

**EVALUATION REPORT
ON
IMPACT OF FOCUSED AREA DEVELOPMENT
PROGRAMME (FADP)
ON THE LIVELIHOOD IMPROVEMENT OF
SCHEDULED TRIBES IN TSP AREAS
IN ODISHA**

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Abbreviations

ADM	Additional District Magistrate
AI	Artificial Insemination
ANM	Auxiliary Nursing Midwifery
BDO	Block Development Officer
BKVY	Biju Krushak Vikas Yojana
BPL	Below Poverty Line
CDVO	Chief District Veterinary Officer
CEO	Chief Executive Officer
CIPET	Central Institute of Plastics Engineering & Technology
CIRTD	Centre for Integrated Rural & Tribal Development
CYSD	Centre for Youth and Social Development
DAP	District Agriculture Plan
DCA	Diploma in Computer Application
DEO	Data Entry Operator
DFL	Disease Free Laying
DFO	District Fisheries Officer
DIC	District Industries Centre
DMLT	Diploma in Medical Laboratory Technology
DRDA	District Rural Development Agency
FADP	Focused Area Development Programme
FCRS	Female Calf Rearing Scheme
FFDA	Fish Farmers Development Agency
FGD	Focused Group Discussion
FISHFED	Odisha Fisheries Cooperative Corporation Ltd
FNGO	Facilitating Non-Governmental Organization
GP	Gram Panchayat
HYV	High Yielding Variety
ICAR-CIFRI	Indian Council of Agricultural Research-Central Inland Fisheries Research Institute
IFRA	Individual Forest Right Act
IGS	Income Generating Scheme
IINRG	Indian Institute of Natural Resins and Gums
ITDA	Integrated Tribal Development Agency
KVIB	Khadi and Village Industries Board
KVK	Krusha Vigyan Kendra
LAMPCS	Large Agriculture Multi Purpose Cooperative Societies
LI	Livestock Inspector
MCUs	Mother Chick Units

MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MPS	Milk Producers' Society
NFDP	National Fisheries Development Board
NGO	Non-Governmental Organization
NHM	National Horticulture Mission
NIFT	National Institute of Fashion Technology
NTFP	Non-Timber Forest Produces
OAIC	Odisha Agro Industries Corporation
OFMRDC	Odisha Farm Machinery Research & Development Centre
OLM	Odisha Livelihood Mission
ORMAS	Odisha Rural Development and Marketing Society
OTDS	Odisha Tribal Development Society
OTELP	Odisha Tribal Empowerment & Livelihoods Programme
PA	Project Administrator
PFCS	Primary Fishermen Cooperative Societies
PGDCA	Post Graduation Diploma in Computer Application
PLET	Placement Linked Employability Training
PPO	Plastic Processing Operator
PRI	Panchayati Raj Institution
PRT	Pre-Recruitment Training
PSU	Public Sector Undertaking
PVTG	Particularly Vulnerable Tribal Group
RCC	Reinforced Cement Concrete
RKVY	Rashtriya Krishi Vikas Yojana
SC	Scheduled Castes
SCA	Special Central Assistance
SDT	Skill Development Training
SDVO	Sub Divisional Veterinary Officer
SEWAK	Self Employed Workers' Association Kendra
SHG	Self Help Group
SSD	ST & SC Development
ST	Scheduled Tribes
SVG	Special Vulnerable Groups
TSP	Tribal Sub-Plan
VAS	Veterinary Assistant Surgeon
VAW	Village Agriculture Worker
WEO	Welfare Extension Officer
WSHG	Women Self Help Group

Evaluation Report on Impact of Focused Area Development Programme (FADP)
on the Livelihood Improvement of Scheduled Tribes in TSP areas in Odisha

EXECUTIVE SUMMARY

Study Background

Odisha Tribal Development Society (OTDS) of ST & SC Development, Minorities & Backward Classes Welfare Department, Government of Odisha registered under Societies Registration Act 1860 has been facilitating implementation of Focused Area Development Programme (FADP) with the objectives to ensure sustainable livelihood of ST families through land and non-land based livelihood activities with the following broad objectives:

- Ensuring sustainable livelihoods of ST families through land and non-land based livelihood activities;
- Developing suitable infrastructure so as to improve the standard of living and facilitating incremental results in their livelihoods;
- Developing backward & forward linkages and strengthening local institutions;
- Improving the governance system in the tribal villages by strengthening the Community Institutions.

The Interventions taken under the project highlight Wadi/ Horticulture Plantations, Improved Agriculture, Lac cultivation and processing, Rubber Plantation, Poultry Rearing, Farm Mechanization, Vegetable Cultivation, NTFP Collection and Marketing, Production/ Processing Centres, Sericulture, Dairy, Fishery, Apiculture, Micro Enterprise Development through SHGs, Coffee Plantation, Goat Rearing, Skill Training Programme for Tribal Youth.

Methodology

The study was conducted in five ITDA areas during October, 2017 to March, 2018. Only five ITDAs out of 21 namely, Baripada, Karanjia, Paralakhemundi, Koraput and Sundargarh were selected through purposive sampling method keeping in view to cover different agro-climatic zones and physiographic situation and also to undertake maximum number of interventions implemented in the ITDA area. In each ITDA, the

number of blocks has been selected taking into account the number of interventions executed in the block and from each block, as far as practicable, two villages have been selected through purposive sampling method where the interventions have been executed and the distance factor of the block both farther and nearer to ITDA headquarters. In the next stage, around 5 beneficiaries were selected randomly in each sample village for personal interview/ interaction. In case of some interventions like fishery and dairy, one beneficiary has been interacted in a village where the number of beneficiary is limited to one only.

In addition to the personal interview/ interaction with the beneficiaries, Focused Group Discussions (FGDs) were conducted to assess the benefits the villagers derive and constraints in implementation of the project. Besides, case studies were conducted to evaluate the impact of the project with exceptional as well as poor performance of the interventions.

Village and Household Status

1. The facility of Primary School is available either within the village or at close vicinity of 1 km only. High School is available in most of the cases within the village or at a distance ranging from 2 to 8 km.
2. The basic amenities like health services, Post Office, Bank, LAMPCS, VAW Centre, LI Centre, and Input Sale Centre are available to the villagers at a distance ranging from 2 to 15 km in most of the cases excepting very few exceptional cases.
3. The villages are mostly covered by ST households which contributes 83% of the total households.
4. Around 68% of the households are having pucca houses and electrified houses account for around 90%. Around 39% of the households are having TV, 19% households maintain motorcycle and 79% of the household use mobile phone. Almost 100% households are using firewood for cooking.
5. The primary occupation of the beneficiaries is agriculture and wage earning is their secondary occupation. The farmers mostly depend upon the bullock labour either available with them or availing the facility from the neighbouring farmers.
6. Out of 51 sample villages, 25 are rain fed. Life saving irrigation is provided from the dug well, natural stream and bore well. Because of unavailability of assured

irrigation, cropping depends on rain resulting less use of high yielding varieties and chemical fertilizers leading to low crop yield.

7. In the five sample ITDAs, 281 beneficiaries were interacted through personal interview, FGD, Case Studies and field visit covering 20 blocks, 48 GPs and 61 villages. Sixteen interventions were covered in 5 ITDAs except NTFP collection and marketing which has not been implemented in any of the sample ITDAs.
8. The literacy percentage in the sample households is 76%. The literacy percentage is maximum in Karanjia ITDA area (93%) and minimum in Koraput ITDA area (63%). In each household workforce is available to the tune of 93% on an average.
9. Agriculture is the primary occupation of the villagers before and after execution of the FADP Interventions. In addition to agriculture, they are also involved in wage earning as the secondary source of income. Some of the families also earn out of apiculture, mushroom cultivation, vegetable production, goat rearing, poultry rearing.
10. The average cultivated land holding of the beneficiaries is 3.11 acre out of which the area under irrigation is 1.23 acre and rain fed land accounts for 1.87 acre. Most of the sample beneficiaries are using improved and high yielding seeds, fertilizers and pesticides in agriculture.

Key Findings of the Interventions

1. Coffee Plantation

Coffee plantation has been done on the unproductive barren land on the hill surface during 2015-16 in Nandapur block and during 2015-16 and 2016-17 in Koraput block. The intervention has been executed by the Coffee Development Division under Soil Conservation Department with the financial support of the ITDA. The beneficiaries have been provided wages towards labour cost from the funds allocated under SCA to TSP. The fruiting will start from the 4th year. The yield of coffee as assessed will be 3 Q/acre of coffee seeds and the present selling price is Rs.130 per kg. With proper maintenance of the plantation area, one acre will provide income of Rs.39,000/- annually over and above the present annual average income of around Rs.46,000/- per household from farming and wage earning. Provision of pump set for coffee plantation may be considered to reduce the drudgery of the farm women towards irrigation. Government may examine to encourage black pepper

cultivation along with coffee and the return is estimated to be Rs.1.50 lakh per acre in addition to the income from coffee.

2. Rubber Plantation

The ITDAs in Paralakhemundi, Baripada as well as Karanjia are successful in popularizing rubber cultivation. It is the primary occupation of the farmers now and capable of generating 90 to 110 labour days annually on an average. One acre of rubber plantation will produce 240 kg of rubber sheet after processing. The net income will be Rs.31,200/- from one acre of rubber plantation taking into consideration the engagement of family labour for maintenance of the plantation area.

3. Wadi/ Horticulture Plantation

The plantation of mango and litchi was introduced under the programme by the ITDAs in Paralakhemundi, Sundargarh and Koraput in convergence with Horticulture Department during 2015-16 and 2016-17. The grafts of mango and litchi were supplied by the ITDA to the beneficiaries free of cost. Border plantation with forest species has been done by the beneficiaries with the support of the ITDA. In case there is no natural source or insufficient water for irrigation, ITDA has made provision of dug well. The beneficiaries are satisfied with the support of the ITDA and also Horticulture Department. The farmers have gone for intercropping with ragi, vegetables, pulses, niger in their own effort during kharif and pre-rabi and in a few cases they have taken up winter vegetables where water source is available. The average annual income from intercropping varies from Rs.4000 to 9000/- per household depending on the initiative taken by the beneficiaries. In the subsequent years, 40% of the beneficiaries did not take any interest for intercropping as there was no provision of free input supply. Annually 90 man-days of labour are generated per household on an average from Wadi. In Sundargarh and Koraput ITDA, implementation of Wadi is found successful mainly due to support of FNGO. The beneficiaries have provided net fencing supplied by the ITDA free of cost utilizing their own labour. In Karanjia and Baripada ITDA area Wadi was taken up during 2012-13 and 2013-14 respectively but is not found successful.

