollo	phlebotamist & Pharmacy Asst.	36	6	42	90	8
11	KR Puram	CEMUM	Assistant Electrician	30		30	90	20
12	Tadepalligudem	YSR Horticulture University (Self-Employment)	Biscuits making	0	30	30	3	30
13	Ananthpur	RAXA Academy	Marshal Training	14	0	14	90	8
14	KR Puram	HR Square	VOR, VRA & Forest Guard Training	73	80	153	15	18
15	Hyderabad	RAXA Academy	CPO	61	0	61	45	0
16	KR Puram	CEST	Handi Crafts	36	7	43	30	10
17	Bangalore	NTTF	Learn and Earn Programme	54	0	54	2 years	
18	Bommuru	NTTF	CAD-CAM	0	3	3	90	3
19	Bommuru	Ultimate Energy Resources	Solar	4	0	4	60	4
20	KR Puram	HLFPPT	DailysisAsst	5	35	40	60	0
21	Bommuru	Ultimate Energy Resources	Solar	0	9	9	60	9
22	Hyderabad	RAXA Academy	APPSC-Police Training	33	2	35	45	0
23	KR Puram	NTTF	CAD-CAM	21	6	27	60	0

Skill Development Activities-APSSDC & ITDA, KR Puram Year 2016-17

Sl. No.	Place of Training	Partner Name	Course	Male	Female	Total	Course Duration (Days)	Placements
24	KR Puram	SAINT	Sewing machine operator	0	30	30	45	26
25	KR Puram	DISA Education & Skill development Welfare Society	Jut bag making	3	27	30	45	30
26	KR Puram	DISA Education & Skill development Welfare Society	Agarbati bamboo stick making	3	23	26	45	26
27	Bangalore	NTTF	NEEM	23	0	23	2 years	
28	Hyderabad	HETRO (direct placement)	Pharmacy	13	1	14		14
29	KR Puram	SAINT	Sewing machine operator	0	30	30	45	Under training
30	KR Puram	DISA Education & Skill development Welfare Society	Jut bag making	3	27	30	45	Under training
31	KR Puram	DISA Education & Skill development Welfare Society	Agarbati bamboo stick making	4	26	30	60	Under training
32	KR Puram	NTTF	CAD-CAM	15	2	17	60	Under training
33	KR Puram	Direct Placement - Job mela				145		145
		Total				1162		528



6.3 Youth Training centres – Seethampeta, Andhra Pradesh

Introduction

Employment provision for the youth especially among STs has been a key challenge. The youth unemployment rate (for age group 18-35) was high. To promote employment for ST youths, the Tribal Welfare Department of the state government of Andhra Pradesh launched an innovative public-private partnership programme for skill development, training and job placement for the ST youth.

Objectives:

- To enhance employability of tribal youths (wage/ self-employment) and ability to adapt to changing technologies and labour market demands
- To improve productivity and living standards of the tribal youths through skill development, and training and capacity building
- To create opportunities for tribal youths to acquire skills and to provide employment for them after getting requisite training and skill development
- To develop a high-quality skilled workforce/ entrepreneur relevant to current and emerging employment market needs

State	:	Andhra Pradesh
District	:	Srikakulam
ITDA Area	:	Seethampeta
Block	:	Seethampeta
GP	:	Seethampeta
Village	:	Seethampeta
Institution	:	Youth Training Centre, Seethampeta
Activity	:	Skill Development Training



- To enable the establishment of flexible delivery mechanisms that respond to the characteristics of a wide range of needs of stakeholders
- To create of human resource professionals with technical skills including domain knowledge and soft skills

For this the TWD is working in partnership with the Training Partners (TP) to provide residential training to unemployed youth and subsequently provide placement support to the trained candidates in public and private sectors. This programme aims to improve the quality of labour supply through skill development and simultaneously bridge the demand-supply gap in the job market by involving private players in the training process. The whole mechanism begins with online process wherein both the trainee and the training partners have to register themselves. The training partners are selected by the government on the basis of their providing details like the pre-specified course curricula, timeliness and minimum guaranteed competencies. During this process, the TP are expected to produce evidence of their tie-ups with employers for placement unless they have a prior placement record.

The YTC otherwise known as Skill Development Centers of Excellence (SDCE) for tribal youth has initiated on the following services in the ITDA area;

- Registration for training/Employment
- Youth Counseling and Career Guidance at YTC/SDCEs
- Online application for Govt./Private Jobs
- Online tests for any kind of recruitments
- Trainings for wage employment and placements
- Trainings for Self-Employment
- Pre Examination coaching for formal employment
- Imparting Entrepreneur Development Programmes (EDP) for self-employed youth availing loans

- Post Placement support to newly joined ST youth

Budgetary Support:

Rs.40.00 lakhs was the budgetary provision of which Rs.33.00 lakhs towards cost of furniture & fixtures for class room, trade labs, dormitories, library & kitchen, audio & video visuals in auditorium and training aids etc., and Rs.7.00 lakhs towards the beautification & contingency fund of SDCEs. Rs.7.50 lakhs towards staff salaries, housekeeping & gardening, sanitation, Security services, purchase of cleaning material, monthly electricity charges, water bill/tax and electrical repairs /replacements etc. The required budget is made available from Tribal Welfare Department/Tribal Sub Plan

The YTC has requisite quantity of furniture and fixture.

To provide employment for ST youths, the Tribal Welfare Department is working work with following stages:

- Job Mela
- Counseling and Career Guidance,
- On-the-Job Training,
- Placement and Post-Placement Support
- Job Mela: Holding a perspective of providing employment opportunity to a large number of both employed and unemployed ST youth, TWD had organized Job mela and counseling from time to time at different locations for its centers across Andhra Pradesh. In the process of expanding locally and globally, TWD introduces a new era of life by making its presence accessible to the deserving youth at remote areas. In the Job mela, students have own choice in selecting courses with various combinations, and no compulsion on students to pick courses being offered by the institutions.

This is good news for the candidates who are eagerly waiting it. It may be great opportunity those students need to be settle under public or private sector.

Candidates are encouraged to apply through online process which is direct link to APSSDC data base. The purpose behind setting up the Skill Development Corporation (SDC) is to gather contents of various educational courses being offered all over the world and provide such information to students.

The district-level functionaries with the help of local bodies mobilise unemployed youth for the training programme. The youth who offer themselves for training, subject to the minimum qualifications specified for each training programme, are provided residential training with free accommodation, food, training and placement services.

- **Counselling and Career Guidance:** Unlike inflexible, conventional training courses that do not keep pace with the ever-changing job markets, the TWD goes beyond rigid curriculum-based learning and adopts flexible, market-oriented learning modules, which are administered by appropriate trainer. The trainers encourage the students to develop their inherent capabilities, identify and articulate their strengths and constraints, and develop solutions to solve them in a self-directed manner. Engaging in one-to-one dialogue with the students, the trainers guide them to learn from their life experiences and take responsibility for their own advancement, as well as that of their families and communities.
- **On-the-Job Training:** The youth who offer themselves for training, subject to the minimum qualifications specified for each training programme, are provided residential training with free accommodation, food, training and placement services
- A typical training program comprises from 45 days to 90 days (and more in some cases) classroom training, which covers academic inputs, theoretical concepts and subject knowledge. The curriculum is constantly upgraded and improved with feedback and inputs from industry professionals, in tune with actual industry requirements.
- To reinforce the students' learning further,

classroom teaching is supplemented with practical training, for which TWD provides excellent infrastructural support, in the form of state-of-the-art equipment and teaching software.

- As communication is essential to becoming work-ready, the trainees are put through intensive soft skill and work-readiness modules, which help to understand the pulse of the industry they are getting into, and exhorts them to constantly strive for advanced learning opportunities.
- The classroom training is followed up with placement of trainees. It confers a student to gain useful work experience by honing their untapped potential / skills, wherein the candidate can continue in that organization.
- Placement: After successful completion of training the interest candidates are placed for jobs as per to their trades and tie up with the concerned companies.

Maintenance Modalities:

- User charges towards boarding & lodging for all kind of trainings is claimed to generate the maintenance fund to run the SDCE on self-sustainable mode.
- YTCs has separate bank account and books of accounts
- Watch & ward, housekeeping, Security services and sanitation services is being outsourced and the expenditure is met from YTC/SDCE maintenance fund.
- Supply of food to the trainees is outsourced to ST SHGs and the payment is made by the concerned training provider based on biometric attendance.
- Minor/major repairs of YTCs/SDCEs are being taken up by engineering wing of TWD and the expenditure will be met from SDCE maintenance fund.

Supervision and Monitoring Mechanism:

- State Level & ITDA Level Committees has constituted to oversee the operation of the YTC by taking up Skill development initiatives in tribal areas.
- Jobs District Manager monitors the skill development trainings in YTC and furnishes the timely reports to POs of ITDAs.

Tribal Welfare Department constituted ITDA Level Monitoring Committee to oversee the operation of the YTC, and the committee consisting of:

Sl. No.	Committee Members	Role
1.	Collector	Chairman
2.	Project Officer/DTWO	Vice Chairman
3.	Asst. Project Officer (G)	Convener
4.	Addl. PD, IKP	Member
5.	Executive Engineer (TW)	Member
6.	GMS President	Member
7.	Representatives of AP Skill Development Corporation (APSDC) at District Level	Member

From the records of the training center and discussion with the training associates it is observed the drop-out among the trainees. This dropout happens in two stages, (i) during the period of training and (ii) in the post placement. The rate of retention of the employed candidates who were placed after their training found very low. Drop-out rate is defined as percentage of candidates who dropped out of the job provided by the TP and who have not joined any other job. This drop out has several reasons.

Drop outs

This note traces the beneficiaries of the programme and finds high drop-out rates among candidates placed in jobs under the programme. It suggests changes in the programme design to make candidates stay in their jobs for longer.

In fact, some of the responses from candidates

presented such reasons which state that why the candidates are preferred to quitting the offered:

- Candidates were not offered any job or candidates not shows there interest for job.
- Job salary: Major percentage of candidates dropped out from their services for this reason.
- Coping problems: Candidates are unable to cope with food, accommodation, climate etc. at the service place.
- Language barrier at the place of service wherein they placed in other states for which feeling of isolation ;
- Due to home sickness and network effects: Network effects refer to trends where candidates take up employment in a particular city or with a particular employer because they have acquaintances there mostly from their village. In the same vein, the candidates drop out because they lose their acquaintances in the job location.
- Enhance their career: It is found very less number of candidates felt that pursuing further education would be better than continuing in their jobs, and hence, quit.
- Some candidates are retrenched from their jobs.

It is verified by the training center through telephonic conversation with each and every student after that confirmation report of placements who placed at Chennai & Visakhapatnam after completion of their trainings in various trades, i.e., Computer Assistant, Computer Hardware, Tailoring (Sewing Machine Operator). The feedback of the students who are now working in various companies and who came back to home due to their inconvenience/problems at work place is given below.

YTC Seethampeta : 1st Batch Computer Asst (Girls)

This is the story of the 1st Batch Computer Assistant completed their training at YTC Seethampeta of Srikakulam district of Andhra Pradesh wherein 38 nos. of girl students completed their training period and placed at Mother Son Company (which manufacturing of cables for various motor vehicles) at Chennai.

Views of Students: Job is not satisfactory. They are working in very critical conditions especially for girls. They worked continuously standing for 10 to 12 hrs. The company management showed partiality between the workers of Tamils & Andhra people. There is no clarity regarding salary. How much they are getting, what is the designation, the nature of work, etc.

YTC Seethampeta: 1st Batch of Tailoring (Sewing Machine Operator)

1st Batch of Tailoring (Sewing Machine Operator)-61 students were completed their training and placed at Sri BhavaniApparal Cloth Industry, Vadlapudi, Visakhapatnam after completion of their training. Candidates said that “the Company Management forced them to work for long hours 9 AM to 7 PM”

YTC Srikakulam: Computer Asst & Computer Hardware (Boys)



- 1st Batch of Computer Asst 48 students were completed their training, after that they have placed at UKB Chennai.
- The Synchroserve Company has promised that the placement is going to be as with related to computer work, but the work is no way concern to computer.
- Food also problem, due to that a few students are returned back.
- The work is needed to do as continuously standing for 8-12 hrs
- The company has given target work; previously students don't aware about that there it is a target work.
- Students telling salary is not sufficient to live in because it is not enough for them to get two time full plate principal meal in a day in Metro city like Chennai. They are hardly able to remit money to their houses.
- This type of work we are not going to continue for long years.
- The company management showed a partiality between the workers of Tamils & Andhra people.
- The company has given placement under contract basis, not under the company pay role basis.

Placement Details of 1st Batch Trained Students at YTCs in Srikakulam District

Sl. No.	Company Name	Trade	Partner Agency	Batch Strength	Placed	Still Working	Returned Back	Salary Drawn	Other Benefits
1	Mother Son, Chennai	Computer Asst, YTC SPT (Girls)	Synchro Serve	38	17	11	6	6000/-	From total salary -1500/- deduction for hostel facility (food & accommodation)
2	Sri Bhavani Cloths Exports Ltd, Vizag	Tailoring, YTC SPT (Girls)	APITCO	61	19	12	7	3000/-	Free accommodation

Placement Details of 1st Batch Trained Students at YTCs in Srikakulam District									
Sl. No.	Company Name	Trade	Partner Agency	Batch Strength	Placed	Still Working	Returned Back	Salary Drawn	Other Benefits
3	Home Credits, Vizag	Computer Asst. YTC SKLM (Boys)	Synchro Serve	88	8	3	5	6500/-	(Each loan incentive-500/-)
4	Mother Son & UKB Chennai	Computer Asst & Hardware, YTC SKLM (Boys)	Synchro Serve		44	24	20	6000/-	From total salary -1500/- deduction for hostel facility(food & accommodation)
			Total	187	88	50	38		

From the records of the center it is observed that the center prepared a report through physically visited the work place, i.e., GEMS Hospital on 27/06/16 and telephonic conversation with each and every student after that it is confirmed the report about placements who placed at GEMS Hospital, Ragole, Srikakulam after completion of their training in General Duty Asst. (Nursing). The views of the students who are now working in GEMS Hospital and also who have left over their placement returned to home due to their several reasons is given below:

YTC Srikakulam: General Duty Asst. Nursing (Girls)

- 1st Batch of Nursing –General Duty Asst (Girls) 30 students were completed their training after that they have placed at GEMS Hospital, Ragole, (Medical College and Hospital)
- Student’s feedback is good about placements and they said that the working environment is quite comfortable and they are able discharge their duty smoothly.
- The working hour is stretches from 10 to12 hours and varies from departments to departments.
- The service period is initially for 2 years as probationary and thereafter possibility of regularization of job in that institute.
- The salary is now initially 5000/- then gradually it will increase.
- Seven students are not reported to in the placement stating due to their personal problem or family not willing to send their ward to the placement area.

The following illustrates detailed data & student details about their training and working, salary particulars, other

benefits, batch details & how many placed and how many returned to home.

Placement Details of 1st Batch of Nursing (General Duty Asst.) Trained Students at YTC, Srikakulam									
Company / Organization Name	Trade	Training Partner	Batch Strength	No of Placements given	Reported	Still Working	Returned	Salary Drawn	Other Benefits
GEMS Hospital, Ragole, SKLM	General Duty Asst. (GDA)	Bollineni Medskills	30	30	24	23	1	5000/-	No other any benefits

Way forward:

In view of the above discussion on distorted incentives, the payment model could be restructured to incentive TPs for placing candidates in high-paying jobs. In essence, instead of the second, third and fourth installments, there could just be one slab of payment linked to average salaries of jobs obtained in a particular training batch. The immediate implication of this salary structure is that there is a direct incentive for the TP to increase his quality of training and thereby get an increased average salary for his placements. An increased salary would result in lower dropout rate. While this model does not address all the factors that contribute to dropout phenomenon such as coping problems, distance, working conditions etc., it would go a long way in improving the retention periods and percentages vis-à-vis the existing model.



6.4 Multi-Grain Biscuit Unit, Andhra Pradesh

Introduction

With the changing socio-economic environment, i.e., increased in per capita income, better living standard, availing better health care facilities, increased literacy rate, larger number of women going out for work to sustain family, and increased tourist population etc., least 5% growth rate in bakery products in coming years is expected. According to an estimate, there are about 1lakh SSI units producing items worth severalcrores annually. The per capita average consumption of bakery products in advanced countries ranges from 50-70kgs whereas in our country is the lowest in the world i.e. 1.27 kg.

Keeping in view these facts, the manufacture of bakery product has substantial scope for development in smaller town villages and backward areas.It can provide good number of employment opportunities at different levels.

State	:	Andhra Pradesh
District	:	West Godavari
ITDA Area	:	KR Puram
Block	:	Buttayagudam
GP	:	KR Puram
Village	:	Utpattula Sangam
Institution	:	M/s Giri Vanita Poshak Aahara
Activity	:	Multigrain Biscuit

Biscuits are fast and convenient food based on wheat and other cereals. There are many varieties of biscuits depending upon the local demand with different flavours and fortified with vitamins and minerals, biscuit for diabetic patients. Biscuit along with bread consumption is increasing day by day and these are being increasingly used for various feeding programmed for children managed by voluntary agencies and State Departments of Health. Biscuits, which constitute an

important item of bakery industry, have now become a common item of consumption among all classes of people. With tea or coffee, a biscuit makes a tasty and nutritious snack. It has become more popular as a convenient food.

The raw material required for biscuit is wheat flour/maida, ragi and other cereals which are available in plenty in local areas. The manufacture of biscuits is exclusively reserved for small-scale sector.

Objective

The primary objective of the setting up the biscuit unit is to facilitate for development of entrepreneurship among the women group, understand basic technical and managerial skill, economic empowerment of women group.

- Qualitative employment and sustainable livelihood
- Economic empowerment of women through entrepreneurship
- Bridge the existing infrastructure gap
- Improve the overall quality of life
- Develop technical and managerial skill among the women
- Better utilization of locally available cereals

Date of Registration: 04.04.2016

For establish a new Unit the following components are involved:

Financial Aspect

- (i) Fixed Capital Investment:
Land & Building: Rent



Fixed Cost of the Project			
Sl. No.	Machinery & Equipment	Quantity	Amount in Rs.
1	Oven	1	45000
2	Pulveriser	1	25000
3	Atta mixture	1	25000
4	Tables	3	10000
5	Trays	10	5000
6	Weighing machines	1	4000

Fixed Cost of the Project			
Sl. No.	Machinery & Equipment	Quantity	Amount in Rs.
7	Vessels	15	5000
8	Dice	10	1000
9	Sealing Machines	1	2000
10	Building rent for year		10000
	Total		132000

Raw Material Cost for One Month				
Sl. No.	Particulars	Qty (Kg.)	Rate / Kg.	Amount (in Rs.)
1	Flour	1,700	25	42500
2	Sugar	80	42	3360
3	Vegetable fat	16	50	800
4	Salt	30	12	360
5	Dry Yeast	12	165	1980
6	Chemical additives	L.S		1000
Total Cost of Raw Materials				50000



Cost of Production for One Month		
Sl. No.	Items	Amount in Rs.
1	Packing Materials (3000 pieces)	12000
2	Raw material for one month	50000
3	Electricity	1500
4	Gas Cylinders: 10 Nos.	8,500
5	Marketing expenses	6000
6	Labour Cost	18000
Total production cost for 600 Kgs.		96,000



Marketing value of 600 Kgs. (600kgs X Rs.200) = Rs.120000.00

Total production cost for 600 Kgs. = Rs.96000.00

Profit for 600 Kgs. = Rs.120000 – Rs.96000 = Rs.24000.00

Manpower: There are total 15 numbers of trainees are involved in the unit. Presently, 6 members are working for need based and rotation manner to reduce the cost of unit expenses. They are producing 600 Kgs in a month which can be increased upto 1000 Kgs in a month with the same batch and same potential.

Raw material

The basic raw material for the manufacture of biscuits is wheat flour, ragi, janha, millets, pulses, etc. that are available in locally.



Manufacturing Process:

Biscuit: The process of biscuit making is very simple, conventional and easy. The various ingredients normally used are (a) different flours like wheat/maida, ragi, jawar, janha, and other millets (b) ghee (c) sugar (d) baking powder (e) milk powder/condensed milk & (f) essence. These materials in weighed quantity are mixed together except flour/maida in a paste form.

This flour along with other ingredients is mixed with water. The paste is then transferred to a mixer along with required quantity of flour/maida and the dough is prepared. The dough thus prepared is made into sheet and manually cut into different shapes with moulds and then it is baked in oven. The baked biscuits are cooled to make them crispy. The process flow chart is as under:



Market Potential

Market for biscuits is scattered all over the country. Basically three types of market segments are there. These are urban, semi-urban and rural. Urban and semi-urban markets are dominated by many national and regional brands but even then many local

manufacturers have also carved a special niche as their products are fresh, they offer many varieties at the cheaper rate.

Biscuits are eaten by all sections of people across the rural and urban areas round the year. Biscuits mass consumption items with number of varieties and shapes. The market is scattered.

There are some dominant national and regional brands.

At present the total quantity of production is 600 Kgs. Per month and it can be increased from 600 Kgs. to 1000 Kgs. with the same batch per month. Then profit will be increased using the same potential. A good mode of additional nutrition values (Biscuits & Sprouts powder) provides to tribal welfare hostel students. Selling to large number residential schools/colleges and hostels is an opportunity for this biscuit which can increase the market areas.

Market Opportunity:

Rural and certain semi-urban markets are mainly captured by small manufacturers. Apart from domestic customers, there is a vast market at bus and taxi stands, railway stations, weekly hats or bazaars, melas or fairs. A small delivery vehicle can take care of destinations located in the vicinity of about 20-30 km with attractive margins to traders/retailers will be crucial.



6.5 Employable Skill Development of Youths, Andhra Pradesh

Objectives:

- To enhance employability of tribal youths (wage / self-employment) and ability to adapt to changing technologies and labour market demands
- To improve productivity and living standards of the tribal youths through skill development, and training and capacity building
- To create opportunities for tribal youths to acquire skills and to provide employment for them after getting requisite training and skill development
- To fulfill the demand gap for skill construction worker

State	:	Andhra Pradesh
District	:	West Godavari
ITDA Area	:	KR Puram
Block	:	Jangareddyguden
GP /Village	:	Jangareddyguden
Institution	:	National Academy of Construction (NAC Training Centre)
Activity	:	Employable skill on Construction

Construction Skill Development Center by NAC at Jangareddygudem

Construction is one such area where technology is developing at a very fast rate. So, proper understanding of the changing advance technology is necessary for which importance of proper training is much more essential. The National Academy for Construction



(NAC) is a pioneer institution is fulfilling the demand for construction worker with having technically sound and in other sides providing employment to the youths particularly the STs. Since its inception National Academy of Construction has emerged as a distinctive institution and one of its kind for providing training and development of all types of construction resources, technologies and methodologies for fast track completion of projects. The National Academy of Construction (NAC) has emerged as an apex body for development of all types of construction resources, technologies and methodologies for fast track completion of projects. It is established by the then Government of Andhra Pradesh and is registered as a Society and incorporated as Public Charitable

institution. It is managed by a Board of Governors. The institution is spread over 46.46 acres of prime of land in Hyderabad. NAC conducts all construction lead related training programmes under one roof. It houses eight constituent units covering all sectors of the Construction Industry. NAC has signed MOU with the state of Andhra Pradesh to provide training to the youths of the States with proper and training and placement after successful completion of their training. NAC will be having three Zonal centres in all the three regions of the state.

NAC has presently numbers of employees on its rolls in different centres of Andhra Pradesh, who are working with the organization in Key positions and instrumental in shaping the career of the trainees of NAC. The NAC faculty, trained at reputed institutes brings to the classroom professional capabilities, wide exposure and years of hands-on industry experience committed to grow in their profession, the faculties constantly upgrade their skills and knowledge to provide quality training to the trainees

Three types of courses offered for skill development under construction trade training at Jangareddygudem of West Godavari district persons having of 18 years age and above. The minimum education qualification of the candidates he should have passed Class 5 which help to understand the training concept in better way.

Courses offered at the Jangareddygudem are Masonry, Bar Bending and Welding. All three courses are residential with training duration is of 90 days. Construction Trades Training with facility of free boarding & lodging and visit to Project sites. The training is structured to equip unskilled workers with basic skills, coupled with hands on experience enough to begin a carrier as qualified construction technician. On completion of training, NAC will award a certificate to the successful candidates, thus, enabling him to obtain employment anywhere in the relevant trade. Successful trainees will also be assisted in securing employment in private sector construction industry.

Masonry Training programs teach students basic bricklaying and masonry practices, as well as how to safely build and maintain stone, concrete and brick structures. During the training students are allowed

to gain technical and practical industry knowledge, as well as hands-on experience. Common courses include: basic bricklaying, reading masonry diagrams and blueprints, cleaning and pointing, masonry power tools, stonework and other surfaces, cost estimation.

Following courses are imparted at the Jangareddygudem training center. These are

- Masonry
 - o Training Duration: 3 months + 100 hours for concrete
 - o Eligibility: 5th Class and 18 years above
 - o Brief of the course: Specifications of materials used in concrete and masonry, Types of mortars – mixing and placing- Construction of brick wall, Alignment- bonds, Vertical, Horizontal pointing – plastering and curing- Mixing of ingredients of concrete, conveyance, lifting, placing and curing- Latest trends in masonry and concrete
- Bar Bending
 - o Training Duration: 3 months

- o Eligibility: 5th Class and 18 years above
- o Brief of the course: Types of steel -Tools used in bar bending, hooks and stirrups – Conventional tools – Mechanisation in bar bending- Maintenance of stock yard. Reinforcement of columns, footings, beams, lintel and sunshades – One way slab and two way slab reinforcement – Reinforcement of staircases – Do’s and don’ts in reinforcement– Bar bending with machinery.

- Welding
 - o Training Duration: 3 months
 - o Eligibility: 5th Class and 18 years above
 - o Brief of the course: Types of welding process – Gas, Arc, TIG, MIG; Types of welds – Joints and position, Electrodes used and Safety precautions, Principle of manual, metal, arc welding – Arc welding machines – Types of welding joints, position and types of welds – Edge preparation and its importance – Importance of flux used in MMAW welding – Gas welding and gas cutting process – Welding process with TIG, MIG, SAW – Advantages and limitations

MASONRY	
Name of The Trade	Masonry
Sector	Construction
Brief Description of the trade:	It covers the basic mathematics calculations, units of measurements and conversions, Building components, Field testing materials, Mixing of Mortar, Bonds & Brick Masonry, Plastering etc.
Eligibility criteria for an aspirant:	Minimum 5th Standard & Age- between 18 and 40 years of age
Expected competencies after finishing training	After completion of the training participants would be able to work as Assistant Mason or can undertake minor jobs on their own.
Trade Domain Knowledge	The basic mathematics calculations, units of measurements and conversions, Building components
Soft Skills Domain	Presentation Skills, Body language, Supervisory Skills, Communication Skills, Time management
Certifying agency for training in the trade	National Academy of Construction and Tribal Department of Government of Andhra Pradesh
Number of Hours of training per day	8 hours per day
Number of days of training	76 working days (3 months)

Bar Bending	
Name of The Trade	Bar Bending (Rod Binding)
Sector	Construction
Brief Description of the trade:	It covers Technical Mathematics (Measurements and convergence, Basic methods and calculations), Ties and Rod bending methods, Stirrups, Hooks, Chairs and covers, Columns and Footing Reinforcement, Columns and Corbels, Reinforcement of Beams etc.
Eligibility criteria for an aspirant:	Minimum 5th Standard & Age- between 18 and 40 years of age
Expected competencies after finishing training	After completion of the training participants would be able to work as bar-bender and would be able to carry out jobs on their own.
Trade Domain Knowledge	Ties and Rod bending methods, Stirrups, Hooks, Chairs and covers, Columns and Footing Reinforcement
Soft Skills Domain	Presentation Skills, Body language, Supervisory Skills, Communication Skills, Time management
Certifying agency for training in the trade	National Academy of Construction and Tribal Department of Government of Andhra Pradesh
Number of Hours of training per day	8 hours per day
Number of days of training	76 working days (3 months)

Welding	
Name of The Trade	Welding
Sector	Fabrication
Brief Description of the trade:	It covers the Description and Operation Procedures of Gas Welding, Physical and Mechanical Properties of Metal, Ferrous and Non-Ferrous Metals, Alloys, Gas Welding defects, causes and Remedies, Arc Welding procedure and Techniques, Causes and Remedies, Description and Principles of Oxy-Acetylene Cutting Process, TIG Welding, MAG welding etc.
Eligibility criteria for an aspirant:	Minimum 5th Standard & Age- between 18 and 40 years of age
Expected competencies after finishing training	After completion of the training participants would be able to work as Painter or can undertake works on their own
Trade Domain Knowledge	Types of welding, Non-Ferrous Metals, Alloys, Gas Welding, Arc Welding, TIG & MAG welding, Oxy-Acetylene Cutting,
Soft Skills Domain	Presentation Skills, Body language, Supervisory Skills, Communication Skills, Time management
Certifying agency for training in the trade	National Academy of Construction and Tribal Department of Government of Andhra Pradesh
Number of Hours of training per day	8 hours per day
Number of days of training	76 working days (3 months)

To provide employment for ST youths, the Tribal Welfare Department is working with the stages like Job Mela, Counselling and Career Guidance, On-the-Job Training, Placement Support.

Career Fairs / Job Mela: Career fair is the most desired way to spread the word about skill development programme wherein more number of aspirants responds quickly. Career fairs can greatly enhance the recruitment endeavours. Typically, large numbers of candidates apply directly to the job side without having strong domain and soft skill domain in the vocational fields. Holding a perspective of providing employment opportunity to a large number of both employed and unemployed ST youth, TWD had organized Job mela and counseling from time to time at different locations for it centers across Andhra Pradesh. In the process of expanding locally and globally, TWD introduces a new era of life by making its presence accessible to the deserving youth at remote areas. In the Job mela, students have own choice in selecting courses with various combinations, and no compulsion on students

to pick courses being offered by the institutions.

Counseling and Career Guidance:

Unlike inflexible, conventional training courses that do not keep pace with the ever-changing job markets, the TWD goes beyond rigid curriculum-based learning and adopts flexible, market-oriented learning modules, which are administered by appropriate trainer.

On-the-Job Training:

The classroom training is followed up with placement of trainees. It confers a student to gain useful work experience by honing their untapped potential / skills, wherein the candidate can continue in that organization.

Placement:

After successful completion of training the interest candidates are placed for jobs as per to their trades and tie up with the concerned companies.





6.6 Skill on Bamboo Craft, Andhra Pradesh

Bamboo Craft Unit

The Tribal Welfare Department of Andhra Pradesh proposes to scale up skill development initiative with diversified activities to provide sustainable employment in terms of wage employment & self-employment for upliftment of tribal youth. There is a need to emphasis on creating awareness among the ST youth on alternative employment opportunities in potential sectors and to turn up them for trainings to provide wage employment, self-employment trainings for self-employment.

The Tribal Welfare department is now working in association with Skill Development Entrepreneurship & Innovation Department to make the Youth Training Centers (YTC) as Skill Development Centers of Excellence (SDCE). Skill Development Policy was formulated in convergence with AP state Skill Development

State	:	Andhra Pradesh
District	:	West Godavari
ITDA Area	:	KR Puram
Block	:	Buttayagudam
GP	:	KR Puram
Village	:	KR Puram
Institution	:	Godavari Tribale Crafts
Activity	:	Bamboo Craft

Aim

- To enhance employability in wage / self-employment among ST Youths and ability to adapt in changing technologies and demands of skilled labour
- Improving productivity and living standards of the ST youths

Objective

- Create opportunities for all to acquire skills throughout life, and especially for youth, women and disadvantaged groups
- Promote commitment by all stakeholders to own skill development initiatives.
- Develop a high-quality skilled workforce/entrepreneur relevant to current and emerging employment market needs.
- Training for self-employment/entrepreneurial development

A 30 nos. of unemployed youth from various mandals was selected under bamboo skill development activity. They have undergone training on different handmade bamboo crafts making for 45 days. After completion of their training, basing on their interest 10 nos. of persons started a bamboo craft unit. They are making and marketing their products in the nearby areas. They have also started amazon online marketing.

Training Duration: 60 days

Educational Qualification: 8th standard and age should be 18+

- Poverty reduction and empowerment of the poor and vulnerable



Corporation (APSSDC) after detailed deliberations with the stake holders in the Regional Level.

The Bamboo Craft Unit:

Bamboo craft making unit started under KR Puram ITDA of West Godavari District. With 10 nos. of Polavaram rehabilitation village unemployed youth in the name of Godavari tribal crafts have participated in the skill development.

- Impact on socio-economic conditions like household income, gender and equity, decision-making process, benefit sharing and resource management
- Local industry can strengthen their economic conditions, and create employment opportunities

Training Partner:

The Training Partner Educational and Skill Development Center (DISA provided the requisite training to the training aspirants at the Youth Training Center of KR Puram.

Expected Competency after Training:

After completion of this training the participant would be able to:

- Basic knowledge on bamboo, treatment and processing of bamboo, preservation of bamboo and bamboo products
- Make proper utilization of bamboo
- Use of hand tools, machine tools like drill machine etc,
- Knowledge of various joints, method of joints & uses of joints
- Furnishing and applying chemical/ natural dyes for colouring for better attractive
- Design of different kinds of bamboo articles like bamboo furniture, decorative and life style items, etc.

Content of the Training:

- Basic Knowledge of bamboo types of bamboo
- Methods of bamboo treatment
- Safety & precautions taken in bamboo work.
- Introduction of various hand tools and their brief description. Types of hand tools & their specification
- Machine tools like drill machine etc. which are require to make bamboo items
- Knowledge of different measuring tools & conversion table
- Bending, buffing, and polishing of bamboo.
- Making various types of joints and fixtures for uniformity of the products.
- Concept of quality assurance. Method of proper packaging of finished products & proper storing.



- Method of colouring the bamboo.
- Knowledge of transportation & marketing, concept of sales services, calculation of cost of finished bamboo products.

Raw Materials:

The major raw materials used are bamboo and cane. Other raw materials include varnish and black oil.

Tools and Equipment

Hand saws, knives, vises (with benches), hand drills, hacksaw (with blades), drilling machine, grinding machine, LPG torch (with gas cylinders), files, wood lathe, power saw, sand paper, nails, glass, varnish, kerosene oil, turpentine oil, adhesive, gums, etc. are some of the useful appliance required by the bamboo craft workshop.

Technical & Production Process:

The unit is aimed to produce different furniture like sofa set, chairs and other decorative items by using bamboo & cane materials. With regard to production process, these materials are cut to the required size and length. Design and carvings are made and these parts are joined together with the help of nails etc. as deemed fit for the end product. These products are subsequently polished by varnish. The following are the process of production.

Production Process:

- Selection of natural cane & bamboo for specific work
- Preparation of basic elements or members by bending length of whole cane to required shape
- Fixing the members in position by use of nails
- Blending the wavered joints by length of split cane to cover visible nails and give additional rigidity
- Scrapping & varnishing/painting where required

The major process involved is:

- **Cutting:** Cutting a piece of bamboo with a crosscut saw requires technique. It is best done on a device that holds the bamboo firmly while it is being cut. While the right hand pushes the saw back and forth, the left hand gradually turns the bamboo clockwise. Turning the bamboo counter-clockwise while it is being cut will damage the peel.
- **Scraping:** Scraping is the process of removing the outermost skin of the bamboo while the use of a special tool called the bamboo scraper.
- **Marking:** Before splitting a piece of bamboo, it is necessary for the worker to divide the bamboo into convenient sizes. Marking prevents unnecessary waste.
- **Splitting:** Splitting is a process of dividing a piece of bamboo into sizes convenient for splinting. It is best done with the use of a specially made bolo which thins gradually on both sides towards the cutting edge. The bolo is driven gently with a mallet. A mallet is a wooden hammer. Using a hammer, destroy the back portion with a bolo.
- **Splinting:** Splinting is a process of dividing a piece of bamboo into thin strips for weaving. A specially designed bolo is used for this purpose.
- **Width Sizing:** Width sizing is the technique of making the width of bamboo splints uniform. It is best done with the use of a special tool called the width size.
- **Thickness Shaving:** Thickness shaving is the process of making the thickness of splints uniform. It is done best by passing the splints through a tool specially designed for the purpose.
- **Bleaching:** Bleaching is treating bamboo splints by boiling. Boiling usually done in boiling pan made for the purpose, dissolves resinous substances in the bamboo and makes it no longer attractive to weevils.

- **Dyeing:** The process of introducing coloring substances in the material by boiling is dyeing. Adding a little salt while boiling makes the color fast. Dyed materials should be washed in fresh water to remove the excess dyes.

The major operation involved in the production of bamboo furniture (sofa set & chairs) and other decorative items by using bamboo & cane materials. As process of making these materials are cut to the required size and length. Design and carvings are made and these parts are then joined together with the help of nails etc. as deemed fit for the end product. Some cases as per the requirement of the product and design first raw bamboo are cooked and dried. Then, it is split and cut into required thickness and size by tools prepared for this purpose. The framework required for the specific product is, then, prepared. Bamboo splits are, then, interwoven according to the design and required strength. Finally these products are subsequently polished by varnish to make it more attractive and colorful.

Market potential:

Both upper and middle class people, restaurant and guest houses demand such furniture. The making of furniture from cane and bamboo is regarded as local handicrafts and the State Governments are also promoting these handicrafts. The furniture made from cane are very attractive, it has a great demand in the market.

Land & Building

A built up area of at least 100 sq. mt is required for this project. This can be rented easily and the rent amount is likely to be around Rs.2000/- month.





Investment Fixed Asset:

Unit Cost of Bamboo Craft	
Type of Equipment	Amount in Rs.
Cross cutting machine	19000
Paper machine	15000
Drilling machine big size	8600
Drilling machine medium size	6500
Drilling machine small size	4600
Tables	18000
Tools etc.	29000
Total unit cost	100700

Working Capital:

Bamboo: Rs.40,000.00

Other Raw Material: Rs.20,000.00

Labour Cost: Rs.32,000.00

Other Cost: Rs.3000.00

Total Working Cost: Rs.87,000.00

Gross Income: Rs.98,000.00

Net Income: Rs.11,000.00

Number of days of employment (in a month)

Artisans are working normally 20 to 25 days in month with 8 to 10 hours in a day.

Monthly Income of the beneficiaries

One of the objectives of the skill development training programme is to enable the beneficiaries to earn incomes through self-employment or wage employment. But as wage employment monthly income of a beneficiary varies ranges from Rs.2000 to Rs.2500 at the initial stage. As market of their product goes up monthly wage will increase to Rs.10000.



6.7 Skill Development in Bamboo Handicraft, Lawada, Dharani, Maharashtra

Introduction

Sampoorna Bamboo Kendra (SBK) is a Non-Government organization (having Registration No- MAH/3994/1997 Yawatmal) working in Dharani area for Promotion of Bamboo craft. This organization was started in the year 1988 under the guidance of late Mr. Vinoo Kale at Nagpur. The institution deals with bamboo and promotes its use for various purposes. Bamboo is available in abundant quantity in the locality and is being used traditionally by the rural artisans and tribes to meet commercial and household requirements. They also earn part of their livelihood using bamboo and its products. Sampoorna Bamboo Kendra is trying to give bamboo artisans a respectful place in the society through their socio-economic development.

State	:	Maharashtra,
District	:	Amravati
ITDA Area	:	Dharani
Block	:	Dharani
Village	:	Lawada
Institution	:	Sampoorna Bamboo Kendra
Activity	:	Bamboo Craft Skill Training

Melghat in Amravati district is the natural heritage of forests, flora and fauna, and tribes such as Korku, Gond and Nihal are prominent residents of the area. Livelihood of these tribes largely depended on forests of Melghat. Due to the lack of work and limited earning sources in rainy season, they observe increased child and maternal mortality in this region. SBK is working in the field of generating employment opportunities based on Melghat forest material and bamboo since 1995.



Objective of the programme

1. To provide training for bamboo art, bamboo furniture, and bamboo houses for self-employment purposes.
2. To provide technological guidance to artisans for enhancing and improving bamboo skills.
3. Research on all aspects of bamboo
4. To promote and advocate recognition for bamboo as an “Engineering Material”
5. To generate awareness for bamboo production.
6. Rehabilitation of bamboo artisans to live a respectful life.
7. To support the sales and promotion of bamboo articles.
8. To establish a network for other institutions dealing with bamboo work

Methodology and Process

To achieve the objective the organization has undertaken a number of activities like (1) Training, (2) Production, (3) Marketing, (4) Bamboo plantation, (5) Design Development, (6) Tools Development, (7)

Establishment of Karigar panchayat and (8) Research and technology.

Sampoorna Bamboo Kendra decided to intervene in Bamboo sub-sector for revival of socio-economic condition of bamboo dependent tribal families. The reason of selection to intervene for growth in bamboo based works are attributed to;

- Availability of Bamboo in abundant form;
- Bamboo is fast growing grass;
- Bamboo is very effective in soil conservation;
- Once planted / cultivated, it lasts up to 40 years;
- Around a large section of tribal families depend on Bamboo for their livelihood.

Sampoorna Bamboo Kendra provided training to youths of Melghat with the support of ITDA, Dharni, NABARD, Department of Science and Technology and Forest Department (East and West Melghat). The institution has supported in setting up of production unit, named Udyog Shala, to train the artisans. The centre develops new innovative ideas for bamboo art including decorative material, toys, mats, house models, greeting cards, furniture etc. The Udyog Shala

is working at places such as Lawada, Kotha, Chitri, Didamda & Dhakna of Dharni, Boad, Chunkhadi, Kotilava, Cealband, Makhala of Chikhaldera where nearly 250 artisans are regularly working.

Availability of Training Facility at Sampurna Bamoo Kendra

No	Name	Duration
1	Bamboo handicraft Orientation	1 Week
2	Bamboo Handicraft Basic course	1 Month
3	Bamboo craft with furniture	3 Months
4	Bamboo house constructions	3 Months
5	Bamboo Artisans Training	3 Months
6	Advance crafts training	5 Months
7	Bamboo trainees training	6 Months
8	Master craftsmen training	12 Months
9	Bamboo Plantation Training	3 Days

SBK have a team of educated trained engineers, architects, managers and skilled artisans. Depending on need, different housing designs are developed and executed. Cost of Bamboo house at present ranges from Rs. 450 per Sq.Ft. to Rs. 2000 per Sq.Ft. This cost also changes according to the requirement / specifications. Type of Bamboo houses that are promoted are;

Types of Bamboo Houses

- Cement foundation, walls of clay, grass roof.
- Cement foundation, walls of clay, tiles on roof.
- Cement foundation, cement plaster on walls, tiles on roof.
- Cement foundation, Cement plaster on wall, Bamboo corrugated sheet roof.
- Doors and windows of Bamboo mat board or wooden
- Floring design is decided as per requirement
- Toilets and Bathrooms are made with Bamboo material.

SBK constructed

- Houses for different NGOs and private owners in Jharkhand, Gujrat, Madhya Pradesh,



Maharashtra, Chhattisgarh, Uttar Pradesh, Odisha and Goa. The organization has constructed more than 1300 structures;

- Constructed round 50 houses under Indira Awas Yojana in Yavatmal and Bhandara district;
- Around 742 houses constructed in earth quake affected Kutchharea in Gujarat which includes 218 Bhungas (circular homes)
- About 50 houses constructed at Salodin Wardha district of Maharashtra with the support of National Mission on Bamboo Application, Govt of India
- Constructed 300 poly houses in Himachal Pradesh (Edake Model);
- SBK developed various designs of Bamboo houses ranging from 100 Sq. ft. to 2400 Sq. ft.

Bamboo Plantation

Sampoorna bamboo Kendra promoted Bamboo plantation on individual land on artisans and tribal in Dharni block and planted more than 14000 bamboo

plants of *Denrocalamus strictus* (Manvel). It also developed Bamboo nursery of 13 species with the support of Tata Trust.

Other Achievements

Self Help Groups: Sampoorna Bamboo Kendra has promoted 252 self-help groups to provide employment to tribal women and artisan. These groups solve their financial problems in a democratic manner. These SHGs have been performing as local financial supporting organization for its members.

Venushilp Audyodik Shakari Santha: Venushilpi Audyodik Sahakari Sanstha has been established for the marketing of Bamboo products. Nagar parishad, Chikhaldara and Forest department of east Melghat supports sales counter at chikhaldara, hill station.

The organization has planned to provide employment to 2000 tribal youths of the locality along with taking up development activities in 25 villages. The centre has planned to promote Gramganpeetha for reestablishing artisan in the society and develop a high technology Bamboo centre.

Awards Received by Sampoorna Bamboo Kendra

Year	Name of the Award	Name of the Organisation
2002	Geamin Karyakarta Puraskar	Asmitasantha Yawatmal
2004	Prof Yashwantraoji Kelkar smurti Puraskar	Akhil Bhartiya Vidharthi Parishad
2005	Micro-finance Award	State Bank of India, Mumbai (For consecutive 3 years)
2006	Natu Trust, Pune Puraskar	M. B. Natu trust Pune
2006	Antyodaya Puraskar	Rambhau Mahalgi Prabodhini, Mumbai
2006	Sewa Gaurav Puraskar	Pradnya Prabodhini, Amravati
2006	Pt. Deen Dayal Puraskar	Deen Dayal Bahu uddeshiya Prasarak Mandal, Yavatmal
2008	Gagan Sadan Tejomay Award	Addfizz social awards
2010	M.B Gandhi trust award	M.B Gandhi trust award-wardha
2012	Yuvanmesh Puraskar	Indradhanu Santha, Thane
2013	Satish Haware Smurti Puraskar	Satish Haware foundation -Mumbai
2013	Udogini Puraskar	Udogini Nagari Mahila pat santha Nashik



6.8 Skill Development in Bamboo Craft, Odisha

Introduction

ITDA has been working for the skill development of women of Koya tribe. It was too difficult to bring tribal women to a common platform where they learned about the bamboo craft items. The major challenge was to convince the group member for the bamboo craft production. As the women are normally remain busy with the work, it was a big challenge to ensure their active participation during the training periods. To ensure their participation, training scheduled was prepared as per their availability. Training was imparted to the group members at the evening time. As the women members have been preparing home equipment through Bamboo, the training focused more on bamboo craft skill up gradation. Apart from the association of experts in imparting skill on bamboo crafts, exposure visits of the group inside and outside of the state was also organised. During training, in order to compensate their loss of income, stipend was also provided to the trainees.

State	:	Odisha
District	:	Malkangiri
ITDA Area	:	Malkangiri
Block	:	Kalimela
GP	:	Telrai
Village	:	Pedawada
Activity	:	Bamboo Craft

Objective

1. To create awareness among the tribal's regarding the skill development activities.
2. To upgrade the inherent skill of the tribal's
3. To encourage the tribal's for cottage industries and entrepreneurship.
4. To promote the practices in wider level



Project Context

The village Pedawada and Jobanpalli is 4 Km distance from Kalimela Block Head quarter and 43 Km from Malkangiri District. The villagers primarily belong to Koyatrib. The tribal women of the village have formed SHG groups and main occupation of the SHG members are agriculture and collection of forest produces.

The Socio-economic condition of the village appears to be poor. During the summer season the women are generally used to collect different forest produces like Kendu leaf, Mahul, Tolo, Tamarind, Mango etc. They collect and sale it in the local market and also to the middle man who travel door to door for collection. After the summer season, they remain busy with agricultural work for four months. Once the agriculture season is over (Kharif), much work is not available to them. Therefore, this is the time of migration to other places in searching of work. So, it was planned to take up skill upgradation program so that they can remain engaged in different activities.

Gopabandhu Development Society (GDS), a not for profit organization, has started its interventions at

both Kalimela and Malkangiri blocks in 1997. The organization has been involved in various development activities like organizing awareness camps, health camps, promoting sustainable agriculture, providing non-formal education, undertaking capacity building programs for SHGs etc. The organization has been mobilizing funds from government and other agencies for implementing various development schemes in its operational area since 2002.

Process of Selection

With introducing the project FADP we had discussion with WEO Kalimela first and prepared a sketch map of resources and potential areas for the implementing of FADP project. We had entered in the Pedawada, Jobanpalli and Telrai Village of Telrai GP Rajanguda & Nalagunthi of Nalagunthi GP. First we had interacted with the Word member of the respective villages and share our objective then we planned for the VDC meeting together, as per our plan, on dated 18/5/2015 we had a village meeting for selection of SHGs for skill up gradation training programme. There we had discussion about the availability of raw materials i.e verities of Bamboos and the SHGs who

has been continuing their saving and should have their traditional practice of bamboo crafts. In the village meeting it was finalized that the bamboos are available in the nearer hills of the village which can be utilized effectively for the promotion of bamboo related works by involving SHGs. After the approval of village meeting we had another meeting with MaaSantoshi, Jai Jagannath and MaaLaxmi SHGs on. In that meeting we share the entire concept of the skill up gradation training programme. The member of three SHGs gave their consent for training programme with doubtfully. Whether the products are sold in the local market, does it cost worthy? Whether they got good earnings? Which give them substance for their livelihoods? At the mean while Malyabanta festival was organised by the district administration and GDS planned to provide exposure to the SHG member at malyabanta festival. Their visit to the festival was productive, as it encouraged the members to take up bamboo based work. In the festival, they understood the market demand of different bamboo products and requirement of different customers. After that visit, the SHG members got confidence about the importance for the skill up gradation training programme. Finally, with the consent of the SHG members, a proposal for skill up gradation training of 6 SHGs form Telrai and Nalagunthi GP was submitted to ITDA for approval. Initially, ITDA approved 3 SHGs for first batch training programme which was scheduled for six months. It was finalized that after the completion of the training and based in its result, the other trainings will be scheduled. To achieve the best result ITDA placed the budgeted with DIC and then the training programme was started on January 2016.

Engagement and Income

Generally, the women are key for the smooth maintained of their family. As comparison to koya male, female are working hard and support their livelihood. The district of Malkangiri having good base of mahul and Palm (Taalo) and normally the male members remain busy with collection of plam juice. They use palm juice for preparation of alcohol. Few male are also engaged in other sector activities to earn their livelihood. During rainy season, the male members primarily work in agriculture fields whereas, women





members, apart from their engagement in agriculture, also collect different forest items like tubers, bamboo gourd, mushroom etc. Forest has been a major livelihood supportive resource and supplements family income to the tune of Rs. 1500 to Rs.2000 in the summer season.

Mobility

The villagers primarily depend upon Kalimela market for their daily needs, which is 4 Km distance from the village. Most of the family go to Kalimela on Thursday weekly market and purchase their required goods.

- Generally, the Koyas use Bamboo for making their house boundary, bamboo baskets to keep the food grain. They prepare small picking basket which largely used by the women for picking Mahul, Tolo, Rice, vegetable etc.
- The entrepreneur is expected to earn more than Rs 5000 in one month giving only 3-4 hrs in each day.
- The SHGs can run the unit by their own and can generate a profit for them
- The raw materials can be collected from the primary producer & also from the nearby forest;
- Targeted market for the produces can be nearby village/ hat & local town market & out of state.
- Product can be packed & marketed based on the demand of the local people.

Methodological Approach

Consultation with women SHGs to assess their skill set and preparation of training plan;

Organized training for women members for six months;

Organized exposure visit of the SHG member to make concept clarity;

Preparation of Business Development Plan (BDP);

Organized the training programme as per the availability of the women.

Training Programme

Initially, the training was on flower picking baskets. Though it was a new concept for the tribal women it took complete 45 days to learn about the base preparation and cane binding on the structure. In the next level of training the trainees capture easily the ideas of different designs. In the entire six months of training programme the trainees have learned to make basket, pen-stand, welcome board, Tailoring Box, Biscuit tray etc.