So the annual gross income from mango from 10 year old plantation will be Rs.3,00,000/- and that of litchi will be Rs.75,000/- per acre taking the market price of Rs.2000/- and Rs.3000/- per qtl respectively. Since Wadi is developed in the culturable waste land, with a little maintenance of the orchard, agronomic and pest management practices, Wadi generates additional income for the farmers. With the growth of the plants, the yield and income will be doubled or even more

4. Sericulture

Sericulture is under execution in Baripada and Paralakhemundi ITDA out of the five sample ITDAs selected for the study. ITDA, Baripada has extended financial assistance of Rs.14 lakh to 7 centres in 4 blocks for construction of concrete drying yards. Average price is Rs.4000/- per *kahana* and each beneficiary produces 6 to 8 *kahana* on an average in a year. So the estimated annual return per farmer is Rs.30,000 to Rs.40,000/- at the minimum. It is an encouraging enterprise for the Tassar farmers. The Tassar Rearing Centre has taken the responsibility of marketing of the produce.

In Paralakhemundi ITDA area, Mulberry plantation has been taken up in consultation with Asst. Director, Sericulture, Chandragiri. Sharing from past experiences the beneficiaries expressed that the income from sericulture is comparatively higher than all other major crops cultivated in the area. The generation of labour per acre goes up to 250 per annum. One acre of mulberry plantation fetches good income ranging from Rs. 35,000 to Rs. 45,000 if cultivated in accordance with the scientific methods. The life span of the mulberry crop is 15 to 20 years. Regular and ensured market support is extended by the Sericulture Department.

5. Lac Cultivation

The project has been executed by the ITDA, Baripada in Bangriposhi block with Semialata plantation, the host plant for Lac insects, during 2015-16 in an area of 3 hectare covering 22 beneficiaries. Plantation was executed by Kishore Chandrapur Lac Industrial Coop. Society, Tartari, Nilagiri Block. The annual return from 1 hectare plantation is estimated to be Rs.80,000/-. Subsequently, the responsibility of maintenance of Semililata Plantation by the Society was discontinued. Hence, the tribal population of the area could not derive any benefit out of the project. With the

financial assistance of the ITDA, Baripada, plantation of Semialata in Morada block was taken up as inter-cropping with mango in 10 hectare area by the Deputy Director of Horticulture, Baripada. The entire plantation has been damaged due to lack of maintenance and technical expertise. In Karanjia ITDA area, Lac cultivation was taken up in Thakurmunda block area during 2013 in Kusumi as the host plant. The larvae of lac were inoculated during July-August but all the larvae were damaged due to Phailin during October, the natural calamity, and no further step was taken for lac cultivation.

6. Mushroom/ Vegetable Cultivation

ITDA, Paralakhemundi has facilitated for popularization of mushroom production with technical assistance of the Deputy Director of Horticulture, Paralakhemundi in convergence with NHM programme in Munising GP in Gumma Block. The family labour use has been increased to almost 100 man-days from 48 man-days. The net annual income from 300 beds with one Net House of 200 sqm size is Rs.30,000/- per household.

Vegetable cultivation with the financial assistance of ITDA, motivation and guidance of CYSD, the FNGO and convergence with Horticulture department has gained popularity in Koraput ITDA area. The ITDA has supplied hybrid vegetable seeds like brinjal, chilli and tomato (100 gram) and bio-pesticides to the beneficiaries to cover 0.5 acre and technical guidance to cultivate during kharif/ rabi as per the suitability of land and availability of irrigation. The gross income from the patch is at least Rs.60,000/- and the family labour has been utilized so that the expenditure towards labour engagement has been saved. Prior to introduction of vegetable production, the primary source of income was from wage earning. During 2016-17 Rabi season vegetable cultivation was introduced in Karanjia ITDA area in 3 blocks covering 50.5 acre area. ITDA may take steps for formation of Farmer Producers Group with the support of the NGO so as to enable the vegetable producers to get right price of their produces.

7. Farm Mechanization/ Pump sets

Under this head, diesel pump sets of 1.5 HP and 3.0 HP have been supplied to the tribal farmers with 50% subsidy from Agriculture and 50% subsidy from ITDA limiting

to Rs.10,000/- in each case for providing irrigation to their crops in Paralakhemundi, Sundargarh and Koraput ITDAs. The sample ITDAs have taken initiative for supply of diesel pump sets under the intervention “Farm Mechanization” and in Karanjia, the WSHGs have been supplied with Power Tiller and Sprinkler sets and the intervention has positive impact on sustainability of farm income and enhancing the livelihood through mitigating the moisture stress and drought like situation with the provision of life saving irrigation facility. It is suggested that the selection of farm machineries and equipments may be made in consultation with the Experts of Agriculture & FE Department.

8. Dairy Development

In Paralakhemundi ITDA, the initiative could not be executed since 2015-16 without indicating any reason. Hence, the benefits of the intervention on Dairy Development could not reach the target group in Paralakhemundi ITDA area.

A Female Calf Rearing Scheme (FCRS) is under execution in Badsahi block under Baripada ITDA since 2013-14 with the objective to provide cattle feed to calves over a period of 30 months. Accordingly, 125 kg of cattle feed is provided to the beneficiaries every three months interval for each calf.

Fodder Development Programme in Baripada

The project was executed in 5 acre patch in Badasahi block under Baripada ITDA during 2013-14 to meet green fodder requirement of around 2000 cattle population in two nearby Panchayats. The green fodder was sold @ Rs.1.50 per kg. The cultivation of fodder continued till 2016-17 and the project is not sustainable during the succeeding years.

Female Calf Rearing Scheme in Karanjia ITDA

The Female Calf Rearing Scheme has been implemented in Karanjia ITDA area. An amount of Rs.3.50 lakh has been placed with the SDVO, Karanjia during 2016-17 against execution of the scheme through 44 beneficiaries covering all the 5 blocks under Karanjia ITDA during 2014-15 and 2015-16. The beneficiaries are mostly small and marginal farmers growing mainly paddy and vegetables in the back yard for their own consumption. The scheme facilitates production of 7-8 litres of milk per

day from one milch cow for 240 days of lactation period in a year. The annual average income of each beneficiary from this intervention is estimated to be Rs.50,000/- from one milch cow. This intervention is a remunerative one and has gained popularity by the beneficiaries and proved successful in enhancing the livelihood of the tribal beneficiaries.

9. Goat Rearing

Out of the 5 sample ITDAs, Goat Rearing Unit has been allotted to ITDA, Karanjia only. Including Karanjia ITDA, Goat Rearing Units have also been established through WSHGs in Koraput and Baripada ITDAs under Income Generating Scheme - Assistance to SHGs. The WSHG members purchased 2 goats per head. The average cost of each goat is Rs.3000/-. Three-year old goats are sold at Rs.8,000-10,000/-. It is a profitable enterprise for the WSHGs. The ITDAs may ensure for purchase of improved breeds with the support of Veterinary Experts instead of entrusting the member of the WSHG to purchase from the village or local market in their own choice.

10. Fishery

Baripada, Sundargarh and Karanjia ITDAs, with the support of District Fisheries Officer, created awareness among the tribal people having at least ½ acre of pond. The ITDA provided fingerlings, fish feed, fishing net free of cost during the first year of execution through the District Fisheries Officer (DFO). Currently, the fish production level is around 15 - 20 quintal annually from ½ acre pond which is sold at the price of Rs.110 to 150/- per kg depending on the demand for sweet water fish. The beneficiary earns around Rs.1.50–1.90 lakh of net income from fishery annually. As such there is scope for generation of 100-120 man-days of labour. For the tribal people having a pond, fishery is a feasible and sound intervention for enhancing their livelihood and found success in Baripada, Karanjia and Sundargarh ITDA area.

11. Poultry Rearing

It was observed in Paralakhemundi, Baripada and Sundargarh ITDA area that the beneficiaries are not satisfied with rearing of Banaraj breed because of their voracious feeding nature, inferior taste of the flesh & disease susceptibility and ultimately Banaraj birds rearing units have been closed in all these three sample

ITDA areas. ITDA, Karanjia is taking steps for execution of Poultry Rearing during the coming year in consultation with Veterinary officials of the district. The beneficiaries in Koraput ITDA area are still continuing with the local breeds because of the extension activities and guidance of CYSD, the FNGO. The beneficiaries expressed that they earn around Rs.20,000/- from 100 broiler birds every 4 months. They find it as a profitable enterprise and risk factor is less in comparison to Banaraj breed. Under the circumstances, Government may examine to provide broiler breeds to the beneficiaries.

12. Apiculture (Bee keeping)

Apiculture has gained popularity in Paralakhemundi ITDA area being promoted by ITDA in convergence with OLM, KVIB, KVK and Horticulture Department. One unit with a cost of Rs.9782/- has been provided to each beneficiary with their contribution is Rs.2000/- and the rest amount is subsidized by KVIB and ITDA. The annual production of honey from each unit of 5 boxes is 60 to 75 Kg and the market price is Rs.300/- per kg. The net annual income from each unit varies from Rs.15,000 to 18,000/-. This project, on an average, generates 50 labour days in a year. This intervention may be replicated in other feasible areas.

ITDA, Karanjia has taken steps in with the support KVIB, Odisha to supply the bee boxes and other requisite materials to each beneficiary after imparting a 7-day training and exposure visit. Definitely the attempt taken by the ITDA, Karanjia and KVIB will be beneficial to enhance the livelihood of the tribal people.

13. Improved Agriculture

ITDA, Baripada has not taken any initiative for implementation of the intervention 'Improved Agriculture'. In Koraput ITDA, a programme was chalked out for distribution of 300 diesel pump sets in convergence with Agriculture Department utilizing the funds available under 'Improved Agriculture' as well as under 'Farm Mechanization' against which 250 pump sets have been distributed and an amount of Rs.24.74 utilized out of the sanctioned amount of Rs.38.92 lakh.

In Karanjia ITDA, initiative has been taken during kharif 2015 for popularization of maize cultivation under this head. Hybrid maize 'Pioneer' was supplied to 63 farmers

in 6 villages of Jashipur, Sukruli and Thakurmunda block covering 24 hectare as inter-cropping in Rubber field. Seeds of green maize of 187 qtl amounting to Rs.2,80,500/- and dry maize of 85.17 qtl amounting to Rs.1,23,497/- have been sold in the local market. On an average, the return per hectare comes to Rs.16,800/- out of inter-cropping. The beneficiaries are interested in maize cultivation and there is scope of marketing if it will be cultivated in large patches as solo crop.

14. Production and Processing Centre

Under Paralakhemundi ITDA area a Ragi Processing Unit has been established keeping in view the abundant production of ragi in Gajapati district. PA, ITDA, Paralakhemundi has sanctioned Rs.6.50 lakh in favour of Block Development Officer, Gumma for executing renovation work of existing OTELP building for Ragi Processing Unit at Badakalakote out of SCA to TSP grant for the year 2015-16. No work has been taken up for establishment of Production and Processing Units by the Baripada and Sundargarh ITDAs yet although funds have been sanctioned during 2015-16 and 2016-17. The ITDAs are to identify the sectors having need for such units and utilize the funds provided for the purpose.

15. Micro-Enterprise Development

Micro Enterprise Development intervention promoted by the ITDA, Baripada with support from ORMAS, National Horticulture Mission and DIC, Baripada for Training-cum-Production unit for *Sabai* has been established in Baripada block and found successful. The ITDA, Baripada has extended financial assistance of Rs.1.50 lakh as subsidy during 2013-14. The grass is sold in the village and local market @ Rs.1000–1500/- per quintal. Presently, women folks are getting employment throughout the year working in own village and earn up to Rs.200-300/- per day.

An attempt has been taken by Karanjia ITDA for supply of Power Tiller, Pump Set and Sprinkler with HDPE Pipes to the farmers under Micro-Enterprise Development through 9 WSHGs. These WSHGs will take up vegetable cultivation with their own funds during both kharif and rabi season. In addition to their own use, the SHGs will also develop Custom Hiring Unit and earn from this source and try to meet the requirement of the neighbouring farmers.

16. NTFP Collection and Marketing

The objective of this Intervention is providing seed capital to Producers' Groups/ SHGs for collection of non-timber forest produces (NTFP) for procurement of weighing scales and creation of primary value addition infrastructure such as Storage godown & Drying yard etc., for better price realization by tribal beneficiaries (NTFP gatherer) and to face lesser market exploitation. But none of the sample ITDAs has taken any step for execution of this intervention. The funds for this intervention have been kept unutilized.

17. Hill Broom Cultivation

In Paralakhemundi ITDA area, Hill Broom cultivation has been proved successful. As such 300 brooms are expected from 1 acre of land. Hence, the annual estimated gross income from one acre of land will be Rs.15,000/- @ Rs. 50/- for each broom. The farmers are able to generate income from the unproductive hilly area and are encouraged for hill broom cultivation. OLM is extending support for marketing through formation of Producers' Group which is under process. It is the secondary occupation of the farmers in the area and primarily they are engaged in cultivation of paddy and ragi. On an average this intervention generates around 80 man-days of labour annually.

18. Skill Training Programme for Tribal Youth

The ITDAs are sponsoring candidates to different Institutes within and outside the district. The Institutes are selected through a Committee after physical verification of the infrastructure. The candidates were selected through screening and personal interview. It is suggested that the ITDA officials need to visit the concerned Institutes regularly and assess the status of trainings, accommodation and boarding facilities etc. Review meetings may be conducted at regular interval involving all the Institutions for better monitoring. The Government may examine for facilitating trainings on repair and maintenance of the farm machineries and equipments in consultation with OFMRDC.

Key Recommendations

- Provision of irrigation through pump sets in Coffee and Rubber plantation.
- Distribution of Black Pepper planting material for cultivation along with coffee plantation to enhance income of the beneficiaries.

- The ITDA officials and the concerned WEOs to take care to supply improved breeds of goats to the WSHGs under Goat Rearing activities. Also insurance of the goats need to be ensured.
- The inputs need to be pre-positioned well in ahead of start of season for utilisation at right time under Plantation and Vegetable Cultivation.
- Replication of the interventions like Apiculture as well as Mushroom Production in other places having feasibility.
- Poultry Rearing is not a successful intervention and has not gained popularity in most of the ITDA areas. The beneficiaries prefer local or broiler breeds in place of Banaraj breeds being voracious feeder and quality of flesh is not preferred.
- The selection of farm machineries and equipments need to be done in consultation with the Experts of Agriculture Department to meet the requirement of the farmers and suitability of land.
- Failure of Lac cultivation in Baripada ITDA needs to be examined by the Government.
- For better execution of FADP, thrust may be given for filling up the vacant posts. Engagement of Data Entry Operator may be given priority in order to create and maintain databases which is, at present, lacking in most of the ITDAs.
- Provision of hired vehicle may be made for at least 15 days a month for visit of the FADP personnel for smooth and effective monitoring of the field activities.
- Keeping in view the vast area and number of interventions under execution, the FNGOs may be involved for technical and extension support as in case of Sundargarh and Koraput ITDA.
- The PA, ITDAs may take up regular review meetings with the line department officials where they have placed funds for implementation of the schemes to assess the progress and utilisation of funds.
- The Interventions may be implemented in cluster approach so that different interventions can be confined to a limited area for better impact on the farmers.

- Inter intervention change of expenditure is incurred by the ITDAs basing on the decision taken in the PLC meeting but care may be taken to obtain prior approval of the Government.
- Review meetings of the FADP officials of the ITDAs may be convened at the State headquarter at least every 6 months and the bottlenecks in implementation can be sorted out.
- The Officials from State headquarter may visit the ITDAs and the field and if necessary, may conduct review meetings zone-wise for better monitoring.

Concluding Remarks

The interventions under the FADP executed in the tribal areas by the ITDAs have proved the success and have positive impact in upgrading the livelihood of the people. Although the plantation programmes like Rubber, Coffee, Wadi/ Horticultural Plantations are yet to yield return to the beneficiaries but the inter-crop taken in the plantation field is remunerative. During the field study it was observed that inter-cropping has no sustainability in some cases where the beneficiaries expect free distribution of seeds and other inputs during the subsequent years. Availability of irrigation is the main constraint in plantation programme. The Poultry rearing has not gained popularity as the beneficiaries mostly do not take interest for multiplication. Dairy, Fishery and Goat rearing have got good impact on income generation but supply of improved breeds of goats is to be ensured. Vegetable cultivation and mushroom production are gaining popularity for their immediate return. Apiculture need to be replicated in the feasible areas being a non-land activity and high return. Under Farm Mechanization, thrust has been given for supply of Pump sets for ensuring life saving irrigation but simultaneously establishment of Custom Hiring Centres need to be addressed. No progress has been made under NTFP collection and marketing. The reason for failure of Lac cultivation in Baripada needs to be examined. Review meetings at regular intervals and field visit need to be strengthened both at State headquarters as well as ITDA level. Staff constraint at the ITDA level need to be addressed and involvement of FNGOs for execution of the schemes may be considered. The successful beneficiaries/ SHGs may be encouraged through felicitation in public gatherings like exhibitions, *Krushak Sampark Mela* and awareness camps.

* * *

INTRODUCTION

INTRODUCTION

Integrated Tribal Development Agency (ITDA)

ITDAs were set up during the 5th five year plan as nodal tribal development agencies for plan formulation, programme implementation and operationalization of various development programmes in TSP areas. As many as 119 blocks of Odisha state having 50 percent or more ST Population have been covered by 22 ITDAs.

Welfare of Scheduled Castes and Scheduled Tribes

Odisha occupies a unique position among the Indian States and Union Territories for having a rich and colorful tribal scenario. Odisha also occupies a distinct place in our country as it represents a unique blend of unity among diversity. The scheduled tribes (ST) and scheduled castes (SC) constitute about 39.98 percent of the State's total population (ST-22.85 percent and SC-17.13 percent as per 2011 census). Out of 635 tribal communities in India, 62 are found in Odisha and 13 are Particularly Vulnerable Tribal Groups (PVTG). There are 93 scheduled caste communities in the State. The State Government implements several programmes for economic, educational and social development of the SC and ST communities.

Status of Scheduled Tribes (STs)

The ethos, ideology, world view and cultural heritage of tribal communities are rich and varied, which ranges from nomadic food gatherers and hunters to skilled and settled agriculturists and horticulturists. Tribal areas of Odisha present in extremely diverse socio-economic panorama. Tribals speak as many as 74 dialects. The PVTG in Odisha include Bonda, Chuktia Bhunjia, Didayi, Dongaria Kondh, Juang, Hill-Kharia, Kutia Kondh, Lanjia Saora, Lodha, Mankirdia, Paudi Bhuyan, Soara and Birhor. These communities are considered a special category in view of their distinct social, cultural and occupational practices and traits. The PVTG are distinguished from other tribal communities for their relative physical isolation, stagnate or diminishing population, low level of techno economy i.e. subsistence level of economy, very low level of literacy associated with pre-agricultural stage of hunting, food gathering and shifting cultivation. They reside in parts of twenty-one blocks of twelve districts. Odisha has the third largest concentration of tribal population in the country. Odisha comprise of 9.17% of the total tribal population of our country next to

Madhya Pradesh (14.69%) and Maharashtra (10.08%). About 44.7 percent of the state's geographical area, which is known as Scheduled Areas, extends over 119 out of 314 blocks in thirteen districts and a portion of Sorada Tahasil of Ganjam district. The ST population of Odisha increased from about 42.24 lakh in 1961 to 95.91 lakh in 2011. However, their proportion in the total population decreased from 24.07% in 1961 to 22.85% in 2011. Mayurbhanj district has the maximum ST population (14.80 lakh) as well as highest proportion of ST population (58.7%) in the State. The decadal population growth rate of STs since 1961 has been less than that for the total population. But during 2011, the ST population growth rate (15.82%) has surpassed the total population growth rate of 14.05%. About 93.8% of STs in Odisha reside in rural areas as against 90% in India. The sex ratio of ST stood at 1029 which is higher not only than the total sex ratio of the state 979 but also over the national level. The decadal growth rate of the ST population in Odisha is lower (17.70%) than that at the all-India level (23.7%).

Nine districts having 45% or more ST population as per the 2011 census are Malkangiri, Mayurbhanj, Rayagada, Nawarangpur, Kandhamal, Gajapati, Sundargarh, Koraput and Keonjhar. The ST population in these districts accounts for two-thirds (i.e., 66%) of the State ST population and ranges from 25% to 45% of the total population of the five additional districts of Nuapada, Sambalpur, Deogarh, Jharsuguda and Kalahandi. These 14 districts together have 79.7% of the total ST population of Odisha.

As per 2011 population census, there were 21.63 lakh ST households in Odisha out of which 20.32 lakh (86.30%) were in rural area and 1.31 lakh (13.70%) in urban area. Out of total 21.63 lakh ST households, 53.1% households were livable condition and 32.7% house roofs were handmade tiles. Further, 82.4% households do not have any latrine and 78.4% households use fire-wood for their cooking. About 34.8% households possess telephone/ mobile. As per 2011 population census, there were 16.70 lakh Schedule caste household in the state, of which 87.3% belongs to rural Odisha. Out of total 16.70 lakh households 49% were livable condition and roof of 35.9% households were Grass/ thatch/ polythene or of handmade tiles. About 98.5% households are using either electricity or Kerosene for lighting. About 62.1%

households do not have their own latrine and 62.9% households using fire wood for cooking.