Production & Sale by the Trainees

Sale Details of Bamboo Craft					
Sl. No.	Item	Production	Sale	Rate	Amount
1	Kathiphoos	26	24	60	1,440.00
2	Bamboo Mat (Pati)	34	31	80	2,480.00
3	6 konee	24	21	120	2,520.00
4	Disgn	16	12	180	2,160.00
5	Hand Pankha	20	14	40	560.00
6	Biscuit tray	5	5	140	700.00
7	Biscuit tray	1	1	70	70.00
8	Sewing basket	20	3	140	420.00
9	brus stand	2	2	70	140.00
10	Brush Stands	14	10	30	300.00
11	Box	2	2	180	360.00
12	Pen st b	2	2	50	100.00
13	Pen stand	20	18	40	720.00
14	File try	1	1	60	60.00
15	Flower Vase	4	4	100	400.00
16	Cigarette Box	5	2	30	60.00
17	Shirt stand	4	4	40	160.00
18	Bangle stand	4	4	50	200.00
19	Moda	4	4	280	1,120.00
20	Tortoise	1	1	100	140.00
21	Welcome Board	1	1	200	200.00
22	Ship	1	1	120	120.00
	Total	211	167	2180	14430.00

Product List	Bamboo (in Rs.)	Color (in Rs.)	Gum / Pin (in Rs.)	Product wise Total Cost (in Rs.)	Production per day Per person	Selling Price (in Rs.)	Product wise net Profit (in Rs.)
Fula Changuda 3 Angle	8.00	2.00	3.00	13.00	3 Nos	70.00	57.00
Ful Changuda 4Angle	8.00	2.00	3.00	13.00	2 Nos	80.00	67.00
FulChangudaKathi	10.00		3.00	13.00	2 Nos	150.00	147.00
FulChangudaPati	7.00		3.00	10.00	3 Nos	120.00	110.00
Sweet Box	17.00		4.00	21.00	1 Nos	230.00	209.00
Well Come Kit	17.00	4.00	5.00	26.00	1 Nos	320.00	296.00
Moda	25.00		10.00	35.00	1 Nos	300.00	265.00
Basket Vegetable	20.00	3.00	5.00	28.00	1 Nos	200.00	172.00
Carry Basket	15.00		5.00	20.00	2 Nos	120.00	100.00
Wall Pen stand	18.00	7.00	5.00	30.00	2 Nos	200.00	170.00
Wall Brush Stand	18.00	8.00	6.00	32.00	2 Nos	200.00	168.00
Boat	12.00		3.00	15.00	1 Nos	300.00	285.00
Tray	18.00	5.00	6.00	29.00	1 Nos	180.00	151.00
Water carry Bottle	20.00			20.00	1 Nos	200.00	180.00

Exposer Visit

After completion of the training programme the SHGs went for exposure to Neighbour state Chhattisgarh. The trainees visited Kundagoan village where the villagers practice the bamboo craft, stone work, and wood craft. They met some of the State awarded female's and got knowledge about the bamboo production. Then the trainees visit to silpi gram bastar, where the trainees observed the sale point. Lastly the trainees visit to BanskalaParisad another production cum sale unit of the bamboo entrepreneurs.

Institutional Arrangement

The project is being implemented by ITDA, Malkangiri. The PM, ITDA pay regularly visited to the field and consult with the DIC, Malkangiri about the training programme. Gopabandhu Development Society (GDS), the FNGO has been facilitating the implementation of the project, along with mobilizing the women SHGs. Experts has been engaged for providing guidance and imparting skill based training to WSHG members. A Cluster manager is also appointed for the smooth functioning of the training programme. Financial & technical support is being provided by the

DIC, Malkangiri and FNGO-GDS, Malkangiri

Impact

1. The members are learned about the Bamboo craft. They can create the bamboo items on their own, which helps them for additional source of income
2. The member can start their own business as a (Entrepreneur)
3. With less investment, the member get good profit.
4. These beneficiaries have been improved financially because of the skill up-gradation training programme and the members get permanent sources of income.

Constraints

The major threat to this skill development programme was the family members of the women SHGs who were against the training as they feel that the SHG members wasting their time in training programme. To break this, the organization took up concrete measures to convince them such as conducting household visits,

meeting with the family member and convincing them to allow the female to the training programme, convincing them on financial support to be provided by ITDA, Malkangiri for the training, provision of technical support by Expert, GDS to develop their skill etc. all these efforts helped to motivate the family members as well as the women members of the selected SHGs.

Lessons learned

The isolated and neglected women are also creating example to others by doing poultry farming and finally they are getting recognition from other stakeholders.

Replicability and /Upscaling

Looking at the success of the programme, it is planned to cover additional women SHGs in different other

locations and develop their skill on different crafts, including bamboo craft. Apart from this, refresher trainings and skill upgradation trainings can also be organised for the trained SHGs from time to time to acquaint them with emerging market demands. It is also required that the existing bamboo training members can act as local trainers to cascade their knowledge and skill base, acquired through trainings to other interested women SHGs / villagers. Discussion with these trained groups reveal that the member of the WSHG has sold their products in the local market for Rs 14,440.00 for the first time, and now they are creating bamboo items to sale in other district level event like MALYABANTA UTSABH.



Case Study

Name : Mukepodiam
 Institution : Maa Santoshi SHG
 Village : Pedawada
 GP. : Telrai
 Block : Kalimela
 Distirt : Malkangiri, ODISHA

Mukepodiam is emerging as a trainer of the group she has good knowledge about the bamboo crafts.

Cost of Production

Product List	Bamboo Rs.	Color Rs.	Fevical /Pin Rs.	Product wise Total Cost in Rs	No. of Production per day Per person	Selling Price Rs.	Product wise net Profit in Rs.
Ful Changuda 3 Angle	8.00	2.00	3.00	13.00		70.00	57.00
FulChanguda 4Angle	8.00	2.00	3.00	13.00	2	80.00	67.00
Ful Changuda Kathi	10.00		3.00	13.00	2	150.00	147.00
Ful Changuda Pati	7.00		3.00	10.00	3	120.00	110.00
Sweet Box	17.00		4.00	21.00	1	230.00	209.00
Well Come Kit	17.00	4.00	5.00	26.00	1	320.00	296.00
Moda	25.00		10.00	35.00	1	300.00	265.00
Basket Vegitable	20.00	3.00	5.00	28.00	1	200.00	172.00
Carry Basket	15.00		5.00	20.00	2	120.00	100.00
Wall Pen stand	18.00	7.00	5.00	30.00	2	200.00	170.00
Wall Brush Stand	18.00	8.00	6.00	32.00	2	200.00	168.00
Boat	12.00		3.00	15.00	1	300.00	285.00
Tray	18.00	5.00	6.00	29.00	1	180.00	151.00
Water carry Botel	20.00			20.00	1	200.00	180.00



6.9 Skill in Handicrafts, Andhra Pradesh

Jute Bags Making Unit

Jute is a naturally found, inexpensive, bio-degradable fiber. As of bio-degradable eco-friendly in nature, jute and jute products have high value demand. Use of jute and jute made items have been increasing day by day. For creating pollution free environment restricting the use of polythene and rexin items. In some states use of the polythene bags have been totally banned. Simultaneously different state governments are also promoting use of jute and jute products due its bio-degradable in nature. For eco-friendly character the demand for jute yarn, jute fabrics and other jute items is increasing very fast. Traditionally, jute sack bags are used for carrying and supplying of bulky food materials. But due to advent of new technologies bulk use of jute as a raw material in the production of high value jute products have been massively used. New innovative

State	:	Andhra Pradesh
District	:	West Godavari
ITDA Area	:	KR Puram
Block	:	Buttayagudam
GP	:	KR Puram
Village	:	KR Puram
Institution	:	Godavari Trible Jute Emporium
Activity	:	Jute Craft



products have been developed with high value addition on handicrafts, fashion accessories, life style, fancy and decorative items apart from other products like home textiles, jute composites, jute geo-textiles, technical textiles, etc. In other sides jute products are strong, durable, light, fast, attractive and cheaper in comparison to mostly used other fabrics in day to day life. Jute products are also naturally decomposable i.e. free from the health hazards and anti-static. Jute products have more demand in the domestic market as well as in the foreign market.

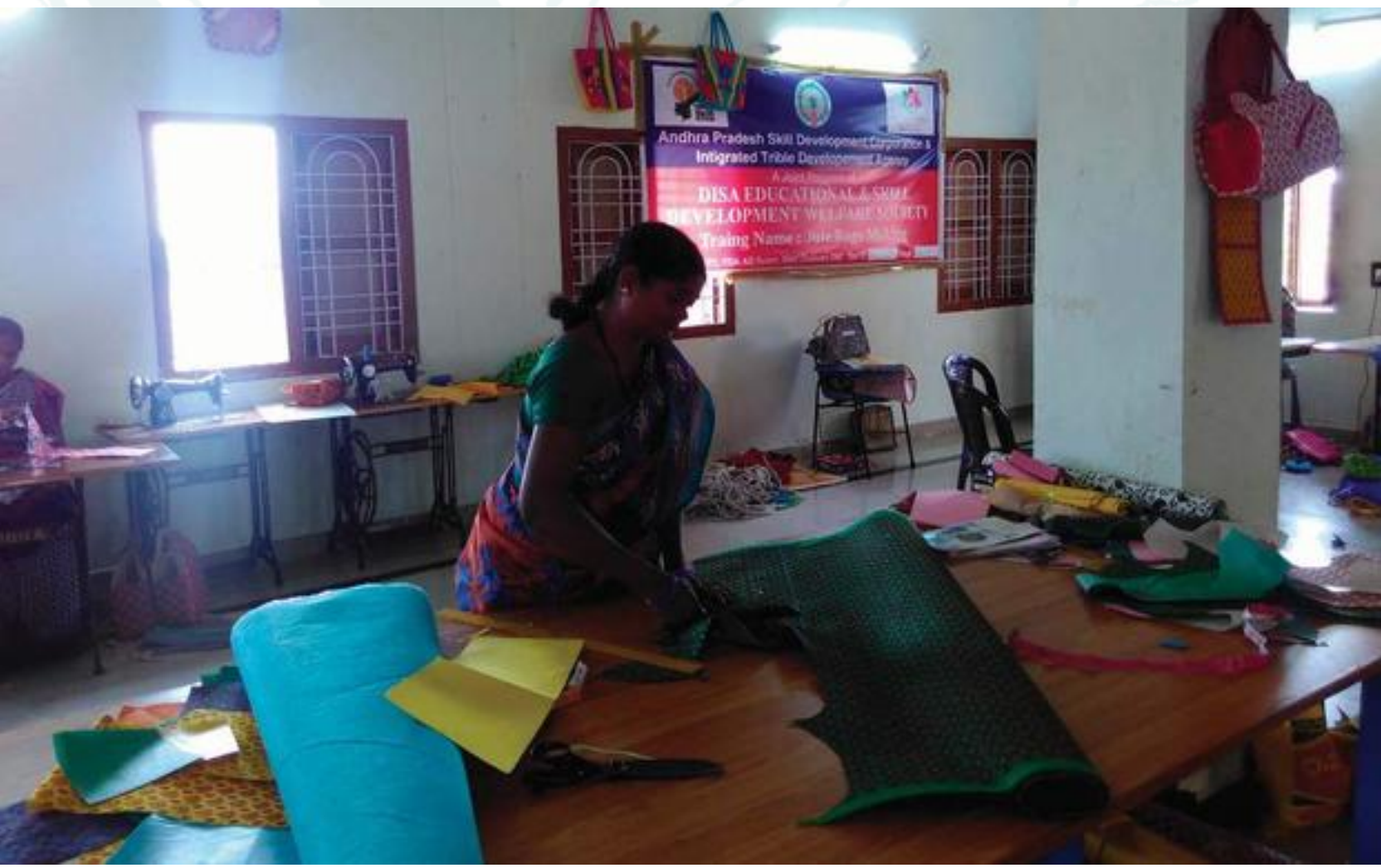
The Tribal Welfare Department of Government of Andhra Pradesh is now working to make the Youth Training Centers (YTC) as Skill Development Centers of Excellence (SDCE). Skill Development Policy was formulated in convergence with AP state Skill Development Corporation (APSSDC) after detailed deliberations with the stake holders in the Regional Level.

Skill Development Policy of the Tribal Welfare department

- Impart Training in basic and soft skills coupled with the sector specific skills as per the choice to enhance the employability opportunities of the ST Youth.
- Facilitate the access to wage employment through organizing Direct Placement Drives.
- To provide financial support during post placement period up to maximum of three (3) months in convergence with A.P. State Skill Development Corporation.

Objective:

- Create opportunities for all to acquire skills throughout life, and especially for youth, women and disadvantaged groups
- Develop a high-quality skilled workforce/ entrepreneur relevant to current and emerging employment market needs.



- Poverty reduction and empowerment of the women, poor and vulnerable groups
- Impact on socio-economic conditions like household income, gender and equity, decision-making process, benefit sharing and resource management

A Unit of Jute Bag Makers

The jute bags making unit in ITDA KR Puram west Godavari dist started with 15 nos. married women in the name of Godavari Tribal Jute Emporium since last two months. Earlier 30 nos. of married women were selected and undergone for 45 days training programme on different jute bags making. After completion of their training 15 nos. interested skilled persons formed a group and started making of jute bags along with other jute decorative items and market in the nearby areas.

Training Partner:

The Training Partner Educational and Skill Development Center provided the requisite training to the training aspirants at the Youth Training Center of KR Puram.

Training:

Entry Qualification: 5th Class pass

Age: 18+ year's age

Duration: 45 days

Content of the Training:

- Introduction to Marketing strategies, understanding market demand and supply,
- Preparation of different designs of Jute Bags, like school Bags, Travelling Bags, Shopping Bags with handle, Vanity Bags, blending of vanity bags with glass, cane embroidery, file bags, design of marketing bags, etc.

Terminal Competency:

On successful completion of training one should be able to make good design decorative jute fabric bags. The practical course is to introduce modernization of

technique and improve the skills and make the worker capable of enhancing his productivity and his earnings so as to enable him to meet the basic needs of life and come out of poverty within reasonable time.

Raw Materials used in Jute Bag Making:

Followings are the raw materials are required for making of jute bags

- Jute fabric (both laminated and plain)
- Accessories for making of bags like buckles, hook, runner, chain, lining cloth, dye stuff, printing gum, chemicals and auxiliaries, sewing thread, packing materials, label and Cane Handle, Plastic handle, Zip, Chain Pullers, Rings, Cotton Thread and Thread for Embroidery

Tools and Equipment used in Jute Bag Making:

Scissor, Scissor Zig-zag, Sewing Machine- Industrial, Frame (different size), Needle (different size), Hammer, Measuring tape, Roller, Printing Table, Drier Machine, Plier, Bucket, Pallet Knife, Eyelet punching machine, etc.

Process of Jute Bag Making:

Process of making different types of jute bags is quite simple. In the market jute fabrics are available in different forms like laminated and non-laminated, plain and twill. These jute fabrics can be procured as per the requirement basing upon its colour, design and sizes. These fabrics are tailored as per the specifications and requirement of the customers. Cutting is done as per the specification. After cutting, the clothes are placed on the table and printing is done. Cut pieces are stitched in the sewing machine. Lining, buckles, chains, runner, handles of clothes, bamboo and canes are fitted as per the design and the requirements of the items. Finally the bags are packed and ready to dispatch to market for sale.

Market:

Different varieties of jute bags viz. Shopping bag, Ladies bag, School bag, gents hand bags have highly demand in the market in comparison to others. Both upper and middle class people, restaurant and guest

houses demand such Jute bagas. Now a day the Jute bags made from Jutes are very attractive, it has a great demand in the market.

Project Cost

Unit Cost				
Sl. No.	Equipment	Quantity	Rate per Unit	Amount (in Rs.)
1	Jack machines	2	25000	50000
2	Normal sewing machines	6	4500	27000
3	Plain jute 100 Rs per meter	200	100	20000
4	Printed jute 550 meters	550	125	68750
5	Juco lam 150 metars	150	160	24000
6	Runners, zips, etc			32750
7	Non woven 100 meters	100	330	3000
8	Cotton navar 250 kgs	250	180	45000
9	Colour rope 250kgs	250	190	47500
10	Cotton reels	120	100	12000
	Total Unit Cost			330000

Working Capital:

Raw Material cost is given in project cost

Labour Cost: Rs.34,000.00

Other Cost: Rs.6000.00

Total Working Cost: Rs.40,000.00

Gross Income: Rs.55,000.00

Net Income: Rs.15,000.00

Employment:

After completion of their training 15 nos. interested skilled persons formed a group and started making of jute bags along with other jute decorative items and market in the nearby areas. The unit is operating 8 to 10 hours a day and 22 to 25 days in a month. It has been assumed that the capacity utilization will be 80% which will remain constant. As the project unit is a small one and started recently the financial calculation has been done for one month only.

Monthly Income of the beneficiaries

One of the objectives of the skill development training programme is to enable the beneficiaries to earn incomes through self-employment or wage

employment. But as wage employment monthly income of a beneficiary varies ranges from Rs.2000 to Rs.2500 at the initial stage. As market of their product goes up monthly wage will increase to Rs.7000.





6.10 Skill in Incense Stick Making, Maharashtra

Introduction

Tadoba National Park is a beautiful place, located in the Chandrapur district of the state of Maharashtra. It is a part of Tadoba Andhari Tiger Reserve. The word 'Tadoba' is the name of the God "Tadoba" or "Taru", praised by the tribal people who live in the dense forests of the Tadoba and Andhari region, whereas "Andhari" is derived from name of Andhari River that flows in this area. Tadoba National Park was established in the year of 1955. Total area of the park is 116.55 Km². The Andhari Wildlife Sanctuary was formed in the year 1986. Total area of the Andhari Wildlife Sanctuary is 508.85 Km². Densely forested hills form the northern and western boundary of the tiger reserve. The elevation of the hills ranges from 200 m to 350 m. Tadoba tiger reserve has high rate of man tiger conflict. Several instances have also been reported of wildlife killing domestic livestock.

There are 41,644 people living in and around the reserve in 59 villages of which 5 are inside the core zone.

State	:	Maharashtra,
District	:	Chandrapur
ITDA Area	:	Chandrapur
Block	:	Chandrapur
Village	:	Adegaon and Dewada
Institution	:	Tadoba Agarbati Project
Activity	:	Agarbati Making

These villages in the core zone still do farming activity inside the core area. The process of their rehabilitation in other places is in progress. Recently the Navegaon village was rehabilitated and a grass land is expected on the place where the village existed. There are 41,820 cattle with the villagers in the core and buffer zone. While a cattle grazing is not allowed in the core zone, regulated grazing in the buffer zone is allowed for the villagers. However, cattle of peripheral villages sometimes sneak into the reserve and cause additional damage to the habitat. Forest fires are a constant problem in the dry season, consistently burning between 2% and 16% of the park each year. Killing of



domestic livestock by tigers and leopards is a frequent phenomenon in the neighbouring villages. This has an adverse impact on the economic condition of the local people and results in antagonism towards the wild animal management aspects. As per the report, in the year 2013, around 4 people and 30-50 cattle killed by leopards, tigers or sloth bears. Densely forested hills form the northern and western boundary of the tiger reserve. The elevation of the hills ranges from 200 m (660 ft.) to 350 m (1,150 ft.). To the southwest is the 120 ha (300 acres) Tadoba lake which acts as a buffer between the park's forest and the extensive farmland which extends up to Irai water reservoir. This lake is a perennial water source which offers good habitat for crocodiles to thrive. Other wetland areas within the reserve include the Kolsa lake and Andhari river.

Project context

Generally, the forest dwellers of these villages, coming under the core zone of the reserve forest, suffering and struggling more for their survival. In general the primary source of their livelihood is agriculture and forest produces. But they never get required production from their agricultural land, due to crop loss by wild animals. Even the domestic cattle or animals are also not safe in these villages. It was a very challenging situation to face. In the other hand now it is also not possible for them to collect NTFP and other non-cultivated produces from forest due to high security and rules and regulations implementation by the Forest department. In addition, as they are residing inside the century area, it is too difficult to collect food items from forest due to life risk from wildlife. Due to these challenges, some of the youth or male members goes outside (nearest town) of the forest in search of work. The forest dwellers also work for the forest departmental as per the need and requirement. What they are earning from different sources is not adequate to meet the demand.

In 2013-14 financial year, the forest department thought of a program for the forest dwellers which will give them full days of employment with sustainable livelihood options. The department prepared a project for the group with focus on women beneficiaries on income generating activities (IGA). The forest



department called a general assembly in the village and discussed with forest dweller committee regarding the project and its objective. In the initial stage the women were not so encouraged with this project and were not feeling comfortable to discuss with the department officials. With regular discussion with the community, people could able to realise the importance of the project and they became interested to get involved in this process.

Eco Development Samiti (EDS) / VDC members of the village also promoted the women to participate in the project activities. The male members of the community realize that the female have that capability to work for income generation and sustainable livelihood. The women have also right to take part in decision making process of economic growth of family or community development process. The women are also very sensitive and aware regarding their family economic condition. So, the male members of the community supported them for participating in the IGA.

But, it was difficult for the women to attend training and activity specific learning process. It took around 1 year to mobilize them and to make them participate and finally in the year 2014 October/November the forest department selected 20 tribal women who were expressed their interest to involve in the process. After selection of the beneficiaries the department organized training program for 20 days on theory and practical based learning in Kachargard of Gadchiroli District in the year 2014 December or 2015 January. After attending 20 days of residential training, 15-17 women beneficiaries got involved in the work at the initial stage. After the training, 17 women trainees went through practical for 6 days on how to prepare the materials and its process.

The Forest department provided every kind of support to set up a production unit in the month of January 2015. They provided a building, installed 20 incense stick (Agarbati) preparation machine, supply of electricity, Bamboo sticks, bucket, mixture grinder for raw material for preparation of incense stick (Agarbati) and established linkages with the outside Agarbati companies for marketing of produces. The members have good understanding of each and every



process and having ability to manage independently. In the beginning, they were mostly doing their work manually, but after 3 to 4 months, the department install all modern machinery and equipment to augment the production process.

Objective of this Good Practice

- To improve the livelihood security for the forest dwellers through community participation and skill development
- To improve the women participation in decision making process & make them self-reliance
- To improve the quality life of targeted people through sustainable livelihood opportunity through the Agarbati project

Risk and Vulnerability Reduction

In the initial stage, the women workers were preparing 2 to 3 Kg Agarbati per day which gradually increased to 8-10 Kg per day and selling in very low price with @ Rs.10 to 12.00 per Kg. But after the use of new technology and modern machinery each women worker preparing more than 13 to 15 Kg per day.

Each month they are working for 20 to 22 days. At present 20 women are working in the production unit. As per the rough estimation of day's output, total per day production is about 300 Kg. (20 women x 15 Kg per day = 300 Kg). On an average per Kg selling price amounts to Rs.15.00. So, the group is having a gross income of Rs.4500.00 per day. At present, the women are producing 300 Kg per day with the involvement of 20 women and 2 technician / skilled labor.

After the involvement of women in the work, they are getting Rs.15,000.00 to Rs.18,000.00 per month. With this additional income, the women are able to meet their emergency need and able to save some part of their income for their future. After getting this avenue, economic condition of the tribal family has improved and now they are in a better position to minimize their vulnerability.

Forest department, the implementing agency also created a strong network with external companies for marketing of the raw Agarbati. Now the implementing agency is supporting the women group for working towards finished product. After preparation and drying of Agarbati, now they are using essence of different flavor like jasmine, sandal, rose etc. to make it scented. They are packing it in attractive covers for marketing. The department has also opened a shop for retailing of Agarbati at 4 to 5 places in different areas of century and different areas of tourism place of Chandrapur and Nagpur areas. Each pack is having weight of 250 grams with different flavors. Now market penetration of their produce has increased. Now the production unit is running smoothly and at present 25 to 30 women are working in the unit. The department is planning to expand the venture to another 4 villages to provide them supportive livelihood.

Institutional Arrangement

The project is being implemented by the Forest Department, Tadoba Tiger century forest range Chandrapur in partnership with ATC, Nagpur. The implementing agency taken all the responsibility of project implementation like community mobilization to selection of beneficiaries, capacity

building, establishing production unit and marketing of produces. The forest department also called gram Sabha for effective implementation and to increase the level of women participation in the project. The implementing agency taken whole responsibility to install all modern machinery and equipment. Also, the department contacted different stakeholder to provide the raw materials and marketing the product. The Tribal Development Department provided financial support to the implementing agency to take up the project.

Roles of men and women

In this field both male and female played a vital role to get benefit, the male members of the community taken responsibility to manage external works of their home, the male members gave moral support to take participate in the process, during gram Sabha at village level the male persons allow the women beneficiaries to take independent and active participation for decision making and involve in IGA by forest department. As the tribal community follows so many traditional rules and there are very restriction for women population still they taken decision to accept the changes for them and their children's. In this noble work, each household participated actively and the male members assist the female members during their training period as well as the male persons giving support during duty hour also.

The female were get independency for their self-sufficiency and able to save every month in their bank account, as from this source they are getting more income the house hold are able to meet every needs properly and fulfil their demands. They are also providing better education to their children, now the living standard is improving after working with the Agarbati project.

As the project is only for tribal women workers to improve livelihood status the implementing agency focus only on female workers. The beneficiaries express that all kind of facilities and support provided in time and properly by the implementing agency. In state of this the agency also planning for extends the unit with more women labor with all kinds of facilities.

Approach and Methodology

The forest department as implementing agency organized Gram Sabha at village level and share all the project activities as well as objective in the broadly where the people or the targeted group participated and able to understand clearly, it's a natural phenomenon that the tribal unable to accept the changes easily, it can possible only due to some educated women of the community, the implementing agency taken helps from the educated women and who can understand. The community female groups when started to involve in this process the other community female members of nearby house hold also shows their interest to get involved in the process. The another way to council that other then this there was no alternative options for their livelihood where they can get ensure for work and good wages for their sustainability.

Through the gram Sabha the implementing agency able to mobilize the community with better and effective participation and decision making process. Regular meeting with the community people and interaction with different house hold helps to improve the level of participatory process. The implementing agency also organized exposure visit and different training for the stakeholder. The forest department has taken each and every responsibility to provide all kinds of facilities to improve their livelihood and economic conditions.

Project Impact

The research team interacts with the primary stakeholder as well as the implementing agency to validation the process. During this interaction found that all kinds of record and documents are following for the effective following. The positive impact is that the women from the tribal community get a secured and guaranty jobs near to home. And the most important factor is no risk and with a good income source they are getting easily and in the same time they are access to their domestic work also. The major part is marketing, which is done by the implementing agency.

As comparison to previous situation of the each and every house hold those who participate in the process, the livelihood initiative bring great changes among the family, house hold and community life. The most

important is throughout the year they are getting employment and it reflects to another community, so the nearby community people are also showing interest to involve or take training for capacity building on different type of activities.

Sustainability and Replicability

Institutional: the implementing agency must monitor the program regularly or frequently to understand each and every part of the unit. The agency must create the accountability and make transparency between the agency and workers.

Social: the women who are working they must clear about the objective and have utilize this opportunity properly.

Economic: the agency must invest the fund in a proper and justice way and that must be kept in record.

Accessibility of raw materials, Good transport communication, strong network and marketing chennal system and 100% active participation and we filling in the work site. Committed and hard plan labour is also major component for extending good practice.

Land and building:

Land: 1000 sq. ft.

Shed: 1000-sq. ft.

Plant and machinery:

1. Aluminium/Plastic trays 5'x5'
2. Agarbati preparation machine 25 pic
3. Heat sealing machine 2 nos.
4. Sprayer
5. Weighing balance platform type 1 no.
6. Plastic Buckets, jug, and Other containers 4 each
7. HDPE container for storing & mixing of chemicals 4 nos.
8. Working table for packing 2 nos.
9. Office furniture, etc.
10. Installation charges & misc. L.S.

Case Study



Angira Devidas mongon , from a five-member family, is a young women age of 37 working in the Tadoba Agarbati Production unit for the last one and half year. She heard about the Tadoba Agarbati project from Gram Sabha. After that, she took the leadership and mobilized other women by making them understand the benefit of the project. Initially, she was earning Rs. 70/- to Rs.100/- per day which has now increased to around Rs.4500.00 in a week. This is one of the many instances where this project has made a positive change in the life of the tribals. Now she is having color television, and recently in the month of October 2016, the family purchased a Honda bike for their mobility. Angira sending her two girls to nearest Chandrapur English medium school to gives them a good education. Her husband is working as tourist guide.



6.11 Skill Development in Agarbati Stick Making, Puliramudugudam, KR Puram

Introduction

The Tribal Welfare Department of Andhra Pradesh proposes to scale up skill development initiative with diversified activities to provide sustainable employment in terms of wage employment & self-employment for upliftment of tribal youth. There is a need to emphasis on creating awareness among the ST youth on alternative employment opportunities in potential sectors and to turn up them for trainings to provide wage employment, self-employment trainings for self-employment.

The Tribal Welfare department is now working in association with Skill Development Entrepreneurship & Innovation Department to make the Youth Training Centers (YTC) as Skill Development Centers of Excellence (SDCE). Skill Development Policy was formulated in convergence with AP state Skill Development Corporation (APSSDC) after detailed deliberations with the stake holders in the Regional Level. The overall

State	:	Andhra Pradesh
District	:	West Godavari
ITDA Area	:	KR Puram
Block	:	Buttayagudam
GP	:	Puliramudugudam
Village	:	Puliramudugudam
Institution	:	Agarbati Stick Making Unit
Activity	:	Agarbati Stick Making

objective of the initiative is to enhance employability in wage / self-employment among ST youths and ability to adapt in changing technologies and demands of skilled labour along with Improving productivity and living standards of the ST youths

Skill Development Policy of the Tribal Welfare department

- Impart Training in basic and soft skills coupled with the sector specific skills as per the choice to enhance the employability opportunities of the ST Youth.

- Facilitate the access to wage employment through organizing Direct Placement Drives.
- To provide financial support during post placement period up to maximum of three (3) months in convergence with A.P. State Skill Development Corporation.

Objectives:

- Create opportunities for all to acquire skills throughout life, and especially for youth, women and disadvantaged groups
- Promote commitment by all stakeholders to own skill development initiatives.
- Develop a high-quality skilled workforce/ entrepreneur relevant to current and emerging employment market needs.
- Training for self-employment/entrepreneurial development

The Incense Stick (Agarbati Stick) Making Unit:

Agarbati Stick making unit started under KR Puram ITDA of West Godavari District. A total of 15 unemployed youth from this village were selected under this skill development activity. They have undergone training on both round stick & square stick making for 15 days.

After completion of their training, basing on their interest 10 nos. of persons started the unit by getting financial support of Rs. 25 Lakh. They are supplying the sticks to ITC.

Training Partner:

The Training Partner for this venture has been “Educational and Skill Development Center of DISA providing the requisite training to the training aspirants at the Youth Training Center of KR Puram. After the completion of the training, the trainees could able to;

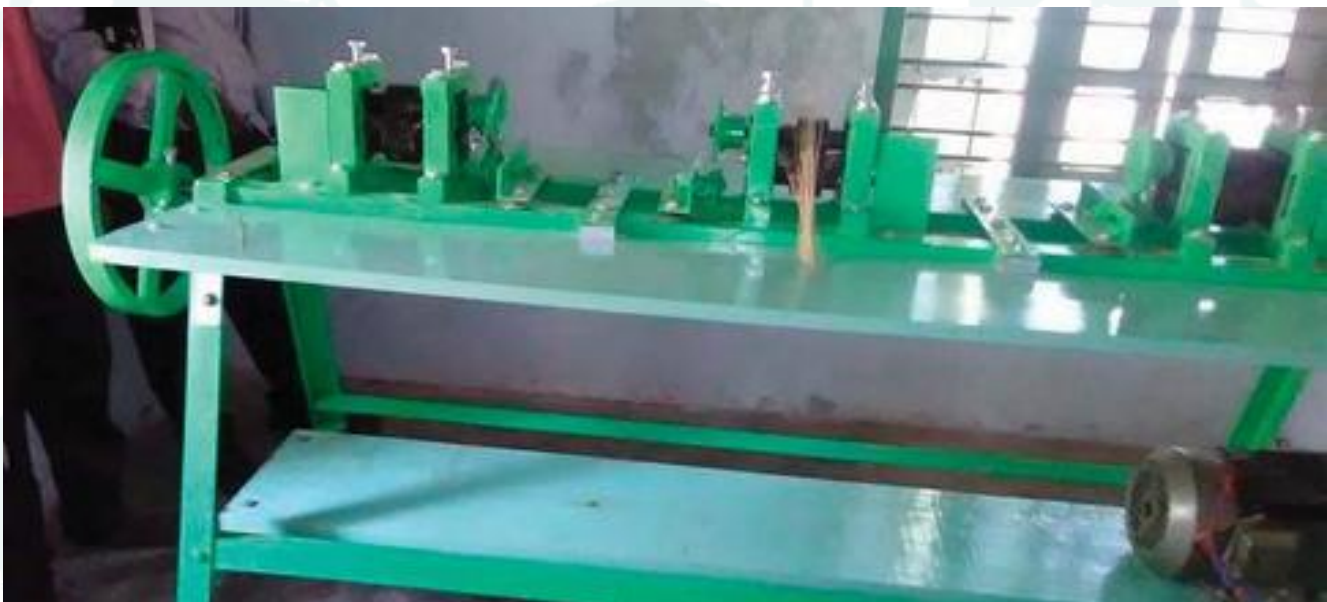
1. Acquire basic knowledge on bamboo, treatment and processing of bamboo, preservation of bamboo and bamboo products
2. Make proper utilization of bamboo
3. Use of hand tools, machine tools like drill machine etc,

Raw Materials:

The raw materials used are bamboo, which is plentifully available nearby village forest & they are purchasing this from VSS.

Market potential:

They are directly selling this sticks to ITC.



Total Cost of the Unit

Sl.No.	Description	Qty (Nos)	Rate (INR)	Total (INR)
1	Crosscut Machine, 1 HP, 14 inch carbide tipped cutter, clamping	1	120000	120000
2	Manual Splitter Grills 6, 7, 8, 9, 10, 12 blade, with frame(in total two)	2	27000	54000
3	Bamboo Slice making Machine, 2 rollers, 1.5 HP	1	286000	286000
4	Round Stick Making machine, 7 HP	1	430000	430000
5	Square stick making machine 2 HP	1	175000	175000
6	Stick Sizing Machine, 2 HP, with foot switch	1	220000	220000
7	Stick Polishing Machine, 1 HP, 30 kg/ charge	1	215000	215000
8	Saw Sharpening Machine, 1 HP, with fixtures and wheel set	1	149000	149000
9	Cross cutting machine normal	1	20000	20000
	Accessories/ Spare Parts			
1	Round Stick cutter sets	1	16000	16000
2	PU Rollers	6	5000	30000
3	Digital Vernier, Depth gauge, Gauge Flat	1	26000	26000
	Transportation M.P to krpuram			65000
	CST@2% against C form			36120
	TOTAL MACHINERY COST			1842120
	3 PHASE & SINGLE PSASE POWER TRANSFARMERS		627000	627000
	UNIT ELECTRIFICATION		86000	86000
	Total Unit Establishment Cost			2555120



ROUND STICK MAKING

Production Cost for 100 Bamboos

- Each bamboo cost is rs-15
- Each bamboo is given 3kg's of slices
- Every 10kg's slices given by 3kg's of round sticks
- 100 bamboos-100*3=300kg's slices
- Every 100kg's slices given 30kg's of round sticks
- 30*3=90kg's round sticks
- Round sticks per 1.kgrs.60/-
- 90*60rs=5400
- Per day 6no's 2days working
- labour cost-12*200=2400
- Bamboo cost 100*15=1500



- Powerbill-300
- Totalproductcost-5400
- Totalproductioncost-4400
- Remainingbalprofit-1000

Squarestickmaking

Productioncostfor100bamboos

- Eachbamboocostsrs-15
- Eachbambooisgiven3kg'sofslices
- Every10kgslicesgivenby7kg'sofsquaresticks
- 100bamboos-100*3=300kg'sslices
- Every100kg'sslicesgiven70kg'sofsquaresticks
- 70*3=210kg'ssquaresticks
- Squarestickper1.kgrs.25/-
- 210*25rs=5250
- Perday6no's2daysworking
- abourcost-12*200=2400
- Bamboocost100*15=1500
- Powerbill-300
- Totalproductcost-5250
- Totalproductioncost-4400
- REMAININGBALPROFIT-850



6.11 Skill Development Training Programmes in Odisha

Distress migration in rural tribals areas of Odisha is a common phenomenon. The rural tribal youths invariably migrate to urban areas in search of work due to the scarcity of employment opportunities in their locality. Since most of them are illiterate or drop out of schools, their academic qualification provides limited scope for employment in organised sectors. The majority of rural youth is either unemployed or engaged as daily labourer / agricultural labourers and their average earning does not make them comfortable to lead a decent life. Poor income make it difficult for them even to meet their basic necessities.

Keeping in view of the above, the ST&SC Development Department, Govt. of Odisha introduced short-term employable skill development and placement related training programmes in order to employ tribal youths under different ITDA areas of the State. The training programmes have been designed to impart market exchangeable skills and develop their capacity to

State	:	Odisha
District	:	Malkangiri
ITDA Area	:	Malkangiri
Block	:	Malkangiri
GP	:	Malkangiri
Village	:	Malkangiri
Activity	:	Driving Training

secure employment /self-employment. These training programmes include skill development, placement related training and pre-recruitment training courses having duration from 45 hours to one year. As on today, several trained youths (the trained and skilled candidates) have been able to get employment or able to set up micro enterprise for self-employment. This has impacted a much effect among the rural tribal youths and demand of vocational training has increased with the expectation that it will enhance their employable skill.



Skill Development Training Programmes in Malkangiri

The district of Malkangiri is prone to extremism activities. However, tribal youths, residing in LWE (Left Wing Extremism) prone areas of Malkangiri district are less interested towards naxal activities and hesitate to get involved in activities that happens in their areas. Rather, they are much interested towards acquiring employable skills by which they can earn their livelihood in a dignified manner. They have been expressing their interest to get skilled in training programmes organised by the ITDA, Malkangiri. Like other ITDAs of the Odisha State, ITDA, Malkangiri has been providing several training programmes to tribal youths of its administrative jurisdiction. Placement Linked Employable Training (PLET), Skill Development Training (SDT), Pre-Recruitment Training (PRT) Programme are being provided to the tribal youths.

In the year 2013-14 and 2014-15, skill based training was provided to 243 (each year) tribal youths under PLET, SDT and PRT programmes. During the year 2015-16, training was provided to 374 tribal youths. In the year 2013-14, highest number of candidates (70 nos) got training under ANM training, whereas 95 candidates (which was highest) got training under Civil Work Supervisor in the year 2014-15. During the year 2015-16, more number of candidates (82 nos.) received driving training followed by computer training course (50 nos.).

Target of Skill Development Programme under Employability Skill Development Training for 2013-14

Sl. No.	Name of the Training	Type of Training	Sponsored Trained	Trained	Remarks
1	ANM Training	PLET/ Skill Development	82	70	Completed
2	Plastic Processing Operator	PLET	19	9	Completed
3	Certificate-cum-Basic Hardware with CNC Exposure	PLET	3	2	Completed
4	Affinity School of Business PGDM, BBA & BCA	PLET	20	14	Completed
5	Hotel Management (Degree-7, Diploma-7)	PLET	16	14	Completed
6	Driver-cum-Mechanic	Skill Development	40	35	Completed
7	I.T.I.	Skill Development	30	30	Completed
8	DCA & PGDCA Course (NIIT, Jeypore)	Skill Development	20	20	Completed
9	Civil Work Supervisor Training	Skill Development	55	49	Completed
	Total		285	243	

Target of Skill Development Programme under Employability Skill Development Training for 2014-15

Sl. No.	Name of the Training	Type of Training	Sponsored Trained	Trained	Name of PIA
1	Home Nursing	PLET	40	14	Khurda School of Nursing, Bhubaneswar
2	Plastic Processing Operator	PLET	13	6	APPTC, Balasore
3	I.T.I. (Fitter, Wireman, etc.)	Skill Development	20	10	I.T.I., Malkangiri
4	Short Term Training – Plumber	Skill Development	14	14	I.T.I., Malkangiri
5	Short Term Training – Mobile Repairing	Skill Development	15	15	Priyanka Institution, Malkangiri
6	Short Term Training – Wireman	Skill Development	13	13	I.T.I., Malkangiri
7	Short Term Training – Wireman	Skill Development	16	10	I.T.I., Malkangiri
8	Short Term Training – Masson	Skill Development	21	20	I.T.I., Malkangiri
9	O.T.E.T Coaching	PRT	46	46	ITDA, Malkangiri
10	Civil Work Supervisor Training	Skill Development	100	95	ITDA, Malkangiri License given to 65 Nos.
	Total		298	243	

Target of Skill Development Programme under Employability Skill Development Training for 2015-16

Sl. No.	Name of the Training	Type of Training	Sponsored Trained	Trained	Name of PIA
1	Plastic Processing Operator	PLET	20	9	APPTC, Balasore
2	BASIC Computer & DTP	PLET	42	30	ET&T, Malkangiri
3	Computer, Tally & DTP	PLET	50	50	SITD, Malkangiri
4	Computer & Tally	PLET	39	39	ET&T, Malkangiri
5	Mobile Repairing	Skill Development	30	30	SITD, Malkangiri
6	Mobile Repairing	Skill Development	30	30	SITD, Malkangiri
7	I.T.I.	Skill Development	25	20	I.T.I., Malkangiri
8	Driving	Skill Development	82	81	UET, Malkangiri
9	Army Recruitment (appeared in Recruitment Rally)	PRT	85	85	ITDA, Malkangiri
	Total		403	374	

Target of Skill Development Programme under Employability Skill Development Training for 2016-17

Sl. No.	Name of the Training	Type of Training	Sponsored Trained	Trained	Name of PIA
1	OTET	PRT	35	35	Principal, DIET, Malkangiri at Chitrakonda,
2	I.T.I.	Skill Development	93	84	ITDA, Malkangiri

Norms of Expenses of the Training Programme

Sl. No.	Particulars of Expenses	Amount (in Rs.)
1	Training Cost	Rs.27.50 per hour
2	Lodging and Boarding	Rs.3000 per Month
3	Dress	Rs.1000 per candidates
4	Training Kit	Rs.500 per Candidates

Details of Driving Training Partner

Name of the Training Partner	M/s. UPASANA Education Trust
Regd. No.	886/2003
Address	B-31, Rupali Square, Saheed Nagar, Bhubaneswar-751007
Contact Details	Phone: 0674-2544898, 7735435500

Tribal Youth Candidates Sponsored for Training by ITDA, Malkangiri in the Year 2015-16

Batch No.	Trade	No. of the Candidates Sponsored for Training
1st	Sewing Machine Operator	37
1st	Driving	50
2nd	Driving	32
3rd	Driving	34

UPASANA Education Trust Malkangiri Centre

Sponsored by ITDA Malkangiri

List of Placement of Driving Student Batch No. 1, Started Date.09.12.2015 Closing Date.09.03.2016

Sl. No.	Name of the Driving Student	FatherName	Address of the Placement	Name of the Employer
1	AdmaMadkami	Ganga Madkami	M.V-50	Sri Sontu Mandal
2	KamrajKabasi	Irma Kabasi	Tamil Sahi (MKG)	Sri P. Sami
3	Krushna Sodi	Irma Sodi	M.V-30	Sri Tapas Mandal
4	Indra Podiami	MukaPodiami	M.V-52	Sri Sailen Mandal
5	AmasuKurami	Ganga Kurami	Malkangiri	Sri Lata Jen
6	Rama Kabasi	Irma Kabasi	Mathili	Sri Babuli Biswas
7	Soma Madkami	AdmaMadkami	M.V-29	Sri MahantiPattanaik
8	Jaga Madkami	MukaMadkami	Jabanpalli	Sri Soma Podiami
9	Ganga Kabasi	Ganga Kabasi	M.P.V-7	Sri TapanHaldar
10	Srinivas Gudia	Lachman Gudia	Malkangiri	Sri Ashok Biswas
11	KamluHantal	Hari Hantal	Balimela	Sri SudharsanKhadangi
12	BelarsenGudia	Sanyasi Gudia	Chitrokonda	Sri Rama Kabasi
13	JageswarMajhi	BalaramMajhi	Korukonda	Sri Rajendra Nayak
14	Lasa Madkami	MukaMadkami	Girkanpalli (Kalimela)	Sri Raja Madkami
15	Dhaneswar Dalai	Nidhi Dalai	Markapalli	Sri SubashKhara
16	DilipMadkami	PadiaMadkami	Korukonda	Sri Sontosh Biswas

List of the Candidates of Naxalite Area of Batch No. 3 undergone for Driving Training at UPASANA Education Trust Centre at Malkangiri

Sl. No.	Name of the Candidates	Father Name of the Candidates	Village	Post	G.P	Block
1	BabuluKhara	NiniaduKhara	RSC-6	Chitrokonda	Doraguda	Guma
2	KesabUdulia	UrdhabUdulia	Charkiguda	Malkanagiri	Malkanagiri	Malkanagiri
3	SukraMadi	Muka	Nayaguda	Malkanagiri	Korukonda	Korukonda
4	Jugal kishorMadi	Shayam	Nayaguda	Malkanagiri	Korukonda	Korukonda
5	Prashu ram Kabasi	Ganga	Nayaguda	Malkanagiri	Korukonda	Korukonda
6	Raghu Madkami	Ganga	Nayaguda	Malkanagiri	Korukonda	Korukonda
7	SamaMadkami	Deba	Dnangadabata	Tandiki	Tandiki	Malkanagiri
8	BipraHalba	Mangala	Dangaguda	Tandiki	Tandiki	Malkanagiri
9	BalaramHantal	Adu	RC-11	Chitrakonda	Nuaguda	K.Guma
10	DamuKhemudu	Mati	Doraguda	Chitrakonda	Doraguda	K.Guma
11	SurendraMadkami	Somnatha	Daniguda	Ponchbati	Sindrimala	Malkanagiri
12	Raghu Padiami	Ganga	Ijariguda	Satiguda	Sindrimala	Malkanagiri
13	Dhana Bisoi	Sanyasi	Disariguda	Andrapalli	Jodamba	K.Guma
14	ShymaKhara	Chandra	Alangapada	Alangapada	Jodamba	K.Guma
15	SanjyakuKrishani	Subash	Nandiniguda	Rajbada	Rajbada	Khairput
16	Trinath Macha	Nilakanta	Machaguda	Rajbada	Rajbada	Khairput
17	Gangadhar Rasapeda	Rama	Rasapeda	Rasapeda	Rasapeda	Khairput
18	RamochonraMuduli	Adu	Debaguda	Andrapalli	Chitrakonda	K.Guma
19	BishuMuduli	Jagan	Sargiguda	Gobindapalli	Madkapadar	Khairput
20	SonuRaspeda	Sina	Sargiguda	Gobindapalli	Madkapadar	Khairput
21	Dusmanta Nayak	Tarah	Malkanagiri	Malkanagiri	Malkanagiri	Malkanagiri
22	BasudevDirda	Irma	Dangaskhal	Chalanguda	Malkanagiri	Malkanagiri
23	PurnachandraHalba	Buturam	Danaguda	Korukonda	Dudamata	Malkanagiri
24	PadiaMadkami		Sangel	Kundrukunda	Kundrukunda	Kalimela
25	Samara Khila	Tilu	Lachapani	Papermetla	Papermetla	Kalimela
26	Biju Khila	Sania	Majurilndi	Malkanagiri	K.Guma	Malkanagiri
27	Jaga Khila	Deba	Sanyasiguda	Andrapalli	Chitrakunda	Guma
28	Laxman Golori	Nilamani	Sanyasiguda	Andrapalli	Chitrakunda	Guma
29	PurandraBisoi	Dinbandhu	Jantri	Andrapalli	Andrapalli	Korukonda
29	Dhana Khila	Laxmi	Majurilndi	Jodambo	Jodambo	Korukonda
30	Rama Halba	LasmanHalba	Dangaguda	Korukonda	Dangaguda	Korukonda
31	Arjun Khara	Kandra	Majhiguda	Jodambo	Jodambo	Korukonda
32	MadhusudhanKhila	Rama	Markapali	Markapali	Markapali	Malkanagiri
33	Amir Madkami	Muya	Soagal	Marampalli	Udrukonda	Kalimela
34	Madan Khila	Raghunatha	Andrapalli	Andrapalli	Andrapalli	Korukonda

Sl. No.	Name of the Candidates	Father Name of the Candidates	Village	Post	G.P	Block
35	BasudevKhila	Sanda	Pansaput	Pansaput	Pansaput	Guma
36	Das Khila	Sadasib	Lucapani	Papermetla	Papermetla	Kalimela
37	RanjitHalab	Sambaru	R.O.Colony	Korukonda	Korukonda	Korukonda
38	GhasiramKhila	Kandra	Siligumma	Badapada	Badapada	Khairput
39	RautaKhra	Manu	Jodamba	Jodambo	Jodambo	Korukonda
40	SitaramKhila	Deba	Badapadar	Badapada	Badapada	Khairput
41	SukaraPalasi	Sarabi	Amilibeda	Muduliguda	Nakamamudi	K.Guma
42	AngraRaspeda	Sukra	Amilibeda	Muduliguda	Nakamamud	K.Guma
43	DanyaKhara	Siku	Mukudipalli	Panasput	Panasput	Khairput
44	BalaramKhila	Siba	Similipadara	Jodamba	Jodamba	Korukonda
45	SukraRaspida	Lachh	Amlipeda	Muduliguda	Nakamamudi	K.Guma
46	Kuna Sodi	Deba	Chadipalli	Tumsapalli	Tumsapalli	Korukonda
47	Dusmanta Nayak	Tarun	Malkanagiri	Malkanagiri	Malkanagiri	Malkanagiri

Details of the Placement of Driving Training in Malkangiri (PLET)

Sl. No.	Name of the Candidate	Name of the Vehicle Owner & Address	Salary (in Rs.)	Appoint of Post
1	Arjun Khara	Sri BipraSahoo At/Po/G.P/Block-K.Guma, PS-Balimela, Dist-Malkangiri	3000	Driver
2	Asman Pujari	Sri Babula Narayan At/Po/Ps/Dist-Malkangiri	4000	Driver
3	LakinathHalba	Sri Ratanlal Jen At/Po/Ps/Dist-Malkangiri	3500	Driver
4	Irma Madkami	Sri Madhusudan Madi At-Adibashi Colony, Po/Ps/ Block-Kalimela, Dist-Malkangiri	6000	Driver
5	AdmaMadkami	Sri Rama Sodi At/Po/Ps-MV-79, Block-Podia, Dist-Malkangiri	4000	Driver
6	Rajendra Halba	Sri Rama Halba At-Dangaguda, Po/Block-Korukonda, Dist-Malkangiri	2000	Helper
7	Nanda Pujari	Sri SakuntalaSwin At/Po/Block-K.Guma, Dist-Malkangiri	4000	Driver
8	JagabanduKhara	Sri Kuna Mohanty At/Po/Ps-Chitrokonda, Dist-Malkangiri	2000	Helper
9	LenkaMuduli	Sri Gundu Kora At/Po/Block-Mathili, Dist-Malkangiri	2500	Helper
10	BiduraKirsani	Sri Kamulu Gouda At-Mundaguda, Po/G.P-Gobindapalli, Block-Khairput, Dist-Malkangiri	3000	Driver

Sl. No.	Name of the Candidate	Name of the Vehicle Owner & Address	Salary (in Rs.)	Appoint of Post
11	Nanda Golori	Sri DondiaSahoo At/Po/Block-K.Guma, Dist-Malkangiri	3000	Driver
12	Suresh Gudia	Sri Rama Kumbe At-R.S.C-1,Po/G.P-Danaguda, Block-Korukonda, Dist-Malkangiri	3000	Driver
13	Arjun Palasi	Sri Probhu Nayak At/Po/G.P-Chitrokonda, Block-K.Guma, Dist-Malkangiri	3500	Driver
14	MaheswarKirsani	Sri Sanjay Badanayak At-Similiguda, Po/G.P-Kadamguda, Block-Khairput, Dist-Malkangiri	3000	Driver
15	KalusingHalba	Sri Ashok Biswas At/Po/Dist-Malkangiri	4000	Driver
16	Krushna Khila	Sri Amar Adikari At-M.V-2,Po/Ps/Dist-Malkangiri	2500	Helper
17	KosaPodiami	Sri SaniaMadi At-Sindoguda, Po/G.P-Korukonda, Dist-Malkangiri	4000	Driver
18	BiswanathKhila	Sri Lagan Murmu At-M.V-2,Po/Ps/ Dist-Malkangiri	2500	Driver
19	Rabi Khara	Sri GobindaKhemudu At/Po/Block-K.Guma,Dist-Malkangiri	3000	Driver
20	JagarnathMuduli	Sri Guru Kalakura At-Puspalli, Block-Khairput, Dist-Malkangiri	3500	Driver
21	Madan Pangi	Sri Bula Majhi At/Po/G.P-K.Gumma, Block-K.Gumma, Ps-Balimela, Dist-Malkangiri	2500	Helper
22	PadiaMadkami	Sri Saibal Mandal At/Po-MV-72, G.P-Nalaghunti, Ps/ Block-Kalimela, Dist-Malkangiri	5000	Driver
23	Trinath Baja	Sri Santosh Ku Pattanayak At/Po-Guma,Ps-Balimela, Block-Guma,Dist-Malkangiri	3500	Driver
24	Rama Sodi	Sri GuruchandHaldar At-M.V-73, Po/G.P-Kakurkonda, Block-Kalimela, Dist-Malkangiri	4000	Driver
25	GangadharPodiami	Sri Rajesh Behera At-Reclamation Colony, Po/Ps-D.N.K, Dist-Malkangiri	3000	Driver
26	Ganesh Halang	Sri Biswajit Biswas At-M.V-61, Po/G.P-Similibanch, Block-Podia, Dist-Malkangiri	3500	Driver
27	Rama Ch Madi	Sri Ganapati Runjea At-Kurshiwada, Po/G.P-Gorakonda, Block-Koukonda, Dist- Malkangiri	3500	Driver

Driving Training a Case



Padia Madakami, aged 30 years belongs to the village Sangel, of Kundrukunda GP under Kalimela block of Malkangiri district. He had completed his class-8, it was of little use. He was very much interested to learn driving.

Padia was working as a helper to the driver of a vehicle (Four-Wheeler Bolero). As he was not having the driving skill, regular employment in transport sub-sector was not possible for him. When he remains out of the job, he joins his father in agricultural activities. His family has 2 acres of own land used for agricultural purposes. Due to traditional agricultural practice and dependence on the monsoon, the output from the land was not sufficient to maintain the family. So, they used to depend on daily wages, MGREGA and on other private works to supplement their earning.

By this time, he came across the news of driving training programme, organized at UPASANA centre, Malkangiri, supported by ITDA, Malkangiri. He applied and selected to receive the training programme (during August 2016 for 3 months) and completed the course successfully.

On completion of his training, he received the driving license. While interacting with him he told that he got a job in a big private company named M/s S.C. Company, Hyderabad as a driver of a Bolero vehicle. As he knows Telegu language, it proved to be an added advantage for him to get the job. At present he is drawing salary of Rs.10,000/- per month apart from other allowances. Now, he is staying with his wife Mrs. Lake Madkami and 3 year daughter Miss Ismita Madkamiat Hyderabad wherein his 3 year daughter got admitted in a local English medium school. He spent Rs.1000/- to admit his daughter in the school and also paying Rs.200/- every month towards school tuition fee of his daughter. Apart from saving every month in his bank account, he is remitting Rs.3000/- to his house (parents staying at the village) every month. At present, he has Rs.30000/- in his bank account as savings.

He came that day (date of interacting with him) to his village for taking two to three friends (driving training batch met) with him to give employment in that company.

Now his father is happy that his son is a successful driver and sees a bright future for his son. Padia is now a happy person. He himself not only got the employment but arranging employment opportunity for his driving batch mates.

Summary of Good Practices

Introduction

As professional skills and domain knowledge with soft skills are the driving forces of socio-economic development in the present scenario skill development and creation of job are inevitable to accommodate with this changing technological environment. To ensure gainful employment, either in public sector and/or in private sector, creation of required quantity and quality skilled human resources is very much essential.

Key Factors

- Formulation of Policy guidelines on skill development
- Establishment of Training Centers for towards skill development at the suitable locations equip with well furnished equipments
- Preparing operational guidelines for the utilization of Training Centers for towards skill development;
- Preparing the annual training calendar of Training Centers
- Workshops at different levels were organized with proper roadmap and plan for execution of training programmes
- Separate budgetary provision under Tribal Sub-Plan (TSP) to meet the expenditure towards skill development
- Study on requirement of different types of skilled labours in government sectors as well as private sectors.

Mobilisation / Awareness of among tribal youths

- Creating awareness among the ST youth
- Conducting Job Melas and providing direct placements

- Provide Career Guidance and Counseling to ST youth

Adoption of Strategy for different interested youths

- Youth interest for placement oriented Trainings
- Youth interest for immediate private job (direct placement)
- Youth interest for government employment
- Youth interested in self-employment
- Youth need post placement support to continue in the new job

Institutional Arrangements:

- Government/Departmental Support/ Patronage like
 - o State Skill Development Corporation of the State
 - o Employment & Training Department
 - o Employment Generation & Marketing Mission (EGMM)
 - o Rural Self Employment Training Institutes (RSETIs)
 - o Technical Education Department
- Involvement of training partners and placement organisations

Supervision and Monitoring Mechanism

- Online MIS monitoring system (Individual candidate job history tracking)
- At state level
- At district level

- At ITDA level
- At training center level

Separate Action Plan for different job aspirants

- Direct Placement
- Trainings and Placement
- Pre-Examination Coaching for Formal Employment
- Self-Employment
- On-the-Job Training
- Online ST youth Job Website and provide job information through email / SMS alerts.

Financial Support

- Government: Separate budgetary provision under Tribal Sub-Plan
- Involvement of Corporate Sector with their CSR Fund
- Funding Agencies
- Lead Banks

Benefit:

- Income generation,
- Creation employment opportunity
- Proper Utilization of human resources







Section Seven:
Community Forest Rights





7.1 Community Forest Right, Livelihood, Abalgaon, Pandrakwada

Introduction

The village Abalgaon is a small village with approximately 125 households and total population of around 470. All the households belong to ST community (Gond tribe) who primarily depend upon agriculture and forest products for their livelihood. The tribal community in the village is forest dependant and they derive a number of forest produces from forest and make their livelihood. The people of this village started forest protection in 2013 when they realised the impact of depleting forest on their environment. People in the village gradually realised that because of loss of green cover, availability of water is reducing in the locality which is having an impact on agricultural activities. Degradation of forest has also having impact on people with regard to availability of forest produces.

State	:	Maharashtra,
District	:	Yavatmal
ITDA Area	:	Pandrakwada
Block	:	Pandrakwada
GP	:	Sarati
Village	:	Abalgaon
Activity	:	Community Forest Right

In the year 2009 the people of Abalgaon village claim for CFRs under the FRA. In the year 2013, December 19th, their application was approved by the Department of Forest for 750 Hectare. But in the year 2015 the area under FRA was demarcated by the surveyor of Forest Department and allocated to the villagers.

Generally in the Gram Sabha people are discussed

on community development initiative for overall development of the village of all targeted groups, especially the women and the youth are equal right to share their issues to solve. After a long discussion with among the village people the both village head man called for gram Sabha and discussed on scarcity of drinking water as well as lack of water for agricultural purpose. The gram Sabha finalized that they will give application to District collector to take initiate in this major two issues. As the community people already started the forest protection work it helps to them to get support by the Forest Department, the community people gave proposal to the Block development officer (taluka level) and forest department to execute the program.

Objectives

- To ensure right to access the forest recourses (MFP), authenticity of individual forest right on encroach forest land and community Forest right for livelihood and other traditional practices under FRA
- To improve the participation of women in Gram Sabha and decision making process and forest management.
- To improve the livelihood security for the forest dwellers through greater participation of women community participation and convergence
- To improve the women participation and mainstreaming for decision making process.
- To improve the quality life of targeted people through community right and individual right under FRA-2006 through Gram Sabha

Women SHG/ Mahilamandal: is an organization composed of all the women of the village. In general the women were suffering to carry water for drinking purpose or sanitary purpose; they walk for a long time to carry water for their house, so the women of the community taken decision to set-up a tube well to easy access of water in their village. The forest protection

rules have been formulated by the gram sabha itself. The gram Sabha gives more priority to the women decision. It includes clauses such as disallowing any commercial exploitation of the forest resources except MFPs, restrictions on fire-wood collection, monitoring forest fires, and keeping outsiders out of their community forest.

Youth club: All the youth of both community always take part each and every developmental activities at community level with a good understanding, the youth mass follow-up each and every work without any pay. Apart from this they have also their Vana Sarnkhyan Samiti(VSS) which always give priority to growth of forest and protection. The meetings are usually informal, open to all, and involve dialogue and discussion. The topics of study range from forest conservation and biodiversity, to law and governance. As a logical extension of this institution, the residents are also receiving training on resource and social mapping, biodiversity mapping/tree censuses, and other forest resource management techniques. Generally, they follow the traditional paten of forest protection.

- Through the Gram Sabha the community people able to find out their key issues generally whole the community was suffering. All the peoples are vulnerable which was affecting their life as well as forest health. All community people are collectively responsible to save forest, (forest fire, plants cutting for business)wild life and biodiversity. The tribal people or forest dwellers collect the forest product and other necessity items as per their need for self-use; they never go for business mood. After renovation of the pond the women were got opportunity to access water in their door steps. So that the women were able to save their time and engage in other works. The women were going for long distance for sanitary work, due to lack of water the women were not using toilet.
- They are following the traditional process to

forest conservation and management and developing their forest resources to minimize the issues what they are facing. As forest is the primary source to access their livelihood apart from agriculture production. After renovation of pond the farmers able to cultivate twice a year rabi and kharf with different vegetable cultivation, which providing another opportunity for their income generation.

Stakeholders and Partners

All the tribal/forest dwellers residing in the village of Ablagaon of Sarati GP under the Yavatamal District of Maharashtra state.

Institutions: Gram Sabha or village development committee and Mahila Mandal or WSHG of Abalgaon village taking decision along with the youth of the village participated actively for taking decision. Here the Gram Sabhais taking over all responsibility of function the village governance and executes all developmental activities at village level. The village people also collecting Rs.50.00 from each house hold in each month to meet the maintenance part of the solar pump and tube well.

Implementing Agency: the Forest Department of Government of Maharashtra and MoTA is the pioneer agency to conduct all programs and initiatives for the forest dwellers. These department support all the financial support and preparing strategy/ rules to implement the programs through state, district and taluka level. The Gram Sabhais implementing all developmental schemes at village level through the government. The government is also following the rules and regulation of Gram Sabha during implementation of the project.

Donor Agency: for successful implementation of all MoTA is providing financial support to the different state level departments, i.e, Forest Department, Agriculture Department, Horticulture Department, Education Department, Health Department, Animal & Husbandry, Water and Sanitation Department and

Revenue Department etc. for over all development of the community with focusing the Gram Sabha. Here the Gram Sabha taking all decision for implementation of different projects in convergence mode.

Both male and female of the village above 18 years participating equally in decision making process. The Gram Sabhadecides different responsibility differently to meet their crisis with non-violence way/method.

The forest dwellers are protecting forest through their traditional process.

All women in the village (of all ages and classes) are members. The President of the Mahila Mandal is chosen at every meeting for that meeting. Often the GS meetings also work as MM meetings. Forest related activities carried out by the MM are:

- Regular monitoring of the forests;
- Punishing those who breach forest protection rules.

Methodological Approach

The village people follow the simple method to address the initial issues, the both peoples from different hamlet called a general meeting where they discussed to issues on drinking water. As the community people are well known about their resources they prepared map for locate the recourses with reference by the aged people. The villagers have also constituted the Van Surakhaya Samiti (VSS) or Forest Protection Committee comprising the gram sabha and some forest officials. The village committee frames rules and regulations for the use and protection of forest,

They have also formed Mahila Mandal which mainly deals with saving schemes and improving the status of women in the village. This Mahila Mandalis also responsible for the implementation of liquor prohibition and any other responsibility that the Gram Sabhamay entrust it with. The villagers draw up their own schemes and seek government help only in their implementation.

Participatory process:

- Establishing fair and just management systems for the forests around the village, which are legally under the jurisdiction of the state govt.
- Resolving conflicts with neighbors not keen to follow the established rules, through continuous dialogues.
- Ensuring year round livelihood options for themselves

All decisions are unanimously taken by the Gram sabha. All outside agencies (Govt., independent Researcher, and NGOs) intending to carry out activities in the village has to seek permission of the Gram sabha.

All domestic requirements of the village would be met from the surrounding forests without paying any fee to the government or bribes to the local staff.

- Approval of a set of rules for sustainable extraction.
- No outsider, including governmental, would be allowed to carry out any forest use activities without the permission of the gram sabha. If someone was caught doing so, the material would be seized by the village and the offender would have to accept any punishment decided by the village.
- No commercial exploitation of the forests, except for NTFP, would be allowed.
- The villagers would regularly patrol the forest.
- The villagers would regulate the amount of resources they could extract and the times during which they could extract resources from the forests.

The male as well as female plays equal opportunity and status to perform all types of activities both in community side work or domestic work. The Gond tribes beliefs women are the creation of all, so they

has a separate place for women in their assembly. At community level decision practice for forest related or community related they give emphasis the women equal to men.

Previously the women were not coming forward to have any discussion regarding the community level issue or any domestic issues, but after framed the Self-Governance system, the women plays imperative role in overall development of the community.

As the mahila mandal is doing different activities (on income generating activities)for self-reliance. The women group or mahila mandal (MM) following such activities like, collection of NTFP and processing of raw, Agricultural work, vegetable cultivation and Tol oil processing unit. The women are also giving same effort to forest protection and management like water and soil conservation, bamboo plantation and management, a forestation plantation work and many more.

Validation:

During the discussion with the community people or targeted group it found that and the beneficiaries conform that the practice addresses the needs properly, because during the process of identification of issues no any external agency or any department impose them to do as per their instruction, rather the village people taken all decision and identify their issues through gram Sabha with active participation of all level of stakeholders.

Over the discussion it find that, the Gram sabha is also playing role of implementing agency supported by different government department, no outside agency or brokers are coming to implement the project, The thought of the community people and gram sabha is exclusive, because they never goes outside of their village for work purpose and the community people belief in exchange method of good as per their require.

Yes, the stakeholders or users validated the practice,



as per over discussion with the community people governing their village by Gram Sabha where all community stake holder men, women, child and adult (above 18 years of age) are participating and taking learning full decision for over all development of the community, the gram sabha monitoring all developmental activities for achieve their community goal. Before the implementation Govt schemes the respective department provide fund to the Gram Sabha as an implementing agency, other than Gram sabha the other CBOs are also involving in the process of execution of project. The community people are taking ownership for sustainable management of their recourses. The gram sabha completely monitor and supervise the work undertaken by government.

Impact

There is no negative impact of the good practice.

- Food: There is substantial dependence on the forest for food, including honey, roots, fruits,

mushrooms, bamboo shoots, fresh leaves, and hunting for wild meat.

- Under the JFM agreement with the forest department, the villagers have the first right to any daily wage employment for forestry works in the surrounding forests. These activities include bamboo extraction and plantation of forest species.
- Non-violent honey extraction and specialized marketing.
- Timber and bamboo: For household needs, collected from the surrounding forests as usufruct rights. Bamboo is a vital material in the villagers' lives.
- Fodder for livestock: Each family owns about 5-6 heads of livestock on an average. Rearing of livestock is for consumption only. Cattle depend entirely on the forests for fodder. Cattle dung,

as manure for the fields, is an important added incentive to maintain livestock.

- NTFP: Collection for domestic consumption and for sale. Food and commodities are sourced from various species' flowers, fruits and leaves.
- The major achievement is previously they were cultivating only paddy but after his water structure and available of water facilities they able to cultivate twice Rabi and Kharif, the percentage of productivity has been increased two times as comparison to before.

The forest dweller of the village getting throughout year livelihood activities from their forest and agricultural production. The male members of the community are also getting work under MGNREGs. The community people improving their social relationship and exposures, basically the women are getting a big scope to show their performance. The standard of living of the community people is hiked as comparison to previous years.

The women were most venerable to access the water, they easily able to collect the water for their domestic purpose, whereas the men or the farmers able to use the water for agricultural purpose, in the initial stage they unable to cultivate, but after this renovation of pond its helps to extend their income through additional crop and vegetable cultivation. In this case both men and women got employment in their agricultural field.

Environmentally:

Soil and water conservation programmes:

- In the last four years the villagers have taken up a number of soil and water conservation programmes, including building an earthen dam to retain water for longer periods. This has been especially critical in summers when water is a scarce commodity;
- The decision not to set fires in the forests and to

the extent possible help in fire extinction.

- A vigilant watch is now kept in the forests against illegal activities.
- The forests are protected from commercial activities like extraction of bamboo by the paper mill.
- Imparting to the government the value of bio-diverse forests. Through the JFM scheme, the villagers have been able to impress upon the forest department their preference for a more diverse forest in contrast to government-preferred forests dominated by commercially valuable species.

Social Improvement:

They sit with them and converse with them on equal terms and often in their language.

- Inclusion in decision-making processes.
- Established a reliable reputation as effective partners in development and forest protection.
- Established informal yet strong institutional bodies. The village has initiated a democratic and transparent process of informed decision-making and implementation, which creates clarity in understanding and collaboration in community effort.
- Equity: They have created almost equal participation of all villagers in the process of decision-making, including women and the poor;
- Managed financial transactions with confidence: The GS has its own bank account and manages it well.
- Strengthened livelihood security: The Gram Sabha tries to ensure basic economic security to all villagers through access to forest resources or other employment opportunities, including forest based industry like honey and other NTFP collection.

- Strengthened inter-departmental coordination and cooperation among various government agencies: Villagers have achieved inter-agency coordination and cooperation among all line agencies functional in their area.

Innovation and Success Factors

Simple discussion with each and every one of the village or stake holder and preparation of micro level plan by the village without supported by any external agency or NGOs with proper identification of forest recourses, water reserve body, forest plantation and conservation. The village level decision making process helps the community people to take more and more initiate for employment and livelihood.

Only self /village governance system with strong determination and involvement of each and every one of the community in decision making process helps for good practice to be successfully replicated. Other thing is that, before implementation of project at village level the community must take suggestion and ideas from the aged expertise person of the community. The community level institution must play the role strongly without any discrimination and fillings.

Sustainability:

Institutional: the gram Sabha is the main and primary institution at village level to take all kinds decision and solving process. The gram Sabha helps to develop the other institutional growth for better community life.

Social: The community people socially improved after regular interaction of different secondary stake holder and service provider, through the gram Sabha and mahilamandal the male and female get exposure to learn about outside of their society. The women were filling free to talk with government officials, business men, bankers and different stake holders.

Economic: the community people get involved in the different types of work for livelihood, due to intervention of work by forest department and other MGNREGS they got series of work in their village and localities like plantation, NTFP collection, etc.

Environment: In the initial stage the situation of forest was very most horrible, the community people taken initiates with decision by gram Sabha. Now the forest area is reach as comparison to before, which helps reduce the soil erosion. The traditional water bodies recharge and getting water each season.





7.2 Community Forest Right-Livelihood, Mendha, Gadchiroli, Nagpur

Introduction

The village Mendha Lekha is a small village having approximately 100 households and total population of 500 in the Gadchiroli district of Maharashtra, situated approximately at a distance of 30 km from the district headquarters. The resident population consists of Gond tribals who are primarily derive their livelihood from agriculture. Traditionally, the tribal farmers do paddy-cultivation, cattle-rearing, and collection of minor forest produces from the nearby forest. All the forest dwelling ST community depend upon forest and agriculture for their livelihood purpose. Forest has been the primary and most important source to meet their needs like food, medicine, materials for construction of houses etc.

Realising the importance of the forest for their

State	:	Maharashtra
District	:	Gadchiroli
ITDA Area	:	Gadchiroli
Block	:	Gadchiroli
GP	:	Lekha
Village	:	Mendha
Activity	:	Community Forest Right

livelihood, the people of the village started forest protection since years. But in the year 1992, the village was taken up as a part of JFM scheme and Van Surakshya Samiti (VSS) was formed in the village taking selected tribal members. In the year 2009, Mendha Lekha became one of the first few villages in the country to claim and receive CFRs under the FRA. The residents successfully claimed CFR over 1800 Ha of forest land.

Although, the right to harvest MFP were successfully claimed by the villagers, the right to protect and conserve their community forest area (section 3(1) (i)) was only granted to the village in 2010. Still, the villagers were not allowed to sell bamboo they harvested since they did not have transit passes. Finally, in the year 2011, after the villagers, NGOs and activists appealed to the sub-district level committee (SDLC) and the district level committee (DLC) transit passes were issued to the gram sabha. The villagers formed other two organisations as the community organization, that are involved in the overall administration and management of forest resources, viz. MahilaMandal, and AbhyasGat along with Gram Sabha.

Under the FRA rules, the Gram Sabha has to be constituted at the village level or Gram Sabha is the one of the grassroots assembly to take decisions only on FRA at community level. This assembly is relatively different from a regular Gram Sabha which is constituted at the Gram Panchayat level. The Gram Sabha constituted under FRA, typically deal with the issue of forest rights and access of forest resource and forest management. IN this case, the village is having its own Gram Sabha at the village (not by Gram Panchayat) level since 1980s. The Gram Sabha, can be called Village Sabha coordinates with the Lekha Gram Panchayat, in all matters of government funding and implementation of government projects.

The villagelevel Gram Sabha takes decisions by consensus and there is no majority vote system. Thisbody of the community is also registered as an NGO. As an NGO, it carries out various development activities such as soil and water conservation works and execution / monitoring of welfare programs. It is self-funded and operates on regular contributions made by the villagers and the revenue generated from MFP sales.

Objectives:

- To enhance & ensure the economic development and livelihood of Schedule Tribe community from forest and other forest produces (Bamboo

harvesting and forest management) through Gram Sabha under FRA.

- To ensure right to access the forest recourses (MFP), authenticity of individual forest right on encroach forest land and community Forest right for livelihood and other traditional practices under FRA.
- To provide other Govt. assistance for Income generating activities through Gram Sabha to improve their social, economic and political status
- Sustainable Harvesting of bamboo and other MFP for their livelihood and self-use as per the need.
- To improve the participation of women in Gram Sabha and decision making process and forest management.

Objective

- To improve the forest protection through community participation especially women and mainstreaming them/ decision making process.
- To improve the community participation and ensure Individual and community right to access the forest recourses for livelihood and their traditional practices/habit under FRA-2006 through Gram Sabha

MahilaMandal is an organization, comprises of all the women in the village. They are in charge of regular monitoring of the forests and for punishing those who breach the established rules of forest protection. The forest protection rules have been formulated by the Gram Sabha itself. It includes clauses such as disallowing any commercial exploitation of the forest resources except MFPs, restrictions on fire-wood collection, monitoring forest fires, and keeping outsiders out of their community forest.

Abhyas gat, was formed for capacity building through collective gathering, and sharing of knowledge. The

meetings are usually informal, open to all, and involve dialogue and discussion. The topics of study range from forest conservation and biodiversity, to law and governance. As a logical extension of this institution, the residents are also receiving training on the use of GPS units, resource mapping, conducting tree censuses, and other forest resource management techniques.

In the late 1970s the Government of India proposed an ambitious hydroelectric project in the adjoining state of Madhya Pradesh. For the poor tribal of the region, the project not only meant displacement from their traditional homes and possible social disruption but also destruction of large stretches of forests on which their livelihood and culture heavily depended. It was also claimed that the majority of the benefits to be derived from the power generated would go to industry and other elite sectors of society. This awareness led to a strong tribal opposition to the project. In 1985, after prolonged and determined tribal resistance, the government shelved the project. The anti-dam struggle emphasized and strengthened the determination of the tribal people to take decisions at local level for activities directly affecting their lives. It gave rise to a strong movement towards self-rule in the region, based on the revival of tribal cultural identity and greater control over land and resources. Mendha was one of the villages where this process gained force. Upon their return to Mendha, individuals who had been engaged in the anti-dam movement continued to advocate for greater village self-rule and collective responsibility. Discussions ensued over a period of 4-5 years centered on key village issues such as creating equal status for women, reducing alcoholism, creating greater personal responsibility, and establishing means to protect and regulate the use of the surrounding forests.

Risk Reduction and crisis management for resilience and vulnerability reduction.

Through the Gram Sabha, the community people able to reduce their vulnerability and resolving issues which have been affecting their life as well as health of the forest. No outsider, broker or saw mill

owner is allowed in to the forest areas for collection of precious wood or bamboo. The community people also cannot collect timbers from the forest without prior information or notice to the Gram Sabha. All community people are collectively responsible to save forest, protect the forest from fire, preventing cutting of woods for business, protecting wild life and maintaining biodiversity. The tribal forest dwellers collect the forest product and other necessity items as per their need for domestic use and never for business. The villagers able to save their forest/biodiversity, and livelihood through collective decision making at the Gram Sabha level and other community level institutions like Mahila Mandal, Farmers Group and Gothul. They able to protect their tribal culture, tradition and custom from outside interference. They are following the traditional process to conserve forest and its management and also prepare their forest work plan, and according to that the department of forest, Govt. of Maharashtra approve that forest plan and implementing that.

Institutional Frame

At the village level, Gram sabha of Mendha village is the prime governing and decision making body. The villagers always follow the decision taken by the Gram sabha. Along with Gram Sabha, the other community institutions are functioning effectively like Mahila Mandal, Gothul, Farmers group and Youth Club for the overall development of tribals of the village.

The local NGOs played vital role to generate awareness and sensitise people on FRA and other development schemes. PRAYAS, an NGO supported the villagers in developing their skill and knowledge base on GPS mapping, biodiversity mapping and imparted training on forest management. The NGO and the forest department officials also provide training on sustainable harvesting of bamboo and MFPs. Along with this, the Taluk/Block administration and District administration also provide support to the community for effective implementation of different schemes / programs.

The Forest Department of Govt. of Maharashtra and Tribal Development Department are the pioneering agency to conduct all programs and initiatives for the forest dwellers. While the Forest Department is an implementing agency, required financial support is rendered by Tribal Development Department.

Participation

Both male and female of the village above 18 years participate in decision making process. The Gram Sabha assigns different responsibility to community organisations differently. The Mahila Mandal (MM) has been actively associated in the process. The President of the MM is chosen at every meeting to serve the purpose of that meeting where forest related activities carried out by the MM are discussed. The MM members regularly keep watch of the forest and punish those who breach forest protection rules.

The male as well as female plays different roles to perform all types of activities, both in community life and in domestic front. The Gond tribe believes women are the creator of all, so they have a separate place for women in their assembly. At community level, decisions on forest or community related matters are taken in a participatory manner by both male and female.

As the Mahila Mandal has formed, now they are involved in different activities, including income generating activities for self-reliance. The women group or Mahila Mandal (MM) following such activities like, preparation of Chhatua, distribution of PDS, implementing new technology base agricultural work, Tol oil processing unit, Chiranji seeds processing unit etc. The women are also giving their effort in forest protection and its management bamboo plantation and its management, other plantation work etc.

In the early 1980s, the villagers started movement towards self-rule. Production, sale and consumption of liquor was banned and equal status for women and revival of traditional village institutions were emphasized. Through protracted struggle against

unnecessary government interference and assiduous efforts, Mendha (Lekha) has been able to attain self-governance in terms of primary education, forest protection, etc. The movement for "Self-rule" in Mendha (Lekha) was initiated by Mohan Haribhai Hiralal, a prominent activist of the jungle Bacho, Manav Bachao Andolan and Shree Devaji Topha, the then Sarapanch (village Head). They realized the importance of information and transparency in their moment towards "self-rule". They gave the slogan: "Delhi Mumbai Amche Sarkar, Amchya Gawat Amhich Sarkar" (our representatives are the government in Delhi and Bombay and we are the government in our village).

In the process, the villagers constituted the Van Surakhaya Samiti (VSS) or Forest Protection Committee comprising the Gram Sabha and some forest officials. The VSS framed rules and regulations for the use and protection of the forest, punishment for violators and grand permission to outside agencies to carry out their activities in the forest.

They also formed Mahila Mandal which mainly deals with saving schemes and improving the status of women in the village. This Mahila Mandal is also responsible for the implementation of liquor prohibition and any other responsibility that the Gram Sabha may entrust it them. With the help of outside agencies, the villagers also formed "Adhyan Mandal or Gothul" (study circles) which act as informal forum for discussion on various issues ranging from immediate village problems to forest and wild life/ biodiversity conservation. The study circle are informal groups which assemble whenever need arises and help the Gram Sabha and the VSS in the process of informed decision making.

Thus, Mendha (Lekha) has succeeded in many activities taken up by them. Today the villagers have unhindered access to the forest, subject to adherence to certain regulations and permission of the Gram Sabha. The villagers also prepare their own plan for the development of the tribal families and ask support for

their implementation.

Case of Success

The villagers decided to dig three community wells for which the government provides funds/grant. The village charges a fee for all outside and commercial activities allowed inside the village by the Gram Sabha and the funds raised in this way go into a village account. The village fund is used for carrying out developmental activities in the village and for providing loans to needy people. The village has also built up a well-stocked granary which provides food security to the tribal families.

In the year 2011-12, the villagers of Mendha asked for tender for bamboo procurement and application forms were sold to interested parties / bidders at INR 2000 each. This is to ensure that only parties who are genuinely interested in buying the bamboo submit a bid. Parties who submit a bid have to abide by certain terms and conditions regarding harvesting the bamboo. The most important one being that the villagers will themselves extract bamboo and bring it to a pre-decided collection point. The buyer is not allowed to enter the forest. The villagers have formulated the tender document (and terms and conditions) with the help of GRAM SABHA & activists Mohan Hirabhai Hiralal and Subodh Kulkarni. In the bidding process, the Gram Sabha rejected the highest bidder, because the bidder was not willing to follow the terms and conditions related to harvesting the bamboo. Through this tender / bidding process, the village managed to get a record rate of INR 8100 per MT; the highest rate and the forest Dept. received INR 3300 per MT.

Over the discussion, it is also experienced that, the Gram Sabha is playing the role of implementing agency supported by different government department. No outside agency is coming to implement the project. Very recently the Gram Sabha implemented the project on SWACH BHARAT MISSION and constructed around 80 toilets and bath rooms for all the households with the same amount (Rs.12000.00) given by the Govt. In this work, the Gram Sabha ensured quality construction as

well as they provided 6 month of employment to the village youth. Out of the total budget of construction, the Gram Sabha able to save a good amount of money in their village account. They also constructed a community toilet for those households who have very less amount of homestead land to construct individual toilet near to their home.

The process was started before during 1975-80 when the Govt. of Madhya Pradesh start to execute a hydro power project in Gadchiroli District. The tribal communities raised their voice against the project and got success after a long non-violence fighting with Govt. At last, the Govt. withdrew the project. Since that time, the community has been strengthening its self-governing system.

An important lesson that could be learnt from Mendha is the concept of study circles/Gothul. The villagers strongly believe that decision making powers can only be effective if the mechanism to make informed decisions are in place. Regular informal discussions are therefore a way of life in the village. As the youth now prepare to take on the work from their elders the same concept of abhayas (continuous learning) has been ingrained in them

Success Factors

1. Establishing fair and just management systems for the forests around the village, which are legally under the jurisdiction of the state govt.
2. Resolving conflicts with neighbors not keen to follow the established rules, through continuous dialogues.
3. Ensuring year-round livelihood options for the villagers
4. All decisions are unanimously taken by the Gram Sabha. All outside agencies (Govt., independent Researcher, and NGOs) intending to carry out activities in the village, has to seek permission from the Gram Sabha.
5. All domestic requirements of the village is met



from the surrounding forests without paying any fee to the government or bribes to the local staff.

6. Approval of a set of rules for sustainable extraction.
7. No outsider, including government officials, would be allowed to carry out any forest use activities without the permission of the Gram Sabha. If someone was caught doing so, the material would be seized by the village and the offender would have to accept any punishment decided by the village.
8. No commercial exploitation of the forests, except for NTFP, would be allowed.
9. The villagers regularly patrol the forest;

10. The villagers regulate the amount of resources they want to extract and the time during which they could extract resources from the forests.

Impact

During discussion with the villagers, including the village head Shree DebajiTophia and other community members, it is experienced that there has been no interference in their development and governance process by any outside agency. Always the primary stakeholders/ the user group invite the Gram sabha when they fill or need to discuss about the issue and the Gram Sabha take final decision. The assembly may be call any time by the community to resolve any issue.

Beginning in the year 1994, the forest department designed a Forest Working Micro-plan for Mendha village. In spite of limited involvement of the villagers, the gram sabhadid discuss and accept joint bamboo extraction by the forest department and the villagers. The micro-plan has been in operation since 1997-1998, The following are the present-day forest based employment and livelihood opportunities for Mendha villagers:

- Food: There is substantial dependence on the forest for food, including honey, roots, fruits, mushrooms, bamboo shoots, fresh leaves, and hunting for wild meat.
- Under the JFM agreement with the forest department, the villagers have the first right to any daily wage employment for forestry works in the surrounding forests. These activities include bamboo extraction and plantation of forest species.
- Non-violent honey extraction and specialized marketing.
- Fuel wood: Permission from the VSS is required or each cartload. As per the village rules collection of only dry wood is allowed, with some exceptions for collecting green branches. Currently, biogas plants are being constructed in the village to reduce the dependence on firewood.
- Timber and bamboo: For household needs, collected from the surrounding forests as usufruct rights. Bamboo is a vital material in the villagers' lives.
- Fodder for livestock: Each family owns about 5-6 heads of livestock on an average. Rearing of livestock is for both consumption and sale. Cattle depend entirely on the forests for fodder. Cattle dung, as manure for the fields, is an important added incentive to maintain livestock.
- NTFP: Collection for domestic consumption and

for sale. Food and commodities are sourced from various species' flowers, fruits and leaves.

Environment Protection:

- In the last seven years, the villagers have taken up a number of soil and water conservation programmes, including building an earthen dam to retain water for longer periods. This has been especially critical in summers when water is a scarce commodity;
- The decision not to set fires in the forests and to the extent possible help in fire extinction.
- A vigilant watch is now kept in the forests against illegal activities.
- The forests are protected from commercial activities like extraction of bamboo by the paper mill.
- Imparting to the government the value of bio-diverse forests. Through the JFM scheme, the villagers have been able to impress upon the forest department their preference for a more diverse forest in contrast to government-preferred forests dominated by commercially valuable species.

Social Improvement

Increased empowerment by striving and achieving the capacity and confidence to assert their rights and reaching a stage where the village is respected even in official circles. Today all government and non-government people come to the village (if they need to), instead of calling the villagers to their offices. They sit with them and converse with them on equal terms and often in their language.

- Inclusion in decision-making processes.
- Established a reliable reputation as effective partners in development and forest protection. Through a non-violent strategy Mendha has established strong and good relationships with

many government officials, who in turn have helped them at many crucial points.

- Established informal yet strong institutional bodies. The village has initiated a democratic and transparent process of informed decision-making and implementation, which creates clarity in understanding and collaboration in community effort.
- Equity: They have created almost equal participation of all villagers in the process of decision-making, including women and the poor;
- Inspired others: The village effort has set an example for many surrounding villages, which have a lower economic status. Many villages have begun to work towards the same model of fostering self-reliance and a better quality of life.
- Managed financial transactions with confidence: The GS has its own bank account and manages it well.

- Strengthened livelihood security: The Gram Sabha tries to ensure basic economic security to all villagers through access to forest resources or other employment opportunities, including forest based industry like honey and other NTFP collection.
- Strengthened inter-departmental coordination and cooperation among various government agencies: Villagers have achieved inter-agency coordination and cooperation among all line agencies functional in their area.

For example, the Gram Sabha organizes joint meetings of representatives of all the government functionaries in the area with the villagers. These meetings facilitated a face-to-face dialogue among these agencies and resulted in a pooling together of otherwise segregated resources for certain developmental activities in the village.



7.3 Community Forest Right, Livelihood, Convergence, Ranmal, Deori ITDP, Gondiya District

Introduction

Dehuri is a small village with approximately 109 households and total population of about 500. Out of all, 94 households belong to ST community. The tribal population belongs to Gond tribe who are primarily dependent on agriculture and forest produce for their livelihood. Traditionally, they cultivate paddy, rear cattle and collect minor forest produce for their livelihood. As the village is surrounded by forest, collection of NTFP has been a way of life for these forest dwellers.

The villagers started forest protection since 1995 when they felt that the forest is depleting in their locality. The villagers also felt that gradually they are suffering from water scarcity due to degradation of forest and less production in their agriculture as well as forest produce. Due to decreasing rainfall, gradually the ground water level reduced and they started facing water scarcity in the month of May. So, all the community people, including women, started

State	:	Maharashtra,
District	:	Gondia
ITDA Area	:	Deori
Block	:	Deori
GP	:	Mispiri
Village	:	Ranmal
Activity	:	Forest Right

Objective

- To improve the livelihood security for the forest dwellers through community participation and convergence
- To improve the women participation and mainstreaming for decision making process.
- To improve the quality life of targeted people through community right and individual right under FRA-2006 through Gram Sabha

protecting the forest. Through the initiatives were collective, still they face a lot of challenges at the initial stage, including threatening from outsiders.

In the year 2010, the people of Dehuri village claimed their CFRs under the FRA. Initially their claim was rejected because they did not know the application procedure. After that again they applied to Sub Divisional level committee (SDLC) and District Level Committee (DLC) claiming their rights and their entitlement was honoured after verification. Although, the right to harvest MFP were successfully claimed by the villagers, the right to protect and conserve their community forest (section 3(1) (i)) was only granted to the villagers in 2010. The residents of Dhamtitola have set up VSS in the same year (2010). They generally call Gram Sabha on monthly basis or as per the need to solve their community issue with active participation of all adult members of the community.

Generally, they discussed at gram Sabha on community development initiative for overall development of the village, especially the women and the youth. After a long discussion among the villages, the village head man called for gram Sabha and discussed on scarcity of drinking water as well as lack of water for agricultural purpose. The gram Sabha finalized that they will give application to District collector to take initiative to solve these issues. As the community was already involved in the forest protection work, it helped them to get support of Forest Department. The community gave proposal to the Block Development Officer (taluka level) and the Forest Department to execute the program. The villagers took decision at the Gram Sabha and demanded renovation of the traditional pond which is locate near and middle of the village. All the people of the community depend on that pond for each and every purpose of their daily activity. Based on the demand of the villagers, the local administration took up the activity under MGNREGS and started the work.

After the renovation / de-siltation of the pond, people put the extracted soil on the road to develop the

earthen road for communication from pond to the village. Some amount of soil was also put for land development near to the village temple. The MGNREGS work helped the community people to get employment at their village. Even after the renovation of the pond, the villagers were still suffering from drinking water shortage and took decision in the Gram Sabha to set-up a solar pump with tube well. Due to increment in local forest cover, people observed increment in the ground water level in the locality. In the next year, the villagers got plenty of drinking water throughout the year, but problem was that there was only one tube well in the village which was functioning properly out of three tube well. Meeting requirement of all the villagers from one source was difficult. After the decision of the gram Sabha, they again proposed to setup another solar pump at their village. Now the whole villagers are getting plenty of drinking water throughout the year. They also did different activities for community development supported by local administration. In the year 2014-15, the community planted Bamboo in 10 Ha. of forest land and in the next year, i.e., in 2015-16 covered 20 Ha. with Bamboo plantation. The labour component for plantation was supported under MGNREGS. Now, people of two hamlets (Dhamtitola & Mangatola) of the village formed one village development committee and opened a joint bank account for financial transactions.

The another major issue of the village was migration, the youth and male members of the village usually going for out of district for search of job and livelihood. due to less production and less collection of NTFP they community people were not getting more options for their survival.

Participation and Inclusion

Women SHG/ Mahilamandal: is an organization composed of all the women of the village. In general the women were suffering to carry water for drinking purpose or sanitary purpose; they walk for a long time to carry water for their house, so the women of the community taken decision to set-up a solar pump with

tube well to easy access of water in their village. They are in charge of regular management of solar pump. The forest protection rules have been formulated by the gram sabha itself. The gram Sabha gives more priority to the women decision. It includes clauses such as disallowing any commercial exploitation of the forest resources except MFPs, restrictions on fire-wood collection, monitoring forest fires, and keeping outsiders out of their community forest.

Youth club: All the youth of both community always take part each and every developmental activities at community level with a good understanding, the youth mass follow-up each and every work without any pay. Apart from this they have also their Vanasarnkhyan samiti (VSS) which always give priority to growth of forest and protection. The meetings are usually informal, open to all, and involve dialogue and discussion. The topics of study range from forest conservation and biodiversity, to law and governance. As a logical extension of this institution, the residents are also receiving training on resource and social mapping, biodiversity mapping/tree censuses, and other forest resource management techniques. Generally they follow the traditional pattern of forest protection.

Vulnerability and Risk Reduction

- Through the Gram sabha the community people able to find out their key issues generally whole the community was suffering. All the peoples are vulnerable which was affecting their life as well as forest health. All community people are collectively responsible to save forest, (forest fire, plants cutting for business) wild life and biodiversity. The tribal people or forest dwellers collect the forest product and other necessity items as per their need for self use; they never go for business mood. After renovation of the pond the women were got opportunity to access water in their door steps. So that the women were able to save their time and engage in other works. The women were going for long distance for sanitary work, due to lack of water

the women were not using toilet.

- They are following the traditional process to forest conservation and management and developing their forest resources to minimize the issues what they are facing. As forest is the primary source to access their livelihood apart from agriculture production. After renovation of pond the farmers able to cultivate twice a year rabi and kharip with different vegetable cultivation, which providing another opportunity for their income generation.
- With the good convergence work for the first time the community people collect forest produces and sold in fair price to the local govt agency price fixed by forest department, although they got loss for the first time in the year 2013, the department initiate for linkages with Nagpur Baidyanath Company to purchase the NTFP from the tribal community. In this way also they got another opportunity for livelihood, like wise in the year 2014 and 2015 they sold the NTFP with a fair price, which help them for a good livelihood support.
- In the way they started collection of kendu leaf in the year 2013, the women were taken key interest to collect kendu leaf, so apart from their domestic work they got some employment in the month of april and may and june. In the year 2015 they sold sum of 1cr.8lakh from kendu leaf, where each HH get more then Rs.6000.00. they sold the kendu leaf to the Tribal Development Corporation (TDC). In the year 2015 the collector of concern district provided financial support to the village under Patha Darshi Project for development of NTFP processing unit to generate employment among the tribal women.

Institutional Frame

Institutions: Gram Sabha or village development committee and Mahilamandal or WSHG of Ranmal village taking decision along with the youth of the village participated actively for taking decision.

Here the gram sabha is taking over all responsibility of function the village governance and execute all developmental activities at village level. The village people also collecting Rs.10.00 from each house hold in each month to meet the maintenance part of the solar pump and tube well.

Partner Agency: Mega Power is providing technical support and managing the solar pump for installation and providing regular service as per need. The Gram Sabha and the community people are playing main role to meet their needs.

Implementing Agency: the Forest Department of Govt. Of Maharashtra and MoTA is the pioneer agency to conduct all programs and initiatives for the forest dwellers. These department support all the financial support and preparing strategy/ rules to implement the programs through state, district and taluka level. The gram sabha is implementing all developmental schemes at village level through the government. The government is also following the rules and regulation of Gram Sabha during implementation of the project.

Donor Agency: for successful implementation of all MoTA is providing financial support to the different state level departments i.e Forest Department (territorial and KL), Agriculture Department, Horticulture Dept, Education Dept, Health Dept, Animal & Husbandry, Water and sanitation Dept, and revenue department etc. for over all development of the community with focusing the Gram sabha. Here the Gram sabha taking all decision for implementation of different projects in convergence mode.

Both male and female of the village Ranmal above 18 years participating equally in decision making process. The gram sabha decides different responsibility differently to meet their crisis with non-violence way/ method.

The forest dwellers are protecting forest through their traditional process.

All women in the village (of all ages and classes) are members. The President of the MM is chosen at every

meeting for that meeting. Often the GS meetings also work as MM meetings. Forest related activities carried out by the MM are:

- Regular monitoring of the forests;
- Punishing those who breach forest protection rules.

Methodological Approach

The villagers follow the simple method to address the initial issues. People from different hamlets called a general meeting where they discussed the issues of drinking water. As the community was well aware of their resources at the local level, they prepared a map to locate the recourses, taking reference from the aged people. The villagers have also constituted the Van Surakhaya Samiti (VSS) or Forest Protection Committee, taking members from the village and including local forest officials. The VSS frames rules and regulations for the use and protection of forest.

They also formed Mahila Mandal which has been involved in thrift and credit activities. This Mahila Mandal is also involved in liquor prohibition drive and takes up other responsibility that are assigned by the Gram Sabha from time to time for the welfare of the village. The villagers plan for them, based on their needs and seek government support in rendering financial support.

Participatory process

The forest conservation process was initiated with the objective of establishing a fair and just management system for the forest resources around the village, which has been a major source of income for the forest dwellers. The process was made more inclusive and participatory to resolve conflicts with the neighbours who were not keen to follow the established rules. With required level of engagement and through continuous dialogues, they were also gradually motivated. Such approach helped to ensure year-round livelihood options for the people of the locality.

All decisions are unanimously taken in the Gram Sabha. As per the set norms, all outside agencies (Govt., independent Researcher, and NGOs) intending to carry out activities in the village has to seek permission of the Gram Sabha. However, all domestic requirements of the village is met from the surrounding forests without paying any fee to the government.

Key Operational Rules

1. *Approval of a set of rules for sustainable use of forest resources by the Gram Sabha;*
2. *No outsider, is allowed to carry out any forest based activities without the permission of the Gram Sabha. If someone was caught doing so, the material would be seized by the villagers and the offender would have to accept any punishment decided by the village;*
3. *No commercial exploitation of the forest, except NTFPs, is allowed;*
4. *Regularly patrol the forest by the community;*
5. *Generating resources from the forest through various means and utilizing these resources for the welfare of the villagers.*

Male as well as female play different role having equal opportunity. At community level decision making process, with regard to village welfare and forest related issues, they give equal emphasis to women. The Mahila Mandal, which has formed in the year 2011, is also involved in different activities (income generating activities) for self-reliance. The women are also giving equal effort for the protection of forest and its management.

Impact

Discussion with community revealed that the CFR under FRA has been beneficial to the people of the village with regard to not only restoration of their livelihood but also to ensure the restoration of local environment and forest resources. People also admired the role of Gram Sabha and its participation and decision making process which has been attributed to the welfare of

the villagers. There is no such imposition of work by any external agency or any department to protect the natural resources.

- Food: There is substantial dependence on the forest for food, including honey, roots, fruits, mushrooms, bamboo shoots, fresh leaves, and hunting for wild meat.
- Under the JFM agreement with the forest department, the villagers have the first right to any daily wage employment for forestry works in the surrounding forests. These activities include bamboo extraction and plantation of forest species.
- Non-violent honey extraction and specialized marketing.
- Timber and bamboo: For household needs, collected from the surrounding forests as usufruct rights. Bamboo is a vital material in the villagers' lives.
- Fodder for livestock: Each family owns about 5-6 heads of livestock on an average. Rearing of livestock is for both consumption only. Cattle depend entirely on the forests for fodder. Cattle dung, as manure for the fields, is an important added incentive to maintain livestock.
- NTFP: Collection for domestic consumption and for sale. Food and commodities are sourced from various species' flowers, fruits and leaves.
- The major achievement is previously they were cultivating only paddy but after his water structure and available of water facilities they able to cultivate twice rabi and kharip, the percentage of produceivity has been increased two times as comparison to before.

Environmental:

- In the last seven years, the villagers have taken up soil and water conservation measures, including building an earthen dam to retain

water for longer periods. This has been especially critical in summer when water becomes a scarce commodity;

- Decision is made to protect forest from fire, not to set fire in the forests and to the extent possible help in fire extinguishing;
- Vigilant watch is now keeping the forest safe from illegal activities and hence plant density is increasing;
- The forests are protected from commercial activities like extraction of bamboo by the paper mill, which helps the plants to grow.
- Imparting to the government the value of bio-diverse forests. Through the JFM scheme, the villagers have been able to impress upon the forest department their preference for a more diverse forest in contrast to government-preferred forests dominated by commercially valuable species.

Social and Economic:

- Inclusion in decision-making processes and deriving benefits from the resource base of the forest;
- Established a reliable reputation as effective partners in development and forest protection.
- Established informal yet strong institutional bodies. The village has initiated a democratic and transparent process of informed decision-making and implementation, which creates clarity in understanding and collaboration in community effort.
- Financial Transparency: The GS has its own bank account for making financial transactions which is also shared with the community for their knowledge;
- Strengthened livelihood security: The Gram Sabha tries to ensure basic economic security to all villagers through access to forest resources

or other employment opportunities, including forest based honey and other NTFP collection.

Sustainability Factors:

The gram Sabha is the primary institution at village level to take all kinds decision and solving issues. The Gram Sabha helps to develop other community institutions to grow and function for improving the living condition of the people in the village.

The villagers get involved in different types of work for livelihood due to intervention of works by forest department and other activities taken up under MGNREGS. The villagers having permission from forest K.L department to collect Kendu leaf and tied up with Pvt. Bidi company to sell the Kendu leaf. In last three years, each household could able to earn around Rs.5000. to Rs.6000.00 from Kendu Leaf and other forest produce collection. The villagers are also collecting forest produces and selling to the Pvt. Company which has done MOU with Gram Sabha.

In the initial stage, the forest resource of the village was decreasing. The community took initiative by their own with the decision of Gram Sabha to take care of the forest ensuring rehabilitation and restoration of forest. Now the green cover in the forest has increased substantially and have been helpful in restoring the ecosystem services.

Replicability

Only self-governance system with strong determination and involvement of each and every one of the community in decision making process can help in successful replication of this sorts of practices. While collaboration with different Departments and agencies can help in achieving the objectives, but it is important that the community should have the required determination. Another aspect, what this case presents is the importance of the senior persons / aged persons in helping the younger ones in resource management and its utilisation process. The role of the community level institutions also remains vital along with the Gram Sabha.



7.4 Individual Forest Right, Horticulture, Awtede, Nashik

Introduction

Shankarlano Gabit a tribal person age about 55 (4 class pass) is permanent resident of Awtede village of Dhindori taluka of Nashik district. He is staying with his wife, one son Ganesh Shankar Gabit and daughter in law. He is a very gentle and laborious person, who shows his potential in his encroach forest land (Encroached since 20 Years), which is out of imagination without support of any external agency or government agency. He created an example for other community people that anyone can get achievement through putting his full effort and concentration. Mr.shankarlano Gabit and his Son Ganesh along with other family members gave complete effort to develop Farm based activities in Horticulture with using new technology for a better life.

Objective

- The tribal community/population is residing since long years ago and they were cultivating

Name	:	Shankarlano Gabit
State	:	Maharashtra,
District	:	Nashik
ITDA Area	:	Nashik
Block	:	Dhindori
GP	:	Wani
Village	:	Awtede
Activity	:	Individual Forest Right

by encroaching the forest land/ areas since long. They got their entitlement (Individual Forest Right) in the year 2014 after 7/8 years of implementation the FRA-2006 (But till date Patta is not received)

- Before since last 20 years he encroached 4 ha. of forest land and cultivating only wheat, paddy, true and some vegetable (Onion & Tomato) items, which was not economically viable for him. Because there are no facilities of irrigation during scarcity of water, due to no land record,



so each year they are suffering loss of crop and food scarcity. They are also not getting enough work/ employment days after the cultivation of their crop, some time they go for other wage work nearby the village or nearby areas. They were getting 80-90 days of employment in a year.

- The taluk is dominated by the tribal population and many of HH are marginal farmers and lend less. Due to lack of opportunity of work and less scope of work in their village most of the youths/ male members are migrated out of dist in search of job/work.

They applied for individual land entitlement under FRA several times at different levels (District Level Committee and Sub Divisional Level Committee) of Govt. Departments to get the certification or entitlement over their encroach forest land which was cultivating since along years back. But very recently he got his entitled from the forest department, Government of Maharashtra.

To get his entitled he provides all testimonials and necessary document during joint verification by forest department and revenue department.

The beneficiaries applied through Gram Sabha as well as SDLC level and fight to get it. He follows all the rules and guideline to get his entitle for a secured livelihood opportunity. It takes around 3 to 4 years of period to get this entitlement. The community people are not aware and not sufficient knowledge on FRA, so the primary stake holder unable to apply for their ownership of encroach land earlier or after immediate implementation of FRA-2006.

Period of implementation: 2014-15 and 2015-16 financial year

- He had no own land & encroached 4 ha. Of forest land, where he cannot able to do long term agricultural practices, due to fear of Forest Department.