Occupational Patterns

As per 2011 census, there were 47,69,659 workers among STs, out of which 48.87% were main workers and the rest were marginal workers. The total number of workers among SCs was 29,90,326 out of which 59.22% being main workers and the rest being marginal workers. There are proportionately more main workers among SCs while it is reverse in case of ST. Among the tribals, cultivators account for 40.4% and agricultural labourers 32.5% of total main workers. Of the total SC workers, 21.1% were cultivators and 33.3% were agricultural labourers. Most of the tribal and SC cultivators are marginal and small farmers or share croppers. Other important occupational groups are weavers, fishermen and cobblers. There are 15 SC communities in the category of sweepers and scavengers. Apart from nomadic and semi-nomadic groups among SCs, there are de-notified communities identified as Special Vulnerable Groups (SVG).

Table 1: Scheduled Tribe Population, Growth Rate and Sex Ratio in Odisha and India Census

Census	Population (in lakh)				Sex Ratio						Decadal Growth Rate (DGR)	
	Odisha		India		Odisha			India			Odisha	India
	Rural	Urban	Rural	Urban	Rural	Urban	Total	Rural	Urban	Total		
1961	41.36	0.88	291.1	7.74	1018	946	1016	989	897	987	-	-
1971	49.24	1.47	367.21	12.94	1009	958	1007	985	896	982	20.1	27.2
1981	56.42	2.73	484.28	32.01	1015	947	1012	988	912	983	16.6	35.8
1991	66.7	3.72	627.51	50.07	1006	930	1012	976	920	972	18.9	31.2
2001	76.98	4.47	773.38	69.88	1006	948	1003	981	944	978	15.82	24.5
2011	89.95	5.96	938.19	104.6	1031	991	1029	991	980	990	17.7	23.7

Source: Odisha Economic Survey 2017-18

Focused Area Development Programme (FADP)

Odisha Tribal Development Society (OTDS) of ST & SC Development, Minorities & Backward Classes Welfare Department, Government of Odisha registered under Societies Registration Act 1860 has been facilitating implementation of Focused Area Development Programme (FADP) with the objectives to ensure sustainable livelihood of ST families through land and non-land based livelihood activities, to develop suitable infrastructure so as to improve the standard of living of tribals, to

develop backward and forward linkages and strengthen the local institutions and to improve the governance system in the tribal villages by strengthening the Community Institutions. FADP, a decadal Perspective Plan is being implemented by converging resources from SCA to TSP, Article, 275(I), MGNREGS, NHM, RKVY, Biju Krushak Vikas Yojana (BKVY) etc aims to cover about 5.12 lakh tribal families with budget of Rs.1569.70 crore. The year-wise status from 2012-13 to 2015-16 is presented below.

Financial Year	No. of FADP Interventions	No. of beneficiaries covered	Expenditure through Convergence (lakh Rs.)
2012-13	10	29,296	289.70
2013-14	13	49,183	1567.14
2014-15	15	41,082	679.93
2015-16	16	36,319	1564.30
TOTAL		1,55,880	4101.07

Source: Annual Activity Report 2016-17 (ST & SC Development, Minorities & Backward Classes Welfare Department, Government of Odisha)

Table 2: Sectorial Intervention under FADP

Sl. No.	Name of the Intervention	ITDA covered	Number of beneficiaries	Expenditure in Rs. lakh up to December 2015
1	WADI / Horticulture Plantation	17	3682	1258.46
2	Improved Agriculture	7	4581	106.49
3	Vegetable Cultivation	11	1305	90.30
4	Lac Cultivation and Processing	4	223	15.17
5	Rubber Plantation	5	1680	668.00
6	Sericulture	4	1254	43.42
7	Farm Mechanisation	9	1079 families	39.86
8	Coffee Plantation	1	-	29.20
9	NTFP Collection and Marketing	4	30 SHG	45.00
10	Production / Processing Centres	7	-	117.00
11	Poultry Rearing	19	482 families	126.42
12	Dairy	7	23 families	20.46
13	Fishery	8	764 families	21.31
14	Apiculture	2	400 families	16.50
15	Micro Enterprise Development	21	116 SHG	133.44
16	Goat Rearing	4	489 families	12.40
17	Skill Training Programme for Tribal Youth	21	8163	656.37
	TOTAL			3399.80

Source: Odisha Economic Survey 2016-17

Table 3: Sectorial Intervention under FADP-2016-17

Sl. No.	Name of the Intervention	ITDA covered	Number of beneficiaries	Expenditure (Rs. lakh)
1	WADI	22	1591	172.80
2	Horticulture Plantation	22	127	18.22
3	Improved Agriculture	22	570	12.58
4	Vegetable Cultivation	22	1802	78.61
5	Lac Cultivation and Processing	4	223	15.17
6	Rubber Plantation	5	246	116.03
7	Sericulture	1	200	4.00
8	Farm Mechanisation	4	477 families	39.11
9	Coffee Plantation	1	-	29.20
10	NTFP Collection and Marketing	3	20 SHG	5.00
11	Dairy	3	192 families	20.40
12	Fishery	3	132 families	21.31
13	Micro Enterprise Development	22	1199 SHG	124.01
14	Goat Rearing	2	198 families	19.40
15	Skill Training Programme for Tribal Youth	22	2207	280.74
	TOTAL			956.58

Source: Odisha Economic Survey 2017-18

BACKGROUND

BACKGROUND

Livelihood Interventions through Focused Area Development Programme (FADP)

The livelihood of rural “Scheduled Tribe” (ST) community is mostly dependent on forest, agriculture and animal husbandry. Over the years developmental works in Tribal Sub-Plan area of the state were primarily undertaken through the ‘Integrated Tribal Development Agencies’ (ITDA), under the administrative control of ST & SC Development, Minorities & Backward Classes Welfare Department. It was seen that, largely traditional implementation strategies, absence of sustainable local institutions, infrastructure linkages and end-to-end solution in the value chain were the eventual roadblocks making livelihoods of tribal people vulnerable to various unforeseen risks.

Visualizing that a focused approach towards livelihoods suitable to local conditions and capacities of tribal communities as also creation of scalable and replicable livelihood models is the need of the hour, a new approach taking a holistic view of the livelihood ecosystem was launched named as Focused Area Development Programme (FADP) with the following broad objectives:

- Ensuring sustainable livelihoods of ST families through land and non-land based livelihood activities;
- Developing suitable infrastructure so as to improve the standard of living and facilitating incremental results in their livelihoods;
- Developing backward & forward linkages and strengthening local institutions;
- Improving the governance system in the tribal villages by strengthening the Community Institutions.

The decadal Perspective Plan for FADP aims to cover about 5.12 lakh tribal families with tentative budget of Rs.1569.70 crore. 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. have been proposed in this Plan.

Institutional Structure

The Odisha Tribal Development Society (OTDS), a society promoted by ST & SC Development (SSD) Department in Government of Odisha and registered under Societies Registration Act 1860, has been facilitating implementation of the FADP. OTDS functions under administrative control of ST & SC Development, Minorities & Backward Classes Welfare Department. The Governing Council of OTDS has 20 members and Chief Secretary to Government of Odisha is ex-officio “President” of Governing Council. The Executive Council of OTDS consists of 8 members and Commissioner–cum–Secretary, SSD Dept. is ex-officio “Chairperson” of Executive Council, OTDS. Director (ST)-cum-Additional Secretary, SSD Dept. is ex-officio ‘Chief Executive Officer (CEO)’ of OTDS. For each ITDA, one FNGO has been selected to provide handholding support for community mobilisation, participatory formulation & implementation of projects under the FADP.

INTERVENTIONS

Programme Implementation (Livelihoods & Skill Training)

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. Some of the measure interventions are mentioned below:

Table 4: Interventions and Implementing ITDAs

Sl. No.	Interventions	Concept	Implementing ITDAs
1.	Wadi/ Horticulture Plantations	Developing orchard with Agro-Horti-Forestry project of beneficial plant species.	Champua, Koraput, Jeypore, Gunupur, Th.Rampur, Baliguda, Nawarangpur, Sundargarh, Paralakhemundi.
2.	Improved Agriculture	Cultivation of millets like maize, ragi etc with improved package of practices.	Baliguda, Malkangiri, Paralakhemundi, Bonai, Keonjhar, Rairangpur, Karanjia.
3.	Lac cultivation and processing	Lac cultivation on kusum trees and semialata plantation.	Nilagiri, Nawarangpur, Bonai, Baripada
4.	Rubber Plantation	Rubber plantation with intercropping of cereals and pulses and irrigation potential has been created.	Baripada, Kaptipada, Karanjia, Rairangpur, Paralakhemundi.
5.	Poultry Rearing	<ul style="list-style-type: none">• Mother Chick Units (MCUs) are linked with Backyard	Nilagiri, Baripada, Kaptipada, Karanjia, Rairangpur, Keonjhar,

Sl. No.	Interventions	Concept	Implementing ITDAs
		units. <ul style="list-style-type: none"> • Broiler/ Layer units where 400-600 birds are reared by individual tribal families. 	Kuchinda, Bonai, Panposh, Sundargarh, Koraput, Jeypore, Paralakhemundi, Rayagada, Gunupur, Nawarangpur, Malkangiri, Biliguda, Phulbani.
6.	Farm Mechnisation	Farm machineries like pump sets, power tillers, levelers, paddy threshers, etc. have been provided to support tribal farmers.	21 ITDAs
7.	Vegetable Cultivation	<ul style="list-style-type: none"> • Commercial vegetable cultivation by tribal farmers. • Development of vegetable nursery in poly-houses. • Supply of critical inputs like seed, fertilizer etc. • Creating irrigation potential and drip irrigation systems. • Providing marketing support. 	Phulbani, Baliguda, Malkangiri, Nawarangpur, Gunupur, Rayagada, Koraput, Panposh, Keonjhar, Th.Rampur, Nilagiri.
8.	NTFP Collection and Marketing	Providing seed capital for collection of non-timber forest produces (NTFP), creation of value addition infrastructure with the objective to face lesser market exploitation.	Koraput, Sundargarh, Bonai, Champua.
9.	Production/ Processing Centres	Establishment of such centres for value addition of harvested Lac, Sericulture produces and Skill up-gradation centres.	Nilagiri, Baripada, Kuchinda, Sundargarh, Paralakhemundi, Nawarangpur, Baliguda.
10.	Sericulture	Rearing of silkworms and preservation of cocoons and engage the tribal farmers with sericulture activities.	Baripada, Keonjhar, Bonai, Paralakhemundi.
11.	Dairy	Funds released to OMFED for implementation of Tribal Women Dairy Project in tribal dominated blocks. Improved breed calves, individual fodder demonstration unit and exposure visit of Farmers.	Implemented in the districts of Koraput, Rayagada, Malkangiri, Nawarangpur, Kalahandi, Mayurbhanj, Balasore and Bolangir. ITDAs: Baripada, Kaptipada, Rairangpur, Bonai, Panposh, Paralakhemundi, Malkangiri.
12.	Fishery	Promotion of inland fishery by raising fingerling stocking, provision of fingerlings in village ponds small and medium reservoirs and supply of equipments.	Baripada, Rairangpur, Keonjhar, Panposh, Sundargarh, Nawarangpur, Malkangiri, Paralakhemundi.
13.	Apiculture	Supplementing income of the tribal families by providing bee keeping equipments, training	Karanjia, Nawarangpur.