- He only cultivate wheat, paddy, Onion and tur in Rainy Season only due to lack of Irrigation facility. Another major challenge is that the encroached land is not in a condition to keep water (up land type) and he was financially not sound to invest for land trashing or land development for better cultivation in kharif season. Both male and female were doing agricultural work during their kharif production from planting to cultivation. He was unable to engage he labourers for this activities.
 - With having numbers of above discussed challenges the beneficiaries taken decision to prepared plan to do horticulture based farm. This farm based activities initiated through his own effort and financial support. He started with a small part (3 to 3.5 acres) of his total land in pilot basis and planted Grapes & Tomato in the year 2014-15, he invest around Rs. 2 lakh during plantation including labour charges, finishing of boundary, plants, and other rearing expenditure. Both the male and female members were engaged in land development and preparation work and planted. They got their employability in their own field for whole years. After that he started another plantation plant for Buro (2.5 acres), Anaar (Dalimba- area of 3 acre approx), Mango & Bamboo planted on Boundary, Tamato in 1.5 acres and cultivated wheat in 2.5 acres of areas. From observation the team learn that, the beneficiaries used all new mechanism and technology for production. He is producing tomato intercropping with Graphs plantation.
 - The most important part he did not received any financial support or other technical support from the government, whatever he has done all the expenditure from his own. Mr. Sankar and his son learning all the technical part from their local farmers and market. Still they had not touch with any subject matter specialist to make good horticulture activities.
- After taking initiative by his own he is cultivating different crops like vegetables, wheat, graphs, Mango, Anaar (Dalimb), Buro (Barakoli) etc to improve their economic status and getting full time jobs. Previously the beneficiaries were unable to keep food grain what they cultivating due to low production and suffering around 4-5 months food scarcity through the year.

Both the male and female members of their family putting labour in their farm based work. The beneficiaries now getting full time job and ensuring for sustainable livelihood opportunity with dignity full life in his society.

Address:

- After started the farm activities since 2014 and when he got the authentication of his encroach land he is putting their effort and motivated to work with new technique and adopt double and mixed crop with using new equipment or machinery like Mini tractor with sprayer, sprinkler, pesticide sprayer, new variety seeds and many more.
- At present he is getting involve in own farm field and getting more then 300 days of employment/ engagement, all the beneficiaries including their other family members working on their agricultural field and getting full time job. In another hand now the male/youth of his family are not going out of their village or district for search of job.
- After getting the Land Right the beneficiary is interested to Investing own money for more production

Stakeholders and Partners

The schedule tribe community households are the targeted group of the good practice. Basically those ST population who were cultivating the encroach forest land since a long and able to show the evidence/proof of encroachment before 2005, during then verification by the department, also there was other norms and criteria under FRA-2006 to get all facilities by the other different department for convergence work.

MoTA: Have Preparing different developmental activities and providing funds to the state level Department of Tribal for development of ST community under constitutional provision. MoTA is the higher authority to monitor and implement the programs for

livelihood and other activities for better life.

Tribal Department, Govt of Maharashtra: The respective department receive the fund from MoTA and implementing the scheme as well as providing fund to other departments like Forest Department, Agriculture, horticulture, animal husbandry and other line departments. The state level respective department initiate the program for effective implementation.

Forest Department, Govt of Maharashtra: the forest dept, also receiving budget from tribal development department, the department also implementing their program as per their plan and providing require support to the beneficiaries. The department collect beneficiaries details from the tehesil/ taluka to shortlist the target group, then the department collect evidence from different sources and go for joint verification to allocate the encroach forest land. After proving all the testimonials the Forest department refer the details of beneficiaries to service providing agency or department.

But here the beneficiary proof that without the support of any other agency if someone have ownership of land or authentication of agricultural land, he may also do the farm activities or agricultural activities with his own effort and interest.

The village is covered with more Forest Land & less individual agriculture land. So mostly people are depending on other sources of livelihood. The beneficiary or community people were not getting full time job at their village or nearby village, so in general the male members are goes for out of dist to search a job and livelihood, generally the main source of livelihood of tribal is agriculture productivity and collection of forest produces for self consumption. The tribal people follows traditional method and seeds to cultivate agricultural product for production. The another sides is lack of irrigation facility to save the crop. Normally the tribal cultivating once a year in Kharif season, and both the male and female are participating in this cultivation process. Basically the male members has more responsibility in there

agricultural work, they cultivate paddy, tur, wheat, millets and some vegetable items only. Whatever they produce that is not sufficient for whole year to feed their families.

The male members were generally working hard labour/work like ploughing the field, digging of soil and fillings etc, but the women were engaged with other work like weeding, caring of domestic animals including their domestic work. As comparison to men the female are doing major part of the indoor work as well as outdoor work without any pay. But after cultivation of their crop the female are also not getting any opportunity of work, in subsequence the family suffer financial and food crisis rest of the days of the year.

After harvesting of crop the male were working with road construction work nearby villages by MGNREGA which was not sufficient for male labourers during their lean period, for which the women/female worker unable to get the wage employment, so they are losing their opportunity for job. The women/female were looking only domestic work and not getting other options for earning like the male and suffering to manage their daily needs for them and their children, so they were unable to provide nutritious food to their

children. As per discussion the female were getting very limited time period 50-60 days of work in their agricultural field or near the surrounding apart from domestic work.

Present scenario:

At present the targeted group (HH) are getting throughout year of work at their agricultural field as they are producing numbers of different crop in a year on off farm based activities, so the male members as well as the female are also getting same working opportunity to work with objective to improve their economic standard and getting employability. The female were engaged with different works like, weeding, panting, seed processing, collection of cultivation product and vegetables. The beneficiaries never go for daily wages instead that all the family members both male and female working equally for all days, so they able to save extra charges/payment for labours, and getting full employability, the female were also going for sell the product to the nearest market or mandi. The women are also dealing with market dealers which were doing only male persons earlier. The female are also now expertise to use different agricultural technical part, the women are also involving with cooperative (SHG) activities, management and coming



forward to sort out their problems. Now a female worker spending 5-6 hours per day in agriculture work out of their domestic responsibility. The male workers get throughout the year employment in their village and able to access nutritious food for their family and economically sufficiency to meet their necessity need. Even the aged person of their family members also got engagement in their agricultural work like watch and security, they also providing knowledge on traditional pattern of cultivation as well as crop conservation system.

Methodological Approach

The community people says at the time of interaction that, the community people organized GRAM SABHA at village level by the Gram Panchayat to apply for individual forest right (form-A) to get authentication of encroach forest land under FRA -2006. In Gram Sabha all the community people (all adult of age 18 years) both male and female participated. The Gram Sabha shortlist the name of eligible beneficiaries as per the guideline of FRA and send to SDLC. Then after joint verification of Forest, Revenue & Tribal Development Department, the claims are settled.

Participatory process:

The community people both male and female participate in the gram sabha when they applied for

their individual right and selection process at Taluka level to justify them as a real land holder since a long. After shortlist the beneficiaries the department also involve them in verification process of encroach forest land.

The women of beneficiaries also giving effort to better production from their field and taking responsibility to monitor their crops each and every day after their domestic work, the women also harvesting the crop

The beneficiary still did not received any kind of additional support from other departments other than entitle of his encroach forest land.

The process has taken around three years (i.e 2014-16) of time to learn lesson and identify success factors. As the department the authentication of land that is the greater support by government. Without this support they could never plan for such a great initiative to create self employment and economic growth. After the implementation of project the beneficiaries get started their profit and got full employment in a year. After getting their ownership over their encroach forest land now the beneficiaries working at their field and producing different crop in a year for their sustainability livelihood.

- After getting their ownership on their land and when they start to implement the plan the male



as well as female persons of his family were motivated to involve in their agricultural farm work for full time.

Validation

The beneficiaries says during our visit that, the Tribal Development Department, Government of Maharashtra is taking good initiative to address the issues individual beneficiaries on Land right and other departments should also provide their assistance and better effort during implementation of project.

5 Farmers have got the land Right.

We had visited the Field of Mr. Shankar & other farmers nearby him & discussed with them about their Land right.

- Laxman Ranodhode
- Gangadharsanto Gangode

Impact:

The team observe and filled positive impact of this good practice on the beneficiary in life of both men and women.

The giant success is that, the beneficiary and other family members got full employment in their agricultural field which leads to improve their socio-economic standard and in another part which helps to reduce the percentage of migration. The women were also got major scope to work at field and got optimum exposure and employment at their door step out of their domestic work.

Level of income: Before they were getting 70-80 work at their village which unable to provide a good economic life, even they were not getting proper bucket of food for the full year, they were suffering for employment after cultivation of croup and 6 to 7 months of food insufficiency. But now all the family members of the beneficiaries are getting job. They also engage other labours from their village. As they are getting full employment in their own agricultural

field that helps to improve their level of income and standard of living. Previously they only wait for any construction work after their agricultural work and the income is 10000 to 12000 per year. They are selling the cultivated product in good price and the level of income has been improved.

Technical skill: Before implementation of project they were using traditional farming pattern but now they working with new technology in their farming system which reduce the manpower and getting more production. Now the beneficiaries using drip irrigation system which helps them to save the water. They are using sprayer for spray the pesticide.

Impact of Project differ from men and women:

All the family members are engaged in the day to day agricultural activity.

Yes, the beneficiaries livelihood been environmentally, financially improved;

Yes, the beneficiaries livelihood been environmentally, financially improved;

Previously they were cultivating in very less amount of forest land with fear & pressure in one season. They also cultivated the land through traditional practice which was low productivity and not sufficient to maintain their family life, sometimes they were taking loan or debt from near village people to full fill their minimum need for their family and there costume or rituals. They unable to provide minimum expenditure for education also. The beneficiaries are having their bank account to make online banking system with different wholesaler.

Now they are doing different crops over the years as water is available, previously they were depending only on rain water and now he himself create irrigation facilities of his own. Now the environment support them as they have all recourses and using positively. Now they are cultivating different items in their field.

The beneficiaries are financially sound after execution



of the project or support provided by the government. Each and every year they are doing expenditure in their agricultural field from their own savings and getting profit.

Innovation and Success Factors

Institutional: in this practice the different played vital role for effective implementation, from local governance or Gram sabha level to different departmental officers taken interest to implement this project sincerely. (If it could be provided earlier by (Gram sabha) before 2-3 years ago then we may perhaps get more profit and employability in our village, which may helps to reduce the venerability of poverty as well as employment.)

Support need:

- The department must provide other technical knowledge time for adoption of new mechanism.
- Good transport communication facilities
- Market rate fixed by government to get more profit in different products
- Crop insurance facilities by government and beneficiaries
- Other training like diary development, goatry or other off farm activities
- Preparation of baseline date of beneficiaries from grassroots level

- Take necessary action to finalize the pending cases of IFR under FRA, with proper procedure (identification of beneficiaries,

Economic: promote good market linkages

Social: regular meeting at pallisabha and gram sabha to address the issue of targeted group, the govt. Officials, Gram panchyat officer,

Environment: to encourage the targeted group for more production, award for farmers at different level, farmers learning and shearing exposure visit and mela

Constraints

Collection of encroach forest land users proof/evidence provided by Forest department, king/jamindar/ (evidence on users fee to govt.) to submit the revenue department during the joint verification of land.

During conduct of Gram sabha the women were not coming due to some social restriction, the male are always participating in the process.

The beneficiaries run several times to the department for getting the authenticity or patta.

The beneficiaries were uncertainty for their livelihood as well as home state land

Generate awareness the targeted groups and specially women about the FRA 2006 of the community.

After Several times request the Govt. Has given them land right, but they did not get patta till date.

Agriculture largely depends on Mansoon& irrigation facility, the department have provided only land right. The geographic condition of this area is 2-3 % Slope. Water taking capacity of this land is moderate. The beneficiary developed his land by own & created irrigation facility.

The Farmers prepared the Land & irrigation Facility by their own.

They acquire technical knowledge from other nearby advanced farmers & implement in their field and getting more economic benefit.

Sustainability

Institutional: First land right should be given within short period with minimum formalities. Capacity building program needed on new farm technology and mixed crop cultivation, linkages with bank and cooperative society for Financial benefit & market linkages. Linkages with animal husbandry deptt. for off-farm (rearing of cow and goat/ sheep helps to prepare manure to improve the level of fertility of the land)

Social: rapport with different govt. officials and service provider agency or technical support agency, generate awareness on different developmental programs

Economic: linkages with insurance company and bank support by beneficiaries and government.

Environment: plantation in forest land, construction of small water bodies to conserve water and soil erosion

Budget of individual beneficiaries:

Replicability and/or up-scaling

- Authenticity and ownership on their encroach forest land on FRA (IFR)
- Convergence with other Line department.
- Linkages with bank and other service provider agency
- Linkages with animal husbandry department for off-farm
- Capacity building training on new agricultural technology
- Linkages with District market regulation committee



Conclusion

- Forest Right Act is a good innovative of Govt. For the Sustainable livelihood in Forest area.
- In IFRA the individual Farmers are given Land right to Maximum of 2 ha. Of specific land, which help them for sustainable livelihood in agriculture sector.
- By FRA the forest degraded land are used properly & checks shifting cultivation tradition of Tribal people & saves forest land.

In FRA land belongs to Forest department, but Farmer get the right only for Agricultural purpose, by this economical development of a particular area occurs.



7.5 Individual Forest Right, Agriculture, Nagalbadi, Nashik

Introduction

The tribal community has been residing since long in the forest region and had been cultivating the encroached forest land for their livelihood. After going through the prescribed procedures for legalising the holding, they got their entitlement (IFR) in the year 2013 after 6/7 years of implementation the FRA, 2006. The Tribal Development Department initiated the process of development of individual beneficiaries in collaboration and convergence with different line departments. Before receiving the entitlement and external support under convergence mode, they were cultivating the land adopting traditional practices. As a result, they were getting low production which was not sufficient to meet the food requirement throughout the year. Agriculture in the locality, like many other parts of the State, was rain-fed and single season cropping was the primary source of income for these tribal families. Due to these problems, mostly youths were migrating out in search of employment. In

State	:	Maharashtra,
District	:	Nashik
ITDA Area	:	Nashik
Block	:	Nashik
GP / Village	:	Nagalbadi
Activity	:	Utilisation of IFR Land

such a situation, entitlement of land to the cultivator proved to be beneficial for the farmers to avail other facilities and services. This good practice is about how eight tribal farmers, who received their ROR, availed other benefits with the support of the Tribal Development Department of Govt. of Maharashtra to make agriculture more remunerative and improve farm sector employability. Apart from the ROR, they also received benefits like land development, dug well with motor pump set along with seeds and fertilizers through convergence of different existing schemes. This support service is extended to these farmers in the year 2013-14.

Objectives

While the overall objective of this initiative was to enhance agricultural production and productivity and improve the economic condition of tribal families who have received their land entitlement under FRA, this initiative also reflects how rendering required supports (such as motor pump set, dug well, seeds, fertilizer) can turn the life of tribals and improve their livelihood.

Institutional Arrangement

Tribal Department, Govt of Maharashtra: The department allocated resources to the Agriculture Department to take up the project to benefit the tribal farmers who have received land entitlement under FRA. The Department also facilitated award of entitlement to the tribal families who were cultivating forest land for years.

Agricultural department, Govt of Maharashtra: The Department developed the intervention plan and supported the tribal farmers in acquiring required asset base for agricultural purposes. The department provided technical support and trained the farmers on agricultural practices. For augmentation of production and productivity, inputs like improved varieties of seeds and fertilizer were provided in a subsidised rate. The Departmental officials also provided guidance from time to time with regard to improved farming system.

Forest Department, Govt of Maharashtra: The Forest Department, took up the initiative to resolve the forest land related issues and conducted joint verification with Revenue Department for amicable settlement of land claims, taking Gram Sabha recommendations.

Change in Livelihood Situation

Before

The beneficiaries were not getting full time employment at their village level in farm sector. So, the male members were usually going out to get employment. Most of them were cultivating (cultivation of paddy,

tur, only) once in a year, i.e., in Kharif season only. After harvesting of crops, the males were working in road projects (construction work) in the nearby villages under MGNREGA. Available work under MGNREGS was not sufficient for male labourers during the lean period for which the female workers unable to get the required days of wage employment in such activities. Discussion with women members of the community reveals that normally they were getting very limited engagement of 40-50 days of work in their surrounding during non-agriculture seasons. Due to uncertainty of authentication of land, the tribal farmers were also not interested to invest on land development of the acquired / encroached land and make provisions for irrigation as it may be taken away at any point of time by the Government.

Present status:

At present the targeted group are getting 170-180 day of work at their agricultural field as they are producing numbers of different crop per year, so the male members as well as the female are also getting same working opportunity to work with objective to improve their economic standard. The female were engaged with different works like, weeding, panting, seed processing, collection of cultivation product and vegetables. The beneficiaries never go for daily wages instead that all the family members both male and female working equally for all days, so they able to save extra charges/payment for labours, and getting full employability, the female were also going for sell the product to the nearest market or mandi. The women are also dealing with market dealers which were doing only male persons earlier. The female are now getting various exposures on different agricultural technical training, women cooperative (SHG) management and coming forward to sort out their problems. Now a female worker spending 4-5 hours per day apart from their domestic work. The male workers also get enough employment at their door steps to engage them for earning. Even, the aged persons of the family are now remain engaged in agricultural work like watch and ward.

Approach and Process

From the selection of beneficiaries to rendering agricultural support to these tribal farmers, Gram Sabha played an important role. In Gram Sabha, details of support provision for these families discussed and accordingly, support was rendered to these farmers. The process took almost a year, i.e., 2013-14 to avail the benefit and its utilisation at farmer's level. As the department provided support like development of land, seeds, technical training, motor pump, manure and pesticide directly to the beneficiaries, it helped them to minimise their own investment. With the support of the contractors, the department developed the forest land by levelling it and making it more suitable for farming by which the beneficiaries were able to start farming immediately.

Outcome and Impact

Overall, such initiative is having a positive impact on the tribal farming beneficiaries. Importantly, it helped the beneficiaries to get enhanced employment in their agricultural field which led to improve their economic standard. It also has been helpful to reduce migration from their families.

Technical skill: Before the implementation of the project, they were using traditional farming system but now they are working with improved technologies. It has been helpful for them to improve farm production and productivity. Now the beneficiaries are using different packages of practices, water saving drip and sprinkler irrigation system which helps them to save water and cover more area under irrigation. Now the women are also skilled in agricultural aspects due to training programmes conducted by Agriculture Department.

Access to Other Services: After the intervention of the project, the beneficiaries are economically better off by which they have some disposable income for investment. Now they are in a position to spend more for the family in different social occasions. Now they have cash with them to observe different occasions /



festivals without taking any loan/advance from others for such purposes.

Level of income: Farmers are of the opinion that because of such support, their days of productive engagement in agricultural field has increased and now they have more income from the available patch of land. In-stead of going outside in search of employment, now the male members prefer to remain tied to their fields as it provides remunerative return to them and food security to the family.

In initiation year of the project the government provide all kinds of facilities time to time from planning



to implementation and monitoring to evaluation. (the government provided technical support, skill development support, land development, motor pump set, provide free seeds and fertilizers) so, the beneficiaries got greater support at preliminary stage for investment, the identified target group put only their labour and effort continuously, so from the beginning year they are getting their profit. The facilities provided by Tribal department enforce them to do such activities which improve their livelihood and economic part.

Key messages and lessons learned from the good practice experience

Discussion with the beneficiaries reveal that after the support for agriculture promotion by Agriculture Department, based on the award of entitlement by Forest Department and Revenue Department of Maharashtra State, the living conditions of the beneficiaries of the Nagalbadi village has improved in different aspects. After receiving the support in the year 2013, they started agricultural activities in a more scientific manner and in the same year they got additional benefit. In the first year (year 2013) they were provided with all kinds of support by the department which reduced their agricultural investment and thereby their profitability increased. The women as well as male members received technical training and exposure visit on agricultural practices. Now, both male and female are engaged for a longer period in their agricultural field and also having better market to sell their produces. Now, they are able to access market price and commodity status in different nearby markets / Mandis through their cell phone. Their outlook towards agriculture has changed due to improved availability of facilities and services. Now they are accessing services of subject matter specialist during farming on diseases, use of fertilizers and pesticide on quantity with procedure. Now they have bank account for making transitions and other linkages. Sharing their experience, the beneficiaries express their satisfaction on type of inputs provided and its importance for their livelihood.

Risk Reduction and Crisis Management

After getting support from agriculture department, through convergence, they are now cultivating different crops like vegetables, wheat, turmeric, groundnut, green gram (moong) etc. to improve their economic status and getting employment in farm sector for a prolonged period. Previously, these tribal families (the beneficiaries) were unable to save food grain due to low production and suffering from food shortage for more than 3 months in a year. But now, especially after the implementation of agriculture promotion measure by the Department of Agriculture, they are able to have improved production and yield of different crops which make them to generate marketable surplus apart from storing for the household consumption. Apart from this, improved quantum of production helped them to explore other market options for their produces like turmeric, groundnut and vegetables and availing a remunerative return. Some of these beneficiaries are now sending their children for higher study..

Now, both male and female members of the family are keeping themselves engaged in their own agricultural land and ensure effective utilisation of available resources for higher production. They are now looking at other options of livelihood, apart from the agriculture, to improve their income horizon. Beneficiaries are of the opinion that now they are leading a better life in comparison to previous situation when no land was available with them legally and hence they were not getting any support from agriculture Department for improving their farming activities.

Replicability / Scaling up

Key requirements for scaling up of the good practice are like (1) awarding land entitlement to the tribal forest dwellers which is first step in bringing legal ownership, (2) Detail requirement planning and convergence with existing and potential schemes which can render benefit to the famers, (3) Integrated development approach with support for animal husbandry and in agriculture allied sectors, (4) Educating and building skill and knowledge base of the farmers on modern and scientific agricultural practices with hand holding support on key farming technologies, and (5) Establishing forward linkage with remunerative markets, technology support organisations and processing units etc.

Institutional Support: Institutional support in shape of capacity building on new farm technologies, linkages with banks / other credit providing institutions, market information and linkage, Linkage with other schemes that are relevant etc.

Economic: Linkages with insurance company and credit providing institutions.

Environment: Plantation in forest land, construction of small water bodies to conserve water and minimize soil erosion, promotion of agro-forestry and agri-horti models.

1. *After receiving of land entitlement, they have been putting effort to work with new technique and adopt double and mixed crop with using new technologies like sprinkler, pesticide sprayer, high yield variety of seeds etc.*
2. *Now these beneficiaries are feeling secured as now they are growing crops for more than one time, i.e., they are cultivating in both Kharif and Rabi season;*
3. *Involve in own agric field and getting 160-170 days of employment/ engaged: all the beneficiaries including their family members working on the agricultural field and getting full time engagement.*
4. *After getting the ROR (patta) the beneficiaries are interested to investing own money for more production and creating productive agricultural asset base.*





7.6 Cashew Plantation and Pine Apple Intercrop in IFR Land

Introduction

Forest-dwellers inside the forest areas are cultivating /occupying forest land and using forest produce since ages but had no occupancy status. For recognizing and vesting forest rights, to live in and cultivate forest land that they have been enjoying for generations, government enacted Acts time to time for this purpose. Some of them are the Panchayat Extension to Schedule Areas Act (PESA) 1996 and Forest Rights Recognition Act 2006 (FRA) to protect their rights. Due to several reasons the process of implementation of CR and CFR has been hindered in many states. To bridge the gap in the policy as well as implementation process and to ensure rights of tribals in true spirit the policy was amended in the year. In other side, it is observed that though forest land is alone not cannot produce crops in the forest land unless they have been provided with sufficient nutrients, water, or treated properly. Now under the FRA, the forest land title holders are eligible to avail the all governmental supports which were not possible before.

Name	:	Savar Sudarsan
State	:	Andhra Pradesh
District	:	Srikakulam
ITDA Area	:	Seethampeta
Block	:	Seethampeta
GP	:	Kusumi
Village	:	Bangriguda
Activity	:	Individual Forest Right

Basing on this, MOTA issues guidelines to States in the year 2010 (as per the suggestions of National Advisory Committee on FRA) to provide post implementation support to IFR land title holders and ensure that they are integrated into all government schemes. Again, the Rules of FRA notified in September 2012 wherein one rule as number 16 was inserted. As per this rule, more emphasis has been given on convergence of different departmental governmental schemes for the benefit of the FRA title holders. Following this rule now state governments are linking FRA title holders

with different departmental schemes like Kisan Credit Cards, horticultural schemes, MGNREGS, etc. for the upliftment of tribals.

Land Utilization Pattern of IFR Land: In village Banguruguda, GP: Kusumi, Mandal: Seethampeta of Srikakulam district, 90 percent (field observation) of land is under cashew plantation and rest is into other activities. In this village, almost all the IFR land is under cashew plantation with pineapple as intercrop. IFR Land under convergence: IFR lands in the village are under the converged under different activities like MGNREGA, Cashew Rejuvenation Programme, etc. Irrigation for agricultural and horticultural activities in the farm land or IFR land is a major obstruction in the village as it is a hilly area and so as of shortage of water. The village geographically situated in it's a sloppy area and is fully dependent on rain. The village is getting benefit under plantation. Land development activity in the village under visit is provided under cashew rejuvenation programme.

Objective:

Proper utilization of IFR Land provide post implementation support through convergence with different governmental schemes to for all round development of the tribal beneficiary

Mr.SavarSudarsan, aged 42 is one of the IFR beneficiaries of this village. He has 6 acres of FRA land received patta in the year 2008. This land is under ancestral property of his family under control of his family. He has cashew plantation under his IFR land in the year 2000. In 2012, his land was brought under convergence with ITDA Cashew Rejuvenation Programme. He was trained to pruning techniques, preparing of pits, and spacing between trees, knowledge on adopting methods of organic fertilizers, manure, and sustainable harvesting techniques both in cashew cultivation as well as in pineapple cultivation.

From the 6 acres of cashew crop, he got 36 quintals of cashew and sold it @ Rs.90 to 100 per kg. Last year all total he earned Rs.360000 from cashew @ Rs.60000 per acre. He was spent only Rs.26000 in the same year for cashew as well as pineapple cultivation. He was intercropped pineapple in the cashew area. From the pineapple, he earned Rs.90000 as intercrop in six acres of cashew land. He sold pineapple @ Rs.8 to Rs.10 per piece.

Last year his total earning was: from Cashew Rs.360000 + from Pineapple Rs.90000 = Rs.450000. Apart from the above, he is an IAY beneficiary. He got an IAY house in the year 2013. He is also getting 35 Kg PDS rice per month.



Summary of Good Practices

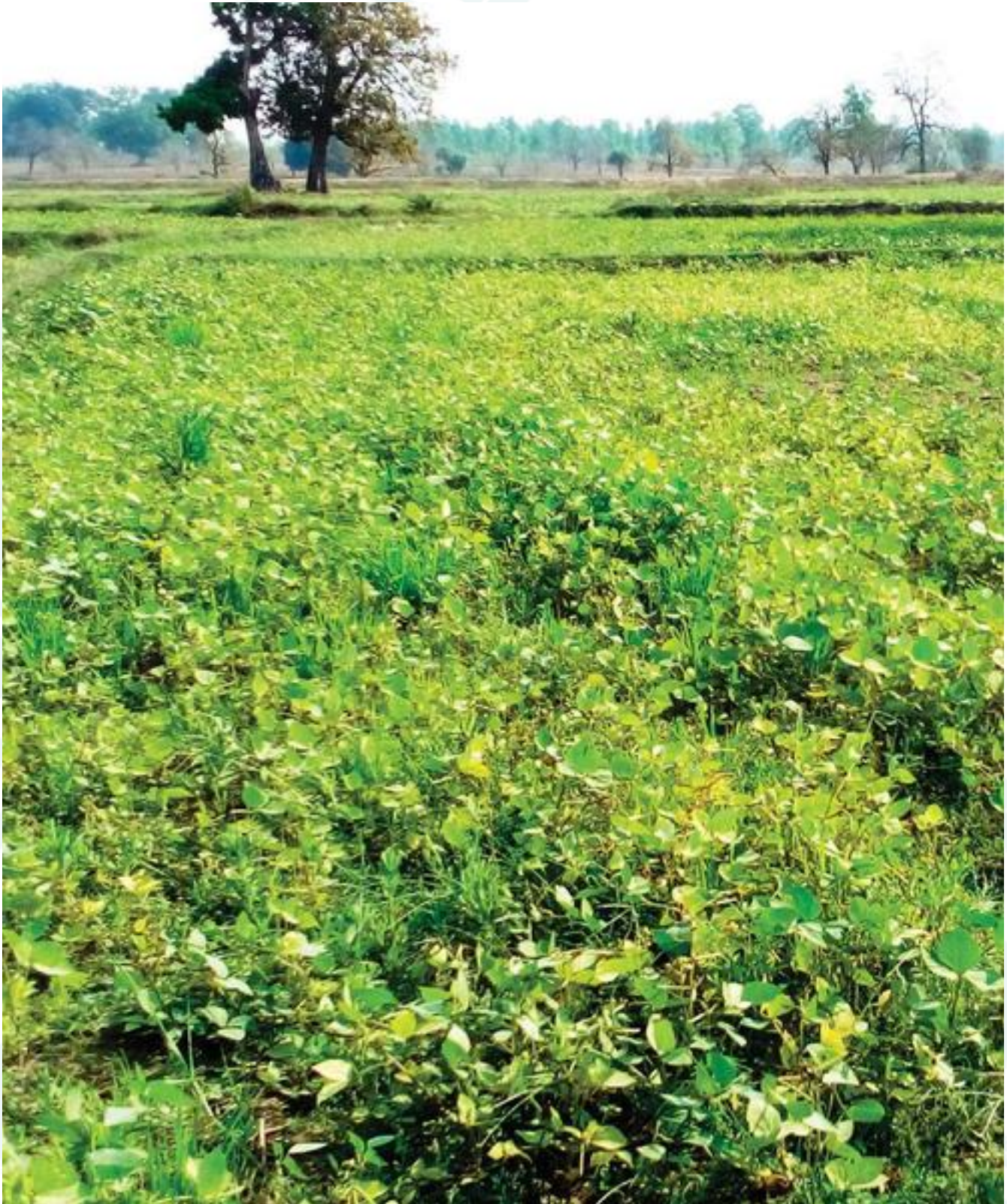
Community Forest Right is a successful model for accountability of villagers in conservation of forest. The villagers nearer to the forest area are the main stakeholders of the CFR. This approach can be taken up effectively by the forest & revenue department with collaboration with Panchayatiraj institutions.

- 1. Forest Area is needed with scope of forestation.*
- 2. Strong motivation of villagers to protect the forest.*

A proper institutional (NGO) support is highly required for the proper implementation of the activity. Here Gramon Samashya Mukti Trust, Wani has provided initial support & arranged an exposure visit of villagers to nearby district under CFR activity.

Due to CFR the conservation & protection of forest is ensured, which leads to economic development of villagers by collecting NTFPs, Soil & water conservation. Due to forest the environment is suitable.







Section Eight:
Good Practices in Other Sectors





7.1 Eco-tourism

Introduction

Ecotourism is a nature based form of special travel defined by The International Ecotourism Society (TIES) in 1991 as “responsible travel to natural areas which conserved the environment and sustain the well-being of local people”. Ecotourism has been defined as a form of nature-based tourism in the marketplace, but it has also been formulated and studied as a sustainable development tool by development experts and academics since 1990. The term ecotourism, therefore, refers on one hand to a concept under a set of principles, and on the other hand to specific market segment.

Eco-tourism has gained importance over time and now considered to be the focus of travel and

State	:	Maharashtra,
District	:	Gondia
ITDA Area	:	Deori
Block	:	Amogaon
GP	:	Salekasa
Village	:	Navatola and Salekasa
Activity:		Eco-Tourism at Hazara Fall

tourism. The travel and tourism are major sources of foreign exchange earnings of India. The potential of employment opportunities in this sector has improved over time significantly, specially the indirect employment opportunities. Govt. of India in its tourism policy has spelt out some guidelines for the department of tourism and also for the private entrepreneurs in the field of tourism in general and eco-tourism in particular.

India is a multi-destination country with a variety of tourist attractions. Tourism is one of the foreign exchange earner for the country. Several incentives

have been made available by the Central and State governments to this sector. These efforts have largely promoted tourist arrivals in the country. India is expected to be one of the fastest growing travel and tourism economies of the world in the coming years.

National Tourism Policy, 2002

The policy document seeks to enhance employment potential within the tourism sector as well as to foster economic integration through developing linkages with other sectors. Broadly, the policy paper looks at following aspects in tourism.

1	2	3	4	5	6	7
<ul style="list-style-type: none"> Position tourism as a major engine of economic growth; 	<ul style="list-style-type: none"> Harness the direct and multiplier effects of tourism for employment generation, economic development and providing impetus to rural tourism; 	<ul style="list-style-type: none"> Focus on domestic tourism as a major driver of tourism growth 	<ul style="list-style-type: none"> Position India as a global brand to take advantage of the burgeoning global travel trade and the vast untapped potential of India as a destination; 	<ul style="list-style-type: none"> Acknowledges the critical role of private sector with government working as a pro-active facilitator and catalyst; 	<ul style="list-style-type: none"> Create and develop integrated tourism circuits based on India's unique civilization, heritage, and culture in partnership with states, private sector and other agencies; 	<ul style="list-style-type: none"> Ensure that the tourist to India gets physically invigorated, mentally rejuvenated, culturally enriched, spiritually elevated and "feel India from within".



The policy document takes into consideration seven key areas that will provide the thrust to tourism development. These are, Swagat (Welcome), Soochana (Information), Suvidha (Facilitation), Suraksha (Safety), Sahyog (Cooperation), Samrachana (Infrastructure Development), and Safai (Cleanliness).

Objectives

- Building environmental awareness
- Providing direct financial benefit for conservation
- Empowerment of local community
- Respect for local culture
- Supports human rights and democratic movement such as:
 - conservation of biological diversity and cultural diversity through ecosystem protection
 - promotion of sustainable use of biodiversity, by providing jobs to local populations/ ST youth boys and girls

- sharing of all socio-economic benefits with local communities and indigenous peoples by having their informed consent and participation in the management of ecotourism enterprises
- tourism to unspoiled natural resources, with minimal impact on the environment being a primary concern.
- minimization of tourism's own environmental impact
- local culture, flora, and fauna being the main attractions
- local people, who benefit from this form of tourism economically, and often more than mass tourism

Geographical Coverage

Hajra is a 46 meters high waterfall, located in the Donargarh. The Hajra Waterfalls offer a spectacular view to the tourists. The falls are surrounded with dense green forests and high mountains making it an ideal destination for explorers and nature lovers. An Alternate Livelihood project, initiated by Department of Forests and implemented through Joint Forest Management Committee, Navatola, Salekasa, Gondia. The project has transformed the village by creating employment opportunities through eco-tourism and adventure tourism. The village with around 660 populations has witnessed the tourist inflow of more than 1,35,000 since inception of the project over a period of 18 months. The project is managed by Joint Forest Management Committee, Naatola, conceived by Avinash Deoskar under guidance from Dr Jitendra Ramgaonkar, IFS, DCG, Gondia.

Context

In the initial stage the Hajra water fall was just known as a locally picnic spot. The area is surrounded by the hill and dense forest. Total area is conserve by forest department. The villages like Navatola and Salekasa are dominated by tribal population. Although the govt. of Maharashtra is providing best facilities to the





ST boys and girls for their education, still the tribal people are not much sensitized and fast to accept the changes quickly, mostly the older generation. Some tribal people are sending their boys and girls for better education, but it is not possible for many of the tribal families of this locality to send their children for higher education. So, after completion of 12th standard, they are doing ITI or any diploma course but they are not getting any job opportunity near to their locality. Even in certain cases, the educated ST boys and girls were also going for labor work on daily wage basis to assist their parents to meet their livelihood needs. For these tribal families, the primary source of livelihood was agriculture and collection of forest produce along with engaging themselves in wage earning activities. Before this project, these forest dwellers were also partly involved in the protection of local forest. After harvesting the grown crops, generally they go for labor work or do whatever work is available to them.

These two villages were also having their own VSS for the conservation of forest. In the initial stage, the forest department was supporting only for forest protection and other forest based activities, but in the year 2015 ATC Nagpur made a proposal, after discussing with the Gram Sabha of the two villages on livelihood based eco-tourism and adventure based tourism with the support of forest department and joint forest management committee. Focus of the project was to generate livelihood for the youth through their engagement as adventure guides. Such initiative can support all the educated boys and girls to get employment in their locality. Apart from this, this project can also be helpful to others in terms of creating opportunities for livelihood in the eco-tourism areas.

The primary objective of JFM has been to ensure sustainable use of forest to meet local needs equitably while ensuring environmental sustainability. The central premise is that local women and men who are dependent on forests at the village level, have the greatest stake in sustainable forest management.

In collaboration with JFM committee, the forest department invested for eco-tourism and adventure tourism in the 1st year of the project. In this process, 35 educated (12th pass/ more than the age of 18 years) ST boys and Girls shortlisted and they were sent to train themselves on adventure games at Adventure Academy, Mumbai for 6 months. Project related activities were going on by that time when they were receiving training.

Institutional Arrangement

The Tribal Development Department, in collaboration with Forest Department has been implementing the project. Financial support is provided by the Tribal Development Department to the Forest Department to implement the project as the area of eco-tourism comes under forest area. The Joint forest management committee and the youth club of the both the villages have been involved in the project work. The JFM committee monitors the work regularly and safeguarding the biodiversity of the forest. Now the JFM has taken

over the ownership of the project and management of tourism areas. The Forest Department has created network with different service providers/ agencies to provide different materials like rope way, rope ladder and many more items for adventure games. A Kolkata based agency installed all items and machinery in due time in the eco-tourism site.

If any person will go for rope way or any adventure game, he or she must give self-acknowledgement and pay Rs.200.00 for once and for each event. For this purpose, the management team will provide helmet, safety guard and locked rope. The guides also assist during the course. All the payment made by the visitors goes to the bank account of the management committee of the JFMC. Every month the guides are paid by the JFMC for their engagement. Now visitors are coming throughout the year to enjoy the environment and eco-tourism.

Participatory Process

In the year 2013, the JFMC called for a general assembly or gram Sabha at village and present their proposal to the Forest department to develop a tourist place near to the waterfall because the area coming under the forest area and for that they need permission and the forest department also agreed to the proposal as eco-tourism was going to add value to the place. With the help of Forest Department, JFMC presented the proposal to the ST Development Department, Govt. of Maharashtra. Looking at the prospect, The ST Development Dept. sanction the proposal and accordingly, eco-tourism project was implemented.

In the preliminary stage the women were not interested to participated in this project because they assume that they may not get success after implementation and what type of profit they will get from that source, but after implementation of the project they did





not imagine that, the girls from their village will get employment. The women members opened their stall near to the park started selling local fruits, food items, traditional handicrafts, handlooms and many other product. This helped them to enhance their livelihood security with increased tourist turnover.

Project Impact

A good practice of ecotourism consists of relevant programs that promote the use of recycling, energy efficiency, water conservation, air pollution and soil erosion. Conservation or preservation projects are an essential part of ecotourism and such programs are offered to travelers in order to give them the opportunity to participate and get involved more. One of the most important aspects of this sort of project is education. The intended outcome is that eco-tourism not only enhances the awareness of eco travelers, but a hands-on experience on forest and its environment. It is expected that ultimately it will create more awareness and environmental conscious among the tourist.

Because of the project, both male and female of the community get engagement and strengthened their

livelihood. Women got opportunity to work near to their home which was not happening previously. Before the project, the girls were going to work in construction sites when employment opportunities get scarce in the locality. But now the girls are coming to the tourist place for working and sometimes they are helping their parents in their activities.

After implementation of the eco-tourism project, the local ST population, especially boys and girls get opportunity of employment, and the other also get employment in construction infrastructures under the tourism project, management of park, forest management work and some of them open shop at vending zone near to the park. So, in broad, they are getting employment, and the livelihood challenges they were facing previously has also reduced. After harvesting, normally they were moving out of the village in search of employment, but after the project, now they engaged in the visit site and generating income. The major part is that the women of the household also got employment same time. About 35 male and female youths of the locality are now working as adventure guide in the eco-tourism site..

Summary of Good Practices

Eco-tourism has gained importance over time and now considered to be the focus of travel and tourism. The travel and tourism are major sources of foreign exchange earnings of India. The potential of employment opportunities in this sector has improved over time significantly, specially the indirect employment opportunities.

Geographic Location: Site selection

Village Institutions: Village forest management committee to monitor the implementing work regularly, the major task of the committee is to safeguarding the biodiversity of forest. Now the Village forest management should take overall ownership of project and management of tourism areas.

Partner Agency: Forest department supported different level of support to implement the project

Implementing Agency: Forest department and Village forest management committee implement the project the forest department create networks to different service provider agent or agency to provide different materials like rope way, rope ladder and many more items for adventure games. The outsider agency from Kolkata install all items and machinery in due time.

Donor Agency: Tribal Department provided financial support to state and state flow the fund to different line department to provide different livelihood opportunity for the targeted group.

Funding Agency

Technical Support Services

- Mobilisation / Awareness of beneficiary through FNGO:
- Training & Capacity Building arrangement for beneficiary by technical expert and FNGO

- Handholding: Extended handholding support by technical expert and FNGO

- Provision for Exposure Visit:

Financial Support Services

- Bank Linkage & Credit Support
- Government / Departmental Support
- Beneficiary Contribution: Labour Work, Shed Preparation (labour component) are to be borne by the Farmer.
- Market Linkage/ Support or Buy Back System

Benefit

- Economic / Income Benefit: On an average, each beneficiary is now able to have an additional earning of at least Rs.2000 to Rs.3500 monthly.
- Social Benefit
 - Creation employment opportunity and reduction in distress migration:
 - Food Security:

Benefit:

Conservation of forest area, Ecotourism and such programs are offered to travelers in order to give them the opportunity to participate and get involved more. One of the most important aspects of this sort of project is education.

Income can be generated from natural environments helping to source and fund important and valuable conservation projects. Money is collected by encouraging eco travelers to visit and, during their stay, pay for extras such as entrance fees to attractions, concessions, and licenses.

Eco travelers bring money to tourist attractions and excursions, thus creating employment and income for both households and communities in and around water fall parks and other protected areas.





8.2 Digital Village

Introduction

Harisal, is a village in Melghat, of Dharni Taluka in Amravati District of Maharashtra. It belongs to Vidarbha region and under the Amravati Revenue Division. It is located around 125 Km towards North from District headquarters. The Taluk and Tahasil Dharni is 24 km away from this village. The Harisal Garam Panchayat comprises of four villages namely Bori, Chitri, Paildhana and Harisal. The total geographical area of the village Harisal is 319 hectares. The village is predominantly resided by Korku tribe. As per to Census of India 2011, there are all total 324 houses and total population of the village is 1479. Literacy rate of the village is 77.9% with male literacy rate of 85.48% and that of female is 69.82%. Agriculture is the primary occupation of the people of this village. Some households, who do not own or lease land, work as labour in agriculture and allied activities.

State	:	Maharashtra
District	:	Amravati
ITDA Area	:	Dharni
Block	:	Dharni
GP/Village	:	Harisal
Activity	:	Digital Communication to Inaccessible Area

Overview of Village Status

Particulars	Total	Male	Female
Area of Village (in ha.)	319		
Total No. of Houses	324	-	-
Population	1479	776	703
Child (0-6)	205	115	90
Schedule Caste	141	68	63
Schedule Tribe	794	412	382
Literacy Rate	77.9%	85.5%	69.8%
No. of Literates	993	565	428
No. of Illiterates	486	211	275
Total Workers	849	521	328
Main Worker	438	394	44
Marginal Worker	411	127	284
Non-Worker	630	255	375

Source: Census of India 2011

Initial Situation

The area Melghat is infamous for malnutrition. In 1996-97, the area recorded more than 1000 deaths under the age group of six, as compared to 2013-14, when a little more than 400 deaths recorded due to poor nutritional security. It was a big challenge before the administration to bring down the Infant Mortality Rates (IMR). Like IMR, Maternal Mortality Rate (MMR) is also relatively high in the Melghat area.

- Here, people had smart phones and television sets that connected them with the world outside. But over at Harisal, a lone bulb that barely lights the readymade clothes shop. People are facing severe load shedding regularly, i.e. 6 hours in the night and 8 hours in the daytime. It is needless to say that even when there is power, it is just enough for a low-wattage bulb. Running televisions at home is a rare scenario. Using motor pumps in the field invite strict warning for them.

- No proper water supply, which made it even worse for the people there to live
- People here also face severe minor but tough to handle troubles as there is no place to charge the phone
- No place for the communications to the outer skirts of the city for traveling as Buses don't go to Harisal consistently
- Farmers feel hurdles in solving their major issues as they can't reach to the proper authorities for the exigent queries

Why digital village

It was understood that malnutrition was a complex problem with many angles to it and a quick response through improved connectivity would provide solutions to it on time. It was then decided that technology will be the means to solve problems of health, education, skill development and employment. Through mobile connectivity, a Wi-Fi zone, a digital centre, cashless

markets, health cards and baby warmers in ambulances, telemedicine this area can be transformed. But hurdles were the high-frequency optical fibre does not work in this hilly region.

Basing on the digital India concept, a plan was prepared for making 50 smart and digital villages by the State Government of Maharashtra under the leadership of the Chief Minister. As a result, the state government thought to seek the help of the software giants to create required facilities which can overcome obstacles to make internet or radio frequency workable. TV White Space or White Fi is the term for low frequencies allocated to broadcasting services for specific telecommunication uses. In order to turn the vision to a reality, he met Microsoft CEO Satya Nadella and proposed him on establishing digital village in Maharashtra. On the assurance given by Microsoft CEO, the software giant Microsoft selected Harisal for developing it as the first ideal digital village in India. The state government of Maharashtra and Microsoft entered into a partnership to transform Harisal village into the country's first digital village.

Process

The Microsoft India Head, District Collector, other state and district level line department officials were visited this village. A 14-member committee with BDO as nodal officer was set up. Several rounds of discussion were made with Sarpanch, Deputy Sarpanch, Members of Gram Sabha and all the villagers including male and female. While discussing several issues and difficulties were come into limelight. The idea behind of digital village was to root out the menace of malnutrition and backwardness of tribal villages and bring them into the mainstream. The emphasis is on monitoring their progress along with provisions of education, medical services and employment.

Objective:

The objective of the Digital Village is to

- Eliminate the disparity between the rural and urban development by providing financial and

technical facilities and creating job opportunities in rural areas

- Facilitate the access to the basic facilities like healthcare and education
- Empower the farmers who are the backbone of the village economy. Under the smart village project, every farmer will able to access to markets through digital facility and to provide a platform for cashless transaction
- Connect the village through National Knowledge Network and National Optic Fibre Network
- Connect the Gram Panchayat to the Government departments through seamless integrated digital network and to link with e-Gram scheme and other e-Governance projects of the state government.
- After getting linked with e-projects it will facilitate for speedy approvals of departmental purchases since cloud computing reduces the need for a tender process, which could even take months to fulfill.

The actions undertaken (Issues addressed)

- Microsoft completed mapping of each house using GPS which will help the farmers to ask their queries online;
- Genetic Health Issues, malnutrition, and lifestyle of the villagers are being changed to make it healthier and connected with the mainstream.
- The challenge apart from the transformation will be tackled to address 'Child Mortality', 'Baby Warmers', 'Tele-medicine' so as to decrease the Infant Mortality Rate (IMR) and Maternal Mortality Rate (MMR).
- Action has been taken to combat diseases like TB and Heart attacks which were the major reasons for the number of death in the villages.
- Promoting and strengthening Sustainable Village Economy

- Banking System with 100% conformity to PM Jan DhanYojana
- Measuring Socio-Economic Growth along with GDP
- Empowering village solving malnutrition problems

Convergence

Under this project the State Government, Microsoft, Bank of Maharashtra, district and block level line departments, tele-service providers joined hands together to make it a success.

Role of Microsoft:

Under this project, the entire expenditure of rupees one crore for the technology was borne by Microsoft.

- Microsoft will take care of computer literacy of anganwadi sevikas and teachers
- Will provide skill development training to village youth
- Will provide online Gram Sabha and teleconferencing
- School students will be imparted education in hardware, software and mobile technology.
- Timely provide information on weather, cropping pattern and crop management, soil testing, dairy development, vegetable production, market information for agricultural produces, forest produces, processing and value addition information will be undertaken jointly by State Government and Microsoft.

Role of State Government of Maharashtra

- Government of Maharashtra will provide infrastructure support. The expenditure on infrastructure for setting up educational, medical and internet units were being provided by state including the line departments.
- The problem of electricity in Melghat will be resolved by using optical fibre.
- App relating to agriculture will be launched which will help farmers solve agri-technology issues, information on farm mechanization other agri-implements, communication with line departments.

Bank:

All bank customers will be provided with ATM-cum-debit cards and mobile banking services will be increased. ATM facility will be provided at different locations while solar lamps will be installed through banks' CSR budget.

Tele Service Provider:

It is a vision of the state government that when no person visits a government office and all the services should be available at a click. Technology will help to create an efficient, transparent and inclusive system. The adoption of technology in governance will facilitate higher transparency in the delivery of services to the last person in the system. Airtel, Idea and Vodafone are in work to set up their towers to provide Internet services.

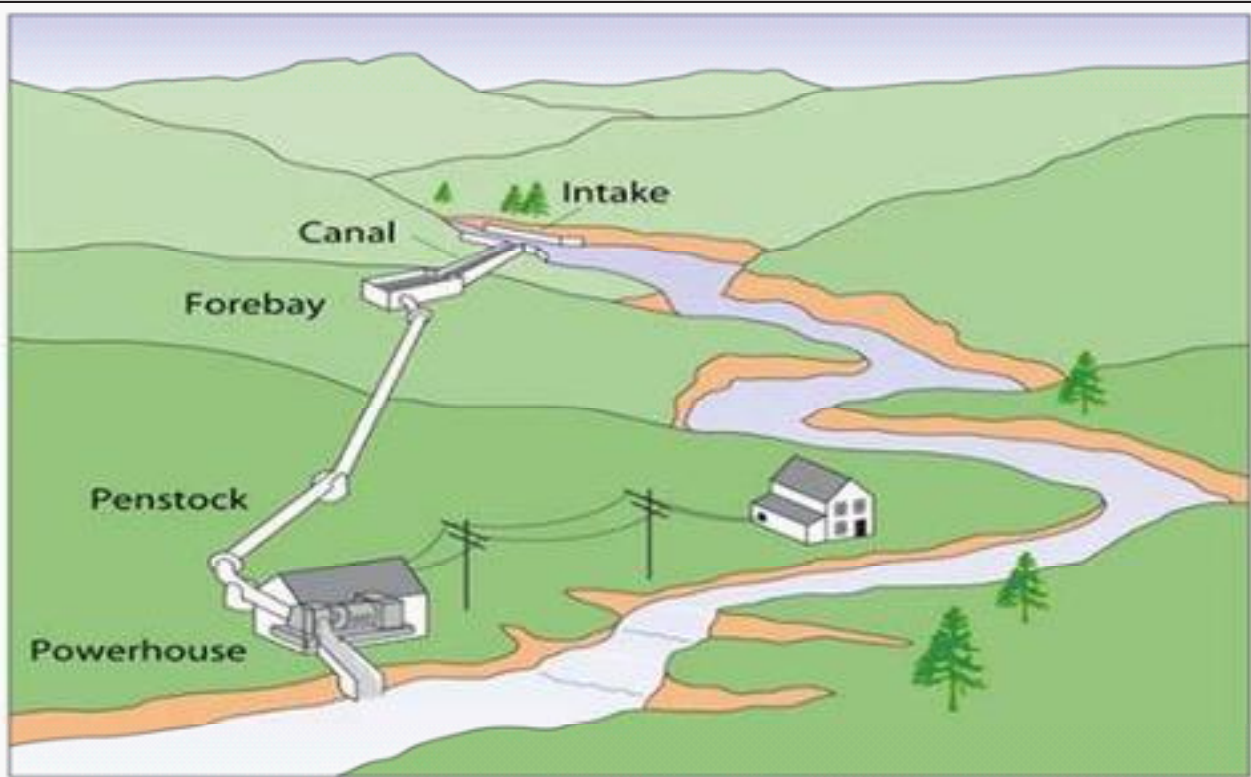
Summary of Good Practices

Development is rarely to see in geographically isolated hilly areas where no communication, no connectivity, and high-frequency optical fibre does not work. In such place technology can be chosen as to means to solve the barriers / hurdles into development of health, education, skill development and employment, etc. It can be achieved through mobile connectivity, creation of Wi-Fi zone which will transformed barriers into development and creation of digital centre cashless markets, health cards and baby warmers in ambulances, telemedicine, etc.

Convergence

In such project the State Government, Microsoft, Lead Banks of the State, district and block level line departments, tele-service providers joined hands together to make it a success.





In this microhydropower system, water is diverted into the penstock. Some generators can be placed directly into the stream.

8.3 Micro Hydro Project

Harisal, is a village in Melghat, of Dharni Taluka in Amravati District of Maharashtra. It belongs to Vidarbha region and under the Amaravati Revenue Division. It is located around 125 Km towards North from District headquarters. The Taluk and Tahasil Dharni is 24 km away from this village. The Harisal Garam Panchayat comprises of four villages namely Bori, Chitri, Paildhana and Harisal.

Introduction

Life becomes difficult for people living in remote inaccessible rural villages, especially where there is no power supply. In rural areas, families spend substantial part of their income on kerosene for lighting. Tribal women also devote a huge amount of time collecting, processing and using wood and dung for cooking, the time which could have been spent on other productive activities.

State	:	Odisha
District	:	Kalahandi
ITDA Area	:	Th. Rampur
Block	:	Th. Rampur
GP	:	Karnivel
Village	:	Karnivel
Activity	:	Micro Hydro Project



Rural electrification has been the focus of the Government and an important aspect to boost rural economy and quality of life of the people. The block Thuamul Rampur is very rich in perennial water resources from where enough water can be harnessed for irrigation and the sources can be utilized to generate electricity for day to day activity. But there are a number of villages and households in this block which are yet to be covered under power supply. Such villages are located in difficult terrain and high altitude having numerous small water resources such as rivulets, ponds, small rivers and springs. In most of these villages life is difficult due to high altitude but the same high altitude can prove as a boon if even a small water source is available there. There are numerous such sources having adequate height and flow rate that are having required feasibility of developing multipurpose micro hydro power project. Micro hydro, hydro systems of 100 kW capacities or less, can address the need of the people of such areas at relatively low cost and with virtually no environmental impact. Power generated through these micro hydro projects can cover several households living in such difficult terrain where approachability of grid is normally remains difficult.

A Pico or micro hydro project requires both water flow and a drop in height to produce useful power output ranging from 1 kW to 100 kW throughout the year. Water from the perennial stream is channeled through a settling basin, which helps to remove sediment that could harm the turbine. The water then flows into the fore bay tank where it is directed downhill through a pipe called a penstock. When the water reaches the bottom, it drives a specially designed turbine to produce the electricity. Hence, basically it is a power conversion system, absorbing power in the form of head and flow of water and delivering power in the form of electricity or mechanical shaft power. Hydro power projects are classified as per to the capacity of the plant.

Classification of Hydropower Plant	
Power Class	Capacity
Large Hydro Power	> 10 MW
Small Hydro Power	<10 MW
Mini Hydro Power	<1 MW
Micro Hydro Power	<100kW
Pico Hydro Power	< 5kW

Small hydro is the development of hydroelectric power on a scale serving a small community or industrial plant. The definition of a small hydro project varies, but a generating capacity of 1 to 20 megawatts (MW) is generally accepted, which aligns to the concept of distributed generation. It can be further subdivided into mini hydro, usually defined as 100 to 1,000 kilowatts (kW), and micro hydro which is 5 to 100 kW. Micro hydro is usually the application of hydroelectric power sized for smaller communities, single families or small enterprise. The smallest installations are pico hydro, below 5 kW.

Micro Hydro Power

Turbines smaller than 100 kW are usually called “Micro”. Micro hydropower, is the only form of small renewable energy production which works continuously without battery storage. It is the most cost efficient solution to supply power. Micro turbines can provide power to small clusters or even single households. Micro-hydro setups are typically run-of-stream, meaning that a reservoir of water is not created, only a small weir is common, pipes divert some of the flow, drop this down a gradient, and through the turbine before being exhausted back to the stream.

Advantages of MHP

- Cheapest technical solution for independent power supply.
- Clean, sustain-/ renewable energy resource.
- Reliable => long lifetime as it is based upon robust mechanical techniques.
- Minimal running and follow up costs (unlike batteries at PV systems).
- Small maintenance efforts, which are easy to follow.

This project can provide power to an isolated home or small community, or can be connected to electric power networks, particularly where net metering is offered. Micro hydro power is rarely fed into a power grid, but in most cases electricity is delivered to a village or a workshop. It is useful in small, remote communities that require only a small amount of electricity, for example, to power one or two fluorescent light bulbs and a TV or radio in 50 or so houses. The installation is often just a small dammed pool, at the top of a waterfall, with several hundred feet of pipe leading to small generator housing.

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Project Profile
Project Name: Micro Hydro Project, Village Karnivel
Commissioned in the month: April 2010
Location
<ul style="list-style-type: none"> District: Kalahandi Block: Thuamul Rampur Gram Panchayat: Nakrundi Village: Karnivel
Demography
<ul style="list-style-type: none"> Households: 20 No. of Population: 100 ST Household: 14 OBC Household: 6
Village Profile
<ul style="list-style-type: none"> Name of VDC:- Karnivel Gram UrnayanSamitee Village institution:- SHG-1 Primary School: at village Sialipada distance 1.5 Km Anganwadi Kendra: at Gokulama village distance 5 Km ANM Centre: at village Gunupur distance 7 Km
Technical Specifications
<ul style="list-style-type: none"> Flow: 40 lps Head: 33 m Penstock Length: 370 m Transmission Line: 1 km Maximum Power Output: 7 kW Loads: 30 watts/household, 12 streetlights, spice mill (defunct)

Financials

- Funding Agencies: Swiss Agency for Development and Cooperation
- Hardware Cost: \$35,000
- Labor: OTELP payment to community

Date of Visit: 06.01.2017

Present Status: Defunct at the time visit

Source: <http://microhydrokalahandi.blogspot.in/p/project-profile-karnivel.html>

Need of Micro Hydro System

- Need of each and every community are different. But in general, access to energy is a vital stage in the development of remote villages like these. It leads to swift and significant improvements in education, sanitation, healthcare and the overall standard of living. These benefits are achieved both directly - as in the provision of light - and indirectly - as the time and money that people save is redirected into other projects.
- Often small communities are without electricity even in countries with extensive grid electrification. Despite the high demand for electrification, grid connection of small communities remain unattractive to utilities due to relatively low power consumption.
- Only small water flows are required for Micro hydro so there are numerous suitable sites. A small stream or spring often provides enough water.
- Micro hydro equipment is small and compact. The component parts can be easily transported into remote and inaccessible areas.
- The number of houses connected to each scheme is small, typically under 50 households. Therefore, it is easier to raise the required capital and to manage maintenance and revenue collection.
- Carefully designed Micro hydro scheme have a

lower cost per kilowatt than solar or wind power. Diesel generator systems, although initially cheaper, have a higher cost per kilowatt over their lifetime because of associated fuel costs.

- Local manufacture is possible. The design principles and fabrication can be easily learned. This keeps some equipment costs in proportion with local wages.
- It is easier to establish and maintain agreements regarding ownerships, payments, operations and maintenance and water rights, as the units supply power for a small number of households.

Objectives

Micro hydro projects are having the ability to contribute to increased coverage of villages and households under power supply and bringing social and economic development of the poor households. MHP can contribute in poverty alleviation by enhancing poor people's participation in economic activities in an efficient manner. Micro-hydro is a term used to describe the smaller systems, covering hydroelectric power generation under 100 kW. Depending on its size, a micro-hydro-power system may provide a small, remote community with adequate electricity to light bulbs, radios, and televisions, among other appliances.

- To provide decentralized energy supply to households;
- To reduce and mitigate the environment pollution caused by fossil fuels;
- To set up micro hydro power houses for lighten rural households;

Socio-Economic Condition:

Total number of households in the village is 21 and the total population of the village is 87 (as per Census of India 2011). The work participation rate in the village is 47 % and of the total work force, 78% are agricultural labourer and rests are farmer and other workers. Most

of the villagers depend upon agriculture, collecting NTFPs, and during lean period they usually go outside the village as wage earners. During Agriculture season the landless persons earn their livelihood as Agriculture labourers.

Demographic Profile

Demographic Profile of the Village Karnivel			
Indicators	Person	Male	Female
Total Population	87	43	44
Child Population (0-6 years age group)	16	10	6
Literate Population	19	18	1
Literacy Rate	26.76	54.55	2.63
Work Participation Rate	47.12		

Source: Census of India 2011

Preparatory Process

The project's area of work is in the tribal-dominated Th. Rampur block of Kalahandi district. The area has been selected based on the feasibility study and Detail Project Report (DPR) of potential sites in the district done by Practical Action on the request of OTELP. Practical Action supported micro hydro project that generate up to 10 kW of power. The micro-hydro power station, which converts the energy of flowing water into electricity, provides poor communities in rural areas with an affordable, easy to maintain and long-term solution to their energy needs. The project villages were identified, selected and promoted appropriate, affordable, acceptable and accessible end-use options of MHP by the OTELP/ITDA which contributes to poverty alleviation enhancing poor people's participation in the MHP energy generated based economic activities in the village.

Total Energy Access project in partnership with Odisha Tribal Empowerment and Livelihood Programme (OTELP), under the Scheduled Caste and Schedule Tribe Development Department, Government of Odisha were jointly worked in this project. The project interventions range from meeting the lighting

requirements (home and common areas lighting), cooking, livelihood options (water for irrigation, small agro-based industries) and water for drinking and sanitation. In other words, it is about linking energy to holistic development of communities.

Two villages Karnivel and Karlapat were selected to set-up MHP. The village Karnivel did not have adequate access to electricity and the project was implemented a micro hydro in the village with the capacity of 10 kW which can provide electricity to 20 households. Under the following stages the micro hydropower (MHP) project was processed:

Baseline survey and Pre-feasibility Analysis: A baseline survey was undertaken in the project village. The pre-feasibility analysis was undertaken by different agencies independently and jointly including ITDA/OTELP wherein feasibility of the project was determined whether the project would be a good chance of satisfying the proponent's requirements for profitability or cost-effectiveness. The information was supported by characterized by the use of readily available site and resource data, coarse cost estimates, and simple calculations and judgments along with a site visit.

Feasibility Analysis: A more in-depth analysis of the project's prospects, the feasibility study was done about the physical characteristics, financial viability, and environmental, socio-economic, or other impacts of the project, such that the proponent could come to a decision about whether or not to proceed with the project. It was characterized by the collection of refined site, resource, and equipment data. It was typically involved with the site visits, resource monitoring, energy audits, more detailed computer simulation, and the solicitation of price information from equipment suppliers or contractors.

Engineering and Development: Engineering includes the design and planning of the physical aspects of the project. The process of development involved planning, arrangement, and negotiation of technical and financial, regulatory, contractual and other non-

physical aspects of the project. This work was included the final design of the plant and transmission system; integration of the transmission system; integration of the project into the power network to determine precise operating mode; production of tender with drawings and specifications.

Work progress

- The project site was assessed. The perennial water sources do keep flowing, however bad the drought. Practical Action the technical support organization looked at flow records going back of several years, to ensure the water power project will work. The water source was found perfect.
- Practical Action explains its intentions at a village meeting. The villagers have many questions - the only hydro-power people know about means big dams. Practical Action explains how a small scheme could help them, how it works and how it would belong to all the villagers. Everyone is eager.
- Villagers hold back the perennial water source and start to build an intake weir and canal, giving up labour for couple of months. Families work together, digging, shifting stones and laying concrete. The water channel alone takes many weeks to build.

Requirements

The basic requirement was identification / selection of suitable location for establishing the system and accessing affordable equipment (turbines) and installation know how.

Planning of Hydro Scheme

It is important to conduct a feasibility study in a proposed area to determine what is required to implement a Micro hydro project for village electrification.

Overview: Assessing the demand, willingness to pay, local ability to manage a scheme and grid electricity available or planned.

Location: A suitable geographical location for a Micro-hydro scheme is one with steep rivers that have an all year flow.

Demand Survey: Estimate the number of houses within 1 km from the water supply and those who are willing to pay. A 1km radius is the distance that electricity can most easily be transmitted.

Power Estimate: The head and flow rate should both be measured to determine the possible power output and to help in choosing equipment.

Head and Flow: Decide on a suitable combination of head and flow to produce the required power. Assumptions should be made on system efficiency, but if in doubt, assume an overall efficiency (water power to electrical power) to 45 percent.

Cost and Availability: Estimate the size of the generator needed to meet the energy demand, based on the head, flow and power outputs of the available equipment. Typically, the higher the head, the lower the cost per installed kilowatt. The initial investment is high, but running cost and maintenance, are low because there is no need to buy fuel.

Viability: Comparing the likely annual income with capital cost gives a rough guide to financial viability. If the annual income is less than 10 per cent of the capital cost, the project is not viable. If it is 10-25 percent of the scheme, could be possible. If annual income is more than 25 percent, the scheme is viable.

Village Meeting: Present the findings of the survey to the community at an open meeting. Local government staff should be encouraged to attend.

Other Steps: A number of other steps need to be taken, including a detailed site survey, finalizing power output, producing a scale map and scheme layout, a detailed costing. Once this has been done the scheme can get under way. Ordering materials, installation and training can all be undertaken.



Components of Micro Hydro System

Water Resource: Run of the river” systems do not require a dam or storage facility to be constructed. Instead they divert water from the stream or river, channel it in to a valley and drop it in to a turbine via a pipeline called a penstock. The turbine drives a generator that provides the electricity to the local community. By not requiring an expensive dam for water storage, run-of-the-river systems are a low-cost way to produce power. They also avoid the damaging environmental and social effects that larger hydroelectric schemes cause, including a risk of flooding. Water from the river is channeled through a settling basin, which helps to remove sediment that could harm the turbine. The water then flows into the Fore-bay Tank where it is directed downhill through a pipe called a penstock. When the water reaches the bottom, it drives a specially designed turbine to produce the electricity.

Intake or Control Gates: These are the gates built on the inside of the dam. The water from reservoir is released and controlled through these gates. These are called inlet gates because water enters the power generation unit through these gates. When the control gates are opened the water flows due to gravity through the penstock and towards the turbines. The water flowing through the gates possesses potential as well as kinetic energy.

Penstock: The penstock is the long pipe or the shaft that carries the water flowing from the reservoir towards the power generation unit, comprised of the turbines and generator. The water in the penstock possesses kinetic energy due to its motion and potential energy due to its height. The total amount of power generated in the hydroelectric power plant depends on the height of the water reservoir and the amount of water flowing through the penstock. The amount of water flowing through the penstock is controlled by the control gates.

Turbine / Waterwheel: The turbine or waterwheel acts as prime mover for hydro-generator. The choice

of turbine depending upon site, head and flow is very important. Water flowing from the penstock is allowed to enter the power generation unit, which houses the turbine and the generator. When water falls on the blades of the turbine the kinetic and potential energy of water is converted into the rotational motion of the blades of the turbine. The rotating blades cause the shaft of the turbine to also rotate. The turbine shaft is enclosed inside the generator. In most hydroelectric power plants there is more than one power generation unit. There is large difference in height between the level of turbine and level of water in the reservoir. This difference in height, also known as the head of water, decides the total amount of power that can be generated in the hydroelectric power plant. There are various types of water turbines such as Kaplan turbine, Francis turbine, Pelton wheels etc. The type of turbine used in the hydroelectric power plant depends on the height of the reservoir, quantity of water and the total power generation capacity.

Generators: It is in the generator where the electricity is produced. The shaft of the water turbine rotates in the generator, which produces alternating current in the coils of the generator. It is the rotation of the shaft inside the generator that produces magnetic field which is converted into electricity by electromagnetic field induction. Hence the rotation of the shaft of the turbine is crucial for the production of electricity and this is achieved by the kinetic and potential energy of water. Thus in hydroelectricity power plants potential energy of water is converted into electricity.

Electronic Controller: An electronic controller is connected to the generator. This matches the electrical power that is produced to the electrical loads that are connected and stops the voltage from changing as devices are switched on and off.

Metering: System meters measure and display several different aspects of micro-hydro-electric system’s performance and statustracking how full the battery bank is, how much electricity the turbine is producing or has produced, and how much electricity is being

used. Operating the system without metering is like running a car without any gauges although possible to do, it's always better to know how well the car is operating and how much fuel is in the tank.

Mechanical load: The mechanical load is a machine connected to the turbine shaft using a pulley system so that the power can be drawn directly from the turbine. The rotating force of the turbine runner can be used to turn equipment such as grain mills or woodwork chinery.

Distribution System: It connects the electrical supply from the generator to the houses or schools. This is the most extensive part of the system.

Powerhouse: The planned dimension of powerhouse is sufficient for safe operation and maintenance of all equipment included within it. A shallow foundation is required on an adequate bearing soil stratum, with a concrete slab cast to provide a rigid base for the turbine and generator. A channel at the base slab is needed for outflow of water from the system. The powerhouse should be secured to prevent unauthorized access.

7.3.13 Planned for Operation & Management of Micro Hydropower Plant

Operation Management: It includes: taking over of MHP plant after commissioning; develop & maintain proper plant operation manual and reports – daily, weekly, monthly, yearly; shift scheduling; regularly training the manpower on plant & connected power systems etc. It involves maintaining –

- Daily includes meter reading log book, Pump running report etc.,
- Weekly includes relay tripping report, pending fault report, etc.,
- Monthly report includes generation report, outage report etc. and
- Yearly includes generation report, generation loss report, outage report, maintenance report etc. reports.



Water Management: It includes: knowledge or database of water sources / hydrology; diversion of water for electricity generation; etc.

Maintenance Management: It includes: database of all plant components; availability of required drawings, records, documents, spares, consumables; plant performance records etc.

Personnel Management: It includes: man power planning for operation and maintenance; shift scheduling; staff facilities management and training; plant outage and grid authority co-ordination etc.

7.3.14 Maintenance of MHP:

Micro-hydro schemes are owned and operated by the communities they serve, with any maintenance carried out by skilled members of that community. So they provide employment in themselves, as well as providing the power to re-energize entire communities. The Micro hydropower plant components are constantly stressed by a number of factors which affect the life of the individual components and of the power house. Maintenance of power plant includes: daily check schedules, weekly check schedules, monthly check schedules, half yearly check schedules, annual check schedule and overhauling.

Maintenance of electrical systems: It includes generator, transformers, switch yard equipment,

controls, metering, protection systems etc. Maintenance of hydro-mechanical components includes turbine, barrage gates, head regulator gates, intake gates, spillway gates, trash racks, etc.

Maintenance of civil structures: It includes barrage, head regulator, de-silting basin, power channel or tunnel, fore bay, surge tank, tail race channel, power house building, switch yard foundations and trenches etc. Hence updated daily report, weekly report, monthly report, half yearly or annual report plays a crucial role.

Why Micro-Hydro Projects

- **Benefits:**
 - Home lighting and street lighting in remote rural areas
 - Electricity related livelihoods activities like charging stations, oil expeller, rice huller, small scale grinding and processing units.
 - Irrigation and water for domestic and livestock needs
- **Using water power to fight poverty**
 - Micro-hydro power is the small-scale harnessing of energy from falling water, such as steep mountain rivers. Using this renewable, indigenous, non-polluting resource, micro-hydro plants can generate power for homes, hospitals, schools and workshops.
- **Efficient energy source**
 - It only takes a small amount of flow (as little as two gallons per minute) or a drop as low as two feet to generate electricity with micro hydro. Electricity can be delivered as far as a mile away to the location where it is being used.
- **Reliable electricity source**
 - Hydro produces a continuous supply of electrical energy in comparison to other small-scale

renewable technologies. The peak energy season is during the winter months when large quantities of electricity are required.

- **No reservoir required**
 - Microhydro is considered to function as a 'run-of-river' system, meaning that the water passing through the generator is directed back into the stream with relatively little impact on the surrounding ecology.
- **Cost effective energy solution**
 - Building a small-scale hydro-power system can cost from \$1,000 – \$20,000, depending on site electricity requirements and location. Maintenance fees are relatively small in comparison to other technologies.
- **Power for developing countries**
 - Because of the low-cost versatility and longevity of micro hydro, developing countries can manufacture and implement the technology to help supply much needed electricity to small communities and villages.
- **Integrate with the local power grid**
 - If your site produces a large amount of excess energy, some power companies will buy back your electricity overflow. You also have the ability to supplement your level of micro power with intake from the power grid.

From Electricity to Enlightenment

- Village Karnivel is 30 Km from Block head quarter (Th. Rampur).
- Supply of electricity to the village was a dream due to remoteness of the area.
- With this background OTELP/ITDA Th. Rampur in association with Practical Action, an international NGO took the initiative for installation of Micro Hydro project by using perennial water source.

Key Achievement of the Project

- The project is having current generation capacity of 10 kW and providing 24 X 7 power supply to 20 Households, one community center, and one VDC premise of Karnivel village.
- The villages are provided with street lights and each household is provided with 2 electric bulbs.
- Besides the villagers are enjoying watching TV in their community hall.
- One micro enterprise like multi spice machine has been established in the village which is defunct since last four months.
- Electrical loads that are normally connected to a Micro-hydro system at rural area are lighting, battery chargers, radios, televisions, ventilation fans and refrigerators. For the proposed Micro-hydro system, however, the generating capacity is much lower compared to the existing Micro-hydro system at rural area. The main function of the proposed system is for battery charging. A battery allows the future use of small electrical loads and can be recharged when required. Examples of future use of small loads particularly during electricity blackouts are LED lighting, mobile phone battery charging and toys battery charging.

Environmental impact

Unlike traditional power stations that use fossil fuels, micro-hydro generators have practically no effect on the environment. And because they don't depend on dams to store and direct water, they're also better for the environment than large-scale hydro-electric stations. In fact, by reducing the need to cut down trees for firewood and increasing farming efficiency, micro-hydro power has a positive effect on the local environment.

Key Outcome

- Increment in study hours of students;
- Establishment of spice huller in power house helps in power saving and drudgery reduction of tribal household;
- The working hour of painter, carpenter etc. has increased and which has led to extra income;
- Like other hydroelectric and renewable source power generation, pollution and consumption of fossil fuels is reduced, though there is still typically an environmental cost to the manufacture of the generator and distribution methods.



Sustainability

- 5 Nos. of village volunteers trained for day to day repair, maintenance and rendering required support to the project;
- For sustainability of the project, the villagers have formed users group and collecting user fee for maintenance of the project.

Impact on Agriculture

Impact on Agriculture, Beneficiary Name: Nilakantha Gouda								
Crop and Season	Crop Area in acre		Cost of Production in Rs		Gross Value of Produce in Rs		Net Returns Rs	
	Before	Present	Before	Present	Before	Present	Before	Present
Kharif								
Paddy	0.5	0.5	1800	7836	2000	9600	200	1764
Kharif Total	0.5	0.5	1800	7836	2000	9600	200	1764
Rabi								
Cabbage	0	0.25	0	5225	0	15000	0	9775
Cauliflower	0	0.25	0	5705	0	17500	0	11795
Rabi Total		0.5	0	10930	0	32500	0	21570
Total	0.5	0.5	1800	18766	2000	42100	200	23334

Impact on Agriculture, Beneficiary Name: Santhosh Gouda								
Crop and Season	Crop Area in acre		Cost of Production in Rs		Gross Value of Produce in Rs		Net Returns Rs	
	Before	Present	Before	Present	Before	Present	Before	Present
Kharif								
Paddy	1	1	3500	15672	4000	19200	500	3528
Kharif Total	1	1	3500	15672	4000	19200	500	3528
Rabi								
Cabbage	0	0.2	0	4420	0	12000	0	7580
Cauliflower	0	0.3	0	6576	0	21000	0	14424
Onion	0	0.25	0	5900	0	9600	0	3700
Potato	0	0.25	0	6525	0	12300	0	5775
Rabi Total	0	1	0	23421	0	54900	0	31479
Total	1	1	3500	39093	4000	74100	500	35007

Impact

The Micro Hydro Power project is wonderful', says one of the villagers. 'All of us feel the benefit for many years to come'. The project generates an estimated 10 kW of electrical energy. In the months ahead, the villagers will be able to plan for better and effective use of supplied energy, conservation of energy, save time and run small enterprises with this power. This will bring them a little vital money, to improve their life style, help buy clothes, food, and even schooling for their children even also, water power will help to less wood is used - so the environment benefits.

Conclusion

The energy demand and utilization have trended to increase every day. Moreover, the world market price of gasoline fuel as main energy for most factory and vehicle engines have trended to increase day by day. The strategic planning for the renewable technology and development with wisely energy utilization from natural resources including hydro power is much more essential.

In relation to rural development the simplicity and low relative cost of micro hydro systems open up new opportunities for some isolated communities in need of electricity. A source of water with lower flow rate compared to its head is efficiently utilized to generate power in the installed system. The runoff water can be utilized for household system. Places having larger water sources but difficult terrain can be benefited from water supply, electricity and income generation activity if this project is done in bigger scale. This project is very suitable and feasible in context of India and if listed out it clearly has numerous advantages over any other projects related to renewable energy and rural development.

With only a small stream needed, remote areas can access lighting and communications for homes, medical clinics, schools, and other facilities. Micro-hydro can even run a certain level of machinery supporting small businesses. One seemingly unexpected use of such systems in some areas is to keep young community members from moving into more urban regions in order to spur economic growth.



Summary of Good Practices

Key Conditions

- Geographically isolated
- Hilly areas where electricity supply through laying wire is not economically viable
- Where adoption other renewable energy resources like air, solar is not viable.
- Availability of sufficient water resources through the perennial source all along the year

Preparatory Process

- Village Meeting: Mobilisation create awareness of among villagers
- Baseline survey and Pre-feasibility Analysis
- Feasibility Analysis
- Engineering and Technological Analysis
- Power Estimate along with Supply and Demand Survey
- Cost and Benefit Analysis
- Selection of appropriate location:

Technical Support Services

- Training & Capacity Building arrangement for beneficiary by technical expert and FNGO
- Handholding: Extended handholding support by technical expert and FNGO
- Provision for Exposure Visit:

Financial Support Services

- Funding Agency
- Bank Linkage & Credit Support
- Government / Departmental Support
- Beneficiary Contribution: Labour Work, etc. are to be borne by the villagers.

Post Management:

- Water Management
- Maintenance Management (Technical & Repair of MHP)
- Personnel Management (Operational)
- Maintenance of electrical systems and civil structures

Benefit

- Home lighting and street lighting in remote rural areas
- Electricity related livelihoods activities like charging stations, oil expeller, rice huller, small scale grinding and processing units.
- Irrigation and water for domestic and livestock needs
- MHP is a means of using water power to fight poverty
- Reliable electricity source
- Cost effective energy solution
- Can be integrate with the local power grid
- Environmental friendly
- Proper utilization natural resources
- Increment in study hours of students;
- Establishment of spice huller in power house helps in power saving and drudgery reduction of tribal household;
- Increase in the working hour of painter, carpenter etc. which led to additional income;



State	:	Maharashtra,	District	:	Amaravati
ITDA Area	:	Dharni,	Block	:	Dharani
GP	:	Utabala,	Village	:	Kadhab

Activity: Establishment of 33 KV Electric Sub-station Supply to Inaccessible Areas

8.4 Power Supply to Inaccessible Areas (Electrical Sub-Station)

Establishment of 33 KV Electric Substation under Article -275(1)

Briefs of Unit:

Dharani is a block of Amaravati district in Melghat Hill area. This area is well known for its dense forest cover. Due to geographical / topographical situation and poor accessibility, infrastructural facilities and services are remaining poor in this area. The status of power supply is also below the level of expected coverage due to this reason. Before 2011, power was supplied to this area directly from Chikli which is at a distance

of 70 K.M from this place. In bad weather conditions, if power supply is interrupted due to break down, it was taking 2-3 days to restore and normalize the power supply. So, in the year 2011, Tribal Development Dept. established a sub-station with the funding support under Article 275 (1), by spending about Rs. 288 Lakhs (33 KV Electric Substation at Kadhab). Now, because of the sub-station, 42 villages in the block is now electrified from this substation. The quality of power availability in the area has increased because of the sub-station and has been helpful for farming activities and education of the children, apart from its other benefits. Now it has become easier to restore the power supply locally with minimum time, in case of any break down.





7.5 Total Sanitation Drive

Village sanitation, an area of great personal concern, has always been a high priority area for both Central and State Governments. Certain principles on water and sanitation remain common and relevant in all regions, irrespective of its geographical boundary. The most fundamental requirements of the human beings, of which access to safe water & sanitation is more common. Water supply, sanitation and health are closely related. Poor hygiene, inadequate quantities and quality of drinking water and lack of sanitation facilities cause health hazards and millions of people die from preventable diseases each year. Women and children are the prime victims.

ITDA Seethampeta decided to take a plunge into it, only after doing its home work. Having been steeped in the indigenous village culture, the officials of the ITDA were aware of the strengths as well as the weaknesses of the villager's and their psychology, besides the reality of the rural water supply situation. They knew the

State	:	Andhra Pradesh
District	:	Srikakulam
ITDA Area	:	Seethampeta
Block	:	Seethampeta
GP	:	Chinabagga
Village	:	Gorapada
Activity	:	Total Sanitation

users habits as much as the inhibitions and difficulties of the first generation "Latrines". They also realized that the farms which were starving for nutrition could also get benefit by a possible recovery of manure from this source. They were fully convinced that community latrines would continue to be unattended and would be rejected as a concept. They put forth all the above considerations in making decision on designing the scheme and selecting method of implementation. Four important aspects were central to the overall design of the sanitation project, i.e., low on water, high on

hygiene, regenerating manure and uninterrupted functioning.

Officials of the ITDA did research on almost all existing sanitation and other related subjects and their respective systems. Based on their findings, ITDA worked out and developed full proof locally acceptable and adaptable technologies considering cost of adoption of technology, people's preference and related other aspects. The basic principles behind the design was making sanitation drive low cost, eco-friendly, using locally available materials and locally available human resources. The concept of sanitation, which was earlier limited to disposal of human excreta, was given a shift in this sanitation drive making the waste more useful, inculcating environmental sustainable parameters in to sanitation.

Today, it connotes a comprehensive concept, which includes liquid and solid waste disposal, food hygiene, and personal, domestic as well as environmental hygiene. Proper sanitation is important not only from the general health point of view but it has a vital role to play in our individual and social life too. Good sanitary practices prevent contamination of water and soil and thereby prevent diseases. Therefore, according to ITDA, the concept of sanitation was expanded to include personal hygiene, home sanitation, safe water, garbage disposal, excreta disposal and waste water disposal. The officials of ITDA participated in many projects carried out by National Institute of Rural Development (NIRD) Hyderabad, UNICEF, UNESCO and with Central Ministries of Rural Development, Science and Technology. The Centre has also worked with Rural Development Department of Govt. of Andhra Pradesh. In the year 2015-2016, the institute submitted Scheme

of "One House, One Toilet" to Govt. of Andhra Pradesh. People's representatives, including Sarpanchs, members of Gram Panchayats, Gramsevaks and Senior educated persons were invited to see and select appropriate model of toilet considering local factors. Two-Tank-leach-pit toilets were appreciated and liked by the Villagers. Taking inspiration from learning, the Villagers of Billumada also passed resolutions in their Gram panchayats and decided to implement "One House, One Toilet".

Two types of latrines were implemented in the village, i.e., one of 4X6 size and another is of 4X3 size. In addition, for the management of toilet waste-water, water-recycling was also linked to the scheme with the concept of total sanitation. It was noteworthy feature of the programme that the whole approach was based on participatory-community model. Financial support for implementation of the project was provided by Tribal Development Department through ITDA. Total sanitation programme was linked to total waste management to make total sanitation an environmental friendly drive. Total sanitation programme covers very economical toilets to stop open defecations and to utilize human waste as highly nutritive manure. Along with this, ITDA applied available technologies related to human waste management, management of agricultural waste, animal waste management, waste water management, water Purification, rain water harvesting and watershed management. ITDA has been providing training on sanitation and safe drinking water to maintain hygienic environment. ITDA Seethampeta has also designed various types of toilets, urinal, water filter, Shital Pot, Spill water recycling, waste management technique, low cost houses etc.



7.6 Solar Power / Energy (Solar Light Makhala Village in Chikhaldara)

Introduction

The village Makhala is located in Chikhaldara Tehsil of Amravati district. It belongs to Vidarbha region of the State of Maharashtra. It is situated 35km away from sub-district headquarters Chikhaldara, 55km away from district headquarters Amravati and 628 KM from State Capital Mumbai. Positioned in rural part of Amravati district of Maharashtra, it is one among the 193 villages of Chikhaldara Block of Amravati district. Achalpur is nearest town to Makhala which is approximately 60 Km away.

People of this village Makhala are very active but the village was lacking common minimum facility of power, apart from other problems. It is understood during the field visit that many households and even total village was living in dark for years. Due to the high altitude and mountainous terrain, it was an arduous task for the Government machinery to supply electivity to this

State	:	Maharashtra
District	:	Amravati
ITDA Area	:	Dharni
Block	:	Chikhaldara
GP/Village	:	Makhala
Activity	:	Solar Power / Energy in Inaccessible Area

village. For such reason the village was not having power supply for years.

The total geographical area of the village is 733 hectares. Makhala is a medium size village. This village has 3 Wards and 258 no. of houses. (Currently there are 353 families in the village as claimed by the villagers). According to Census 2011, population of Makhala village is 1080. Out of this, 548 are males whereas 532 are females. This village has 163 children in the age group of 0-6 years which makes up 15.09 % of total

population of the village. Among them 78 are boys and 85 are girls. While the overall sex ratio of Makhala village is 971 child sex ratio as per census is 1090.

Population

Particulars	Total	Male	Female
Total No. of Houses	258	-	-
Population	1,080	548	532
Child (0-6)	163	78	85
Schedule Caste	0	0	0
Schedule Tribe	984	492	492
Literacy	75.79 %	83.40 %	67.79 %
Total Workers	555	320	235
Main Worker	345	0	0
Marginal Worker	210	132	78



Literacy: Makhala village has lower literacy rate as compared to the state. In 2011, literacy rate of the village was 75.79% as compared to 82.34% of Maharashtra. The male literacy stands at 83.40 % while female literacy rate was 67.79 %. Out of total 1080 persons, 385 nos. are illiterate. 156 males out of total 548 are illiterate. In females 229 out of total 532 females are illiterate in this village.

Work Force Status: The number of working people of Makhala village is 555 while 525 are non-working. And out of 555 occupied people 284 individuals are entirely dependent on agriculture. Most of the households are dependent on agriculture as it is their main source of

livelihood. Some households, who do not own or lease land, work as labour in agriculture and allied activities. There are others who work only as labour in various activities and are paid wage the days that they work for.

In the year 2002, solar light was provided to 16 household by the Forest Department but other families in the village continued to remain in dark. Villagers had been demanding for electricity for years. But, due to remoteness, lack of road communication and several other reasons, this village remained in the gray area of development with poor supply of power. In the year 2011, the villagers applied to Project

Office at Dharni for supply of electricity. After several processes, the Tribal Development Department took steps to supply solar light system. In the year 2015, the Tribal Development Department provided solar light systems (which include 3 solar panels, battery plates, etc. to each household) to all the 353 families along with solar street light post to this village with the support of Makhala Gram Panchayat. Each house is using 2 to 4 bulbs and some houses are also using fans. One small paddy processing unit is under operation in the village using solar power. Today every household is having solar light facility in the village.

Project Outcome

As impact of solar light, village level functions are now more enjoyable than ever before. Now during village functions, religious festivities all households are enjoying light and music. Households find better source of entertainment and information by watching TV. People have mobile phone connectivity which was not available before and by that they can now connect with outside world in a better way for the fulfillment of their basic business and other interests. With solar light system, households feel that expenditure towards entertainment and other important events have increased. They feel happier spending their money on non-food items as well. People feel that solar light has impacted their health and hygiene positively. Access to TV has opened up a whole new world to information which was not available before. TV educates the masses on better farm practices.

Changes in Employment and Income

Light boost to enhance employment capability by providing additional sources of power in the agriculture, allied and industries sectors. Now one paddy processing unit is functioning in the village which is operated through solar power. Women who perform most of the household activities, can work now with comfort (as they can see better with a light bulb in doing works like tailoring, embroidery, woolen work etc.). It is observed that villagers now get additional hours at night for doing value addition to pursue any

alternate vocation/skill which fetches them additional income. Families having their shops in the village keeping it open for long hours in the evening which is helping to increase their turn over and income.

Changes in life Style

As most of the people of this village are working as farmer and/or daily labour, they get time to gather at night after completing their work during day time. Apart from this, all social gatherings and festivals are organized at night. Before, when no power supply was there, many families were preferring to go to bed by 7 PM. Daily activities were almost getting stopped after sunset. But now, the situation has changed. People are watching TV upto late night while students are studying at the evening. Some village shops remaining open till late night. Village meeting are organized in the evening, youths continue their gossiping and children of the village roaming around in the evening freely without any fear of darkness.

Impact on Occupation

Watching TV has been very beneficial for village farmers. More people are now aware of better methods and techniques of farming. Use and availability of better seeds, pest management, organic farming etc. because of information disseminated through TV channels. People getting aware about modern methods of cultivation and technology use. People are also getting knowledge and awareness on different schemes being implemented by Government and its accessibility norms.

Impact on Health and Sanitation

Solar light has increased a sense of healthy habits among the people. Prior to solar light most people would defecate close to the house as they did not want to go far in the dark. Now most people go to toilets that are close to the house as the area is well lit and they are not scared of the darkness. When women cook, insects would fall due to proximity of kerosene lamp light, prior to having solar light. Now with solar power, this problem is no more persisting. With power

supply, they find TV useful not only for entertainment but also for getting information on various aspects of health and hygiene.

Impact on Education

Households feel that their children are able to pursue their education much better now than the previous situation when power supply was not there. Many children said that their grades in subjects have improved as they study extra hours in the evening to secure better marks. Children did not show much interest to study in lamp lights. With solar light, there

is more clarity and reading has become enjoyable.

Little children were always unsafe around kerosene oil lamps and other types of traditional lamps. Now with solar power supply, parents feel safe for them.

Maintenance

For maintenance of solar light, a family normally spend Rs. 30.00 (rupees thirty only) per panel annually which is very economical for them and cost effective. In case, if major repair and maintenance is required, the Department bears all the expenses.

Summary of Good Practices

Convergence with Government Departments along with local self-government

Benefit:

- *Increase in Income: Light boost to enhance employment capability by providing additional sources of power in the agriculture, allied and industries sectors. Agri-based industry (rice mill) is functioning in the village. Women who are mostly involved in household activities can work in comfort (as they can see better with a light bulb in occupations such as tailoring, embroidery, woollen work.*
- *Impact on Expenditure: TV and mobile phones are major items of expenditure*
- *Impact on Education: Increment in study hours of students, Children achieve better grades in subjects and can improve as they study extra hours in the evening to secure better marks*
- *Home lighting and street lighting in remote rural areas*
- *Electricity related livelihoods activities like charging stations, oil expeller, rice huller, small scale grinding and processing units.*
- *Reliable electricity source*
- *Cost effective energy solution*
- *Increase in the working hour of painter, carpenter etc. which led to additional income;*
- *Changes in life style: Watching TV, Charging mobile*



8.7 Gravity Based Piped Water Supply

Introduction

Water supply in rural areas is the responsibility of the government. To this end the state through the department of rural water supply ensures water availability through various means. The most common is the normal hand pump that is installed in villages based upon the population and demand for water. Government also provides water through stand-posts at certain locations within the village. Feasibility of supply of pumping water directly to the stand posts is not possible in this village in absence of electricity. It also happens that where there is single-point water supply, always there is a long queue in front of the stand posts and quite often women and men quarreling with one another.

As the Gumma block is geographically situated in hilly and high terrain area supply of drinking water to each household of every village is quite a challenging task. The ITDA, Paralakhemundi has been accepting the challenges and has started some initiatives in this

State	:	Odisha
District	:	Gajapati
ITDA Area	:	Paralakhemundi
Block	:	Gumma
GP	:	Munising
Village	:	Upper Abasing
Activity	:	Gravity Based Water Supply

regard. The ITDA is working on to provide safe water and improved sanitation facilities to the villages under its area. With the belief that rural citizens are eligible for quality services, the ITDA with support of FNGO helps communities to leverage government funds for water supply and establish round the clock piped water supply facilities in the villages.

In non-electrified villages, ITDA with support of FNGO has innovated to bring piped water supply at the turn of the tap. The technology is named as “Gravity Flow” and is applicable in undulating terrains. Wherever

natural springs are available, the water from the spring is diverted into a collection tank and then through pipeline, transported to an elevated water tower within the village.

The proposed project was implemented for Upper Abasing village having 67 households comes under Emmanuel VDC Munising Gram Panchayat in Gumma Block, District Gajapati, Odisha.



though common stand posts or individual household connection.

Gravity based water supply ensuring equitable distribution of water both for drinking water and to some extent irrigation purposes of the villages. After meeting the drinking water needs, surplus water and waste water uses for irrigation for growing crops in scattered patches especially in backyard fields which will be around 15 to 20 acres of land.

Keeping the poor sanitation condition and related diseases in view, programme has facilitated construction of individual toilets and bathrooms with tap water facilities with substantial contribution from the beneficiaries. In the village, the programme witnessed considerable reduction in incidence of water borne diseases, reduction of women drudgery and provided additional livelihoods opportunities by establishing backyard garden and also fulfilling the family nutritional needs.

The people of the village are the worst sufferers from the drinking water in all the season of the year as the existing of natural source is not potable because there is no system of chlorination of water. After implementation of this project the villagers are now getting drinking water at their door step, i.e., total 47 nos. of stand posts are installed. Because of this project, one can see smile in the face of villagers, especially women and adolescents because before this project, they were suffering a lot to fetch a bucket of drinking water. But with the project, now their drudgery is reduced and their valuable time is also saved which is now utilized in other productive purposes.

Profile of the Project

Name of the Village Development Committee (VDC)	Emmanuel
Name of the Village	Upper Abasing
Name of the GramPanchayat	Munising
Name of the Block	Gumma
Total Project Cost (in Rs.)	8,41,500
Peoples Contribution	12,630
Starting Date	27/03/2015
Completion Date	02/06/2015
Supported by	DIF/ITDA/OTELP
Facilitated NGO	CCD, Paralakhemundi

Mainly the villagers depend upon the existing spring water which is sprouting near by the village. As there one open well and no pond in the village, the people of the village depend on only on the spring water. The villagers especially the women are the most sufferers and fetching water with head load from the spring for drinking purpose which is not potable. Generally, three seasons are experienced in the village rain season from mid of the June to September, winter season from October to February and summer season from March to May.

As like diversion based irrigation system, gravity fed supply water for 24 hours. Gravity based water supply is meant to provide drinking water; for which water is tapped from the mouth of the spring with adequate filtration arrangements. It conveyed through buried pipes under the force of gravity either to an intermediate storage tank or directly to the households



8.8 Promoting Girl Child Education through Sanitation

Introduction

In the year 1998, under SHG promotion initiative, a women SHG was formed in the village Kudtuli. The group was formed comprising 25 members and named Divyajyoti SHG. Like many other SHGs, this SHG was also formed to do thrift and credit and to take up feasible income generating activities to support and supplement their income. The group started the thrift activity with Rs.5.00 per month per member which subsequently increased to Rs. 50/-. Later, in the year 2003, ICDS, Baliguda took over the group to implement government sponsored activities through them and taking measures for their development. At the initial stage, the group members were doing savings only. In the year 2005, the group received financial support from the government to take up income generating activities like goat rearing, poultry farm and preparation of incense stick (Agarbati). But due to lack of required skill and knowledge base, they were unable to sustain the business. Appropriate management of business

State	:	Odisha
District	:	Kandhamal
ITDA Area	:	Baliguda
Block	:	K.Nuagaon
GP	:	Kudutuli
Village	:	Kudutuli
Activity	:	Gravity Based Water Supply

and required level of market access can be attributed to the poor performance of the IGA and its closure. After that, in the year 2013, they got another opportunity to manage Mid-Day Meal (MDM) programme of their local school. As the group was under the umbrella of ICDS, the group managed to get in to this activity, after qualifying the selection criteria.

The group was started with the objective of helping the members financially so that their dependency on money lenders will reduce. It was also planned to take up different income generating activities which can

create employment for them along with supplementing their income. Later in the year 2014, the group was shortlisted by Odisha Livelihoods Mission (OLM) and ICDS to take up feasible income generating activity after they fulfilled the gradation criteria for involvement.



Objective

- Generate awareness among the school girls on use of sanitary napkin and hygiene.
- To provide qualitative low-cost sanitary napkins to the tribal adolescent boarder girls under ST & SC Dev. Dept. Schools (SSD Schools)
- To provide sustainable additional income to tribal women through making of sanitary napkin unit.

Process Approach and Methodology

The group discussed with ITDA officials on different IGA opportunities that are available to them, based on their skill and knowledge base. But, as they have already incurred loss in some of the conventional IGAs like goat rearing, poultry and incense stick making, it was thought of to take an innovative approach where

market is more secured and the business is having the potential of establishing a tie up for selling the produces. After rounds of discussion, it was finalised that a unit can be established to produce sanitary napkins. Practical experience reflects that as demand of sanitary napkin is huge in the market and the girl's students of the residential schools also require taking care of their menstrual hygiene, production and supply of sanitary napkin can be an useful business venture for the SHG.

The ITDA also signed a MOU with Sulabh School Sanitation Club, New Delhi, to extend Technical support for the establishment of sanitary napkin unit. The project was taken up in the year 2014 under SCA to TSP (IGS). As per criteria the group performance was good and all the group members are interested to involve in this process. The Block administration referred the group to ITDA to provide training on preparation of

sanitary napkin for school girls. Taking lessons from previous experiences, this time ITDA converged the group with the tribal girl's ashram school. ITDA made agreement with the technical support providing agency to impart skill development training on preparation of sanitary napkin for girls. In the initial stage ITDA organised community level meetings to take consent from the group members as well as male members of the community.

Amount spend for making sanitary napkin unit:

- Rs.3,25,000/- (Three lakhs twenty-five Thousand Only)

Time to be spent by the SHGs per day:

- 03 to 04 hours

Expected income (per SHGs group):

- 50,000/- to 60,000/- per month

No of Adolescent girls to be benefited:

- Around 15000 Boarders in ST & SC Dev. Dept. Hostel in Kandhamal

Future Possibility area for sale of sanitary pads:

- KGBV (Kasturba Gandhi BalikaBidyalya)
- S & ME Girls Hostels
- Open Market etc.

In the initial stage, the women were not taking interest as the activity was completely new to them and they had no prior experience of it. Only 2 or 3 women though it is encouraging and participated in the initial discussion process. These members convinced the other group members to take up the new IGA concept as the market is ensured for them. The male members were also apprehensive of the idea in the initial phase of the project. In order to convince them and making them understand the prospect of the business proposition, ITDA exposed the group members to different income generating activities taken up elsewhere. It took around one year to give clarity to the women group on the project and to make them understand the benefit





of the activity. The implementing agency, here ITDA, monitored the activity regularly and participating in project planning and its execution. In order to resolve the issues on day to day basis, the group is organizing meeting regularly with the implementing agency and resolving the issues.

For the preparation of sanitary napkins, the materials used by the group are hard board, cotton, tissue paper, glassy paper and gum. Machines used for the preparation of napkin are like grinder, weight machine, pressure machine, tissue paper cover, sterilize machine, gum, bucket, polyphone etc.

Napkin Manufacturing Process:

1. Grinding the hard board cotton through the electronic grinder for 15 minutes;
2. Separating the grinded cotton and putting it in to grinder again for 10 minutes;
3. Make weight the cotton through the electronic weight machine, each unit containing 11 grams;
4. After making weight, keeping in a size, i.e., 2.5cm width and 13 cm length;
5. Then this size of material put to the electronic hither pressure to keep in shape;
6. After keeping in a shape, the cotton is covered by tissue paper put to electronic press;

7. Posting glassy paper on both length sides of the napkin;
8. At last the napkin will put in the automatic sterilization machine for 17 to 20 minutes
9. Finally packing the napkin in the pack for sell

Stakeholders

Different stakeholders are associated at different levels of this initiative. While ITDA Baliguda extended its support as implementing agency, monitored the successful implementation of the project and established forward linkage for marketing of the produces; the Sulabh School Sanitation Club, New Delhi, rendered technical support and imparted training to the group members on preparation of sanitary napkins. The local NGO also supported the process in terms of mobilising the group and its members and imparting business management training. Required financial support was rendered by OTELP and OLM to establish the unit and meeting operating expenses.

Outcome and Impact

Now the members of the group are well versed with the preparation process of sanitary napkin and management of their business. The members acquired required skill to operate the machines and managing the business well. During discussion, all the members of the group express their satisfaction and shared their experience. According to them, the enterprise has been beneficial to them which helped them to acquire new skill and knowledge. The activity opened up avenues of income and development of tribal.

After involvement in this project, the women are now able to take financial and business related decisions by their own. Their financial literacy status has improved and understand business economy in a much better manner. The SHG and its members have been benefitted financially due to this venture. With improved income, now the members have their own TV and mobile for entertainment and communication. At present the group members are engage in distribution of PDS and



sanitary napkin for school girls with the social enterprise objectives.

Each pocket of napkin contains 10 pieces and costs Rs.30.00. So, selling price of each piece of napkin is Rs.3.00 whereas, the cost of preparation of each napkin has been Rs.1.33. The market price of other napkins, that are available in the market costs a minimum of Rs.26.00 per pack, which contains 6 pieces. In the tied-up school, there are 512 girls from class 6th to 10th as per education year, 2016-17. So, on an average, the annual sale is around Rs.1,38,240.00 [(512 students x 9 months (requirement per girl in a year) x Rs.30 (per pack)]



Budget Break up for Sanitary Napkin Making Machine

1. Machines & Equipments	Rs 95,000
2. Raw Materials	Rs 32,000
3. Transportation & Installation of Machines	Rs 35,000
4. Motivation & Advocacy charges	Rs 78,000
5. Training and Consultancy Charges	Rs 25,000
6. Organizational Charges (20%)	Rs 60,000
Total	Rs 3, 25,000

(Please issue the Cheque in favour of Sulabh School Sanitation Club, payable at Delhi)


Rupak Roy Choudhury
(Sanitation Club)





State	:	Odisha
District	:	Kandhamal
ITDA Area	:	Baliguda
Block	:	All Blocks
Activity	:	Kalyani Express (Multipurpose Vehicle)

8.9 Kalyani Express (A dedicated multipurpose vehicle)

Introduction

There are around 20,000 boarders residing in 203 residential school/ hostels under ITDA, Balliguda. Approximately, an amount of Rs.4,00,000.00 (rupees four lakh) is spent per month to meet the cost of transportation and are unable to get timely services as most of the schools are in remote, unapproachable and Maoist affected areas. Even sometimes approachable schools were not able to avail timely medical and other emergency services during rainy time and cold winter nights. For dealing with such issues and to overcome such difficulties, the innovating concept of Kalyani Express was thought off and launched.

The residential schools and hostels under ST and SC Development Department in Kandhamal district spend a huge amount every month for transportation of essential commodities like groceries, vegetables and taking sick boarders to hospital. Due to lack of adequate rural transportation facilities, the schools, especially located at the interior pockets face lots of difficulties. To encounter this problem, a new pilot project was initiated by ITDA, Balligudain shape of introducing three dedicated multipurpose vehicles, called “Kalyani Express”. The Pilot project was launched on 3rd week of February’ 2016 by the Collector and DM of the Kandhamal district.



BLOW HORN

OD12A-1418



Purpose:

The purpose of this development innovation was to facilitate transportation of groceries and vegetables for the residential schools located in the remote villages, apart from its utilization as an ambulance at the time of emergency.