Sl. No.	Interventions	Concept	Implementing ITDAs
		and establishing primary processing units.	
14.	Micro Enterprise Development through SHGs	Building capacity of the local institutions and strengthening their capacity to manage each aspect of the project.	21 ITDAs
15.	Coffee Plantation	Coffee plantations & provision of irrigation sources in entire plantation areas	Koraput
16.	Goat Rearing	Providing support for goat rearing.	Th. Rampur, Kuchinda, Keonjhar, Karanjia.
17	Skill Training Programme for Tribal Youth	Three different sets of activities are promoted: Skill Development Training (SDT), Placement Linked Employability Training (PLET) and Pre-Recruitment youths Training (PRT) to tribalyouths.	21 ITDAs

Source: Activity Reports

1. Wadi / Horticulture Plantation

Wadi (Orchard) is an Agro-Horti-Forestry arrangement of beneficial plant species e.g. Mango, Cashew, Litchi, Banana and Kagjilime. This project is being implemented in Champua, Koraput, Jeypore, Gunupur, Thuamul Rampur, Baliguda, Nawarangpur, Sundargarh and Paralakhemundi ITDA area.

Inter-cropping of niger, vegetables, pulses etc. has been done to augment income of these farmers. Besides, plantation of forest tree species has been taken up 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 Borewell Scheme, NHM etc.

2. Improved Agriculture

Cultivation of Maize, Ragi has been facilitated to the tribal farmers in 7 ITDAs viz. Baliguda, Malkangiri, Paralakhemundi, Bonai, Keonjhar, Rairangpur and Karanjia for which assistance has been given through supply of critical inputs under SCA to TSP.

3. Lac Cultivation & Processing

In Nilagiri, Nawarangpur, Bonai and Baripada ITDAs, Lac cultivation has been encouraged on Kusum trees as well as by introducing *Semialata* plantation by tribal farmers under SCA to TSP.

4. Rubber Plantation

The tribal farmers have taken up Rubber plantation in Baripada, Kaptipada, Karanjia, Rairangpur and Paralakhemundi ITDA area. Inter-cropping of pulses, besides cereals, has been taken up and irrigation potential has also been created under SCA to TSP and MGNREGS respectively.

5. Poultry Rearing

Poultry Rearing has been taken up in ITDAs namely Nilagiri, Baripada, Kaptipada, Karanjia, Rairangpur, Keonjhar, Kuchinda, Bonai, Panposh, Sundargarh, Koraput, Jeypore, Paralakhemundi, Rayagada, Gunupur, Nawarangpur, Malkangiri, Baliguda and Phulbani. The two models of poultry, under this intervention, are as follows.

- In the first model, Mother Chick Units (MCUs) are linked with Backyard units. Birds of Banaraj 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;
- 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 Department is being done to ensure vaccination. Besides, a poultry pellet feed mill is being established in Jeypore with technical support from Animal Resources Development Department. The tribal families engaged in poultry rearing are tagged with local Poultry Cooperatives for marketing under SCA to TSP.

6. Farm Mechanization

Farm Mechanization has been promoted under SCA to TSP to support the tribal farmers to reduce the drudgery in agricultural operations. Farm machineries such as pump-sets, power tillers, levelers, paddy threshers etc. have been provided where subsidy is being leveraged under “State Agriculture Policy” framed by the Agriculture and Farmers’ Empowerment Department. Members of these SHGs are being trained by Odisha Farm Machinery Research & Development Centre (OFMRDC), Bhubaneswar to operate these farm machineries. 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.

7. Vegetable Cultivation

Commercial Vegetable cultivation has been taken up in Phulbani, Baliguda, Malkangiri, Nawarangpur, Gunupur, Rayagada, Koraput, Panposh, Keonjhar, Thuamul Rampur and Nilagiri ITDA areas by tribal farmers. The two models adopted in this intervention are as follows.

- i. Vegetable nursery in Poly-houses by SHGs run by women members and making available of vegetable seedlings to individual farmers undertaking vegetable cultivation on raised beds with drip irrigation;
- ii. Supply of inputs viz. seed, fertilizer etc. to poor tribal vegetable growers.

The farmers are provided with critical inputs and irrigation potential & drip irrigation system have been created. 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 under SCA to TSP.

8. NTFP Collection and Marketing

Producers’ Groups/ SHGs in 4 ITDAs viz. Koraput, Sundargarh, Bonai and Champua 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 godown & Drying yard etc. for better price realisation by tribal beneficiaries (NTFP gatherer) and to face lesser market exploitation.

9. Production/Processing Centres

Production/Processing Centres have been promoted in 7 ITDAs viz. Nilgiri, Baripada, Kuchinda, Sundargarh, Paralakhemundi, Nawarangpur and Baliguda for establishment of Production/ Processing Centres for value addition of harvested Lac, Sericulture produces and Skill up-gradation centres for livelihood development of tribal people. Producer Cooperatives/ Groups are to manage and maintain these Units.

10. Sericulture

Sericulture has been promoted in 4 ITDAs like Baripada, Keonjhar, Bonai and Paralakhemundi to facilitate rearing of silkworms and preservation of cocoons by supporting tribal farmers engaged in Sericulture activity with Seed subsidy, Training on tasar reeling and spinning and purchase of twin reeling Charkha. Coordination with the Department of Handlooms & Textile is being done for establishment of processing units and marketing of the silk.

11. Dairy

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. Besides, under SCA to TSP, improved breed calves, individual fodder demonstration unit and organising exposure visit of Farmers have been taken up in 7 ITDAs, viz. Baripada, Kaptipada, Rairangpur, Bonai, Panposh, Paralakhemundi and Malkangiri.

12. Fishery

Inland fishery has been promoted 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 equipments (e.g. fishing net) for fishermen in 8 ITDAs namely Baripada, Rairangpur, Keonjhar, Panposh, Sundargarh, Nawarangpur, Malkangiri and Paralakhemundi under SCA to TSP.

13. Apiculture

Karanjia and Nawarangpur ITDAs are promoting apiculture under SCA to TSP benefiting tribal families in supplementing their income, with bee keeping equipments, training on bee keeping and establishment of primary Processing Unit.

14. Micro Enterprise Development through SHGs

Thrust is being put on building capacity of the local institutions and strengthening their capacity to manage each aspect of the projects. In this context, region specific potential product clusters have been identified. For promotion of such product clusters potential SHGs have been provided with capital support in 21 ITDAs to start

micro enterprises under SCA to TSP. To successfully manage these micro enterprises, SHG members were provided skill/ capacity building and handholding supports.

15. Coffee Plantation

Tribal farmers of Koraput ITDA have undertaken Coffee plantations & provision of irrigation sources in entire plantation areas has been ensured under SCA to TSP.

16. Goat Rearing

Goat rearing has been taken up in 4 ITDAs viz. Thuamul Rampur, Kuchinda, Keonjhar and Karanjia. This intervention aims at breed improvement, comprehensive vaccination and insurance of animals.

17. Skill Training Programme for Tribal Youth

Under Skill Training Programme three different sets of activities are promoted namely Skill Development Training (SDT), Placement Linked Employability Training (PLET) and Pre-Recruitment Training (PRT) to tribal youths.

The major trades opted by tribal youths under SDT include emerging domains such as Computer Networking & Hardware, Tally Computer Accounting, Mobile Phone Repairing etc. as well as core/ traditional domains such as Heavy/ Light Motor Vehicle Driving Training, Electrician/ House wiring, Welding & Fabrication, Civil work Supervisor.

The major trades opted by tribal youths under PLET included emerging domains such as 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-wifery (ANM), General Nursing & Mid-wifery, Tailoring/Sewing, Fitter, Mason etc.

Under PRT, unemployed tribal youths interested to join armed forces are being given training support. Camps/ *Melas* are conducted by the ITDAs in blocks under their jurisdiction to generate awareness among unemployed tribal youths and provide

them required counseling to enable them take up suitable courses/ trades and join designated/ empanelled training Centres.

The Interventions of FADP under execution in different years are presented below.

Sl. No.	Interventions	Year of Execution				
		2012-13	2013-14	2014-15	2015-16	2016-17
1.	Wadi/ Horticulture Plantations	√	√	√	√	√
2.	Improved Agriculture	√	√	√	√	√
3.	Lac cultivation and processing	√	√	√	√	√
4.	Rubber Plantation	√	√	√	√	√
5.	Poultry Rearing	√	√	√	√	√
6.	Farm Mechnisation	√	√	√	√	√
7.	Vegetable Cultivation	√	√	√	√	√
8.	NTFP Collection and Marketing	√	√	√	√	√
9.	Production/ Processing Centres				√	√
10.	Sericulture			√	√	√
11.	Dairy			√	√	√
12.	Fishery			√	√	√
13.	Apiculture			√	√	√
14.	Micro Enterprise Development through SHGs	√	√	√	√	√
15.	Coffee Plantation		√	√	√	
16.	Goat Rearing	√	√		√	√
17.	Skill Training Programme for Tribal Youth	√	√	√	√	√

Source: Activity Reports

* * *

OBJECTIVES, SCOPE

AND

METHODOLOGY

Objectives

The evaluation study has been undertaken with following objectives.

- To see whether the Projects are implemented in conformity with the scheme guidelines and stipulated financial norms.
- To assess the impact of the project on enhancement of sustainable livelihoods of ST families through land and non-land based livelihood activities.
- To assess the level of employment generation for both family labour and hired labour
- To assess the impact on developing suitable infrastructure so as to improve the standard of living and facilitating incremental results in their livelihoods.
- To assess the improvement in socio-economic status of the beneficiaries.
- To assess the impact on developing backward & forward linkages and strengthening local institutions.
- To assess the improvement in governance system in the tribal villages by strengthening the Community Institutions.
- To find out implementation lags, if any and suggest remedial measures.

Scope

The tribal economy in Orissa state is primarily subsistence oriented and based upon a combination of agriculture, forestry and wage labour. Although tribals are mainly dependent on agriculture, collection of forest produce continues to play a major role in household consumption and income generation. But in areas of serious deforestation, collection of forest produce is now of declining importance for tribal economy. In other areas, cash earning from non-timber forest produce such as *sal* and *kendu* leaf, tamarind is still of greater importance for the household economy. With the decline in output from forest produce as well as shifting cultivation, tribals are increasingly dependent on wage labour, both agriculture and unskilled infrastructure development work. Tribal women play an active role in both household affairs and also in providing economic input for survival of families. They contribute major part of the family labour. In social and household matters, the status of tribal women is generally higher than that of non-tribal women.