Process Approach and Methodology:

In order to realise the objective, Public Private Partnership model was adopted where user fee / vehicle rent will be provided by ITDA to the vehicle owner on monthly basis and vehicle owner will place the vehicle for the objective use of ITDA. Instead of taking vehicles from current vehicle owners, the project thought of to procure new vehicles, to be managed by the drivers and credit for purchasing the vehicle will be in the name of the newly appointed drivers. In this process, once the driver repays to the financial institution, s/he will own the vehicle for further use. Advertisement was published in daily newspaper in local language wherein applications were invited from the interested and eligible candidates having valid heavy vehicle driving license and interest to work in such places. Candidates passed through preliminary scrutiny were sent for skill test by the MVI. Finally, three candidates were selected for this project. The final list of these candidates was sent to UCO Bank having its local branch at Baliguda for sanctioning loan for the vehicle. The vehicle was registered in the name of ITDA and hypothecated to the bank.

A triparty agreement was signed between the beneficiary, the Bank and the PA, ITDA covering following principles.

- PA, ITDA to ensure repayment of loan amount;
- The Bank to sanction the entire cost of vehicle as loan;
- The loanee candidate to provide dedicated and timely services to the schools.

A detail rout map and service plan was prepared to

execute the idea, along with finalizing the jurisdiction of operation of each vehicle. The operational areas of the ITDA was divided into three zones for better and smooth operation. Each candidate (driver) allotted with one zone as his operational jurisdiction. One vehicle was stationed at Daringibadi block to cover Daringibadi, G Udayagiri and Raikia blocks. Another vehicle was kept at K.Nuagaon to cover Tikabali, Chakapad and K. Nuagaon blocks. The third vehicle was stationed at Tumudibandh to cover rest of the blocks under the operational jurisdiction of ITDA of Baliguda.

Zoning was done to ascertain that each driver would be able to cover all schools within its jurisdiction within a period of 10 days and for rest of the time he can attain outdoor services. The days of services provided to the school found enough to repay his monthly EMI and the earning from outdoor services may be utilised for his day to day livelihood. All Headmasters/Headmistress are suitably instructed to deposit their transportation cost in loanees account through Account Payee Cheques only on or before 5th of every month for 10 months.

The vehicle is staying at the block headquarter, under the supervision of WEO/BDO concern. Separate log books and route charts are issued to the driver with intimation to all concerned. For tracking the movement of the vehicles, GPRS system has been installed in the vehicles. Block-wise route chart is prepared in consultation with the WEO/ADWO and Headmasters / Headmistress of residential schools.

Monitoring and Supervision:

For proper supervision and monitoring of the activity, a District Level Committee was formed under the Chairmanship of Collector, comprising other senior officials like Superintendent of Police, Kandhamal; PA, ITDA, Balliguda /Phulbani; DFO, Balliguda; DWO, Kandhamal, RTO, Phulbani, LBM, Phulbani, DI of Schools (SSD), Phulbani; WEO, Daringibadi, Phiringia and Headmaster, Govt. Girls High School, Kudutuli and Phiringia.



Benefits of the Scheme:

This is a unique scheme with full loan assistance from the Bank. The private partner (driver) need not to pay any share and any collateral security towards sanction of loan for the vehicles. This scheme not only solved the rural transportation issues but also created self-employment with viable income sources and dedicated services to the tribal students of SSD schools and additional benefit to rural poor.



Section Nine:
Guiding Principles for Model Replication





9. Introduction

Replication of a model or its scaling up requires fulfillment of certain conditions. Normally the required conditions remain more or less similar to the demonstrated practice. However, certain additionality and/or changes required contextually to accommodate the differences that exist geographically, institutionally or based on the requirement of the target mass. Replicability of a model may also require contextual modification in the approach, implementation strategy, stakeholder association and over and above the objective for which a good practice is planned to be replicated or considered for scaling up. In consideration to overall approach and strategies adopted in different practices, that are discussed in this document, guiding principles are suggested here to help the practitioners / implementing agencies to take up such activities in order to benefit the vulnerable tribal mass.

9.1 Animal Husbandry

Animal husbandry has been proved to be beneficial for the tribal community, in terms of its contribution to strengthen their economic status and enabling them to cope with vulnerable situations. In general, animal husbandry is never viewed by most of the tribal communities as an economic venture which can benefit them in a sustained manner. The basic attributes for such an understanding lies in age old tradition of tribal, welfare oriented approach of the Government rather than development oriented strategies, lack of required support services and most needed forward and backward linkages.

Perspective Building:

It is important to develop a perspective around animal husbandry which caters to the need of the tribal in a more comprehensive and sustained manner. Sporadic interventions or mere distribution of livestock and poultry, with the understanding that the beneficiary

household will take care of the animals / birds have been proved ineffective. So, building a perspective and planning the output of a specific intervention during the planning stage is essential.

Need Based Planning:

It may not be feasible in all the cases to promote a specific animal husbandry activity due to various reasons. It is important to understand whether there is a need for promotion of animal husbandry in a given location / set-up, whether the beneficiary households are inclined to take it up, whether the planned intervention expected to cater to the need of the tribals etc. Participation of the target beneficiary and ownership of the intervention is highly essential to make the intervention a success. So, preparation of a detail plan is essential, involving the beneficiary from the beginning. During the planning stage, it is essential to understand the existing situation in animal husbandry, key enabling and retarding factors, external environment, capacity of the beneficiary household to manage the activity, overall time frame for execution of the activity, benefit to be accorded to the beneficiary household etc.

Project Approach and Strategy:

During the inception and planning stage, it is important to finalise the approach to be adopted and strategy of implementation of the activities. The approach could be individual household or community oriented or cluster development approach. It is important to finalise these aspects during the planning stage, based on the ground trothing. In case, where more number of households are supported with a particular category of animal husbandry, it can be developed as a cluster for the same activity. The cluster helps to facilitate delivery of services in a more focused manner than in sporadic interventions. In a household based approach, i.e., where the tribal families are considered as unit of intervention, provisioning and extension of many required facilities and services may not happen as it may not be cost-effective. Secondly, a scale of operation is highly essential, if it is to be taken

up commercially. So, execution approach and strategy to be finalized accordingly.

Stakeholder Participation:

Stakeholders refer to category of people that are either influenced or can influence a particular intervention. So, mapping of such stakeholders and their association in the planning and execution level is essential. Association of service providers like Animal Husbandry Department, insurance provider, traders etc. is essential. Their role, category of services, frequency of services, emergency service requirements etc. to be framed during the planning stage. Certain other requirements that are essential to ensure the replication of the model and its scaling up are;

Feasibility Assessment:

Before instituting the project, it is important to understand the feasibility dimensions in social, economic and environmental aspects. Apart from this market aspects also to be assessed to understand the place of market, market demand, price and its trend etc. A feasibility report should be prepared and it may be made a part of the action plan and business proposition. Based on the feasibility assessment, Detail Project Report (DPR) should be prepared, mentioning all appropriate actions to be taken up.

Awareness Creation:

Making the beneficiaries/ target mass understand the economic aspects of the specific activity and its importance for their livelihoods.

Implementation Arrangement:

For the implementation of the project, institutional arrangement is highly essential. The target beneficiaries may be organized to form a collective or cooperative. In dairy development projects, setting up of milk cooperatives may be helpful to minimize the cost of procurement of inputs, accessing market and health care services. The capacity of the cooperative members should be built up through training, exposure etc. for managing their affairs appropriately.

Collaboration:

Association of local CBO / NGO to ensure that services are available and accessed by the target mass. Collaboration with other support agencies will be further helpful.

Convergence:

Schematic convergence will help further to meet the financial requirement and scale up the good practice operations. Schematic convergence of related projects / schemes will also be helpful to access other facilities and services like technical knowhow, capacity building, market infrastructure etc.

Partnership for Investment / Execution:

When scale of operation of animal husbandry project remain large, it may be required to invite private bodies, either for investment and/or for providing technical / managerial support and/or rendering marketing support. The Public Private Partnership (PPP) or Public Private Community Partnership (PPCP) would be helpful for scaling up the practice.

Beneficiary Contribution:

The project should have a contribution component where the beneficiary contributes a part of the total investment through bankable project proposal / business plan. Beneficiary contribution, and credit linkage through formal financial institution will help to develop ownership and seriousness among the target mass.

Capacity Building:

Capacity of the target mass should be mapped to understand current level of capacity and the critical gap. Detail capacity building plan should be prepared and delivered, involving technical agencies / service providing agencies;

Hand Holding Support:

Extending handholding support by technical experts in the initial phase and later based on the requirement

is essential to ensure that the enterprise prospers. In a high scale of operation, marketing agency may be associated to inform the target mass on specific market demand.

Credit Provision:

Availability of credit on time to the target mass is essential. For this purpose, a bankable business plan should be prepared and submitted to the bank for credit support. The business plan should highlight the amount of return on investment, time frame for profit generation, scale up plan etc.

Infrastructure Support Provision:

For effective management of the animal husbandry unit, creation of required infrastructural facility is essential. The infrastructure may be for rearing the animals / birds, processing unit, storage facility, water source, marketing infrastructure etc. It will boost up the business enterprise and would be helpful scale it up.

Health Care:

Reduction of mortality of animal / bird is essential to augment the profitability. The target mass should be oriented on general health care management practices, symptoms of different diseases and general treatment approach. Apart from this, on time service of local veterinary unit is essential. So, a mechanism is to be evolved where required health care services are available to the target mass and they can access it easily. The para-workers / barefoot service providers can be developed with necessary training and exposure to provide animal / bird health care services.

Market Linkage:

Market linkage is an essential component of any enterprise for remunerative return. A mapping of local markets should be done and market players may be invited for collaboration.



9.2 Cage Culture: Pisciculture

Cage aquaculture, though relatively new to the inland aquaculture in India, it has created new opportunities for optimizing fish production from the reservoirs and lakes, and also developing new skills among fishers and entrepreneurs to enhance their earnings. Objectively, cage culture augment fish production from lakes and reservoirs in a responsible manner, without affecting the livelihood of the traditional/local fishing communities. It helps in increasing per capita fish availability and enhance the income and livelihood security of the fishers depending on inland fisheries resources.

During the last five decades, contribution of marine fish in the total production of the country has decreased from 71% in 1950s to 35% during 2014-15 with a corresponding increase in inland fish production. This

shift in catch structure in favour of the inland segment is attributable to the growth of inland aquaculture, as opposed to the sole dependence of capture fisheries in the marine counterpart. In view of the dwindling production from natural waters, both inland and marine, any substantial increase in production has to come either from inland aquaculture or mariculture. However, freshwater aquaculture in India by and large still centres on pond-based systems.

Cage Culture

Enclosure aquaculture in the context of inland fisheries in India refers to both 'cage culture' and 'pen culture'. Cage is an enclosed space to rear organisms in water that maintains free exchange of water with the surrounding water body

Considering the ever-increasing and often conflicting

cross-sectoral demands for water and land, there are limitations for growth in pond-based aquaculture. In this context, culture of fish in enclosures such as cages and pens installed in open water bodies offer scope for increasing production obviating the need for more land-based fish farms. Considering rich and varied open water resources like reservoirs, ponds / tanks etc. in scheduled areas, enormous scope exists to increase production through enclosure aquaculture. Utilizing a modest fraction of their surface area, large and medium reservoirs can contribute a substantial quantity of fish to the total inland fish production basket. Cage culture, as a model, has not yet reached the desired commercial proportions capable of making any impact on the production figures. However, the adoption growth trend is encouraging.

The present fish yield from reservoirs is low, in spite of their high production potential. Thus, enclosure culture systems have a definite role to play in augmenting fish production from inland open waters, especially the reservoirs in scheduled districts / tribal habituated areas. These can overcome many production constraints by maintaining a captive stock, growing it on artificial feeds, protecting it from predators and enabling harvesting at will. Advantages of enclosed culture systems in inland fisheries are;

1. Augmenting fish yield by optimizing the use of all available water area
2. Raising fingerlings in large numbers for stocking in a cost-effective way
3. Optimization of trophic structure and functions to the advantage of fish production
4. Effective utilization of weed-choked water bodies and those with obstructions like tree stumps and boulders, where harvesting of wild fish is difficult
5. Reducing pressure on land for farms and nurseries
6. Scope to keep a captive stock within the open

water bodies allowing rapid, sure, complete and easy harvesting

7. Direct and easy observation of stock for feeding, growth and general health
8. Considerable indirect employment opportunities.

Shape of Cages and Cage Materials to be Used

Size of a cage for fish culture in reservoirs can vary, but often multiple units are installed as a battery of cages. However, from operational and planning purposes, a cage with the dimensions: 6m (length) x 4m (width) x 4m (height) is considered as a standard unit and a battery comprises 6, 12 or 24 such cages, as per requirement. The cages in a battery are arranged in caterpillar design for better exchange of water thereby facilitating relatively high dissolved oxygen. Durable and stable cage materials are essential for achieving better results. A cage comprises hard frames as support and nylon nettings as cage body. It is desirable to have environment friendly, HACCP (Hazard Analysis and Critical Control Points) protocol compliant, rust-free materials for cage fabrication. Commonly used materials for cage frames are bamboos, mild steel (MS), galvanized iron (GI), poly-vinyl chloride (PVC) and virgin-grade HDPE (High Density

Selection of Water Body

Cage culture can be promoted in estuaries, lagoons, lakes, and large/medium reservoirs. Large, deep reservoirs and lakes can be selected for cage culture. Small and shallow water bodies are not suitable for cage culture due to following reasons.

1. Small and shallow water bodies are very productive and usually suited for free-ranching as there is no constraint in harvesting the fishes.
2. Predators are not a big problem.
3. Such water bodies are suitable for practicing culture-based capture fisheries, managed on

the basis of annual stocking and harvesting.

4. Small and shallow waters are generally rich in nutrients and the sunlight penetrates down to the bottom resulting in high rate of primary production. Cage culture involves high input of nutrients in the form of feed. This coupled with the high rate of deposition of fish excretory matters result in high rate of nutrient input to the system causes eutrophication. This will lead to the disruption of natural ecosystem processes and causing irreparable damage to the system.
5. Small reservoirs do not have sufficient depths for the cages to remain afloat during the lean season. If water level recedes and goes beneath the critical level, the crop will be destroyed.

Due to ecological reasons, cage culture in rivers is discouraged world over. In India, the riverine ecosystems are already under severe stress resulting in habitat loss/degradation due to a number of reasons such as dams, water abstraction, low flows, river training and pollution from industrial, domestic and agricultural runoff. Cage culture in a water-starved stream will add further stress to the ecosystem and therefore cage culture is not recommended in rivers.

Conditions for Cage Culture

Shall be allowed in water bodies having a surface area 1,000 ha or more;

Shall be allowed in reservoirs with an average depth of 10 m;

The cage site at the reservoir should have at least 10 m depth round the year.

Site Selection

Criteria for site selection are based on safety of the location and smooth culture operations avoiding or minimising user conflicts. Thus, the sites to be avoided are;

1. Places with turbulence and excessive wave/wind action;
2. Bad water quality;
3. Water bodies with obstructions and heavy weed infestation;
4. Low depth;
5. Poor accessibility to the site and
6. Nearer to dense human habitation, dams, tourist spots, industries and polluting industries. Areas of fish nursery and breeding grounds, sensitive areas like wildlife habitat including birds nesting, socio-culturally important areas like pilgrimage centres, water bodies for public use like drinking water, cleaning, navigation, etc., and protected aquatic reserves, sanctuaries, etc. are also to be avoided.

The ideal locations for siting cages in large and medium reservoirs are the protected bays/coves to avoid damage due to strong wind action. However, some mild turbulence always helps exchange of metabolites and nutrients between the cage and outside environment. By using these basic criteria, water bodies or specific locations within a water body can be chosen for cage culture.

Carrying Capacity

Carrying capacity of a water body to hold cages is the most vital input for decision making in cage culture. For number of cages to be installed should be as per the carrying capacity of the reservoir / tank and it should be done after scientific assessment.

Depth and Water Quality

Depth is an important criterion for selecting the reservoir and also the cage site. The reservoir should have at least 10 metres of mean depth and the cage site needs a water depth of at least 10 metres round the year. A clearance of 6 metres will be always needed from the cage bottom to the floor of the water body.

As the cage culture operations will tend to increase nutrient load, BOD and COD in the water bodies, care must be taken to assess the quality of water from time to time and appropriate measures should be taken based on the water quality findings.

Cage Maintenance

Anti-corrosive paint should be applied to GI/MS cages to prevent rusting and to increase the durability. Cage should be cleaned at 15-days interval to avoid net clogging. After shifting the stock to another cage, each cage is taken out, sun-dried and cleaned thoroughly by scrubbing / water-jet wash to remove debris and fouling organisms. In situ cleaning using water jets is not advised as it will dislodge the pathogenic organisms throwing them into cages to infect the fish.

Safety Measures

Cage culture involves working in a risky environment and therefore, all security measures should be taken to avoid injury and loss of life while installing cages and working in cages to manage the stock (rearing the fishes). Adequate number of lifebuoys/ other life-saving equipment should be provided at the cages and in vessels used for approaching (managing) the cages. Similarly, the workers should wear life-jackets all the time while working in water and cages. Emergency life-saving kits and first-aid boxes should be provided at the cages/boats/floating huts or field camps.

Species

Economically viable cage culture can be practiced in inland water bodies by growing exotic species, like, GIFT tilapia. However, cage culture of more species drawn from the indigenous species-pool can be promoted. Depending on one or two species may not be economically viable in the long run and the high-density culture practice of exotic varieties can invite major disease issues in future.

Stock Management

The fish seed for stocking should be sourced from

authentic and reliable agencies, subject to government stipulations. Proper records on seed sourcing shall be maintained and the seed should be quarantined and acclimatized and bathed in 3 mg/L KMnO₄ (as prophylactic treatment on need basis) before stocking. The size at stocking and optimum stocking density vary according to requirements, depending on growth and survival of fish species. The stocking material is to be transported to the cage site in water loaded open tank with frequent stirring. Stock maintenance involves periodic sampling to assess the growth and general health condition.

The cage fish farming being purely based on supplementary feeding, selection of good/best fish feed and its application in right quantity is important to achieve desirable results. It is advised that only quality floating feed is selected. Sinking feed is totally unsuitable for cage fish farming as it accumulates at the base and fouls the cage/reservoir environment.

Fish Health Monitoring

As fish health monitoring involves maintaining hygienic and healthy culture environments, it is important to source seed and feed from authorized and genuine agencies that follow high standards. Usage of suitable quality feed, maintenance of optimum stocking densities, adoption of preventive measures such as prophylactic treatment before stocking, regular monitoring of stock and periodic cleaning of cages will avoid outbreak of diseases and stock loss.

In case of severe infection, the fish should be removed from the cages and buried/incinerated/ bleached. Health of the fishes stocked in cages must be monitored at interval and proper treatment measures must be adopted in case of disease outbreak. As far as possible, use of antibiotics and chemical should be avoided. However, in the event of it becoming necessary under exceptional circumstances, the use should be judicious and it must be clearly understood that only approved drugs/chemicals, permitted by Government regulatory authorities at standard doses shall be used.

Harvesting and Post-Harvest Management

The feeding should be stopped 2 days prior to harvesting. If antibiotics were used during the culture period, sufficient withdrawal period may be given before harvest. It is advisable that the harvesting of stock may be done in phased manner like larger fish first, especially to avoid glut in the market, to avoid low price for the harvested fish and get a better market price. Records of harvest should be maintained at the site. Cage culture is a high-intensive culture practice that could result in harvest of large quantities of fish at a time. Growth of this segment of fish production without a planned link to a whole value chain approach, could result in marketing problems and post-harvest losses. It is essential to have a post-harvest and marketing strategy before launching cage culture ventures on a large-scale.

1. Proper harvesting instruments / facility;
2. Fish holding and storage facility
3. Live fish transport mechanism
4. Post-harvest processing centres;
5. Market chain including E-markets etc.

In any case, it is advisable for all cage units (including small units) to have a small ice-making device at each cage site for preservation of the harvest before being transported for storage or to the market. There should be at least one insulated van at site for transportation of fish. Efforts may also be made to create live/preserved fish sale outlets at strategically important points in nearby cities for better return.

Governance

Cage culture is normally practiced in common property resources. Therefore, utilization of water resources and ownership issue may arise. Normally, large and medium reservoirs in the scheduled areas / tribal dominated area are owned by designated government agencies. So, water bodies as common property resource having free access to the tribal families living near the water bodies. Fish produced from the reservoirs is natural for the tribal and the traditional and local fisher's communities have the 'natural primary rights' to this resource. Livelihood of many poor tribal people depend on catching fish from reservoirs.

So, in this context, it is important that fishery cooperative should be promoted, involving all the families depending directly on the water bodies for fishing and deriving their livelihoods. The cooperative should look in to the fishing and related aspects. Apart from this, it is also essential to ensure that expansion of cage culture do not impair the livelihoods and income of other fishers. Cage culture can adversely impact the interests of local fishers by denying access to fishing grounds, obstructing their pathways, and decline in fish catch. At the same time, it is equally important to utilize the additional fish production potential through cage culture. Considering the need to avoid conflicts, the best way to achieve the goal is to empower the fishers to take up this activity collectively without conflicts. A revenue model may be worked out by allowing individual investors and corporate houses to undertake cage culture in an inclusive growth strategy.



9.3 Sericulture: Model Replication

Introduction

Sericulture is the cultivation of silk through rearing of silkworm. It is an agro-based industry. It involves the raising of food plants for silkworm, rearing of silkworm for production of cocoons, reeling and spinning of cocoon for production of yarn etc. for value added benefits such as processing and weaving. It also includes the practical aspects such as increasing productivity of land as well as labour, stabilization of cocoon production, improvement of silk yarn, fabric and generating profitable income for rural poor, scheduled Tribes and others.

Sericulture is one such activity that can not only increase the income of the people, but can also generate employment opportunities, particularly for women. It helps to increase the income of the beneficiaries and

raising their standard of living. Sericulture is having the potentiality of creating employment as well as alleviating poverty for large sections of population in the countryside. Sericulture suits both marginal and small-scale landholders because of its low investment, high assured returns, short gestation period and rich opportunities for enhancement of income and creation of family employment round the year. The net returns in case of Mulberry sericulture (when a farmer has one acre of Mulberry plantation using family labor) is estimated at about Rs 98,000/- per annum, which is substantially high compared to that of other tropical crops. Also, it is an activity, which does not depend on season, but can be carried out throughout the year. Understanding of the need of tribal, the primary stakeholder, is important in such initiative. Their engagement can only be ensured when they realise that it is going to be beneficial for them in the long run and such initiatives support their livelihoods.

Beneficial Aspects for the Scheduled Tribes

Sericulture is having high employment potential. Around 60 lakh people are engaged in various sericulture activities in the country. It is estimated that Sericulture can generate employment to the tune of 11 man days per kg of raw silk production (in on-farm and off-farm activities) throughout the year. This potential is par-excellence and no other industry generates this kind of employment, especially in rural areas, hence, sericulture is used as a tool for employment generation in rural areas.

It provides vibrancy to village economies where about 57 % of the gross value of silk fabrics flows back to the cocoon growers. As estimated, share of income to different groups are like 56.8 % to cocoon grower, 6.8% to the reeler, 9.1% to the twister, 10.7% to the weaver and 16.6% to the trade. Thus, large chunk of income goes back to the villages from the cities in the overall value chain.

It is having low gestation and high returns to the farmers. Mulberry takes only six months to grow for commencement of silkworm rearing. Mulberry once planted will go on supporting silkworm rearing year after year for 15-20 years depending on inputs and management provided. Five crops can be taken in one year under tropical conditions. By adopting stipulated package of practices, a farmer can attain net income levels up to Rs.30, 000 per acre per annum. Sericulture is women friendly and constitute over 60 % of those employed in down-stream activities of sericulture in the country are women. This is possible because sericulture activities starting from mulberry garden management, leaf harvesting and silkworm rearing is more effectively taken up by the women folk. Even silk reeling industry including weaving is largely supported by them.

It has been proved to be the ideal programme for weaker sections of the society. Sericulture can be practiced even with very low land holding. Around $\frac{3}{4}$ acre of mulberry garden and silkworm rearing can support a family of three without hiring labour.

Features like low gestation and high returns make sericulture an ideal programme for weaker sections of the society. Vast tracts of forest based tasar food plants are available which can be judiciously used for rearing tasar silkworms which can offer supplementary gainful employment for the tribes.

Sericulture is an eco-friendly activity. As a perennial crop with good foliage and root-spread, food plants contribute to soil conservation and provide green cover. Waste from silkworm rearing can be recycled as inputs to garden. Dried twigs and branches are used as fuel in place of firewood and therefore reduce the pressure on local vegetation/forest. Being a labour intensive and predominantly agro-based activity, involvement of smoke-emitting machinery is minimal. Mulberry can also be cultivated as intercrop and Mulberry and Tasar being a deep-rooted perennial plant can be raised in vacant lands and hill slopes.

Key Conditions require

Key conditions that are to be considered during sericulture promotion among the tribal are;

1. Developing their skill and knowledge base on sericulture, along with handholding support in the initial period and exposing them to such initiatives for learning;
2. Formation of producer group to create awareness on precaution and preventive measures as well as have the peer group support;
3. Supply of disease free laying, kits of rearing and transfer of latest technology;
4. Provisioning and ensuring irrigation facility with sprinkling system;
5. Supply of safety gears/ equipment
6. Educating tribal farmers on precautions and preventive measure to be taken up by them during rearing, harvesting, post-harvest process work as occupational disorder is high in this sector
7. Avoiding extreme temperature (humid area with stream and semi cold region are suitable)
8. Strengthening supply chain system with both forward and backward linkage

Support Service requirement

Cluster Development

Association of individual farmer in sericulture in a village or tribal habitation will not be useful. It will not be helpful to attract market players nor required services can be rendered in a cost-effective manner. The concerned farmer may incur loss and may not adopt the activity in the longer run. So, it is important that cluster development approach should be adopted in sericulture where a major chunk of tribal families are associated in sericulture and it is implemented covering more number of tribal village / habitation. The production cluster, so developed, will create potential for investment, value addition and marketing. Facilities and required services can also be rendered in a cost-effective manner.

Collaboration and Convergence

To make the ventures successful and more result oriented, it is important to collaborate with other institutions / agencies, having required experience and expertise in sericulture. Concerned government department should be collaborated to provide schematic linkage support, technology, capacity building and hand holding support. In the beginning, they can motivate the farmers by appraising them the economic benefit of the activity. Other technical institutions can also be collaborated for adoption and application of improved technologies. The market players should also be taken in to the fold to provide forward linkage. As different other schemes like MGNREGA is having the potential for convergence, ITDA should take up the measures to converge the initiative with the funds provisioned under MGNREGA.

Capacity Building

In most cases, tribal farmers are new to this livelihood activity. They do not have required skill and knowledge base on sericulture. So, it is essential to educate them and develop their skill on sericulture. Capacity enhancement programmes will help them to acquire the skill to take up sericulture in large scale. The

interested tribal farmers should be exposed to such initiatives to help them understand the benefit of sericulture, process adopted and its overall impact on the sericulturists.

Capital Support

Due to poor economic base, many tribal farmers may not be having the investment capacity to take up the activity. It is desirable that, in the initial stage, required amount of financial support, even in terms of subsidy, should be provided to them. Apart from this, a bankable proposal should be developed (business plan with Detail Project Report) and ITDA should facilitate for linkage with financial institutions for credit access. The tribal farmers should be guided for effective use of available credit funds for sericulture activities.

Managing Gestation Period

At the beginning, there may be financial pressure till they get their first harvest. This gestation period, which is around six months, the farmers may be supported financially through other engagements or in shape of initial incentivisation mechanism.

Handholding Support

In the beginning, at least for 3-4 cycles of production, the tribal sericulturists should be provided hand holding support during different stages of the production cycle. It will help them to get acquainted with the technologies involved and process adopted.

Institutional Mechanism

To attain a scale of production and develop a specific area in to a cluster for better marketing of produces, collective approach is required. So, it is not only required to mobilise more farmers and involve them in the activity, it is also required to develop an institutional arrangement for their organised and effective functioning. So, producer group formation approach could be adopted where all the families involved in sericulture become the member of the producer group and avail the financial benefit and

scope for better market accessibility.

Technology Promotion

Under the initiatives, available suitable sericulture technologies can be promoted to ensure that the benefit of sericulture is availed by small land holders among the tribal communities.

Mulberry Improvement: Selection of suitable varieties of mulberry for rain-fed and irrigated conditions for better yield.

Drip Irrigation system: This system saves around 40 percent more water compared to surface irrigation without negatively affecting the leaf yield.

Use of PSB in mulberry cultivation: The use of phosphate solubilising bacteria ensures that farmers may apply rock phosphate rather than expensive SSP in mulberry cultivation. A net saving of Rs.1745/ha/yr towards phosphatic fertilizer is usually gained.

Vermicomposting: This result in self-sufficiency in production of organic manure and less dependence on chemical fertilizers.

Chawki garden technology: 32 batches of chawki rearing could be conducted in a year under a four-plot module. This makes possible a harvest of eight crops annually from each plot of half acre size @ 5000 dfls per batch.

Paired row system of plantation: It lowers manpower utilization for intercultural operations. The quality of the leaf increases with a reduction in pests and diseases.

Inter-cropping in Mulberry: It supplements the farmer's income. Short duration seasonal crops particularly leafy vegetables can be taken up.

Silkworm Production

For silkworm production, the tribal families may be supported with the followings.

1. **Loose egg incubation frames:** To offer optimum environmental conditions during incubation of loose eggs. More than 90 per cent hatching is attained by the use of incubation frame.
2. **Rotary moutage:** It lowers the percentage of defective cocoons and floss and improves the cocoon quality. This results in greater reelability and silk grade (2A-3A). Cocoons harvested from rotary moutages fetch around Rs.20-30 per kg.
3. **Cocoon Harvester:** This wooden harvester saves time and labour as cocoons do not have to be individually harvested from rotary moutages.
4. **Model Rearing Houses:** These rearing houses have been designed for various agro-climatic conditions and methods of rearing.
5. **Sampoorna (Phytoecdysteroid developed for synchronized maturation of worms):** Administering active content of the product reduces the mounting duration to around 18-24 hours.
6. **Nutrid (Semi-synthetic diet formulation):** This diet provides balanced nutrition to young silkworms, maintains hygiene during rearing and leads to the growth of robust worms.

Silkworm Protection

Protection of silkworm from different diseases is important to augment the production and making the unit economically viable. An eco-friendly plant based formulation can be used for suppressing insects / diseases

Sericultural Machineries

Required instruments should be provided to the farmers, through their cooperatives / collectives for value added products. Some of the instruments that will be helpful to the tribal farmers are like;

1. **Mulberry Pruning Machine:** This machine can prune one acre of mulberry garden in five

hours.

2. **Machine for preparation of Cuttings:** It facilitates quick preparation of cuttings (around 2000 cuttings per hour).
3. **Cocoon Deflossing Machine:** The machine can defloss 50 - 60 kg cocoons per hour.
4. **Shoot crushing Machine:** This device is efficient in cutting and crushing 250 - 300 kg shoots per hour.
5. **Powder Duster:** It aids the application of chemical dusts such as RKO and Vijetha over silkworms without any drift loss.
6. **Litter separator:** The machine is effective in separating leftover leaves and litter for use in biogas plants to generate biogas. This biogas is used for reeling purposes as well as domestic use.
7. **Machine for chopping of mulberry leaves:** This motor-driven machine cuts around 40 kg leaves per hour.
8. **Electric Sprayer:** Fitted with a steel pump and 15 metre hose, the sprayer discharges around 250 litres of disinfectant per hour.
9. **Hand deflossing machine:** It can defloss about 15 kg cocoons per hour.
10. **Matures silkworm separator:** The motorized machine can separate about 35,000 matured silkworm larvae in around two hours. This facilitates quick mounting.
11. **Frames for plastic mountages:** This instrument is useful in maintaining the shape and size of plastic mountages. It also allows farmers to hang mountages for proper aeration.
12. **Device for holding and packing the plastic mountages:** It helps to preserve the shape and size of plastic mountages after cocooning.
13. **Cocoon-cutting machine:** The motorized machine helps in sex separation in grainages. It can also cut more than 6000 cocoons per hour.



9.4 Block Plantation of Rubber

Selection of site for rubber planting:

For rubber plantation, selection of site and its appropriate development is important. The site identified for rubber plantation should be flat land, well-drained, deeper water table (around 100 cm), gently sloping / undulating to rolling terrains with soil pH of 4.5-6.5 (ideal pH is 5.5). It is ideal if soil aeration is around 30% and topsoil containing abundant organic matter. Availability of transportation and labor force is also important, especially for harvesting and post-harvest management. The block plantation method of rubber production can be considered as an important practice which can augment the income of the tribal farmers.

Key Conditions:

Climatic Requirements

1. Minimum temperature is 200C
2. Maximum temperature is 340C
3. Average temperature is 25-280C
4. 80% atmosphere humidity with moderate wind.
5. Rainfall of 2000 mm- evenly distributed throughout
6. Elevation 0-800 m. Above sea level.

1. For block plantation, the required lands to be identified in advance and in contiguous areas rather than scattered individual plots. This will help in attending economies of scale and provisioning of services in a cost-effective manner. Rate of mortality in the block plantation to be monitored regularly;
2. Block plantation requires active participation of the stakeholders in raising, maintenance and in protection of the plantation;
3. Community processing established at the block plantation level helps generate additional income;

Beneficiary Involvement:

The tribal farmers should be involved in the process through motivational and awareness measures. They should be oriented appropriately and they should be educated on the economic benefit of rubber plantation and its importance for the environment.

Capacity Building:

As it is a new venture in most cases, the tribal farmers should be oriented accordingly and trained on rubber cultivation. They should be exposed to such initiatives in other places.

Collaboration and Convergence:

The Rubber Board should be involved in the process for technical and managerial guidance. Business houses should also be collaborated for product marketing and processing of the produce. When it is developed is a larger area, necessary infrastructural facility should be created at local place so that primary processing and value addition activities can be taken up for higher return. The tribal farmers, who will be engaged in rubber plantation, should be provided other support like pumping unit, water source, required farm machinery etc. Local ITDA can act as financial support and facilitating agency to ensure that activities are implemented as per the guidance of rubber board / technical agencies.

Land Preparation:

Clearing the ground is important before planting the trees. In cogonal areas, removing the cogon grass completely is essential since it can hinder/stunt the growth of rubber. In hilly areas, where cultivation is difficult, cogon can be removed along the rubber rows only whereas, in flat but cultivated areas, plowing the area before laying out will be helpful. In hilly lands, preparing the land following contour lining and land terracing is recommended.

Planting Distance:

The choice of planting distance, largely depend on the topography of the area and possibility of planting intercrops. Rows of rubber are usually set at east-west orientation to obtain maximum exposure to sunlight.

Topography	Distances (m)	No. of trees
Hilly (contour sloping)	9.0 x 2.5	444
Flat or undulating	8.0 x 2.5	500
	10.0 x 2.0	500
	8.0 x 3.0	416
Avenue system	5.0 x 4.0	500
	6.0 x 3.0	555
	7.0 x 3.0	476
	12.0 x 2.0	416

Planting:

Holing must be done few days before planting. Size and shape of the hole depends largely on the soil condition and planting materials. In fertile and soft soils, hole shall be 25-30 cm diameter and 40-45 cm deep. In poor and hard soils, bigger holes are required from 40-45 cm diameter to 50-60 cm deep. Planting should be done during rainy months and planting should be according to size, i.e., bigger plants should be planted first followed by smaller ones. Before planting, the plastic bag should be completely removed before placing the plant in the hole and the planting material should be placed carefully in the hole. Required amount of fertilizer, as per the recommendation, should be applied.

Plant Training and Pruning:

The young plants should be trained to provide proper shape to improve efficiency of operations like harvesting etc.

Pest and Disease Management:

Appropriate pest and disease management procedures should be adopted, following the recommended norms.

Inter-cropping:

Cultivation of short duration vegetables and fruit crops can be adopted to augment income.

Post-Harvest Management:

The recommended post-harvest management practices should be adopted. Required infrastructural facility and services should be available in-situ for processing.



9.5 Coffee Plantation

Introduction

Coffee cultivated and processed in a sustainable and viable agribusiness. It can be grown with or without using any synthetic chemicals. When grown without application of any synthetic chemicals, it is generally referred to as organic coffee (it is to be certified as organic). As these crops are generally grown in ecologically sensitive hilly tracts, adopting organic farming methods would entail not only protection of the environment but also in preventing contamination of water resources that originate from these hills. In scheduled areas, because of the prevalence of hilly and terrine topography and forest cover, coffee plantation can be taken up, after feasibility assessment.

Beneficiary Involvement:

The tribal farmers should be involved in the process through motivational and awareness measures. They should be oriented appropriately and they should be educated on the economic benefit of coffee plantation

and its importance for the environment.

Capacity Building:

As it is a new venture in most cases, the tribal farmers should be oriented accordingly and trained on coffee cultivation. They should be exposed to such initiatives in other places.

Collaboration and Convergence:

The Coffee board should be involved in the process for technical and managerial guidance. Business houses should also be collaborated for product marketing and processing of the produce. When it is developed is a larger area, necessary infrastructural facility should be created at local place so that primary processing and value addition activities can be taken up for higher return. The tribal farmers, who will be engaged in coffee plantation, should be provided other support like pumping unit, water source, required farm machinery etc.

Selection of Site:

In choosing a site for a new plantation due consideration

should be given to the altitude, aspect, rainfall, exposure to wind, slope of land, sources of water, approachability etc. Arabica coffee grows well at an elevation of 1000-1500 m above MSL, while Robusta coffee comes up well at lower altitudes of 500 -1000 m above MSL. Locations with gentle to moderate slopes covered with a good canopy of evergreen trees are to be preferred. In wind prone areas, wind belts consisting of tall trees like silver oak should be raised. The site selected for planting of coffee should be provided with appropriate isolation distance or buffer zone, depending upon the probability of contamination from the conventional estates/ blocks, to prevent contamination with chemicals (in case of organic coffee).

Varieties:

The varieties selected for coffee production must be well adapted to local conditions and tolerant/resistant to pests/diseases.

Raising Nursery:

Seeds for raising nursery should be collected from trustworthy and appropriate sources. The organic nursery should be clearly separated from conventional nursery, if both the activities are carried out in the same estate.

Land Preparation:

Clean felling of trees is not advocated when land is prepared for planting coffee. Selective retention of evergreen trees providing filtered shade at a spacing of 9 - 12 m is desirable. The land should be divided into blocks of convenient size by laying out footpaths and roads in between. Uprooting and in-situ burning should clear the ground level bushy growth. Land preparation should be completed well ahead of commencement of monsoon.

Soil Conservation:

The soil erosion attains serious dimension on steep slopes without proper shade coverage. In such fields, appropriate soil conservation measures like contour

planting and terracing should be practiced. The loss of top soil is negligible when the land is covered by a two-tier shade canopy comprising of lower tier of temporary shade trees and top canopy of permanent shade trees.

Line Marking and Digging Pits:

In each block, the spots for planting of coffee and shade trees should be marked at recommended spacing soon after land preparation. Pits of size 45 cm x 45 cm x 45 cm are to be opened during the months of April- May and exposed to sun for about a fortnight to kill soil pests, nematodes etc. Later, they should be filled with top fertile soil and well-decomposed farmyard manure or compost.

Planting Shade Trees: It is advisable to plant temporary shade trees at closer spacing initially, for providing optimum shade to young coffee plants. In large open spaces, evergreen permanent shade trees should be planted at suitable intervals. For planting shade trees, pits should be taken out during pre-monsoon period and filled with top soil after exposing for about a fortnight. Planting of shade trees should preferably be completed before the onset of monsoon.

Planting of Coffee:

Planting of coffee seedlings should be taken up during August-September towards the end of heavy monsoon rains.

Care of Young Plantations:

During the year of planting, the following operations help in better establishment of coffee and shade plants. After planting, the coffee seedlings should be provided with staking and mulching to protect against wind damage and to conserve soil moisture for the ensuing dry period. Towards the commencement of dry period, erecting temporary shade huts with jungle tree twigs should protect the young plants in open area.

Green Manuring for Soil Enrichment:

In newly planted fields, green manure crops like cow pea and horse gram could be cultivated for two or

three years to build up soil fertility. These crops should be grown during kharif season (June-September), so as to prevent competition for soil moisture. As most of these crops are leguminous in nature, they fix nitrogen from atmosphere. The green manure crops should be cut before flowering and incorporated into soil to improve soil fertility.

Nutrition Management:

The following practices would be essential for meeting the nutrient requirement of young coffee holdings.

1. Correction of soil pH using agricultural lime or dolomite, based on soil test values, at least once in 2-3 years.
2. Application of farmyard manure or compost prepared on the farm @ 500 kg/acre per year.
3. Deficiency in nutrient supply can be met by using other permitted products like rock phosphate, bone meal, wood ash etc.
4. Use of bio-fertilizers may also be resorted to, in a restricted manner to improve nutrient use efficiency.

Weed Control:

Weeds pose a serious problem especially in new coffee clearings. Grasses need to be controlled in the initial years itself. The following measures can be taken for controlling weeds.

In new clearings, cultural practices such as cover digging (30 cm deep) during the year of planting and scuffling (10 - 15 cm) for the next two to three years carried out during post-monsoon season. It will bring down the weed growth and help in conservation of soil moisture. However, in sloping terrain, soil digging may be avoided to prevent soil erosion and in such areas, only slash weeding may be adopted. Cultivation of green manure crops/ cover crops and mulching with weed slashings and shade tree leaf litter etc. would also help in weed control. Once the coffee bushes cover up, the weed growth would naturally get suppressed and manual slash weeding alone would be sufficient.

Plant Training and Pruning:

The young coffee plants should be trained to provide proper shape to the bushes and to improve efficiency of operations like spraying, harvesting etc., at later stages. Generally, single stem system of training is recommended for coffee grown under shade. In this system, the plant height is restricted by topping (capping) at prescribed heights. The tall arabica varieties are topped at two stages (two-tier system) while the dwarf arabicas as well as the robustas are capped at single level (single tier system).

Pest and Disease Management:

No serious pest attack is observed in young coffee plantations except for sporadic incidence of some foliar and soil borne pests. The damage by sucking pests and foliar pests could be avoided by spraying neem kernel extract, other plant based extracts and other permitted products. Application of neem cake can be effective against soil borne pests and nematodes. In general farming, recommended chemical pesticides may be used.

Inter-cropping:

Cultivation of short duration vegetables and fruit crops like ginger, elephant foot yam, pineapple, banana, papaya etc. can be adopted to augment income during the pre-bearing stage of coffee.

Post-Harvest Management:

The recommended post-harvest management practices should be adopted like harvest only just ripe fruits for processing, use mats during harvesting to prevent gleanings, sort out over ripe and green fruits before pulping etc.

The Coffee plantations can provide sustainable income to the tribals which could be higher than what they were getting earlier from any other sources. The climatic conditions of hilly areas are suitable for Coffee plantation with shade plants of green vegetation and required rainfall.



9.6 Skill Development

As professional skills and domain knowledge with soft skills are the driving forces of socio-economic development, in the present scenario, skill development and creation of job are inevitable to accommodate with the changing technological environment. To ensure gainful employment, either in public sector and/or in private sector, creation of required quantity and quality skilled human resources is very much essential. Based on the observed practices, it can be concluded that skill development has immense potential to improve the socio-economic condition of tribal, more particularly of the youths. Based on the observations, key principles that are required for skill development and replication of demonstrated models successfully, following aspects should be considered.

Skill Requirement Assessment

Before taking up any skill development programme, it is a prerequisite to take up skill requirement assessment. The assessment should be conducted taking the market demand for different skills and current skill set that is available in the locality. The skill development programme should be designed to fill up the gap in different skill areas. The skill sets to be incorporated in the design for self-employment or employment in different institutions / organisations / production houses etc. Overall, the skill set should have market exchangeable value which can fetch an economic return to the skilled person against his/her labour.

Mobilisation and Awareness Creation:

It is important that the tribal living in interior pockets, which is a reality in all the three districts, should have

required information on various initiatives of the Government on tribal welfare and their development. Normally, tribals living in inaccessible pockets have poor awareness on schemes / programmes of the Government. Reaching out to tribal families, living in interior pockets, has been a constraint in many parts which resulted with poor understanding and knowledge base of the tribals. Secondly, poor telecommunication facilities in those areas do not fulfil the information gap. So, it is highly essential to initiate awareness drive in tribal areas and educating them on the important skill development aspects and support mechanism. For awareness creation, cultural and other methods may be adopted.

Infrastructural Facilities:

Skill development, like many other developmental interventions, requires infrastructural facilities. Normally, it is observed that the scheduled areas are deficient in infrastructural facilities, mostly when it comes to human resource development infrastructures, like technical institutions. So, for skill development, required infrastructural facilities to be created, may be taking a block as the unit (from cost-effective point of view). Required facilities should be created within the infrastructural set-up so that an appropriate learning environment can be created. The institutional set-up may be multi-dimensional with facilities for imparting different skill sets to tribal youths or it may be specific to meet a particular skill requirement. Where ever there is a requirement for establishing a skill development training center, locational suitability should be taken in to account, i.e., the place of set-up must be well communicated and can be easily approachable. The unit must have required number of equipment to meet the needs of the trainees.

Making use of Existing Facilities:

Normally, establishing a new infrastructure is cost intensive and time consuming. Wherever it is feasible, existing infrastructure, both Government and private, can be developed / upgraded to meet the requirements. Based on the gap, required facilities

can be created so that trainees can get full scope to develop their skill base. Secondly, for high end trainings / skill upgradation, existing Government and private institutions should be tied up for value added skill specific inputs.

Collaboration and Convergence:

For different skill sets, different technical institutions should be collaborated, based on its capacity. The experts from such institutions should be engaged in imparting skill based training to the tribal youths, making them acquainted with changing landscape in technological innovations and equipping them with market driven skills. Government has already prepared a list of such institutions based on their capacity to take up different skill development and upgradation programme which can be utilized for this purpose.

Institutional Arrangements:

- Government/Departmental Support/ Patronage like
 - o State Skill Development Corporation of the State
 - o Employment & Training Department
 - o Employment Generation & Marketing Mission (EGMM)
 - o Rural Self Employment Training Institutes (RSETIs)
 - o Technical Education Department
- Involvement of training partners and placement organisations etc.

Apart from collaboration for skill development, there should be collaboration with different industries and institutional set-ups where the trained and skilled resources can be absorbed. In order to meet the industrial and institutional / organizational skill requirements, during assessment, their requirements should be mapped. The curriculum may be designed

keeping such requirements in mind. They may be invited from time to time to interact with the trainees as a part of confidence building measure.

Self-Employment and Employment Driven Skill Sets:

During skill requirement assessment, it is important to capture the need of the potential trainees, i.e., need of the skill base for self-employment or for getting employment in different establishments. While designing the curriculum for skill development, required focus may be given accordingly and the aspirants may be segregated based on these categories.

Adoption of Strategy for different interested youths

- Youth interest for placement oriented Trainings
- Youth interest for immediate private job (direct placement)
- Youth interest for government employment
- Youth interested in self-employment
- Youth need post placement support to continue in the new job (skill up-gradation) Action Plan for Job Aspirants
- Direct Placement
- Trainings and Placement
- Pre-Examination Coaching for Formal Employment
- Self-Employment
- On-the-Job Training
- Online ST youth Job Website and provide job information through email / SMS alerts.

Market Access Approach:

Apart from direct placement approach, in order to access jobs / placements in different business establishments, Job Melas should be organized from time to time, inviting different agencies to participate and express their requirements. It will help to open-up the avenues of placement of the trainees. At the same time, it is also required to provide career guidance and counseling to ST youths from time to time to build their confidence.

Supervision and Monitoring Mechanism

Monitoring and supervision is an important aspect to keep track of coverage of youths / aspirants in different skill based programmes, their placements, credit accessibility for self-employment etc. During the course, such mechanism will help to understand whether the assigned institution is imparting right skills to the trainees as per the design and approved curriculum, understanding of the tribal youths on a particular skill set, availability and accessibility of different instruments for practical learning purposes, adequacy in availability of such instruments etc. Monitoring and supervision is also essential after the training when a job aspirant is placed with certain organization / industry / business establishment. It is an important aspect to keep track of their placements and continuity in the job. For that, online monitoring system (Individual candidate job history tracking) may be designed, at State, district and ITDA level, by training institution and trainees. Based on the web-based monitoring, appropriate strategies can be taken on time to ensure that the overall objective of skill development initiative is adhered to.

9.7 Schematic Convergence for FRA Beneficiaries

Introduction:

The Forest Rights Act served in minimizing land alienation and helped the tribal to establish their right over the land, which they have been cultivation for years. It has been one of the most desirable actions to address vulnerability of tribal communities and ensuring their agricultural and forest livelihood. However, allotment of land only may not serve the purpose fully, unless the tribal farmers are provided with required support system and educated / trained on scientific agricultural practices.

Guidance Principles:

Schematic convergence, specifically in agriculture and allied sectors is highly essential to serve the purpose. The guiding principles suggests following steps which can be helpful to optimize the benefit of the available land resources that are under the legal possession of the tribal households through FRA. It will also be equally applicable for the tribal farmers who have land and not necessarily acquired through FRA.

1. Generally, it is observed that schematic accessibility, including credit accessibility from the financial institutions require Record of Rights (ROR). The ROR acts as an instrument to establish ownership and mobilise different benefits. So, timely issuance of Record of Rights (ROR) to the tribal farmers, who is allotted land, is essential to access credit / other support provisions of the government. Required facilitation support may be provided by concerned ITDAs.
2. A detail agriculture based livelihood plan should be prepared, taking each FRA beneficiary and its land as the unit. The plan should encompass agricultural investment requirements in developing the land and making it suitable for cultivation, required farm machinery support, provisioning of inputs (high yield seeds, fertilizer,

pesticides), technical knowhow etc. should be planned as per the requirement. In a community based approach, certain activities can be clubbed to optimize the benefit like, farm mechanization, land development etc.

3. Existing schemes, based on its support provisions (as per guidelines), should be converged at the household or community or at the firm level. The schemes that have provisions like creating irrigation facility through dug well / bore well / farm pond, water lifting devices (pump set), drip / sprinkler, electrification etc.
4. The farmers should be trained / oriented on crop planning, crop specific adoption of recommended package of practices etc. so that they can perform their agricultural activities in a more efficient manner. Apart from training, the tribal farmers should be exposed to various other initiatives for learning and replication. Appropriate and required level of extension services, hand holding support for adoption of Integrated Nutrition Management (INM), Integrated Pest Management (IPM), inter-cultural operations etc. would be further helpful to them.
5. Post-harvest management may remain critical. The existing infrastructural facilities and services can be extended to them, facilitating to make them accessible for them. Accessibility to the provisions of Minimum Support Price (MSP) for certain commodities, as per government norm, is to be monitored. It is to be ensured that the tribal farmers get the benefit of government procurement.



Annexures



Annexure - I

Meeting with Officials

Office	Officials
State Maharashtra	
Office of the Tribal Development Commissionerate, Nashik, Maharashtra	<ul style="list-style-type: none"> • Tribal Development Commissioner, Nashik • Deputy Development Commissioner, Tribal, Nashik • CFR State Coordinator • WASH Programme Officer, UNICEF Representative
ATC, Nashik	<ul style="list-style-type: none"> • Additional Tribal Commissioner, Nashik • PESA District Coordinator • RoFR District Coordinator
ITDP, Nashik	<ul style="list-style-type: none"> • PO, ITDP, Nashik <p>Meeting with Officials of the Line Departments of Nashik at ITDP, Nashik</p> <ul style="list-style-type: none"> • Agriculture Officer • Horticulture Officer • Veterinary Officer • Fishery Officer • PESA Officer
ITDP, Ghodegaon	<ul style="list-style-type: none"> • PO, ITDP, Ghodegaon
	<ul style="list-style-type: none"> • Saswat NGO, Ambegaon, Pune • DimbeReservoir Fishery Co-operative Society, Ambegaon
ATC, Amravati	<ul style="list-style-type: none"> • Additional Tribal Commissioner, Amravati • Asst. Tribal Commissioner, Amravati
ITDP, Dharni	<ul style="list-style-type: none"> • PO, ITDP, Dharni • APO, ITDP, Dharni
Office of the Agriculture, Department of Agriculture, Dharni	<ul style="list-style-type: none"> • Agriculture Officer, Dharni • Agriculture Extension Officer, Dharni
Harisal	<ul style="list-style-type: none"> • Ms. ShriyaRangarajan, Project Manager Microsoft, Harisal Digital Village • Sarapanch, Harisal Gram Panchayat
ITDP, Pandharkawada	<ul style="list-style-type: none"> • PO, ITDP, Pandharkawada • AO, ITDP, Pandharkawada • PESA Coordinator, Pandharkawada • CFR Coordinator, Pandharkawada
ITDP, Kinwat	<ul style="list-style-type: none"> • PO, ITDP, Kinwat • APO, ITDP, Kinwat

Office	Officials
ATC, Nagpur	<ul style="list-style-type: none"> Additional Tribal Commissioner, Nagpur
ITDP, Nagpur	<ul style="list-style-type: none"> PO, ITDP, Nagpur APO, ITDP, Nagpur
ITDP, Gadachiroli	<ul style="list-style-type: none"> PO, ITDP, Gadachiroli
Office of the Agriculture, Department of Agriculture, Ramtek	<ul style="list-style-type: none"> Agriculture Officer, Ramtek
ITDP, Chandrapur	<ul style="list-style-type: none"> PO, ITDP, Chandrapur Planning Officer, Chandrapur
	<ul style="list-style-type: none"> Forest Ranger, Tadoba Sanctuary Forest Officer, Tadoba Sanctuary
ITDP, Deori	<ul style="list-style-type: none"> PO, ITDP, Deori
Odisha State	
ITDA, Baliguda	<ul style="list-style-type: none"> PA, ITDA, Baliguda Programme Manager, ITDA Baliguda Special Officer, KutiaKandha Development (KKD), Belghar, Baliguda Agency/FNGO of Parlakhemundi FNGO, SWATI
ITDA, Parlakhemundi	<ul style="list-style-type: none"> PA ,ITDA, Parlakhemundi Programme Manager, ITDA, Parlakhemundi Agency/FNGO of Parlakhemundi Gram Vikash SWWS FNGO CCD Surakhya
ITDA, Rayagada	<ul style="list-style-type: none"> PA, ITDA Rayagada, Special Officer, Programme Manager, Special Officer, DangariaKandha Development Authority,Parseli, K.Singpur Agency/FNGO of Rayagada CSR Manager of M/s. Utkal Alumina Pvt. Ltd., Rayagada Renaissance Strategic and Management Services and Private Limited, Bhubaneswar (RSMS)

Office	Officials
ITDA, Koraput	<ul style="list-style-type: none"> PA, ITDA, Koraput Programme Manager, FRA Representative Coffee Board Office, Representative <p>Agency/FNGO of Koraput</p> <ul style="list-style-type: none"> UPASANA Education Trust, Koraput NCET, Sunabeda CYSD Local Representative, Koraput
ITDA, Malkangiri	<ul style="list-style-type: none"> PA, ITDA, Malkangiri Programme Manager, <p>Agency/FNGO of Malkangiri</p> <ul style="list-style-type: none"> Gopabandhu Development Society Parivartan RRA Network, Malkangiri
ITDA, Banei	<ul style="list-style-type: none"> PA, ITDA, Banei Programme Manager, <ul style="list-style-type: none"> Asst. Sericulture Officer, Banei Special Officer, PaudiaBhuan Development Authority, Khuntagaon, Lahunipada
ITDA, Th. Rampur	<ul style="list-style-type: none"> PA, ITDA, Th. Rampur <ul style="list-style-type: none"> Special Officer, KutiaKandha Development Authority, Lanjigarh
Andhra Pradesh	
Office of the Special Commissioner, Tribal Welfare, Vijayawada, Government of Andhra Pradesh	<ul style="list-style-type: none"> Special Commissioner, Tribal Welfare
	<ul style="list-style-type: none"> Additional Director (TW) (FAC) & Joint Director Administration
	<ul style="list-style-type: none"> JD (Planning & Monitoring), JD (Education)
	<ul style="list-style-type: none"> Deputy Director Scholarships
	<ul style="list-style-type: none"> MD, TRICOR, Andhra Pradesh
Training & Research Institute of Tribal Welfare, Vijayawada, Government of Andhra Pradesh	<ul style="list-style-type: none"> Secretary Gurukulam, Andhra Pradesh
	<ul style="list-style-type: none"> Joint Director, TRI

Office	Officials
ITDA, KR Puram	<ul style="list-style-type: none"> • PO, ITDA K.R.Puram • Deputy Director, Education • APO, KR Puram • Anand Kumar, Asst. Horticulture Project Officer
Officials of YTC, KR Puram	<ul style="list-style-type: none"> • Training Faculty, YTC, KR Puram • Center Coordinator, YTC, KR Puram • Training Faculty, NAC, Jangareddygudem
ITDA Paderu	<ul style="list-style-type: none"> • PO, ITDA, Paderu • APO, PTG, Paderu
ITDA Seethampeta	<ul style="list-style-type: none"> • PO, ITDA, Seethampeta • APO, Seethampeta
Officials of YTC, Seethampeta	<ul style="list-style-type: none"> • Training Faculty, YTC, Seethampeta • Center Coordinator, YTC, SeethampetaPuram

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Annexure-II

GOVERNMENT OF ANDHRA PRADESH ABSTRACT

ITEC Department – Implementation of e-Office in the State – Introduction of Single-File-System (SFS) between HoDs and Secretariat – Orders issued.

INFORMATION TECHNOLOGY ELECTRONICS & COMMUNICATIONS (eGov) DEPARTMENT

G.O.MS.No. 26
2016

Dated: 19-11-

Read the

following

1. GO. RT.No.47 dated 11-3-2016 of ITEC (eGov) department
2. Minutes of the Committee meeting held on 30-7-2016

ORDER

1. Introduction: e-Office system was launched by the Hon'ble Chief Minister on 20-12-2014, initially in the Secretariat Departments. The use of e-Office has been extended to the Heads of Department (HoDs) and the District offices in a phased manner. Currently, 1338 employees working in 33 Secretariat departments and 3718 employees working in 89 Heads of Department are using e-Office. Besides this 516 employees working in 20 Corporations and Societies are also using e-Office. All these Organizational Units are being served by a single instance of the e-Office installed in the State Data Centre.

e-Office is also installed in districts with separate instances. The districts of Krishna and West Godavari have implemented e-Office in a full fledged manner i.e. they have stopped manual files. Other districts have started e-Office in majority of the departments, but manual files have not been stopped completely.

The use of e-Office has resulted in enhancing the efficiency of disposal of business in the Secretariat, HoDs and District offices.

2. Single File System (SFS):

- a. Current System: At present, the offices are using e-Office system for internal purposes only. Any communication that has to be sent to other offices is being printed out, ink-signed, affixed with the necessary attachments and being sent physically. These papers are being scanned by the receiving office, converted into an e-File and being processed further. Final Orders on the proposal are again printed and sent as hard copy to the concerned office. This procedure is resulting in avoidable delays and unproductive work and partially defeating the purpose of introducing e-Office. Accordingly, the concept of introducing a Single File System (SFS) in e-Office has been contemplated. The Committee constituted for the purpose recommended that SFS may be implemented in 2 compartments namely

- (i) HoD to Secretariat and (ii) Mandal to Division to District Offices.
- b. Single File System: Single File System or SFS is the process of sending an electronic file created and processed in one office under the e-Office, to another Office (Superior or subordinate office, as the case may be) as an e-File only, for further processing, and receiving back reply, response or orders on the same e-File.
3. Introduction of SFS between HoDs and Secretariat Departments: Single File System as defined in para 2(b) above shall be introduced initially between all the HoDs using e-Office system and the Secretariat Departments. Separate Guidelines will be issued for introduction of SFS from Mandal to Division to District Offices.
4. Objectives of SFS: The following objectives shall be achieved by introducing SFS from HoDs to Secretariat Departments:
- i. Paper-based correspondence between HoDs and the administrative departments of Secretariat shall be eliminated. All proposals and other correspondence from HoDs to the Secretariat departments shall be through e-Office only.
 - ii. Introduction of SFS will enhance the efficiency of communication between HoDs and Secretariat departments.
 - iii. The HoDs shall be able to get visibility into the status of the proposal they have sent to Secretariat.
 - iv. SFS will pave the way for performance measurement of various departments.
5. In this context, committee constituted Vide GO.Rt.No.47 dated:11-3-2016 of ITE&C Department have attended the meeting on 30-7-2016 to examine and finalize the changes / improvements on the draft guidelines on Single File system and recognized that there is a need to formally amend instruction no. 60 of Secretariat Business Rules to implement Single File System. The Committee also recognized the expediency and urgency of introducing SFS at the earliest and deliberated upon introducing SFS through an executive order pending formal amendments.
6. In view of the above, Government after careful consideration hereby issues the below guidelines to implement Single File system in i) Secretariat Departments – Head of Departments and ii) Districts.
7. File routing protocols for Single File System: The following protocols shall be strictly observed for routing of files between HoD and Secretariat Department:
- a. HoD i.e Commissioner or Director may send an e-File ONLY to the Spl CS, Prl Secretary or Secretary of the concerned Administrative Department or of any department of the Secretariat as required.
 - b. The Spl CS, Prl Secretary or Secretary of any department of the Secretariat may send e-File to ONLY a HoD of that Department or to HoD of any other Department.
 - c. Same as (a) and (b) above, e-Files shall not be sent from Secretariat to HoD or vice versa from/to any other levels.

8. Amendments to Business Rules: The General Administration Department shall issue necessary amendments to the relevant Business Rules in line with the above, for implementing the SFS.
9. Enhancements to the e-Office: ITE&C Department shall take steps to bring out the following enhancements to the e-Office application to facilitate implementation.
 - a. The line items of SFS files shall be displayed in GREEN Font in the Inbox and Sent Files folders, to begin with.
 - b. Eventually separate folders shall be created for normal files and SFS files in the Inbox and Sent categories.
 - c. A separate set of MIS reports shall be created to monitoring the implementation of SFS system.
 - d. The nomenclature of SFS files currently used in e-Office to designate scanned files converted to e-Files, may be changed to "Scanned Files", to avoid ambiguity.
10. Immediate Implementation: Pending the amendments and enhancements specified in paras 8 and 9 above, the Single File System shall be implemented by all the Secretariat departments, initially in respect of the HoDs already using e-Office w.e.f issue of this order and in respect of other HoDs within a period of 3 months.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF ANDHRA PRADESH)

SATYA PRAKASH TUCKER
CHIEF SECRETARY TO GOVERNMENT

To

All the Special Chief Secretaries/Principal Secretaries/Secretaries of all the departments of Secretariat
All the Heads of Department
The Personal Secretaries of all Ministers and Advisors to Government
The SIO, NIC, Andhra Pradesh Unit

Copy to

The PS to Chief Secretary to Government of Andhra Pradesh

//FORWARDED :: BY ORDER //

SECTION OFFICER

Annexure-III

GOVERNMENT OF ANDHRA PRADESH ABSTRACT

**Tribal Welfare – Streamlining the administration in Tribal Sub-Plan areas to
gear up implementation of development programmes – Single Line
Administration – Comprehensive Orders – Issued.**

GENERAL ADMINISTRATION (Special. A) DEPARTMENT

G.O. Ms. No. 57

Dated 01-03-2014,

Read the following:

1. G.O.Ms.No.11, SW (D) Department, dated, 13.01.1977.
2. GO Ms.No.302, Education (EE-2) Department, dated, 10.7.1986.
3. G.O.Ms.No.434, General Admn. (Spl.A) Department, dated, 14.08.1986.
4. G.O.Ms.No.19, Revenue (W) Department, dated, 08.01.1987.
5. G.O.Ms.No.460, Education (Ser.I) Department, dated, 30-3-1996
6. G.O.Ms.No.58 Social Welfare (J) Department, dated, 12.05.1997.
7. G.O.Ms.No.105 Social Welfare (L1) Department, dated, 02.08.1997.
8. G.O.Ms. No.193, Revenue (Ser.I) Department, Department, dated, 17.04.2002.
9. G.O.Ms.No.274, General Admn. (Spl.A) Department, dated, 15.06.2002.
10. GO Ms.No.90. HM and FW (M1) Department, dated, 17-4-2003.
11. G.O.Ms.No.333, General Admn. (Spl.A) Department. dated, 14.10.2004.
12. GO Ms.No.420, Health Medical & FW Department, dated, 27-11-2004.
13. G.O Ms.No.8, Social Welfare (LTR-I) Department, dated, 23-1-2008.
14. G.O.Ms.No.102, SW (LTR-1) Department, dated, 06.06.2008.
15. GO Ms.No.953, MH&FW (D1) Department, dated, 26.7.2010.
16. G.O.Ms.No.66 PR & RD (MDL.1) Department, dated, 24.03.2011.
17. G.O.Ms.No.34 Planning (XXII) Department, dated, 01.11.2013.
18. G.O.Ms.No.1 PR&RD (RD.II) Department, dated, 02.01.2013.
19. G.O. Ms. No. 7, Planning (XXII) Dept, dated 23.02.2013
20. G.O. Ms. No. 10, Planning (XXII) Dept,, dated 23.02.2013

ORDER:

1. The Integrated Tribal Development Agencies (ITDAs) in the Districts of Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, West Godavari, Khammam, Warangal and Adilabad were established with the primary objective of ensuring an integrated approach towards implementation of development programmes for the tribals in the sub-plan areas. In order to facilitate better coordination among all the functionaries operating in the sub-plan areas and to meet the needs of the tribals, who can look to a single agency for redressing their grievances in developmental as well as regulatory matters, and

to gear up the rapid socio-economic development of tribal people and tribal areas in an integrated manner, the departments working in the sub-plan areas independent of the ITDAs and Project Officers, ITDAs were brought under the administrative control of the Project Officer, ITDA. Accordingly, the Government have introduced the single line administration system vide G.O.3rd read above and the system has been functioning since

2. Government have enacted the Andhra Pradesh Scheduled Castes Sub-Plan and Tribal Sub-Plan (Planning, Allocation and Utilization of Financial Resources) Act, 2013 (Act No.1 of 2013) to ensure accelerated development of Scheduled Tribes with emphasis on achieving equity, focusing on economic, educational and human development, security and social dignity of the Scheduled Tribes, by earmarking a portion, in proportion to population of Scheduled Tribes in the State, of the total plan outlay of the State as the outlay of the Tribal Sub-Plan of the State and ensuring effective institutional mechanisms for the implementation and for matters connected therewith or incidental thereto.
3. Therefore, the Commissioner, Tribal Welfare has brought it to the notice of the Government that the single line administrative system in the ITDA areas of the State introduced in 1986 and reiterated in 2002 requires to be further strengthened by issuing comprehensive guidelines so as to enable the Project Officers of ITDAs to exercise their responsibilities towards tribal development in a more specific manner and furnished necessary proposals accordingly.
4. Government after careful consideration of the matter and as per the proposal furnished by Commissioner, Tribal Welfare, issues the following orders:
 - i. To the extent possible, Project Officers of ITDAs shall be from the senior time scale of IAS. In case an IAS Officer cannot be spared for any one ITDA, a Committee under Chief Secretary, Principal Secretary, Revenue, Principal Secretary, Rural Development and Principal Secretary, Tribal Welfare would select a panel of officers from different Departments suitable for posting as PO, ITDA. Principal Secretary, TW will act as the convener of this committee.
 - ii. The Project Officer of the ITDAs who are in the senior time scale of IAS continue to be re-designated as PO, ITDA and Ex-officio Joint Collector(Tribal Welfare) and Additional District Magistrate.
 - iii. The Project Officers of the ITDA holding a rank of Special Grade Deputy Collector of lower than senior time scale of IAS shall continue to be re designated as PO, ITDA and Ex-officio Additional Joint Collector (Tribal Welfare) and Additional District Magistrate.
 - iv. Every PO, ITDA will be supported by an Additional PO, ITDA, preferably in the rank of Special Deputy Collector - taken on deputation from Revenue or development departments.
 - v. Such of the powers which are exercised by the Collectors/Joint Collectors/District Revenue Officers as per G.O.Ms.No.77, Revenue,dated 22-1-1968 and shown in the annexure to this order shall be exercised by the Project Officers of ITDAs in the Districts of Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, West Godavari, Khammam, Warangal and Adilabad in so far as the Tribal Sub plan areas are concerned. Necessary notifications in this regard have already been issued from Revenue Department to the extent of agency powers vide G.O. Ms.No.193, Revenue (Ser.I) Department, dated 17-4-2002.
 - vi. To powers of District Collectors under AP (Andhra Area) Preservation of Private Forest Act (Act. XII of 1954), the AP Forest Manual, the A.P. Forest Act, 1967 (Act 1 of 1967), the AP Public Health Act, 1939 (Act. III of 1939), the Cooperative Societies Act, 1964, Weights and Measures and fisheries, will be exercised by Project Officers of ITDA to the extent of ITDA areas. The respective Departments shall immediately issue orders delegating the powers to Project Officers.

vii. The officers in charge of DRDA and DWMA responsible for implementation of rural development programs in ITDA areas shall work under the administrative control of PO, ITDA. Principal Secretary, Rural Development shall issue necessary order/instructions in the matter and ensure that officers of appropriate background shall be posted in tribal areas. MPDOs working in the Tribal Areas shall report to POs, ITDA in so far implementation of development programs and economic support schemes. The Panchyat Raj Department shall issue necessary orders delegating the powers of CEO, Zilla Parishad over MPDOs to PO, ITDA to the extent of ITDA mandals so that single line administration works effectively.

viii. The budgets of various development/welfare activities should be bifurcated at the departmental level between TSP and non-TSP in the case of districts with ITDAs. The TSP projects/proposals of such districts shall be approved by the ITDAs concerned. PO, ITDA shall monitor the implementation of all TSP programs in the ITDA areas.

ix. All the Departments and District Collectors shall ensure that only suitable officers are deputed to work in ITDA areas through careful screening. Officer with poor record and having disciplinary action pending against them shall not be posted in ITDA areas. No officer shall be relieved on transfer if a substitute is not posted.

x. There is a need to revisit the incentives provided to officers and staff working in ITDA areas. A Committee consisting of Special Chief Secretary, Planning, Principal Finance Secretary, Principal Secretary, Rural Development and Principal Secretary, Tribal Welfare shall review the staffing pattern and the incentive structure currently in place and send suitable recommendation to Government within a month.

xi. Specific powers and responsibilities as detailed in Annexure are prescribed for Project Officers of ITDAs for necessary adherence with immediate effect.

xii. All the Project Officers of ITDAs are directed to prepare Comprehensive Development Plans for ITDA areas covering activities of all development departments: infrastructure development, human development and welfare departments (including education, health, woman and child development, etc.). These plans will have to be approved by the Governing Body of ITDA and sent to respective departments for funding; the District Collectors and POs, ITDA shall undertake close monitoring and review of the plans/ development programs every quarter using the Online Monitoring Framework -Habitation Score Card prescribed by the Government and send report to the Government promptly.

5. Chief Secretary to Government shall undertake review of the implementation of Comprehensive Development Plans for ITDA areas with all concerned Secretaries once every quarter.
6. All Special Chief Secretaries/Principal Secretaries/Secretaries/Heads of Departments in the State and District Collectors of ITDA districts shall take necessary action for effective implementation of the above orders.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF ANDHRA PRADESH)

DR.P.K.MOHANTY,
CHIEF SECRETARY TO GOVERNMENT

To

All the District Collectors

All the Project Officers, ITDA Srikakulam / Vizianagaram / Visakhapatnam /East Godavari / West Godavari / Warangal / Khammam / Adilabad.

All the Spl.C.S/Prl.Secy/Secretary to Government.

The Special Chief Secretary to Government, Revenue Dept/
PR&RD(RD) Department.

The Principal Secretary to Government, SWD/HM&FW Dept/
Finance Dept/AHDD&F/EFS & T Department.

The Principal Secretary to Government (TW), Social Welfare
Department/Panchayat Raj Department/School Education
Department/Finance Department

The Pay and Accounts Officer, Hyderabad.

All Departments of Secretariat.

Copy to:

The Director General, Dr.MCR HRD Institute of A.P. Jubilee Hills, Road No.25
A.P. Hyderabad.

The Accountant General (A&E), A.P., Hyderabad.

The Commissioner, Panchayat Raj, AP, Hyderabad.

The Commissioner of Tribal Welfare, A.P., Hyderabad.

The Commissioner & Director General, Health & Medical, Hyderabad.

The Commissioner & Director of School Education, Hyderabad.

The Commissioner, Relief & EO Secretary to Govt. Revenue Dept.

The Chief Commissioner of Land Administration, A.P. Hyderabad

The Secretary to Chief Commissioner of Land Administration. A.P. Hyderabad.

The Principal Chief Conservator of Forests, A.P. Hyderabad.

The Director of Animal Husbandry, AC Guards, Hyderabad.

The Secretary to Government of India, Min. of Tribal Affairs, New Delhi.

The Secretary to Govt. of India, Min. of Personnel, PGts & Pensions, Dept. of
Personnel & Training, North Block, New Delhi-1

The Principal Secretary/Special Secretaries/Addl. Secretaries, Block,
New Delhi-1

The Principal Secretary/Spl. Secretaries/Addl. Secy/Jt.Secy.to CM

The P.S to Ministers concerned

The Social Welfare (TW) Department/Revenue Department/Finance Dept/
School Education/P.R.& R.D. Dept/H.M. & F.W Dept. /AHDD&F Dept.

SFs/SCs

// FORWARDED :: BY ORDER //

SECTION OFFICER (SC)

Annexure

G.O. Ms. No.57, General Administration (Special. A) Department, dated: 1-3-2014)

Sl.No	Function	Role and Responsibilities of Project Officer, ITDA
	Administrative Functions	
1	Administrative control over Executives	<ul style="list-style-type: none"> All Officers and staff in the sub-plan connected with regulatory and developmental functions shall be under the administrative control of the Project Officer, ITDA.
2	Sanctioning of leaves	<ul style="list-style-type: none"> Shall sanction all types leaves to officers working in the O/o ITDA. The Officers working in the sub plan area shall inform the PO about their leave. Office of the Project Officer, shall maintain leave registers of all the executive officers working in the sub plan areas.
3	Initiating and countersigning of Annual Confidential Reports (ACRs)	<ul style="list-style-type: none"> Shall initiate the Annual Confidential Reports of all Gazetted Officers in ITDA Shall countersign the Confidential Reports of all Gazetted Officers of other line Departments within sub plan area, including Sub Divisional Revenue Officer, Tahsildars, MPDOs, Police, Forest Department, etc.
4	Transfers and postings	<ul style="list-style-type: none"> All postings and transfers of the highest non- Gazetted and the Gazetted personnel in regard to and within ITDA area shall be made in consultation with the Project Officers. Shall be the member of District Level Screening Committee constituted under GO No.11, SW (D) Dept, dated 18-1-1977 under the chairmanship of District Collector concerned to screen all the government personnel whose appointments and postings are done at the district level. Shall ensure that no officer or staff member working in tribal areas be relieved on transfer unless a substitute joins in his/her place as per GO Ms.No.311, GA(Ser.A) Dept., dated 18-7-2002.
5	Recruitments	<ul style="list-style-type: none"> In all recruitments in sub-plan areas, the Project Officer, ITDA will be the Chairman or member of the Selection Committees, including the DSC for selection of teachers.
6	Calling for records	<ul style="list-style-type: none"> The Project Officers are authorized to call for any record, review and inspect any work being executed by any department in sub-plan areas.
7	Enquiries	<ul style="list-style-type: none"> The Project Officers shall enquire or initiate enquiry into the allegations against the Gazetted Officers working in the sub plan areas.
8	Tours	<ul style="list-style-type: none"> Shall furnish the tentative tour program once in every fortnight under intimation to District Collector and Commissioner, Tribal Welfare. Shall tour at least (15) days in a month and inspect all schemes to gear up the implementation of development programs in sub plan areas. Shall make minimum 5 night halts in tribal habitations, educational institutions so as to have an effective interaction with STs and ST children. Shall submit the tour dairies by 5th of every month to the Commissioner of Tribal Welfare and concerned District Collector. Shall take action on the important observations furnished by the Commissioner of Tribal Welfare and respective District Collector.

Sl.No	Function	Role and Responsibilities of Project Officer, ITDA
9	Inspections	<ul style="list-style-type: none"> • Shall inspect/ visit minimum 5% of the following institutions every month: • TW Educational Institutions such as Ashram Schools, pre matric hostels, post matric hostels, GPS(TW), TW Residential Schools, Junior Colleges, Degree Colleges, GMR Polytechnics, Residential ITIs. • Area Hospitals, CHCs, PHCs, Sub Centers, Birth Waiting Homes, CHW habitations. • Cases where the land is restored to STs under LTR and where title deeds are awarded under ROFR. • Units sanctioned to ST families under Economic Support Schemes, CCDP and SERP. • Training centers for skill development under Rajiv Yuva Kiranalu & other stakeholders • Engineering works such as educational, administrative, health infrastructure, roads and drinking water works and works taken up under MG-NREGS, NRHM, SSA,RMSA, LWE, IAP etc., • ICDS Centers, Adult Literacy centers, libraries • DR Depots, FP shops and weekly shandies in tribal areas. • Programs taken up by departments of Agriculture, Horticulture, Fisheries, Sericulture, Animal Husbandry, Industries. • Shall attend 2% of the meetings of SHGs, MMS, VTDA's and other CBOs in tribal areas every month. • Shall reduce his/her observations into a visit/inspection note and communicate to the concerned under intimation to District Collector and Commissioner, Tribal Welfare. • Shall review the follow up of action taken on the observations by the respective officers.
10	Reviews	<ul style="list-style-type: none"> • Shall conduct periodical reviews (at least once in a month) with line departments on the developmental activities taken up for the benefit of tribals in the sub plan areas. • Minutes shall be circulated to the line departments within (3) days time for follow up action on the decisions taken in the review meetings. • Shall furnish a copy of the minutes to the Commissioner of Tribal Welfare and District Collector.
11	Maintain data on backlog Vacancies	<ul style="list-style-type: none"> • Shall maintain data on back log vacancies in all departments functioning in sub plan areas, and review the action taken to fill up the vacancies reserved for STs from time to time.
12	Proper maintenance of ITDA records.	<ul style="list-style-type: none"> • Shall be responsible for maintenance and updating of various records and registers by ITDA as prescribed from time to time.
13	Conducting of periodical Governing Body meetings of ITDA's.	<ul style="list-style-type: none"> • Shall take necessary action to convene the Governing Body meetings of ITDA's every quarter in the months of January, April, July and October of every calendar year.

Sl.No	Function	Role and Responsibilities of Project Officer, ITDA
14	Adherence to the ITDA Governing Body Resolutions.	<ul style="list-style-type: none"> • Shall communicate the resolutions of the Governing Body meetings to the Commissioner of Tribal Welfare and Officers concerned. • Shall communicate the resolutions of the Governing Body to the concerned with in (3) days and place the action taken report for the perusal of the Governing Body in the next meeting. • Shall have the authority to summon the district level officer that has not implemented the resolutions of the meetings of the Governing Body for further review in detail.
15	Agency Administration Report	<ul style="list-style-type: none"> • Shall prepare the draft of the Annual Report of the Governor on the Administration of Scheduled Areas as required under Para 3 of the Fifth Schedule to the Constitution of India and furnish to the District Collector concerned by end of May of every year. • The draft shall also include the observations of the Project Officer on the administration of scheduled areas based on his field visits, inspections and interaction with STs living in scheduled areas.
16	Disciplinary powers	<ul style="list-style-type: none"> • Shall be the disciplinary authority under AP CCA Rules, 1991 for the employees of ITDA governed by Model Regulations issued vide GO Ms.No.143, SW (T2) Dept., dated 7-10-1997. • With regard to those employees for whom Project Officer, ITDA is not the appointing authority, he shall be competent under Rule 19(1) (b) of AP CCA Rules, 1991 to direct a disciplinary authority to institute disciplinary proceedings against any government servant functioning in the ITDA area on whom the disciplinary is competent to impose under AP CCA Rules, 1991 any of the penalties specified in Rule 9 or Rule 10.
II	Functions relating to Implementation of Protective Regulations and constitutional safeguards	
18	Protective Regulations	<ul style="list-style-type: none"> • The Project Officers of the ITDAs shall continue to be designated as Additional Agents so far as Agency areas are concerned and attend the following duties. • He will be appellate authority over the orders passed by the Special Deputy Collector (TW) on Land Transfer Regulations; however, the Collector will continue to retain the power of appellate authority and interfere with the orders if he so chooses under: <ol style="list-style-type: none"> 1. The AP Scheduled Areas Land Transfer Regulation I of 1959 as amended from time to time. 2. The AP (Sch. Tribes) Money Lenders Regulation I of 1960 3. The AP (Sch. Tribes) Debt Relief Regulation
		<ul style="list-style-type: none"> II of 1960 4. The AP (Sch. Tribes) Debt Relief Regulation III of 1970 5. The AP Mahals (Abolition and Conversion into Ryotwari) Regulation I of 1969. 6. The AP Muttas (Abolition and Conversion into Ryotwari) Regulation II of 1969. 7. The AP (Scheduled Areas Ryotwari Settlement) Regulation II of 1970. 8. The Andhra Pradesh Scheduled Areas Minor Forest Produce (Regulation of Trade) Regulation 1979.

Sl.No	Function	Role and Responsibilities of Project Officer, ITDA
19	Rule of Reservation	<ul style="list-style-type: none"> • Shall take up verification of rosters maintained by various appointing authorities at district level in implementation of the rule of reservation in favor of STs. • Shall take necessary action for implementation of Notifications issued under Para 5 (1) of the Fifth Schedule to the Constitution of India reserving certain categories of posts in favor of local Scheduled Tribes as ordered from time to time.
20	Caste Verification	<ul style="list-style-type: none"> • Shall enquire in respect of tribals, either suo- motto or on a written complaint by any person or on request made by an employer/educational institution/ appointing authority, to enquire into the correctness of any community, nativity and date of birth certificate already issued and if it is found that the said certificate is obtained fraudulently, shall refer the case to District Level Scrutiny Committee.
21	District Level Scrutiny Committee	<ul style="list-style-type: none"> • Shall Act as Chairman of DLSC in respect of STs for cancellation of certificate obtained fraudulently as per the procedure laid down in section 5 of the Andhra Pradesh (Scheduled Castes, Scheduled Tribes & Backward Classes) Regulation of Issuance of Community Certificates Act, 1993 (Act No.16 of 1993).
22	Forest Rights Act, 2006	<ul style="list-style-type: none"> • Shall identify all the forest interface habitations and take necessary action for conducting Gram Sabhas at habitation level and constitute FRCs. • Shall ensure that all the eligible tribals shall get the forest rights. • Shall take necessary action to incorporate the forest rights in the Revenue records. • Shall take necessary steps for conferring Community Forest Resource Rights. • Shall maintain records on the rights conferred to the individuals as well as community rights. • Shall maintain the records on the claims rejected with reasons. • Shall take necessary action for declaration of all the forest villages as Revenue villages. • Shall upload the progress of FRA in LWE districts in the website maintained by Planning Commission, Government of India, by 5th of every month. • Shall take necessary initiative to recognize MFP rights.
IV	Functions relating to PESA	
22	Conducting Gram Sabhas and constitution of Multi-Disciplinary Teams	<ul style="list-style-type: none"> • Shall depute an Officer not below the rank of Deputy Tahsildar for convening 1st Gram Sabha meeting and electing Vice-President and
		<p>Secretary among the tribals.</p> <ul style="list-style-type: none"> • Shall constitute Multi-Disciplinary Teams to assist the Mandal Praja Parishads or any other Government Agency in preparation of village development plans and prioritizing the benefits and schemes.

Sl.No	Function	Role and Responsibilities of Project Officer, ITDA
23	Ownership and disposal of minor forest produce	<ul style="list-style-type: none"> • Shall take necessary action for ownership and mode of disposal of minor forest produce to vest with the individual members of Gram Sabha subject to monopoly rights of GCC by Trade Regulation 1979 issued in G.O.Ms.No.20, SW (F2) Dept., dated 14.2.1983 for procurement of MFP except Bamboo and Beedi leaf. • Shall ensure that Bamboo and Beedi leaf, management, harvesting and disposal shall be done by the forest Department who shall undertake harvesting duly following scientific silvicultural practices as prescribed in the working plans/ management plans for the respective divisions. Forest Department shall pass on the net revenue from such disposal of the Bamboo and Beedi leaf harvesting from the area allotted to the Gram Sabha, to the respective Gram Sabha who may in turn pass it on to individual members of Gram Sabha. • Shall take necessary action for settlement of disputes if any relating to ownership, access to collection, use and disposal of MFP traditionally collected by him/ her. • Shall ensure that after verification of such claims on the right of ownership of minor forest produce of individual collector, the Gram Sabha shall pass a resolution settling such dispute. • Shall take necessary action that the Gram Sabha shall maintain a register containing the names of each collector of minor forest produce in the habitation. • The Project Officer, ITDA shall be the Chairman of the committee constituted for the management of Bamboo and Tendu products in the respective jurisdiction.
24	Prevention of alienation of lands in the scheduled areas and restoration of alienated lands of scheduled tribe	<ul style="list-style-type: none"> • Shall take necessary action that the Gram Sabha shall <ol style="list-style-type: none"> 1. Prepare a list of landholders containing the details of extent of land held and names of the Pattadars along with enjoyers. 2. Verify the veracity of social status claims of all the Pattadars as to whether Pattadar is a genuine scheduled tribe. 3. Verify as to whether the lands are purchased in the name of a tribal woman and enjoyed by a non-tribal. 4. Visit the field if desired and physically verify as to whether the lands are cultivated by the tribal or by the non-tribal taken on lease, mortgage, etc.; and 5. Approve the list of beneficiaries for assignment of Government lands. • In all cases mentioned at (1) – (5) above, if Grama Sabha, after thorough investigation is satisfied that certain occupations are in violation of the Andhra Pradesh Land Transfer Regulation, 1959 as amended from time to time, Grama Sabha shall pass a resolution mentioning the details of violation. • Competent authority under the Andhra Pradesh Land Transfer Regulation 1959 as amended from time to time shall initiate consequential action.

Sl.No	Function	Role and Responsibilities of Project Officer, ITDA
25	Acquisition of land in the Scheduled Areas	<ul style="list-style-type: none"> • Shall ensure that <ol style="list-style-type: none"> 1. When the Government considers land acquisition under any Act, the Government or the concerned authority will submit to the Mandal Praja Parishad the following written information along with the proposal:- <ol style="list-style-type: none"> (i) The complete outline of the proposed project including the possible impact of the project. (ii) Proposed land acquisition. (iii) New people likely to settle in the village and possible impact on the area and society, and (iv) The proposed participation amount of compensation, job opportunities for the people of the village. 2. After getting complete information the concerned Mandal Praja Parishad will be competent to summon the representatives of the concerned authorities and the Government to examine them either individually or collectively. It will be mandatory for all such persons summoned to furnish point-wise clear and correct information. 3. The Mandal Praja Parishad after considering all the facts shall make a recommendation regarding the proposed land acquisition and rehabilitation plan of persons displaced. 4. The recommendation of the Mandal Praja Parishad shall be considered by the Land Acquisition Officer. 5. In case the Land Acquisition Officer is not in agreement with the recommendations of the Mandal Praja Parishad, he will send the case again to the Mandal Praja Parishad for consideration. 6. If after a second consultation, the Land Acquisition Officer passes an order against the recommendations of the Mandal Praja Parishad, he shall record the reasons for doing so in writing. 7. In case of industrial projects, all the Mandal Praja Parishads that are influenced by such projects shall be consulted. 8. The progress of rehabilitation plan should be placed before the Mandal Praja Parishad after every 3 months from the date of notification for land acquisition. 9. If in the opinion of the Mandal Praja Parishad, suggested measures are not followed, the Mandal Praja Parishad may inform the State Government in writing regarding the same, and it will be mandatory for the State Government to take appropriate action.
26	Excise	<ul style="list-style-type: none"> • Shall ensure that the Department concerned shall inform its intention to establish a unit for manufacturing liquor in a village to the Gram Sabha concerned for its opinion on the production or manufacture of liquor in the said village.

Sl.No	Function	Role and Responsibilities of Project Officer, ITDA
		<ul style="list-style-type: none"> • Shall take necessary action that Gram Sabha shall convey its opinion in the form of a resolution within four weeks and on basing of the resolution of the Gram Sabha the department concerned shall act upon about the production /manufacture of liquor in the village under intimation to Gram Sabha concerned. • Shall ensure that the license shall be granted to local scheduled tribe only. • Shall take necessary action that the Department concerned shall issue a speaking order for granting or not granting any license to open liquor shop/bar in the village under intimation to the Gram Sabha concerned. The Gram Sabha resolution shall be binding and final.
27	Rehabilitation and resettlement due to displacement	<ul style="list-style-type: none"> • Shall ensure that <ol style="list-style-type: none"> 1. Each project affected family of ST category shall be given preference in allotment of land in the ayacut. 2. Each tribal PAF shall get additional financial assistance equivalent to 500 days of minimum agriculture wage for loss of customary rights/usages of forest produce. 3. Tribal PAFs re-settled close to their natural habitat of their choice, to the extent possible, in a compact block so that they can retain their ethnic, linguistic and cultural identity. 4. The tribal families residing in the Project Affected Areas having fishing rights in the river/pond/dam shall be given fishing rights in the reservoir area. 5. The tribal PAFs shall be resettled and rehabilitated within the Scheduled areas. 6. At least one member of a displaced family shall be provided employment in the Mining or Industrial Projects by providing necessary skills through appropriate training.
28	Resolving Land Disputes in Scheduled Areas.	<ul style="list-style-type: none"> • Shall take necessary action that <ol style="list-style-type: none"> 1. If there are conflicting claims in respect of the possession of lands, the Gram Sabha shall convene a meeting and call for evidence in support of such claims from the concerned to pass appropriate resolutions and request to the competent authority under the Andhra Pradesh Scheduled Areas Land Transfer Regulation, 1959 to initiate consequential action. 2. The Gram Sabha shall also convene a meeting on receipt of any complaint on alienation of land in favor of a non-tribal or suomoto pass appropriate resolution and shall forward the same to the competent authority to take necessary action to restore the land to the scheduled tribe transferor. 3. Any person aggrieved by the resolution of Gram Sabha may within a period of sixty days from the date of resolution, file a petition to the competent authority under the A.P. Scheduled Areas Land Transfer Regulation, 1959. 4. The competent authority under the A.P. Scheduled Areas Land Transfer Regulation, 1959 may either allow or reject or refer the petition to the Gram Sabha concerned for reconsideration.

Sl.No	Function	Role and Responsibilities of Project Officer, ITDA
		<ol style="list-style-type: none"> 5. After receipt of such reference, the Gram Sabha shall meet within a period of thirty days, hear the petition, pass resolution on that reference and forward the same to the competent authority under the A.P. Scheduled Areas Land Transfer Regulation, 1959. 6. The competent authority under the A.P. Scheduled Areas Land Transfer Regulation, 1959 shall consider the resolution of Gram Sabha and pass appropriate order, either accepting or rejecting the petition. 7. The competent authority under the A.P. Scheduled Areas Land Transfer Regulation, 1959 shall invariably implead the Gram Sabha concerned for their considered opinion in every case of land alienation involved tribal and non-tribal. The Gram Sabha concerned shall be impleaded and the opinion of the Gram Sabha shall be duly examined 8. The competent authority under the A.P. Scheduled Areas Land Transfer Regulation, 1959 shall furnish the copies of judgments to the Gram Sabhas concerned in every case. 9. While restoring possession of land to tribal, the competent authority shall obtain the signatures of members of Gram Sabha to that extent.
29	Public Markets	<ul style="list-style-type: none"> • Shall take necessary measures for capacity building to manage the village markets by forming Village Market Committees and ensure that • Licenses should be given only to local Scheduled Tribes. • maintain and manage the market yards; • regulate the opening, closing and suspending of transactions in a market yard; • Supervise the conduct of market functionaries; • enforce the conditions of license • regulate the making, execution and enforcement or cancellation of agreements of sales, the weighment, delivery, payment and all other matters relating to the marketing of agricultural produce, NTFP Produce, live stock or products of live stock and all matters ancillary thereto. • Disposal of minor forest produce include local level processing value addition, transportation in forest area through head load, bicycle and hand carts for use of such produce for sale by the gatherers or the communities for livelihood. • provide for the settlement of all disputes between the seller and the buyer and others arising out of any kind of transaction connected with the marketing of a notified agricultural produce, NTFP, live stock or products of live stock and other products and all matters ancillary thereto; • Collect, maintain and disseminate information in respect of :- • Sale prices and movement of notified agricultural produce, live stock or products of live stock; and any other product and

Sl.No	Function	Role and Responsibilities of Project Officer, ITDA
		<ul style="list-style-type: none"> • production, processing and storage of notified commodities; • Take all possible steps to prevent adulteration and to promote grading standardization. • levy, recover and receive fees, subscriptions and other sums of money to which the Market Committee is entitled • Employ necessary number of staff for efficient management of markets. • Conduct the auction of notified agricultural produce, live stock or products of live stock. • Ensure correct weightment of notified commodities; • Regulate the entry of persons and the vehicular traffic into the market yard; • Prosecute persons violating the rules as per the rules • Institute or defend any suit, action, proceeding, application or arbitration and compromise such suit, action, proceeding, application or arbitration; and • Provide facilities, such as provision of adequate space for direct sales by a producer and assist a producer by preparing invoices and bills on his behalf when he sells his produce to a trader without employing a commission agent. • Implement the directions given by the Government from time to time in the establishment and development of markets.
V	Tribal Sub Plan	
30	AP SCSP and TSP (Planning, Allocation and Utilization of Financial Resources) Act, 2013	<ul style="list-style-type: none"> • Shall be the convener of the District Level Monitoring Committee • Shall conduct a survey for determination of gaps in development of Scheduled Tribes compared to the State averages in human and economic development such as Literacy rate, IMR, MMR, Hospitals and Bed strength per lakh population, Land holdings, livestock holding, dwelling houses such as pucca houses, etc. • Shall ensure earmarking of funds in order to meet the felt needs of the tribals and tribal areas that secure direct and quantifiable benefits to Scheduled Tribe individuals or Scheduled Tribe households or Scheduled Tribe habitations or tribal areas that have the potential to bridge the gaps in development. The advice of the District Collector, District Monitoring Committee, individual proposals given by MLAs/MLCs and other Public representatives shall be taken into consideration. • Shall meet at least once in (2) months or as frequently as necessary. • Shall identify and prepare Tribal Sub-Plan schemes. • Shall take necessary action to submit Tribal Sub- Plan schemes proposed to be included in the Annual Plan by all the line Departments so as to submit the same to the Nodal Department within the time frame. • Shall maintain transparency in expenditure and the progress of implementation. • Shall constitute Administrative and Technical Support Unit to assist the Line Departments. • Shall take necessary measures for institutional strengthening at ITDA level for ensuring effective implementation, awareness, mass contact programme, social audit and monitoring of Tribal Sub-Plan.

Sl.No	Function	Role and Responsibilities of Project Officer, ITDA
		<ul style="list-style-type: none"> • Shall take up third party physical verification of TSP works / schemes. • Shall see that the earmarked funds meant for STs are fully spent and benefit reach the needy as per the ST Sub Plan Act 2013
31	Control over local plans and resources for such plans including tribal sub plans in Scheduled Areas.	<ul style="list-style-type: none"> • Shall pursue that <ol style="list-style-type: none"> 1. The State Government shall communicate district wise TSP allocations to the District Collectors and in turn the District Collector will communicate the Mandal-wise allocations to the Mandal Parishad both in physical and financial terms within a month from the commencement of the financial year. 2. The Mandal Parishad Development Officer shall communicate TSP allocations to the Gram Panchayats both in physical and financial terms within a month from the commencement of the financial year 3. The Mandal Parishad and Gram Panchayat shall review the progress of implementation of TSP across all the Departments in their jurisdiction once in a month. 4. The Mandal Parishad and Gram Panchayat shall submit the administrative report on the implementation of TSP through PO, ITDA to the District Collector concerned.
VI	Functions relating to Development of Education among STs	
32	AP School Education Act 1995, Right to Education Act 2009, and Child Labour Act 1986	<ul style="list-style-type: none"> • Shall ensure 100% enrolment of school age ST children and see that no child drops out of school and strive to eradicate the practice of child labor (if any). • Ensure proper implementation of Mid Day Meals Scheme. • Shall ensure 100% enrolment and coordinate the efforts put in by School Education, PR Institutions, Sarva Siksha Abhiyan, RMSA for reducing the dropout of ST children and for improvement of quality in teaching-learning practices in tribal areas. • Facilitate accessibility, supply of potable drinking water, sanitation, upkeep services, etc to schools for creating a congenial learning environment in the schools.
33	Managing TW Educational Institutions	<ul style="list-style-type: none"> • Shall manage and supervise the functioning of TW Educational Institutions. <ul style="list-style-type: none"> • Government Primary Schools (TW) • Hostels • Ashram Schools • Post Matric Hostels • Best Available Schools • Residential Schools • Residential Colleges • Mini Gurukulams • KGBVs • Shall plan for and supervise construction and maintenance of infrastructure of TW Educational Institutions taken up under various programs by various executing agencies. • Shall ensure provision of proper amenities in all TW educational institutions in the district.

Sl.No	Function	Role and Responsibilities of Project Officer, ITDA
33	Managing TW Educational Institutions	<ul style="list-style-type: none"> • Shall take necessary steps for improving quality of education of ST children at all levels in all TW Educational Institutions. • Shall ensure timely supply of text books, note books, dresses, trunk boxes, etc to the ST students in TW Educational Institutions. • Shall supervise implementation of menu in TW Educational Institutions as prescribed.
34	Sarva Siksha Abhiyan / RVM	<ul style="list-style-type: none"> • Shall prepare the annual work and finance plan under SSA with the assistance of Project Monitoring Resource Center (PMRC) and coordinate with SSA at district level for approval of ITDA plan, release of budget and for proper implementation of the programs. • Shall take up a review with Project Officer, RVM once in two months at ITDA level to ensure proper implementation of SSA programs in tribal areas.
35	Rashtriya Madhyamik Siksha Abhiyan (RMSA)	<ul style="list-style-type: none"> • Shall take necessary action in coordination with District Education Officer of the district • To ensure that all secondary schools in the ITDA area have physical facilities, staff and supplies in accordance to the prescribed standards through financial support in case of Government/Local Body and Government aided schools, and appropriate regulatory mechanism in the case of other schools • To improve access to secondary schooling and to ensure that no child is deprived of secondary education of satisfactory quality due to gender, socio-economic, disability and other barriers. • To improve quality of secondary education resulting in enhanced intellectual, social and cultural learning
36	Rashtriya Uchchatar Siksha Abhiyan (RUSA)	<ul style="list-style-type: none"> • Shall lay emphasis on improving access, equity and excellence. • Shall take necessary steps that access must be increased, preferably through consolidation of existing institutions and special importance is to be given to excellence or quality. • Shall visit, inspect and undertake review of functioning of Govt. Degree Colleges, Junior Colleges, TW Residential Junior Colleges functioning in the ITDA area.
37	AP TW Residential Educational Institutions Society (Gurukulam)	<ul style="list-style-type: none"> • Shall function as the District Level Secretary of AP TW Res. Educational Institutions Society (Gurukulam) and be overall responsible for maintenance of AP TW Residential Educational Institutions in the district. • Shall discharge the powers delegated by the Board of Governors of Gurukulam from time to time. • Shall take necessary action to provide all-round development to each student, laying emphasis on academics, sports, music, fine arts, communication and mathematics, through an innovative curriculum designed to make learning enjoyable.
38	Intermediate Education	<ul style="list-style-type: none"> • Shall visit, inspect and review the functioning of Government Junior Colleges functioning in the ITDA area in coordination with Department of Intermediate Education. • Shall put in efforts to strengthen infrastructure, facilities and the academic activity.

Sl.No	Function	Role and Responsibilities of Project Officer, ITDA
39	Higher Education	<ul style="list-style-type: none"> • Shall visit, inspect and review the functioning of Government Degree Colleges functioning in the ITDA area in coordination with Department of Collegiate Education. • Shall put in efforts to strengthen infrastructure, facilities and the academic activity.
40	Technical Education	<ul style="list-style-type: none"> • Shall take necessary action for providing increased/reasonable access, affordable and quality Technical Education through GMR Polytechnics in coordination with Department of Technical Education. • Shall put in efforts to strengthen infrastructure, facilities and the academic activity.
41	Adult Education	<ul style="list-style-type: none"> • Shall take necessary initiative for achieving 100% Literacy and facilitate proper running of Adult Literacy Centers under Sakshar Bharat Programme in the ITDA area in coordination with Adult Education Department.
42	Teacher Education	<ul style="list-style-type: none"> • Shall take action for maintenance of DIETs and College of Teacher Education functioning for STs in ITDA area and for strengthening infrastructure, regulating admissions and ensure smooth functioning.
43	Employment and Training	<ul style="list-style-type: none"> • Shall ensure smooth functioning and put in efforts for strengthening of Residential ITIs functioning in the ITDA area in coordination with Employment and Training Department.
44	Maintain Sub Employment Exchange	<ul style="list-style-type: none"> • Shall maintain sub employment exchange for tribal educated youth through Deputy Director, TW/Sub Employment Officer concerned and inform the eligible ST candidates whenever the vacancies arise in all the departments functioning in tribal sub plan areas.
45	Sports Authority of AP	<ul style="list-style-type: none"> • Shall coordinate for the establishment of Mini Stadium and Sports complexes in ITDA area. • Shall put in efforts for development of sports in tribal areas in coordination with SAAP.
46	NCC	<ul style="list-style-type: none"> • Shall propagate the NCC activities among ST Children in coordination with NCC.
VII	Functions relating to Medical and Health	
47	Control over medical and health institutions in the ITDA area	<ul style="list-style-type: none"> • Shall exercise control over the medical and health institutions functioning in the ITDA area through Addl. District Medical & Health Officer/ Deputy District Medical & Health Officer, ITDA.
48	National Rural Health Mission	<ul style="list-style-type: none"> • He shall be the chairman of ITDA Health Society and prepare the plans, receive budget and implement and monitor the National Rural Health Mission activities in tribal areas.

Sl.No	Function	Role and Responsibilities of Project Officer, ITDA
49	Recruitment and filling up of medical and paramedical vacancies	<ul style="list-style-type: none"> • Shall be responsible for ensuring timely filling up and posting of medical and paramedical staff in the medical and health institutions in the ITDA areas. • Shall be the chairman of the recruitment committees up to the level of staff nurses in the ITDA areas. • Shall be consulted in posting and transferring officers of Civil Assistant Surgeon and above cadre in the tribal areas. • Shall not relieve any functionary transferred from tribal area till a substitute is posted against the resultant vacancy.
50	Preventive and remedial measures in respect of epidemic and malaria	<ul style="list-style-type: none"> • Shall support, guide and review the hospitals in his jurisdiction with Special focus on <ol style="list-style-type: none"> 1. Supply of medicines and its utilization. 2. Review and monitor the health extension activities in tribal areas. 3. Review and monitor the steps taken to prevent outbreak of epidemics. 4. Review and monitor maintenance, up keep of surroundings and construction of Medical and Health Institutions. 5. Control and review the functioning of Primary Health Centers in his Jurisdiction. • Shall take necessary activities such as safe drinking water, Hygiene and sanitation of the Medical Institutions. • Shall take necessary action for improvement in performance of ANMs, Primary Health Centre Doctors • Shall coordinate with Health Department for taking suitable preventive measures for control of epidemic and malaria.
51	104, 108 and Rajiv Aarogya Sri.	<ul style="list-style-type: none"> • Shall coordinate the FDHS under 104, Rajiv Arogya Sree Program and 108 services in the tribal areas. • Shall facilitate medical camps at shandy points, ashram schools, residential schools and interior tribal areas. • Shall facilitate referral services to the ST patients from tribal areas to the primary, secondary and tertiary level Referral Hospitals. • Shall take necessary action to provide preventive, promotive and curative health care in inaccessible areas and difficult terrains.
52	Branch Drug Stores	<ul style="list-style-type: none"> • Shall take action for effective maintenance of Branch Drugs Store located at ITDAs. • Shall take action for additional accommodation and for providing computers and transportation facility for the Branch Drug Stores.
53	Birth Waiting Homes	<ul style="list-style-type: none"> • Shall conduct special campaigns for creating awareness among STs regarding Birth Waiting Homes. • Shall take necessary action for proper maintenance of the Homes duly integrating them with JSY, JSSK.