In view of the complexities attached with tribal way of life, due to their historical, socio-cultural and geographical situations, the generalized approaches of development attempted earlier have not met with significant success. Nevertheless, efforts made by some government and NGOs in different parts of the country have made it possible to establish some demonstrative models.

The Government, during the FY 2012-13 has introduced a long term programme named “Focused Area Development Programme (FADP)”, for socio economic enhancement of the ST families residing in the state of Odisha. The approach of programme planning and implementation is improvised. In the FADP, geographical area/ region specific potential areas of livelihood intervention are identified in a participatory method and ITDA wise action plan is prepared. The programme aims to cover 5.12 lakh ST families in the programme period of 10 years and is budgeted to INR 1569.70 crore. Out of the total programme cost, an amount of Rs.138.67 lakh is to be sourced from State Plan. In the programme, the focus will be on interdepartmental co-ordination and convergence of resources to maximize livelihood interventions in the 118 TSP blocks of Odisha. The proposed convergence model includes financial support from various schemes/ programmes of Government viz. MGNREGS, National Horticulture Mission (NHM), Rashtriya Krishi VikasYojana (RKVY). Also it has been planned to dovetail funds from other PSUs like National Bamboo Mission, Rubber Board, Coffee Board, Development Commissioner for Handlooms/ Handicrafts, Ministry of Food Processing Industries etc. It is expected that the programme will enhance the socio economic status of the targeted families and strengthen the local community institution after the programme implementation and make the families self-sustainable. The programme has already completed 5 years. During the execution period considerable emphasis has been given to augment the livelihood as well as socio-economic status of the tribal families. Under this backdrop, it is felt imperative to conduct an impact evaluation study of the interventions taken under FADP in different years implemented by the ITDAs within the TSP area of the State.

Methodology

The study was conducted in five ITDA areas during October, 2017 to March, 2018. Only five ITDAs out of 21 were taken for the study keeping in view the shortage of

time as well as staff for collection of primary information. The five ITDAs namely, Baripada, Karanjia, Paralakhemundi, Koraput and Sundargarh were selected through purposive sampling method keeping in view to cover different agro-climatic zones and physiographic situation and also to undertake maximum number of interventions implemented in the ITDA area under the impact evaluation study. The selected ITDAs coming under different agro-climatic zones are as follows.

Sl. No.	ITDA	Agro-climatic Zone	Climate	Normal			Broad Soil groups
				Mean annual rainfall (mm)	Mean maximum summer temp (°C)	Mean minimum winter temp (°C)	
1.	Sundargarh	North Western Plateau	Hot & moist sub-humid	1600	38.0	15.0	Red, Brown forest, Red & Yellow, Mixed Red & Black
2.	Baripada/ Karanjia	North Central Plateau	Hot & moist sub-humid	1534	36.6	11.1	Lateritic, Red & Yellow, Mixed Red & Black
3.	Paralakhemundi	North Eastern Ghat	Hot & moist, sub-humid	1597	37.0	10.4	Brown forest, Lateritic Alluvial, Red, Mixed Red & Black
4.	Koraput	Eastern Ghat High Land	Warm & humid	1522	34.1	7.5	Red, Mixed Red & Black, Mixed Red & Yellow

Source-Odisha Agricultural Statistics/ Agronica (Directorate of Agriculture & Food Production, Odisha)

In each ITDA, the number of blocks has been selected taking into account the number of interventions executed in the block and the distance factor of the block both farther and nearer to ITDA headquarters. From each block, as far as practicable, two villages have been selected through purposive sampling method where the interventions have been executed. Attempt was made to bring all the interventions implemented in the ITDA area under the purview of the study. Care was taken to cover the villages nearer as well as farther to the ITDA headquarters to avoid biasness. In the next stage, around 5 beneficiaries were selected randomly in each sample village for personal interview/ interaction. In case of some interventions like fishery and dairy, one beneficiary has been interacted in a village where the number of beneficiary is limited to one only. In addition to the personal interview/ interaction with the beneficiaries, Focused Group Discussions (FGD) were conducted taking a group of villagers including PRI members, village leaders and important persons of the village. The FGDs were conducted to assess the benefits the villagers derive, constraints in implementation of the project, suggestions for improvement of the execution tactic, attitude of the villagers towards the acceptance

of the interventions and approach of the villagers towards the project benefits etc. Besides, case studies were conducted to evaluate the impact of the project in the areas with exceptional as well as poor performance of the interventions.

Collection of Data

Data have been collected from primary as well as secondary sources. The primary sources data were collected from the beneficiaries of the FADP interventions through personal interview, group discussion and case studies. Secondary sources data were collected mainly from the ITDAs and the line department offices and NGOs. The following schedules were used for data collection.

1. Household Schedule
2. Intervention schedule
3. Village Schedule
4. Project Schedule
5. Focused Group Discussion Schedule

Coverage

For the purpose of the study, the tribal families who have been benefited by the FADP interventions like agriculture and allied sectors, Micro-enterprise Development, Skill Training Programme etc executed by the ITDAs in the selected villages were taken into the purview of the evaluation study.

Reference Period of the Study

For the purpose of the study, the FADP interventions executed in the ITDA areas were taken from their inception i.e. 2012-13 till 2016-17. The wide period has given a scope to study the impact of the programme on socio-economic status, employment generation, income generation and the sustainability of the programme. The fieldwork for data collection was taken up during December 2017 to March 2018.

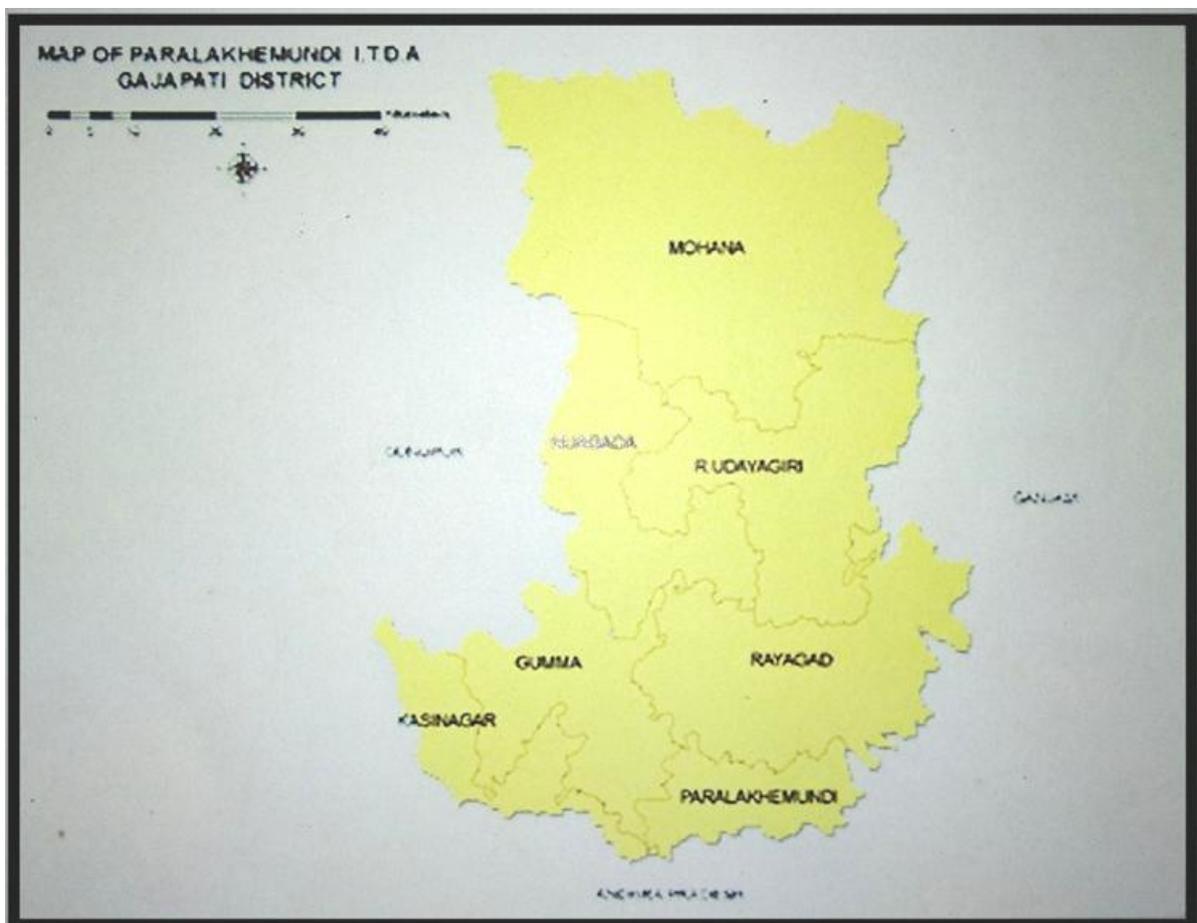
Limitations of the Study

The decadal Perspective Plan for FADP aims to cover about 5.12 lakh tribal families under different interventions. The programme is implemented in 21 ITDAs covering 118 TSP blocks in the state. The vast area under implementation of the programme, a good number of interventions and short duration of the study and limited number of investigators are the major limitations for the study.

SAMPLE ITDA_s
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Paralakhemundi ITDA

Paralakhemundi ITDA comprising of 5 blocks viz. Gumma, Rayagada, Nuagada, R.Udayagiri, & Mohana comes under Gajapati revenue district in the southern revenue division of the State. The ITDA comes under the North Eastern Ghat agro-climate zone with mean annual precipitation of 1597 mm. The total geographical area is 3583.22 sq km and reserve forest area is 657.97 sq. kms. The broad soil groups are brown forest, lateritic alluvial, red, mixed red and black. The major/minor forest produce are timber, bamboo, hill broom, soap nut, marsinga leaf, dhatuki flowers, kochila seeds, genduli gum, siali leaves etc. Teak, *sal* and *gambhari* are the main forest species in the area. The main soil types are clay loam, sandy loam and red soil. There is no existence of mines. The mountains contain no exploitable mineral of economic value.



The soil and climate is suitable for plantation crop and there is a great potential for horticultural development in the district. More than 60% of lands are situated in hilly

terrain, which has been treated as high lands mainly suitable for horticulture plantation. Other cultivable land belongs to the category of medium lands (20%) and low lands (15%). The atmospheric temperature varies from 16^oC to 48^oC. The normal rain fall received is 1324.86 mm. The ITDA area comprises of 1,377 villages and 86,135 households. The total population of the area as per 2011 census is 4,02,803 with 1,96,404 males and 2,06,399 females. Density of population is 112 per square km and average population per household is 5. The block-wise detail of population distribution is as follows.

Table 5: Block wise distribution of population

Sl. No.	Block	No. of Villages	No. of house holds	Population			Density of population per sq. km	Average population per household
				Total	Male	Female		
1	Mohana	499	28130	133598	65297	68301	203	5
2	R. Udayagiri	247	13156	64123	31533	32590	139	5
3	Nuagada	188	11359	54696	26650	28046	124	5
4	Gumma	220	17300	79520	38841	40679	75	5
5	Rayagada	223	16190	70866	34083	36783	73	4
Total		1377	86135	402803	196404	206399	112	5

SOURCE: CENSUS 2011

Population by Ethno-cultural Groups

The total ST population in Paralakhemundi ITDA is 2,82,612 having 1,36,507 males and 1,46,105 females. The ST population comprises 70.16% of total population with almost 1:1 male and female population. The SC population is 2.82% of total population. Mohana block has the highest concentration of ST population i.e. 78251 persons while Nuagada block has the least concentration of ST population i.e. 42145 persons. The total SC population is 11,355 including 5,585 males and 5,770 females. Mohana has the highest SC population i.e. 5026 persons while Nuagada has the least SC population i.e. 228 persons.

Table 6: Block wise distribution of population by ethno-cultural groups

SI No	Block	Total population			ST population			SC population		
		Total	Male	Female	(% within bracket)			(% within bracket)		
					Total	Male	Female	Total	Male	Female
1	Mohana	133598	65297	68301	78251 (58.57)	37810 (57.9)	40441 (59.21)	5026 (3.76)	2444 (3.74)	2582 (3.78)
2	R. Udayagiri	64123	31533	32590	44558 (69.49)	21673 (68.73)	22885 (70.22)	1529 (2.38)	758 (2.4)	771 (2.37)
3	Nuagada	54696	26650	28046	42145 (77.05)	20427 (76.64)	21718 (77.44)	228 (0.42)	107 (0.4)	121 (0.43)
4	Gumma	79520	38841	40679	60332 (75.87)	29206 (75.19)	31126 (76.51)	2763 (3.47)	1390 (3.58)	1373 (3.38)
5	Rayagada	70866	34083	36783	57326 (80.89)	27391 (80.37)	29935 (81.38)	1809 (2.55)	886 (2.6)	923 (2.51)
Total		402803	196404	206399	282612 (70.16)	136507 (69.5)	146105 (70.79)	11355 (2.82)	5585 (2.84)	5770 (2.8)

SOURCE: CENSUS 2011

The literacy rate in the ITDA area is 42% where the male literacy rate is 51.26% and that of female is 33.17%. The literacy rate of ST population is 36% irrespective of male and female and that of SC population is 42.84%. The higher literacy rate leads to early adoption of new technology and innovative knowledge. The block-wise details of literacy rate are depicted below.

Table 7: Block wise Literacy Rate among Total, ST and SC Population

SI No.	Block	Percentage of Literacy								
		Total population			ST population			SC population		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
1	Mohana	53.24	65.27	41.96	45.58	58.45	33.87	51.18	62.39	40.66
2	R. Udayagiri	50.35	61.32	39.82	42.56	53.65	32.18	47.20	58.59	36.18
3	Nuagada	49.93	63.38	37.31	44.80	59.22	31.40	56.15	72.41	42.00
4	Gumma	47.27	57.88	37.28	41.23	52.14	31.18	45.63	57.30	34.13
5	Rayagada	49.21	60.31	39.07	44.43	55.51	34.43	56.95	69.53	45.29
Total		41.99	51.26	33.17	36.07	45.53	27.23	42.84	52.25	33.73

SOURCE: CENSUS 2011

Table 8: Block wise Land Utilization pattern

SI No	Block	Geographical area (Sq. Km)	Forest (Hec)	Cultivable waste (Hec)	Net Area Sown (Hec)	Paddy			Irrigation Potential Created (Hec)	
						Area in ha	Yield rate in	Production in '000 ton	Kharif	Rabi
1	Mohana	658.47	18211	1836	14273	8160	27.32	22.29	1608	949
2	R. Udayagiri	462.30	17603	642	8351	2069	24.38	5.04	1297	633
3	Nuagada	439.68	9161	322	5552	3160	30.79	9.73	1005	658
4	Gumma	1054.78	7191	1399	4731	3820	29.19	11.15	2427	847
5	Rayagada	967.99	13331	649	5276	2069	24.38	5.04	1625	1403
Total		3583.22	65797	4848	38183	19278	27.63	53.26	7962	4490

SOURCE: District Statistical Handbook 2011

Major Economic Activities

The major problem faced in this area by those people who are economically weak and socially more or less segregated from the modern society is the availability of natural resource i.e. water and sufficient agricultural inputs, machinery and equipments. Moreover, the presence of highlands is the major problem caused by nature. The soil and climate are suitable for plantation crops and there is a great potential for horticulture development in the area. More than 60% of lands are situated in difficult hilly terrain, which has been treated as highlands, mainly suitable for horticulture plantation and other cultivable land belongs to the category of medium and low lands. Besides, practice of shifting cultivation or 'Bagata' leads to soil erosion in uplands, gully and ravine erosion, denudation of vegetative cover resulting in the low productivity of land.

A major part of the cultivable area in Paralakhemundi ITDA mostly lies on high lands (40,305 hectares) followed by medium and low lands. Kharif Irrigation potential is 7962 hectares and that of rabi is 4490 hectares. As such the proportion of high land is large followed by medium and low land in the area.

The major Kharif crops are paddy, maize and ragi where as during rabi, pulses like black gram and horse gram are grown under residual moisture. Gumma block has got maximum irrigation potential in kharif (2427 hectares) and Rayagada block has got maximum irrigation potential in rabi (1403 hectares) from minor irrigation projects

followed by R.Udayagiri and Mohana block. Lift irrigation projects have created maximum irrigation potential in Rayagada block both in kharif and rabi followed by Gumma block. There is no major and medium irrigation project in the ITDA area. The Paralakhemundi ITDA area is mostly inhabited by Poultry next to it is goat and followed by buffalo.

SUNDARGARH ITDA

Sundargarh ITDA comprising of 9 blocks viz. Hemgiri, Lephripara, Tangarpali, Balisankara, Subdega, Sundargarh, Bargaon, Kutra & Rajgangpur comes under the North Western Ghat agro-climate zone with mean annual precipitation of 1600 mm. The total geographical is 3412.14 sq km and forest area is 653.11 sq. km. The broad soil groups are brown forest, lateritic alluvial, red, red and yellow, mixed red and black. Broadly speaking, it is an undulating table land of different elevations broken up by rugged hill ranges and cut up by torrential hill streams and rivers Ib and Brahmani. The general slope of the district is from north to south. Because of this undulating, hilly and slopping nature of landscape, this area is subject to rapid run offs leading not only to soil erosion, but also to the scarcity of water for both agriculture and drinking purposes.



The major crops grown in the area are rice, supplemented by mustard and niger. The other agricultural crops of the area are wheat, maize, ragi, green gram, ginger, horse gram, til, groundnut, potato, arhar, mung. The ITDA area comprises of 791 villages and 1,69,238 households. The total population of the area as per 2011 census is 7,05,373 with 3,52,236 males and 3,53,137 females. Density of population is 207 per square km and average population per household is 4. The block-wise detail of population distribution is as follows.

Table 9: Block wise distribution of population

Sl. No.	Block	No. of Villages	No. of house holds	Population			Density of population per sq. km	Average population per household
				Total	Male	Female		
1	Hemgiri	153	20953	84559	42670	41889	154	4
2	Lephripara	108	19750	78808	39454	39354	193	4
3	Tangarpali	80	16597	64374	32171	32203	253	4
4	Balisankara	101	21656	85690	42087	43603	193	4
5	Subdega	63	15517	64254	31951	32303	183	4
6	Sundargarh	86	18046	70911	35523	35388	197	4
7	Bargaon	69	16730	71242	35599	35643	201	4
8	Kutra	54	17598	80470	40380	40090	255	5
9	Rajgangpur	77	22391	105065	52401	52664	280	5
Total		791	169238	705373	352236	353137	207	4

SOURCE: CENSUS 2011

Population by Ethno- cultural Groups

The total ST population in Sundargarh ITDA is 4,52,698 having 2,24,724 males and 2,27,974 females. The ST population comprises 64.18% of total population with almost 1:1 male and female population. The SC population is 10.34% of total population. Rajgangpur block has the highest concentration of ST population i.e. 85,116 persons while Tangarpali block has the least concentration of ST population i.e. 34,369 persons. The total SC population is 72,906 including 36,441 males and 36,465 females. Hemgiri has the highest SC population i.e. 12,258 persons while Subdega has the least SC population i.e. 5,322 persons.

Table 10: Block wise distribution of population by ethno-cultural groups

SI No.	Block	Total population			ST population			SC population		
		Total	Male	Female	(% within bracket)			(% within bracket)		
					Total	Male	Female	Total	Male	Female
1	Hemgiri	84559	42670	41889	38312	19115	19197	12258	6191	6067
					(45.31)	(44.80)	(45.83)	(14.50)	(14.51)	(14.48)
2	Lephripara	78808	39454	39354	46418	23116	23302	10342	5202	5140
					(58.90)	(58.59)	(59.21)	(13.12)	(13.18)	(13.06)
3	Tangarpali	64374	32171	32203	34369	17173	17196	9701	4778	4923
					(53.39)	(53.38)	(53.40)	(15.07)	(14.85)	(15.29)
4	Balisankara	85690	42087	43603	57427	28060	29367	7536	3709	3827
					(67.02)	(66.67)	(67.35)	(8.79)	(8.81)	(8.78)
5	Subdega	64254	31951	32303	45332	22433	22899	5322	2610	2712
					(70.55)	(70.21)	(70.89)	(8.28)	(8.17)	(8.40)
6	Sundargarh	70911	35523	35388	37392	18617	18775	10198	5145	5053
					(52.73)	(52.41)	(53.05)	(14.38)	(14.48)	(14.28)
7	Bargaon	71242	35599	35643	46292	22934	23358	5879	2965	2914
					(64.98)	(64.42)	(65.53)	(8.25)	(8.33)	(8.18)
8	Kutra	80470	40380	40090	62040	30991	31049	5731	2896	2835
					(77.10)	(76.75)	(77.45)	(7.12)	(7.17)	(7.07)
9	Rajgangpur	105065	52401	52664	85116	42285	42831	5939	2945	2994
					(81.01)	(80.70)	(81.33)	(5.65)	(5.62)	(5.69)
Total		705373	352236	353137	452698	224724	227974	72906	36441	36465
					(64.18)	(63.80)	(64.56)	(10.34)	(10.35)	(10.33)

SOURCE: CENSUS 2011

The literacy rate in the ITDA area is 61.39% where the male literacy rate is 68.54% and that of female is 54.27%. The literacy rate of ST population is 50.90% irrespective of male and female and that of SC population is 60.25%. The block-wise details of literacy rate are given below.