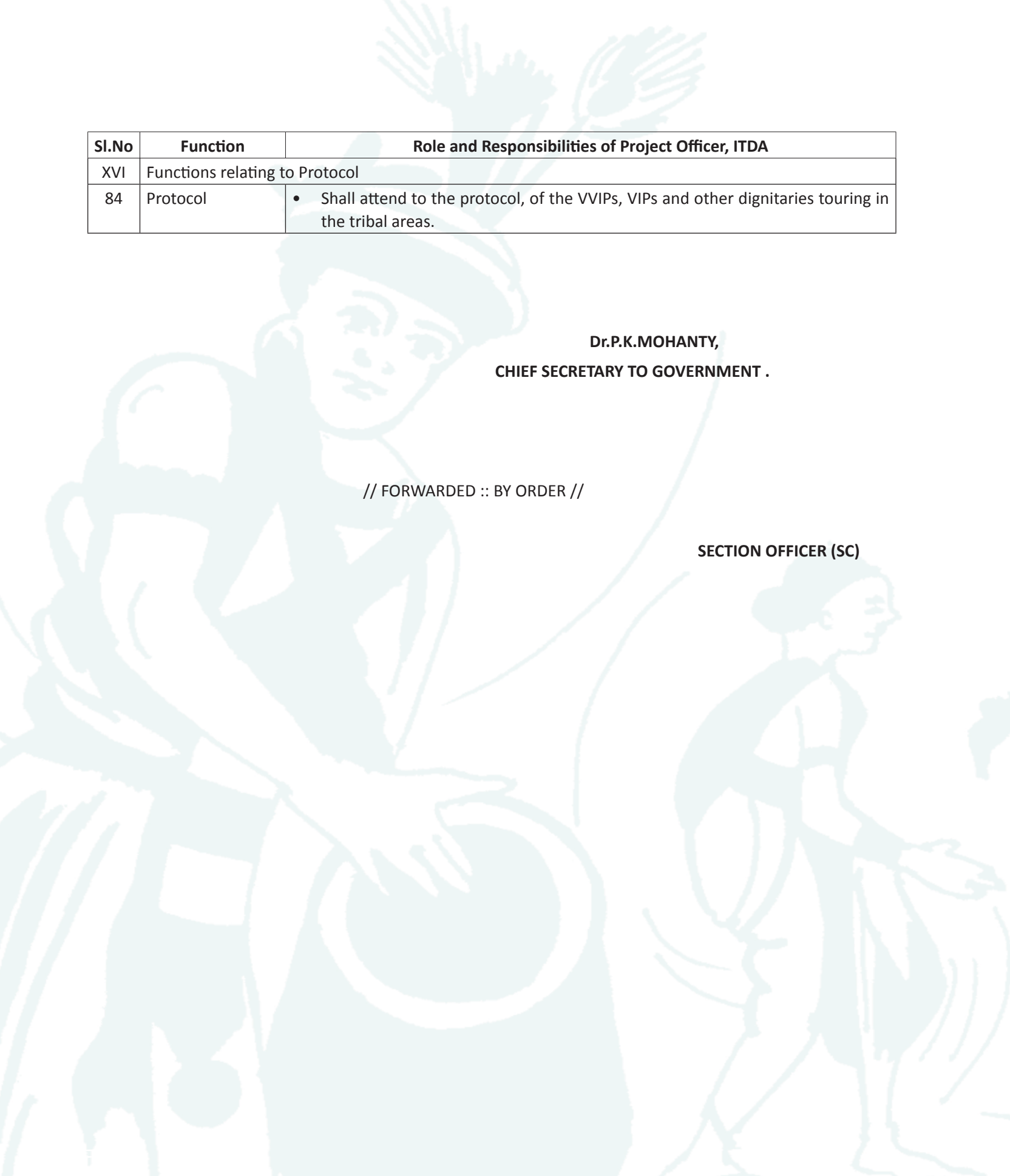
Sl.No	Function	Role and Responsibilities of Project Officer, ITDA
54	Andhra Pradesh Bangaru Talli Girl Child Promotion and Empowerment Act, 2013	<ul style="list-style-type: none"> • Shall ensure the registration of birth of girl child and facilitate issue of birth certificate to the mother/guardian within seven days as prescribed in the Act to enable the beneficiary to access the benefits. • Shall create awareness about the scheme among the tribal households and promote the birth of girl child. • Shall maintain a register depicting the details of no. of girl child births, no. registered and no. received incentives and no. rejected with reasons.
VIII	Functions relating to Area Development and other infrastructure programs	
55	Development of Educational, Administrative and Health Infrastructure	<ul style="list-style-type: none"> • Shall plan for and review and monitor the works taken up for strengthening educational, administrative and health infrastructure including ICDS buildings in ITDA area under TSP of departments such as Tribal Welfare, School Education etc., and under various CSS schemes including IAP and LWE. • Shall also identify, plan for and review and monitor maintenance of various buildings in tribal areas • Shall take up periodical reviews with Executive Engineer, TW, R&B, Panchayat Raj, EWIDC and other Executing Agencies.
56	Providing connectivity	<ul style="list-style-type: none"> • Shall plan for and review and monitor the works taken up for providing connectivity to unconnected ST habitations, Mandals within ITDA area under TSP of departments of Tribal Welfare, Panchayat Raj, BRGF, R&B etc., and under various CSS schemes like MG-NREGS, IAP and LWE. • Shall also identify, plan for and review and monitor maintenance of roads in tribal areas. • Shall take up periodical reviews on progress of works with Executive Engineer, TW, R&B, Panchayat Raj, EWIDC and other Executing Agencies.
57	Construction and maintenance of Drinking Water System	<ul style="list-style-type: none"> • Shall plan for and review and monitor the works taken up for safe drinking water supply to ST habitations in the district under TSP of departments of Tribal Welfare, RWS, BRGF etc., and under various CSS schemes like MG-NREGS, IAP and LWE. • Shall also identify, plan for and review and monitor maintenance of drinking water schemes in tribal areas. • Shall take up periodical reviews on implementation of the schemes with Executive Engineer, TW, RWS and other Executing Agencies.

Sl.No	Function	Role and Responsibilities of Project Officer, ITDA
58	Construction and maintenance of Minor Irrigation schemes	<ul style="list-style-type: none"> • Shall plan for and review and monitor the works taken up for development of minor irrigation including LI Schemes, Ground water investigations, energisation of irrigation sources, development of ayacut, preparation of crop plans of ST ayacutdars, formation and training to ST Water User Groups in the district under TSP of departments of Tribal Welfare, Minor Irrigation, APSIDC, Ground Water Department etc., and under various CSS schemes like MG-NREGS, IAP and LWE. • Shall also identify, plan for and review and monitor maintenance of minor irrigation schemes including LI Schemes in tribal areas. • Shall take up periodical reviews on implementation of schemes with Executive Engineers of TW, SMI, APSIDC and Ground Water Department.
59	Electrification	<ul style="list-style-type: none"> • Shall plan for and review and monitor the works taken up for electrification of ST habitations, energizing the irrigation sources, installation of transformers for TW Educational Institutions and also for implementing the schemes announced by Government under TSP from time to time, in addition to the works taken up under various CSS schemes like RGGVY, IAP and LWE. • Shall also plan for review and monitor the works under Non Conventional Energy taken up by NEDCAP. • Shall be the member of the Board of Directors of AP Tribal Power Company (TRIPCO) and plan for and implement the programs taken up by TRIPCO for harnessing hydel power in tribal areas through Mini Hydel Power Projects and other programs. • Shall take up periodical reviews on implementation of various schemes with Executive Engineers of TW, Transco, NEDCAP and TRIPCO.
60	Weaker Section Housing Program	<ul style="list-style-type: none"> • Shall plan for and review and monitor the Weaker Sections Housing Program taken up for STs in the district by AP Weaker Sections Housing Corporation. • Shall take up periodical reviews on progress of implementation with Executive Engineers of Housing Corporation.
61	MG-NREGS	<ul style="list-style-type: none"> • Shall function as Additional District Project Coordinator for overall implementation of MG- NREGS program in tribal areas. • Shall ensure preparation of shelf of works suitable to the special needs of the tribal areas and keep ready for providing 100 days employment to registered and willing households as per the Act. • Shall ensure convening of Gramasabhas for approval of Gram Panchayat level plans. • Consolidation of Mandal plans at ITDA level for incorporation in district plan. • All the MCCs working in ITDA area shall function under the direct control and supervision of Project Officer of ITDA. • All Fixed Tenure Employees (FTEs) and other staff members working in tribal areas are under the control of the Project Officer, ITDA. • Shall monitor the implementation of the works and ensure transparency in execution of works and wage payments. • Shall preside over all the social audit hearings in tribal areas.
IX	Functions relating to Food Security, Public Distribution System and other Welfare Measures	

Sl.No	Function	Role and Responsibilities of Project Officer, ITDA
62	Girijan Coop Corporation	<ul style="list-style-type: none"> • He shall be the Executive Director of Girijan Coop Corporation and be responsible for implementation of the business of GCC in the ITDA area. • Shall take necessary steps for payment of remunerative prices to the MFP in the capacity of Executive Director, GCC • Shall inspect the GCC depots, procurement points, shandies, godowns, processing units regularly.
63	Public Distribution System.	<ul style="list-style-type: none"> • Shall coordinate with Civil Supplies department and Girijan Coop. Corporation for ensuring proper distribution of essential commodities to the tribal families with special focus on the STs living in interior and inaccessible habitations including PVTGs. • Shall take up periodical reviews with District Supply Officer, Sub Divisional and Mandal Level Revenue Officers on the PDS in tribal areas.
64	Weights and measures	<ul style="list-style-type: none"> • Shall maintain strict vigilance on the use of weights and measures by the shop-owners and venders in the markets and take necessary corrective action. • Shall inspect the weekly shandies, verify the weights and measures.
65	Welfare of Disabled	<ul style="list-style-type: none"> • Shall coordinate and review with the Department of Disabled Welfare for welfare of disabled among STs.
66	Pensions	<ul style="list-style-type: none"> • Shall coordinate and review with Rural Development Department and Department of Culture to ensure proper and timely disbursement of various pensions including pensions to old age artists.
67	Promotion of tribal culture, conducting of tribal fairs and festivals and museums	<ul style="list-style-type: none"> • Shall put in efforts to promote tribal culture, safeguard the best practices and preserve the cultural heritage under different forms such as oral, literary, artefacts etc., • Shall identify important fairs and festivals in scheduled areas and coordinate for conducting the fairs and festivals and also for maintenance of Tribal Museums in collaboration with Department of Culture, Tourism and I&PR.
X	Functions relating to Economic Empowerment and Employment Generation among STs	
68	Promotion of Economic support Programmes	<ul style="list-style-type: none"> • Shall be the Ex – Officio Executive Officer of TRICOR in the district • Shall identify the local potential need based economic support schemes and plan and allocation of resources in proportionate to the population to the groups and area • Shall coordinate with DLRC/DCC and ensure the approval of Credit Plan of ITDA area • Shall Monitor the identification of beneficiaries through JMLBCs & other contemplated process under the provisions of PESA • Shall ensure the release of funds to the implementing agencies and monitor to grounding • Shall ensure that PoP & other Vulnerable Groups are supported on equity basis.

Sl.No	Function	Role and Responsibilities of Project Officer, ITDA
69	Youth Empowerment through trainings & Placements and Self Employment Programs	<ul style="list-style-type: none"> • Shall be the Nodal Officer for implementation of Placement linked Training programs and Direct placement programs of various stakeholders (EGMM, Sub Mission for STs etc) • Shall monitor the skill development programs in ITDAs • Shall identify the skill development gaps and plan for appropriate skill development programs • Shall coordinate various self employment programs implemented by different Govt. of India & State Government Departments and ensure their implementation (Such as KVIC, KVIB, Industries Dept. etc.) • Shall plan and implement the vocational training programs through VTIs & other similar institutions • Shall supervise the facilitation and counseling support to the ST youth through Sub Employment Exchanges, Career Guidance & facilitation Centers • Shall coordinate and liaison with REEMAP activities in ITDA areas. • Shall take up necessary pre Examination trainings & coaching to access to the formal employment
70	Women empowerment	<ul style="list-style-type: none"> • Shall be the Ex-officio Project Director of IKP in ITDA area • Shall overall in-charge of the community empowerment programs • Shall extend the facilitating support in capacity building & resource mobilization to the CBOs (SHGs, VOs, MMSs, GMSs) through IKP functionaries. • Shall ensure the transfer of resources received from SERP to the CBOs • Shall closely monitor the performance of the IKP HR personnel in supporting the CBOs • Shall act as Liaison Officer between the CBOs & SERP & other stakeholders in program implementation & reporting.
71	Establishment of agricultural service centers and holding of agricultural shows and including cattle shows	<ul style="list-style-type: none"> • Shall organize Agriculture/Horticulture Demonstration plots and exhibitions in coordination with Animal Husbandry & Fisheries Departments.
72	Promote sustainable agricultural practices	<ul style="list-style-type: none"> • Shall promote sustainable agricultural practices and to take steps for introducing Non Pesticide Management practices by involving Village Organizations. Shall encourage the practice of Community Managed Sustainable Agriculture (CMSA) and Rain fed Management of Agriculture (RFMA). • Shall Encourage progressive farmers by supply of HYV seeds and other inputs. • Promotion of innovative practices like SRI, Drip irrigation, Sprinkler irrigation etc.
XII	Functions relating to Transparent Governance	

Sl.No	Function	Role and Responsibilities of Project Officer, ITDA
73	Transparency and Accountability	<ul style="list-style-type: none"> • Shall maintain scheme wise, village wise and beneficiary wise details of both physical and financial benefits and shall be placed in the web portal for tracking the progress of the implementation of activities taken up in the TSP areas. • Shall prepare output and outcome indicators of each scheme. • Shall publish success stories under various programs implemented by the line departments in the TSP areas.
74	Social audit	<ul style="list-style-type: none"> • Shall facilitate annual social audit of expenditure of line departments having schemes in scheduled areas.
75	Third Party Physical Verification	<ul style="list-style-type: none"> • Shall take up the third party physical verification of works/ schemes implemented in tribal sub plan areas by the line departments.
XIV	Functions relating to Financial Powers	
76	Budgetary	<ul style="list-style-type: none"> • He shall be the sub controlling officer of TW budget under both plan and non plan and shall be responsible timely release to various Drawing and Disbursing Officers under his control and for proper expenditure and furnishing utilization certificates from time to time.
77	Civil Works	<ul style="list-style-type: none"> • Shall sanction Rs.10.00 lakhs for schemes relating to Civil Works benefitting ST habitations / TW Educational Institutions.
78	Schemes	<ul style="list-style-type: none"> • Shall sanction Rs.3.00 lakhs for schemes other than Civil Works such as Economic Support Schemes.
79	Maintenance works	<ul style="list-style-type: none"> • Shall sanction Rs.3.00 lakhs for maintenance of Schemes such as drinking water, educational institutions, health institutions, roads etc.,
XIII	Functions relating to Accounts and Audit	
80	Annual Statement of Accounts	<ul style="list-style-type: none"> • Shall get the annual accounts compiled through a Chartered Accountant and place them before Governing Body of the ITDA for approval not later than 30th of June every year
81	Audit	<ul style="list-style-type: none"> • Shall furnish the approved annual accounts to Principal Accountant General through Commissioner, Tribal Welfare and get them audited in time. • Shall attend to the rectification of the lapses/defects pointed out by the Principal Accountant General in time and furnish action taken report to Principal Accountant General and Commissioner of Tribal Welfare
82	District Level Audit meetings	<ul style="list-style-type: none"> • Shall attend district level audit meetings and see that the audit paras are disposed in a time bound manner.
XV	Functions relating to Annual Report	
83	Annual Report	<ul style="list-style-type: none"> • Shall prepare and submit an annual report to the Commissioner of Tribal Welfare on the outcome of implementation of schemes containing department wise achievements in TSP areas.



Sl.No	Function	Role and Responsibilities of Project Officer, ITDA
XVI	Functions relating to Protocol	
84	Protocol	<ul style="list-style-type: none">• Shall attend to the protocol, of the VVIPs, VIPs and other dignitaries touring in the tribal areas.

Dr.P.K.MOHANTY,
CHIEF SECRETARY TO GOVERNMENT .

// FORWARDED :: BY ORDER //

SECTION OFFICER (SC)

Annexure- V (Good Practices 4.4)

Sl. No.	Name of The Students	Class in Which Studying	Area of Excellence	Representation In State/National Level(Please Mention Details Of The Event)
01	Gopal Sisa	Vi	Judo +25 Kg U-11 Yrs	Sub-Junior National Judo Championship 2015-16: Vijayawada Position: 3rd
02	Padlam Mundagudia	Viii	Judo +55 Kg U-14 Yrs	Sub-Junior National Judo Championship 2015-16: Vijayawada Position: Participated
03	Sadasiba Muduli	Viii	Judo 35 To 40 Kg U-13 Yrs	Sub-Junior National Judo Championship 2015-16: Vijayawada Position: Participated
04	Sarojini Majhi	Vi	Judo +20 Kg +10 To 11 Yrs	Sub-Junior National Judo Championship 2015-16: Vijayawada Position: Participated
05	Niranjani Khara	Vi	Judo +30 To 35 Kg 12 To 13 Yrs	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: 2nd
06	Sunamani Chalan	Vii	Judo +35 To 40 Kg 12 To 13 Yrs	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: 3rd
07	Lima Khillo	Vii	Judo +40 Kg 12 To 13 Yrs	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: 3rd
08	Bharati Guntha	Viii	Judo +40 Kg 12 To 13 Yrs	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: 3rd
09	Doli Muduli	Viii	Judo +35 To 40 Kg 13-14 Yrs	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: 3rd
10	Priyanka Mandala	Viii	Judo +40-44 Kg 13-14 Yrs	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: 3rd
11	Nalini Hikaka	Viii	Judo +40-44 Kg 14-15 Yrs	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: 3rd

Sl. No.	Name of The Students	Class in Which Studying	Area of Excellence	Representation In State/National Level(Please Mention Details Of The Event)
12	Kami Guntha	Vii	Judo +44 Kg 13-14 Yrs	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: 3rd
13	Sukadei Kirshani	Ix	Judo +44 To 48 Kg 14-15 Yrs	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: 3rd
14	Chanchala Khilo	Vii	Judo +30 Kg 11-12 Yrs	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: 3rd
15	Kabita Kirsani	Vii	Judo, +25 To 30 Kg 11-12 Yrs	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: 2nd
16	Pramila Saunta	Vi	Judo, +20 Kg 10-11 Yrs	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: 2nd
17	Sarojini Majhi	Vi	Judo, +20 Kg 10-11 Yrs	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: 1st
18	Braja Sirika	Viii	Judo, +45 To 50 Kg 14-15 Yrs	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: 3rd
19	Padlam Mundagudia	Viii	Judo, +55 Kg 13-14 Yrs	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: 1st
20	Siba Jani	Viii	Judo, +45 To 50 Kg 13-14 Yrs	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: 3rd
21	Daitari Disari	Viii	Judo, 45-50 Kg 13-14 Yrs	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: 2nd
22	Ananta Pujari	Viii	Judo, +45 Kg 12-13 Yrs	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: 2nd
23	Sadasiba Muduli	Viii	Judo, +35 To 40 Kg 12-13 Yrs	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: 1st
24	Sunduru Hantal	Vii	Judo, +30 To 35 Kg 11-12 Yrs	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: 3rd

Sl. No.	Name of The Students	Class in Which Studying	Area of Excellence	Representation In State/National Level(Please Mention Details Of The Event)
25	Gopal Sisa	Vi	Judo, +25 Kg 10-11 Yrs	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: 1st
26	Dhanamati Bhoi	Vi	Judo, 30 Kg	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: Participated
27	Rashmita Badanayak	Viii	Judo, 35-40 Kg	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: Participated
28	Babi Khilo	Viii	Judo, 40 Kg	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: Participated
29	Kanti Mandinga	Viii	Judo, 44 Kg	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: Participated
30	Subarna Badanayak	Viii	Judo, 40-44 Kg	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: Participated
31	Domai Kirsani	Viii	Judo, 35 -40 Kg	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: Participated
32	Dhaneswari Sisa	Viii	Judo, 35-40 Kg	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: Participated
33	Monalisa Tadingi	Viii	Judo, 40-44 Kg	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: Participated
34	Sumitra Santa	Viii	Judo, 35-40 Kg	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: Participated
35	Jalandhar Nayak	Viii	Judo	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: Participated
36	Sadasiba Muduli	Viii	Judo	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position: Participated
37	Hiranya Saunta	Viii	Judo, 45-50 Kg	State Level Judo Championship (Sub-Junior) At Sambalpur 2015-16 Position: Participated

Sl. No.	Name of The Students	Class in Which Studying	Area of Excellence	Representation In State/National Level(Please Mention Details Of The Event)
38	Padlam Munda Gudaia	Viii	Judo, 60 Kg	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position: 2nd
39	Dhaneswari Sisa	Viii	Judo, 40 Kg	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position: 3rd
40	Kami Guntha	Vii	Judo, 48 Kg	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position: 3rd
41	Kanti Mandinga	Viii	Judo, 52 Kg	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position: 3rd
42	Gunu Golory	Ix	Judo, 57 Kg	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position: 2nd
43	Braja Sirika	Viii	Judo, 50 Kg	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position: Participated
44	Hiranya Saunta	Viii	Judo, 50 Kg	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position: Participated
45	Daitari Disari	Viii	Judo, 50 Kg	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position: Participated
46	Siba Jani	Viii	Judo, 50 Kg	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position: Participated
47	Ananta Pujari	Viii	Judo, 50 Kg	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position: Participated
48	Niranjani Kahara	Vii	Judo, 40 Kg	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position: Participated
49	Rashmi Badanayak	Viii	Judo, 40 Kg	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position: Participated
50	Domai Kirsani	Viii	Judo, 40 Kg	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position : Participated

Sl. No.	Name of The Students	Class in Which Studying	Area of Excellence	Representation In State/National Level(Please Mention Details Of The Event)
51	Priyanka Mandal	Viii	Judo, 44 Kg	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position: Participated
52	Monalisa Tadingi	Viii	Judo, 44 Kg	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position: Participated
53	Subarna Badanayak	Viii	Judo, 44 Kg	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position: Participated
54	Babi Khilo	Viii	Judo, 44 Kg	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position: Participated
55	Sunamani Chalan	Vii	Judo, +40-44 Kg	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position: Participated
56	Sumitra Santa	Viii	Judo, 40 Kg	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position: Participated
57	Bharati Guntha	Viii	Judo, 52 Kg	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position: Participated
58	Sukadei Kirsani	Ix	Judo, 48 Kg	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position: Participated
59	Lima Khilo	Vii	Judo; 48 Kg	State Level Judo Championship (Youth) At Sambalpur 2015-16 Position: Participated
60	Purnima Badanayak	Ix	NCC, Firing	Atc(Igc) Held At A.E. Ground Bbsr ,16-25 Aug. 2015 Participated
61	Kumari Kindal	Ix	NCC, Firing	Atc(Igc) Held At A.E. Ground Bbsr ,16-25 Aug. 2015 Participated
62	Bhagaban Hantal	Xii	Athletic U18	1st Position In 100 Mtrs And 200 Mtrs In Dist. Level Atheletic Meet 20,Dec 2015
63	Ananta Tadingi	Xi	Athletic U18	1st Position In Long Jump In Dist. Level Atheletic Meet 20,Dec 2015
64	Ramesh Hantal	X	Athletic U18	1st In 400 Mtrs Running In In Dist. Level Atheletic Meet 20,Dec 2015

Sl. No.	Name of The Students	Class in Which Studying	Area of Excellence	Representation In State/National Level(Please Mention Details Of The Event)
65	Kana Beti	Xii	Athletic U18	1st In Javeline Throw And Discuss Throw In Dist. Level Atheletic Meet 20,Dec 2015
66	Kumari Kindal	Ix	Annual Sports Meet 2015-16	Girls'champion(Senior)
67	Ramesh Hantal	X	Annual Sports Meet 2015-16	Boys'champion(Senior)
68	Chanchala Badanayak	Vi	Annual Sports Meet 2015-16	Girls'champion(Junior)
69	Daitari Disari	Viii	Annual Sports Meet 2015-16	Boys'champion(Junior)

Boys and Girls participate in all sports and games activities without any constraints like inequalities of opportunities and gender bias.

Annexure -IV

Value of Output and Gross Domestic Product from Livestock Sector (Rs in crore)

Year	At Current Prices		At Constant Prices (At 2004-05 prices)	
	Value of Output	Gross Domestic Product	Value of Output	Gross Domestic Product
2004-05	180034	119333	180034	119333
2005-06	193450	127518	187779	126765
2006-07	215350	142695	195850	133338
2007-08	247180	169296	204454	141398
2008-09	292146	200440	217641	153219
2009-10	346147	237059	226676	161382
2010-11	410937	285805	240166	171554
2011-12	470182	340124	251831	181687
2012-13	537535	386846	261771	189645

Source: Basic Animal Husbandry & Fisheries Statistics, Year-2014, Table No. 50, Page No. 92, AHS Series-15, Ministry of Agriculture Department Of Animal Husbandry, Dairying And Fisheries Krishi Bhawan, New Delhi

Domestic Product from Agriculture and Allied Activities at Current Prices (Rs. In crores)

Item	2004-05	2008-09	2009-10	2010-11	2011-12	2012-13
Value of Output	638530	1049121	1204955	1465643	1657196	1828905
Agriculture	458496	756975	858808	1054706	1187014	1291370
Livestock	180034	292146	346147	410937	470182	537535
Gross Domestic Product	476634	806646	928586	1143517	1300569	1417468
Agriculture and Allied Activities	462665	784907	902361	1112153	1267420	1380917
Operation and Irrigation System	13969	21739	26225	31364	33150	36552
Less Consumption of Fixed Capital	33893	56015	67119	82687	89836	107558
Net Domestic Product	442741	750631	861467	1060830	1210733	1309910

Source: Basic Animal Husbandry & Fisheries Statistics, Year-2014, Table No. 53, Page No. 95, AHS Series-15, Ministry of Agriculture Department Of Animal Husbandry, Dairying And Fisheries Krishi Bhawan, New Delhi

Domestic Product from Agriculture and Allied Activities at Constant (2004-05) Prices (Rs. in crores)

Item	2004-05	2008-09	2009-10	2010-11	2011-12	2012-13
Value of Output	638530	742613	750794	819398	861183	870896
Agriculture	458496	524972	524119	579233	609352	609126
Livestock	180034	217641	226676	240166	251831	261771
Inputs	175865	202561	208401	224281	233638	237692
Gross Domestic Product	476634	555442	557715	610905	643543	649424
Agriculture and Allied Activities	462665	540053	542394	595118	627545	633204
Operation and Irrigation System	13969	15389	15322	15787	15998	16220
Less Consumption of Fixed Capital	33893	44270	47803	54046	55103	60948
Net Domestic Product	442741	511172	509912	556859	588440	588476

Source: Basic Animal Husbandry & Fisheries Statistics, Year-2014, Table No. 54, Page No. 96, AHS Series-15, Ministry of Agriculture Department of Animal Husbandry, Dairying and Fisheries Krishi Bhawan, New Delhi

Share of Agriculture and Livestock Sector in GDP at Constant Prices (at 2004-05 prices)

Year	GDP- Total	GDP-Agriculture & Allied Sector		GDP-Livestock Sector		
	(Rs in Billion)	(Rs. in Billion)	% to total GDP	(Rs. in Billion)	% to total GDP	% to Agri.
2004-05	29715	4766	16.04	1193	4.02	25.04
2005-06	32531	5030	15.46	1268	3.9	25.2
2006-07	35644	5237	14.69	1333	3.74	25.46
2007-08	38966	5570	14.29	1414	3.63	25.39
2008-09	41587	5554	13.36	1532	3.68	27.59
2009-10	45161	5577	12.35	1614	3.57	28.94
2010-11	49370	6068	12.29	1703	3.45	28.07
2011-12	52436	6305	12.02	1786	3.41	28.33
2012-13	54829	6494	11.84	1896	3.46	29.2

Source: Basic Animal Husbandry & Fisheries Statistics, Year-2014, Table No. 57, Page No. 99, AHS Series-15, Ministry of Agriculture Department Of Animal Husbandry, Dairying And Fisheries Krishi Bhawan, New Delhi

Share of Agriculture and Livestock Sector in GDP at Current Prices

Year	GDP- Total	GDP-Agriculture & Allied Sector		GDP-Livestock Sector		
	(Rs in Billion)	(Rs. in Billion)	% to total GDP	(Rs. in Billion)	% to total GDP	% to Agri.
2004-05	29715	4766	16.04	1193	4.02	25.04
2005-06	33905	5368	15.83	1275	3.76	23.75
2006-07	39533	6047	15.3	1427	3.61	23.6
2007-08	45821	7163	15.63	1693	3.69	23.64
2008-09	53036	8066	15.21	2004	3.78	24.85
2009-10	61089	9286	15.2	2371	3.88	25.53
2010-11	72489	11435	15.77	2858	3.94	24.99
2011-12	83917	13006	15.5	3401	4.05	26.15
2012-13	93889	14175	15.1	3862	4.11	27.25

Source: Basic Animal Husbandry & Fisheries Statistics, Year-2014, Table No. 58, Page No. 100, AHS Series-15, Ministry of Agriculture Department Of Animal Husbandry, Dairying And Fisheries Krishi Bhawan, New Delhi



Annexure -VI

Name of PVTGs and their Population in Andhra Pradesh (Undivided)

Sl. No.	Name of PVTGs	1961	1971	1981	1991	2001	2011
1	Chenchu	17609	24178	28434	40869	49232	64227
2	BodoGadaba	21840	25108	27732	33127	36078	38,081
3	DongriaKhond	21754	34382	39408	66629	85324	103290
4	Kolam	16731	26498	21842	41254	45671	44912
5	KondaReddi	35439	42777	54685	76391	83096	107747
6	Kondasavara	-	28189	-	-	-	139424
7	BondoPorja	-	-	-	-	-	-
8	KhondPorja	9350	12347	16479	24154	32669	-
9	ParengiProja	-	-	-	-	-	36502
10	Thoti	546	1785	1388	3654	2074	4811
	Total	123269	195264	189968	286078	334144	

Decadal Growth Rate of Scheduled Tribes and General Population of All India and Andhra Pradesh from 1961 Census to 2011 Census

Sl. No.	Year	General Population		ST	
		All India	Andhra Pradesh	All India	Andhra Pradesh
1	1971 over 1961	24.75	20.9	27.21	25.17
2	1981 over 1971	21.41	23.10	35.81	91.6
3	1991 over 1981	26.05	24.2	31.24	32.23
4	2001 over 1991	22.66	14.59	24.45	19.64
5	2011 over 2001	17.69	4.09	23.66	0.22

Source: Census of India 2011

ITDA wise No.of Scheduled and Non-Scheduled Villages

Sl. No.	Name of the ITDA/ District	Area in Sq.Kms	No. Sch. Villages	No.of Non Sch. villages
1	Seethampeta / Srikakulam	1289.32	108	
2	Parvathipuram / Vizianagaram	1740.98	301	
3	Paderu / Visakhapatnam	5904.51	3373	92
4	Rampachodavaram/ East Godavari	4191.65	834	
5	Kotaramachandra Puram / West Godavari	1006.1	148	
	Total:	14132.56	4764	554

Source: Statistical Abstract of Tribal Welfare Andhra Pradesh, August 2015

ST Households (HHs) - Assets

S. No	District	Surveyed HHs	HHs Without Land	% of HHs Without Land	HHs Without Livestock	% of HHs Without Livestock	HHs Without Own House	% of HHs Without Own House
1	Anantapur	24,907	14,661	58.9	19,625	78.8	1,461	5.90
2	Chittoor	21,900	17,469	79.8	16,571	75.7	1,845	8.40
3	East Godavari	36,853	25,028	67.9	23,948	65.0	2,395	6.50
4	Guntur	33,451	29,339	87.7	29,351	87.7	4,969	14.90
5	Krishna	18,054	15,761	87.3	15,302	84.8	2,878	15.90
6	Kurnool	11,009	8,439	76.7	8,521	77.4	1,049	9.50
7	Prakasam	14,313	13,564	94.8	13,086	91.4	1,361	9.50
8	SPSR Nellore	28,572	26,585	93.0	26,756	93.6	1,599	5.60
9	Srikakulam	29,797	17,209	57.8	23,583	79.1	831	2.80
10	Visakhapatnam	54,221	30,415	56.1	30,966	57.1	1,980	3.70
11	Vizianagaram	44,597	29,470	66.1	25,941	58.2	1,016	2.30
12	West Godavari	22,660	19,387	85.6	19,006	83.9	2,359	10.40
13	YSR Kadapa	9,820	7,659	78.0	8,246	84.0	768	7.80
	Andhra Pradesh	350154	254986	72.8	260902	74.5	24,511	7.00

Source: Andhra Pradesh State Statistical Abstract, May 2014

Value of Output and Gross Domestic Product from Livestock Sector (Rs in crore)

Sl. No.	District	Total Income (Rs. Lakhs)	Agriculture Income (Rs. Lakhs)	% of Agriculture Income	Livestock Income (Rs. Lakhs)	% of Livestock Income	Wage Income (Rs. Lakhs)	% of Wage Income	MGNREGS Income (Rs. Lakhs)	% of MGNREGS Income	Loan Taken Income (Rs. Lakhs)	% of Loan Taken Income	Other Income	% of Other Income
1	Anantapur	7,331	2,733	37.3	179	2.4	1,731	23.6	905	12.3	1,112	15.2	671	9.2
2	Chittoor	2,324	142	6.1	149	6.4	1,222	52.6	233	10	312	13.4	266	11.4
3	East Godavari	2,290	12	0.5	39	1.7	1,633	71.3	430	18.8	34	1.5	142	6.2
4	Guntur	5,544	1,250	22.5	71	1.3	2,531	45.7	104	1.9	1,322	23.8	266	4.8
5	Krishna	900	129	14.3	32	3.5	493	54.8	41	4.6	156	17.3	49	5.4
6	Kurnool	1,183	107	9.1	24	2.1	609	51.5	171	14.5	151	12.7	121	10.2
7	Prakasam	1,383	12	0.8	7	0.5	1,183	85.6	113	8.2	22	1.6	46	3.3
8	SPSR Nellore	3,037	363	11.9	26	0.9	1,831	60.3	151	5	422	13.9	244	8.0
9	Srikakulam	9,101	4,073	44.8	218	2.4	1,620	17.8	1,626	17.9	828	9.1	736	8.1
10	Visakhapatnam	4,177	859	20.6	110	2.6	1,690	40.5	1,049	25.1	193	4.6	276	6.6
11	Vizianagaram	6,504	3,184	48.9	117	1.8	1,668	25.7	809	12.4	393	6	333	5.1
12	West Godavari	2,079	564	27.1	43	2.1	768	36.9	272	13.1	348	16.8	84	4.0
13	YSR Kadapa	2,373	189	7.9	58	2.5	1,122	47.3	222	9.4	491	20.7	291	12.3
	Andhra Pradesh	48,225	13,617	28.2	1,073	2.2	18,101	37.5	6,127	12.7	5,783	12	3524	7.3

Source: Andhra Pradesh State Statistical Abstract, May 2014

ST Households (HHs) - Water, Toilets & Electricity

S.No	District	Surveyed HHs	HHs Using Unsafe Drinking Water	% of HHs Using Unsafe Drinking Water	HHs Using Open Toilets	% of HHs Using Open Toilets	HHs Without Electricity	% of HHs Without Electricity
1	Anantapur	24,907	922	3.7	21,387	85.9	978	3.9
2	Chittoor	21,900	804	3.7	20,245	92.4	1,613	7.4
3	East Godavari	36,853	5,342	14.5	29,255	79.4	4,718	12.8
4	Guntur	33,451	4,542	13.6	26,318	78.7	3,470	10.4
5	Krishna	18,054	1,389	7.7	12,411	68.7	1,435	7.9
6	Kurnool	11,009	614	5.6	8,153	74.1	502	4.6
7	Prakasam	14,313	3,246	22.7	10,399	72.7	1,298	9.1
8	SPSR Nellore	28,572	3,013	10.5	23,303	81.6	1,678	5.9
9	Srikakulam	29,797	18,914	63.5	26,680	89.5	3,595	12.1
10	Visakhapatnam	54,221	28,507	52.6	48,433	89.3	9,351	17.2
11	Vizianagaram	44,597	13,612	30.5	40,066	89.8	3,682	8.3
12	West Godavari	22,660	1,177	5.2	14,814	65.4	2,217	9.8
13	YSR Kadapa	9,820	168	1.7	8,802	89.6	240	2.4
	Andhra Pradesh	3,50,154	82,250	23.5	2,90,266	82.9	34,777	9.9

Source: Andhra Pradesh State Statistical Abstract, May 2014

District, Mandal, Village wise MADA Pockets, Total and S.T Population as per 2011 Census - Andhra Pradesh

Sl. No	District	Mame of the Mandal	Name of the MADA Pocket	Name of the Village	Total Population			S.T Population		
					Total	Male	Female	Total	Male	Female
1	Srikakulam	Kanchili	Talapampara	Talatampara	4416	2188	2228	3205	1595	1610
				KokkiliPuttuga	2765	1343	1422	2491	1212	1279
		Kaviti		Varakha	2266	1097	1169	799	386	413
				Balliputtuga	2727	1310	1417	825	390	435
				Manikyapuram	3738	1751	1987	2493	1147	1346
			Sub-Total		15912	7689	8223	9813	4730	5083
		Kanchili	Mandasa	Mahalpada	UI	UI	UI	UI	UI	UI
				Rangumatia	5	3	2	5	3	2
				Nuvagada	925	564	361	792	461	331
				Gopakeli	75	35	40	73	35	38
		Mandasa		Mala Govindapuram	UI	UI	UI	UI	UI	UI
				Gowduguranti	2468	1099	1369	1554	653	901
				Budarasingi	2811	1422	1389	1095	552	543
				Cheepi	1495	806	689	1241	677	564
				Nuvgam	410	217	193	403	214	189
				Singupuram	1691	675	1016	1202	459	743
				Govindapuram	137	66	71	0	0	0
				Kusumala	1552	779	773	1538	772	766
				Kondalogam	1375	526	849	1339	515	824
				Siddigam	401	189	212	0	0	0
				Hamsarali	1183	598	585	288	153	135
				Bogabanda	803	410	393	453	228	225
				Dabarusingi	656	316	340	647	312	335
				Kantabone	UI	UI	UI	UI	UI	UI
				Konkadaputti	433	219	214	300	149	151
				Khilloyi	1334	774	560	582	377	205
				Savarmadhya	107	56	51	107	56	51
				Karapalle	52	26	26	52	26	26
		Palasa		Lothuru	1326	712	614	1300	697	603

Sl. No	District	Mame of the Mandal	Name of the MADA Pocket	Name of the Village	Total Population			S.T Population		
					Total	Male	Female	Total	Male	Female
				Ramakrishna Puram	76	36	37	72	36	36
				Potriya	140	75	65	140	75	65
				Pentibhadra	UI		UI	UI	UI	UI
				Sub-Total:	19455	9603	9849	13183	6450	6733
				Total:	35367	17292	18072	22996	11180	11816
2	Krishna	A. Konduru	Kummarakutla, Cheemalapadu	Kummarakuntla	1632	829	803	1596	817	779
				Lambada Thanda, Yerukula Colony, Madahava Puram (East & West)	2706	1377	1329	521	262	259
				Repudi Erukula Colony	4918	2494	2424	1506	773	733
				Gollamandla	3387	1720	1667	835	434	401
				A.Konduru Thanda	6462	3101	3361	2700	1163	1537
				Cheemalapadu	11322	5953	5369	3360	1727	1633
		G.Konduru		Cheruvu Madhavaram	2912	1486	1426	1036	531	505
				Vellaturu	4617	2376	2241	129	63	66
		Mylavaram		Pondugula	4362	2209	2153	1413	721	692
				Chandragudem	5065	2547	2518	316	163	153
		Reddigudem		Kudupa Thanda	2785	1433	1352	465	227	238
				Rudravaram	3231	1636	1595	602	320	282
		Vissannapet		Chandrupatla	3143	1578	1565	1452	732	720
				Telladevarapalle	3349	1649	1700	582	295	287
				Total:	59891	30388	29503	16513	8228	8285
3	Guntur	Bapatla	Stuvarupuram	Murukondapadu	8820	4318	4502	2994	1471	1523
				Kanakatapalem Yanadisangam	4313	2110	2203	266	133	133
				Bapatla West	8719	4412	4307	1066	544	522
				Kanakedri Nagar H/o Marproluvari Paleam	8895	4468	4427	294	142	152
				Banumanth Nagar H/o Adavi	7581	3961	3620	190	101	89
				IRC Colony H/o Perali Kesavapur S.T Colony (Bharthiipudi)	1341	678	663	85	40	45
		Karlapalem		Karlapalem	19874	9940	9934	1262	662	600

Sl. No	District	Name of the Mandal	Name of the MADA Pocket	Name of the Village	Total Population			S.T Population		
					Total	Male	Female	Total	Male	Female
				Perali	11035	5552	5483	429	220	209
		Pittalavani Palem		Allur	5146	2535	2611	762	377	385
			Total:		75724	37974	37750	7348	3690	3658
			Grand Total:		155070	85654	85325	46857	23098	23759

Source: Statistical Abstract of Tribal Welfare Andhra Pradesh, August 2015

District wise CLUSTERS Mandals, Villages Total and S.T Population as per 2011 Census - Andhra Pradesh

Sl. No	Name of the District	Name of the Mandal	Name of the CLUSTER	Name of the Village	Total Population			S.T Population		
					Total	Male	Female	Total	Male	Female
1	Vizianagaram	Gantiyada	Yeguvakonda Parthy	Yeguvakonda Parthy	349	173	176	349	173	176
				Diguvakonda Parthy	289	155	134	288	155	133
				Addateegala	555	274	281	542	271	271
				Alaparthi	16	9	7	16	9	7
				Mosalikhandi	93	51	42	92	50	42
				Jadderu	UI	UI	UI	UI	UI	UI
				Bheemavaram	182	98	84	173	93	80
		S. Kota		Mushidipalle	1365	378	987	448	207	241
				Cheedipalem	189	83	106	170	73	97
				Tennuboddavara	2257	1099	1158	899	420	479
				Moolaboddavara	997	508	489	924	470	454
				Kittampalem	2239	1162	1077	682	343	339
				Marupalle	358	188	170	328	174	154
				Jiriyathi Kumaram	651	312	339	137	66	71
		Bondapalle		Mulapadu Karrivanipalem	21	11	10	13	7	6
				Veduruvada	1003	503	500	768	387	381
				Sub-Total:	10564	5004	5560	5829	2898	2931
		Mentada	Kuneru	Kuneru	347	172	175	186	93	93
				Seelavalasa	21	11	10	21	11	10

Sl. No	Name of the District	Name of the Mandal	Name of the CLUSTER	Name of the Village	Total Population			S.T Population		
					Total	Male	Female	Total	Male	Female
				Thimuruvalasa	104	51	53	104	51	53
				Uddangi	740	365	375	111	52	59
				Mirthivalasa	176	89	87	176	89	87
				Gajamgud divalasa	226	111	115	223	109	114
				Kondalingala Valasa	1212	591	621	1132	556	576
				Nikkala Valasa	242	111	131	237	108	129
				Andra	1876	897	979	404	198	206
				Lothugedda	1789	896	893	1096	564	532
				Vankasomida	49	21	28	43	18	25
				Vonija	399	186	213	153	73	80
				Poramlova	29	16	13	29	16	13
				Puligummi	56	25	31	56	25	31
		Ramabhadra Puram		Ravivalasa	257	122	135	257	122	135
				Enubaruvu	342	158	184	340	158	182
				Lollarapedu	185	89	96	185	89	96
				Pedachelagam	119	58	61	119	58	61
				ChintalaValasa	277	143	134	275	141	134
				Mulachelagam	143	73	70	143	73	70
				Chandapuram	301	152	149	254	128	126
				Sub-Total :	8890	4337	4553	5544	2732	2812
				Total:	19454	9341	10113	11373	5630	5743
2	Visakhapatnam	Devarapalli	Samida	Sammeda	679	337	342	659	327	332
				Chintalapudi	701	354	347	693	349	344
				Tamarabba	317	163	154	209	106	103
				Lovamukunda Puram	154	74	80	148	71	77
				Boddapadu	229	122	107	217	114	103
				Pallapukodabu	180	96	84	180	96	84
				Konda kodabu	89	39	50	89	39	50
				Lovaraya Purajupeta	UI	UI	UI	UI	UI	UI
				Gorupalem	UI	UI	UI	UI	UI	UI

Sl. No	Name of the District	Name of the Mandal	Name of the CLUSTER	Name of the Village	Total Population			S.T Population		
					Total	Male	Female	Total	Male	Female
				Pedasoma Puram	UI	UI	UI	UI	UI	UI
				Juttadapalem	25	9	16	22	9	13
				Chinasom Puram	120	60	60	111	58	53
				Bethapudi	378	98	280	104	37	67
				Sambuvani Palem	691	348	343	171	87	84
				Garisingi	1270	629	641	271	142	129
				Chinagan Gavaram	753	395	358	314	163	151
				Valabu	1014	500	514	924	455	469
				Sub-Total :	6600	3224	3376	4112	2053	2059
		Madugula	Sankaram	Sankaram	2431	1228	1203	1952	986	966
				Tatiparthi	1479	515	964	1086	346	740
				Kurmanandha Puram	436	213	223	143	70	73
				Agraharam						
				Chinakurmam	253	124	129	81	39	42
				Lova Gavaravaram	351	173	178	337	169	168
				Lovakrishna Puram	438	220	218	428	214	214
				Kamakutam	225	109	116	222	109	113
				Goppula Palem	374	179	195	372	177	195
				Maddila Palem	UI	UI	UI	UI	UI	UI
				Degala Palem	UI	UI	UI	UI	UI	UI
				Ravipalem	312	151	161	274	132	142
				Medaveedu	65	31	34	60	28	32
				Pittagedda	211	100	111	138	62	76
				LovaKothapalle	239	129	110	207	113	94
				Jalampalle	1509	755	754	460	219	241
				LovaPonnavolu	1702	929	773	781	470	311
				Kagitha	202	88	114	189	85	104
				China Sarada	64	37	27	64	37	27
				PedaSarada	110	54	56	95	44	51
				Anukuru	326	161	165	315	156	159

Sl. No	Name of the District	Name of the Mandal	Name of the CLUSTER	Name of the Village	Total Population			S.T Population		
					Total	Male	Female	Total	Male	Female
				China Gorrighedda	240	120	120	240	120	120
				Peda Gorrighedda	89	43	46	89	43	46
				Tiruvada	883	442	441	400	204	196
				Sanghyam	153	78	75	106	54	52
				Avuruvada (group)	574	334	240	221	109	112
				Sub-Total :	12666	6213	6453	8260	3986	4274
				Total:	19266	9437	9829	12372	6039	6333
3	WeatGodarari	Chintalapudi	Namavaram	Namavaram	1880	943	937	1618	813	805
				Gudipadu Khandrika	UI	UI	UI	UI	UI	UI
				Teegala vancha	991	512	479	509	267	242
				Lingagudem	1486	719	767	391	196	195
				Gurughatla Gudem	792	386	406	227	108	119
				Recharla	4140	2085	2055	828	428	400
				Gonnepally	75	39	36	0	0	0
				Chintampalle	1808	921	887	377	187	190
				Rangapuram Khandrika	471	239	232	104	53	51
				Pattayagudem	1412	703	709	321	165	156
				Sub-Total :	13055	6547	6508	4375	2217	2158
		T.Narsapuram	Bandivarigudem	Bandivari Gudem	4659	2231	2428	1855	811	1044
				Krishna Puram	774	393	381	704	355	349
				Appalaraju Gudim	2325	1315	1010	219	119	100
				Vakalapudi	UI	UI	UI	UI	UI	UI
				Makkinavari Gudem	4735	2373	2362	427	228	199
				Epigunta	2778	1411	1367	446	236	210
				Tirumaladevipeta	6492	3289	3203	326	157	169
				Kollivarigudem	881	424	457	405	191	214
				Sub-Total :	22644	11436	11208	4382	2097	2285
				Total:	35699	17983	17716	8757	4314	4443
				Grand Total:	74419	36761	37658	32502	15983	16519

Source: Statistical Abstract of Tribal Welfare Andhra Pradesh, August 2015

ITDA Wise No. of Scheduled Villages, Total and S.T. Population - 2011 - Andhra State

Sl. No	ITDA	Mandals covered		No. of Villages	Total Population			S.T. Population		
		Fully	Partly		Total	Male	Female	Total	Male	Female
1	2	3	4	5	6	7	8	9	10	11
1	Seetham Peta	Seetham Peta		108	41546	20625	20921	37881	18799	19082
2	Viziana Garam	G.L Puram		123	46282	21680	24602	40080	18583	21497
			Kurupam	87	35753	17556	18197	31156	15297	15859
			Komarada	39	7158	3336	3822	6318	2939	3379
			Pachipenta	21	8563	4264	4299	8457	4211	4246
			Saluru	24	6895	3323	3572	6829	3292	3537
			Makkuva	1	31	16	15	30	15	15
			Jiyyamma valasa	6	1857	912	945	1831	902	929
		Total:		301	106539	51087	55452	94701	45239	49462
3	Visakha Patnam	Araku Valley	-	266	56674	27492	29182	51876	25067	26809
		Dumbriguda	-	327	49029	23801	25228	46479	22558	23921
		Paderu	-	275	58983	28644	30339	48694	23507	25187
		Hukumpeta	-	402	51697	25137	26560	49594	24121	25473
		G.Madugula	-	392	53884	26966	26918	49970	24765	25205
		Pedabayalu	-	444	51890	25542	26348	49937	24575	25362
		Munchingput	-	467	47418	22937	24481	44538	21470	23068
		Chintapally	-	180	71640	35217	36423	64703	31791	32912
		G.K.Veedhi	-	136	63174	30486	32688	56757	27265	29492
		Ananthagiri	-	332	39906	19781	20125	35968	17721	18247
		Koyyuru	-	144	50619	25027	25592	41213	20406	20807
			Nathavaram	8	9115	4619	4496	4283	2171	2112
		Total:		3373	604029	295649	308380	544012	265417	278595
4	East Godavari	R.C.Varam	-	87	39351	19185	20166	31206	15136	16070
		Y.Ramavaram	-	137	28614	13757	14857	26210	12548	13662
		Rajavommangi	-	62	39582	19102	20480	22786	11005	11781
		Maredumilly	-	70	19507	10166	9341	18199	9462	8737
		Devipatnam	-	44	28178	13669	14509	16394	7856	8538

Sl. No	ITDA	Mandals covered		No. of Villages	Total Population			S.T. Population		
		Fully	Partly		Total	Male	Female	Total	Male	Female
1	2	3	4	5	6	7	8	9	10	11
		Addathegala	-	99	37241	18686	18555	24663	12445	12218
		Gangavaram	-	60	25912	12393	13519	17422	8173	9249
		Total:		559	218385	106958	111427	156880	76625	80255
	East Godavari	Nellipaka		70	38961	19195	19766	20612	10148	10464
		Kunavaram		56	26245	12351	13894	15886	7362	8524
		Chintoor		87	40725	19899	20826	31239	15088	16151
		V.R.Puram		62	25597	12171	13426	16112	7528	8584
		Total:		275	131528	63616	67912	83849	40126	43723
5	West Godavari	Buttayagudem	-	53	53031	25533	27498	34247	16245	18002
		Jeelugumilly	-	29	30077	15163	14914	8779	4500	4279
			Polavaram	20	32645	16005	16640	11906	5730	6176
		Total:		102	115753	56701	59052	54932	26475	28457
		Kukunoor	-	25	35894	17157	18737	10899	5336	5563
		Valairpadu	-	21	22882	11007	11875	14240	6736	7504
		Total:		46	58776	28164	30612	25139	12072	13067
		Grand Total :		4764	1086651	531206	555445	888559	432628	455931

Source: Statistical Abstract of Tribal Welfare Andhra Pradesh, August 2015