Table 11: Block wise Literacy Rate among Total, ST and ST Population

SI No.	Block	Percentage of Literacy								
		Total population			ST population			SC population		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
1	Hemgiri	74.55	83.01	65.97	69.59	79.01	60.25	69.51	79.09	59.89
2	Lephripara	68.39	76.69	60.09	64.14	72.61	55.78	66.72	76.17	57.17
3	Tangarpali	71.57	79.88	63.28	64.02	73.68	54.43	74.09	82.17	66.31
4	Balisankara	67.54	76.17	59.32	66.70	75.20	58.69	62.79	72.76	53.17
5	Subdega	69.03	77.45	60.77	67.11	75.70	58.80	68.27	76.50	60.45
6	Sundargarh	74.05	82.66	65.43	68.40	78.11	58.83	74.18	82.65	65.60
7	Bargaon	69.31	77.36	61.33	65.14	73.21	57.26	69.25	78.02	60.63
8	Kutra	68.76	76.61	60.91	67.97	75.66	60.34	63.65	73.06	54.17
9	Rajgangpur	66.52	75.05	58.08	21.02	23.92	18.18	64.57	74.77	54.70
Total		61.39	68.54	54.27	50.90	57.30	44.60	60.25	67.87	52.63

SOURCE: CENSUS 2011

Table 12: Block wise Land Utilization pattern

SI No	Block	Geographical area (Sq. Km)	Forest (Hec)	Cultivable waste (Hec)	Net Area Sown (Hec)	Paddy			Irrigation Potential Created (Hec)	
						Area in ha	Yield rate in Q/ha	Production in '000 ton	Kharif	Rabi
1	Hemgiri	548.36	17451	1510	14845	13148	17.08	22.45	3630	1360
2	Lephripara	409.36	9014	1244	12473	11860	10.81	12.82	5618	1007
3	Tangarpali	254.82	3252	1229	10499	10175	20.65	21.01	5015	1146
4	Balisankara	443.39	8605	6454	15697	14040	13.63	19.14	6551	1343
5	Subdega	351.16	6699	4854	12199	11152	14.54	16.22	5413	1239
6	Sundargarh	359.32	6602	4367	14354	13829	9.78	13.52	4003	2012
7	Bargaon	354.16	4662	2838	17112	15820	12.20	19.30	4258	1361
8	Kutra	316.15	1776	1140	16600	13601	6.36	8.64	3635	1159
9	Rajgangpur	375.42	7250	2188	14776	13225	7.41	9.81	6867	1357
Total		3412.14	65311	25824	128555	116850	12.23	142.91	44990	11984

SOURCE: District Statistical Handbook 2011

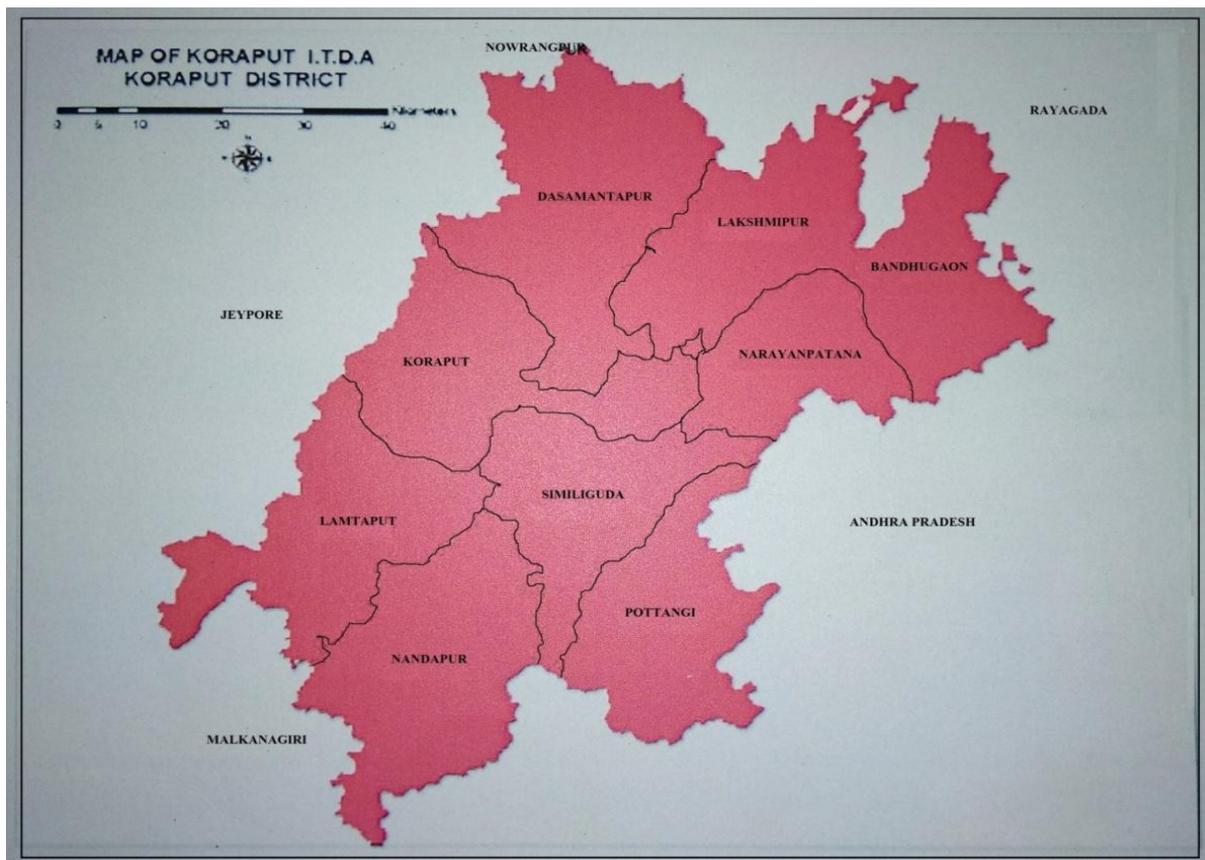
Out of 9 blocks in Sundargarh ITDA, only 4 blocks namely Lephripada, Balisankara, Subdega and Rajgangpur are getting irrigation from major and medium projects. The irrigation potential created during kharif is 44,990 hect and that of rabi is 11,984 hect.

Major Economic Activities

The principal forest produce are timber, kendu-leaf and bamboo besides minor product like sabai grass, lac, tassar, mahua, kusuma seed, resin, tamarind, gum and sal seed. The export of forest produces are mainly done through road and railway. Consequent upon the State Government policy to increase the revenue from the kendu-leaf through Government trade, Odisha Forest Corporation, a State Government undertaking, operates the trade in kendu-leaf.

KORAPUT ITDA

Koraput ITDA comprising of 9 blocks viz. Dasamantapur, Lakshmpur, Bandhugaon, Narayanpatna, Pottangi, Semiliguda, Koraput, Lamtaput & Nandapur comes under Koraput district and Eastern Ghat High Land agro-climate zone with mean annual precipitation of 1522 mm. The total geographical is 3622.90 sq km and forest area is 220.32 sq. km. The broad soil groups are red, mixed red and black, mixed red & yellow. The major/minor forest produce are Sal, Piasal, Sagun, Tamarind, Myrobalan, Adda leaves, Roulfia serpentina, Sabai grass and Beedi leaves.



The soil and climate is suitable for plantation crop and there is a great potential for horticultural development in the district. The ITDA area comprises of 1,277 villages and 1,55,424 households. The total population of the area as per 2011 census is 6,27,814 with 3,06,449 males and 3,21,365 females. Density of population is 173 per square km and average population per household is 4. The block-wise detail of population distribution is as follows.

Table 13: Block wise distribution of population

Sl. No.	Block	No. of Villages	No. of house holds	Population			Density of population per sq. km	Average population per household
				Total	Male	Female		
1	Dasamantapur	179	21171	81693	39585	42108	123	4
2	Lakshmipur	106	16178	66621	32550	34071	215	4
3	Bandhugaon	153	12600	58974	28460	30514	264	5
4	Narayanpatana	127	9317	43575	21325	22250	278	5
5	Pottangi	106	15985	69401	34077	35324	269	4
6	Similiguda	99	20478	81314	39920	41394	258	4
7	Koraput	93	19897	74867	36917	37950	173	4
8	Lamtaput	188	16169	59873	29227	30646	104	4
9	Nandapur	226	23629	91496	44388	47108	133	4
Total		1277	155424	627814	306449	321365	173	4

SOURCE: CENSUS 2011

Population by Ethno- cultural Groups

The total ST population in Koraput ITDA is 3,69,781 having 1,78,043 males and 1,91,738 females. The ST population comprises 58.90% of total population with almost 1:1 male and female population. The SC population is 12.39% of total population. Nandapur block has the highest concentration of ST population i.e. 48,056 persons while Lamtaput block has the least concentration of ST population i.e. 27,284 persons. The total SC population is 77,815 including 38,261 males and 39,554 females. Nandapur has the highest SC population i.e. 15,058 persons while Narayanpatna has the least SC population i.e. 2,548 persons.

Table 14: Block wise distribution of population by ethno-cultural groups

SI No.	Block	Total population			ST population			SC population		
					(% within bracket)			(% within bracket)		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
1	Dasaman tapur	81693	39585	42108	46656	22414	24242	9497	4598	4899
					(57.11)	(56.62)	(57.57)	(11.63)	(11.62)	(11.63)
2	Lakshmi pur	66621	32550	34071	46745	22385	24360	9656	4800	4856
					(70.17)	(68.77)	(71.50)	(14.49)	(14.75)	(14.25)
3	Bandhu gaon	58974	28460	30514	47059	22609	24450	4673	2279	2394
					(79.80)	(79.44)	(80.13)	(7.92)	(8.01)	(7.85)
4	Narayan patna	43575	21325	22250	36772	17931	18841	2548	1253	1295
					(8.39)	(84.08)	(84.68)	(8.85)	(5.88)	(5.82)
5	Pottangi	69401	34077	35324	46243	22532	23711	4207	2106	2101
					(66.63)	(66.12)	(67.12)	(6.06)	(6.18)	(5.95)
6	Semiliguda	81314	39920	41394	41494	20004	21490	8856	4382	4474
					(51.03)	(50.11)	(51.92)	(10.89)	(10.98)	(10.81)
7	Koraput	74867	36917	37950	29472	14165	15307	11751	5803	5948
					(39.37)	(38.37)	(40.33)	(15.70)	(15.72)	(15.67)
8	Lamtaput	59873	29227	30646	27284	13048	14236	11569	5664	5905
					(45.57)	(44.64)	(46.45)	(19.32)	(19.38)	(19.27)
9	Nandapur	91496	44388	47108	48056	22955	25101	15058	7376	7682
					(52.52)	(51.71)	(53.28)	(16.46)	(16.62)	(16.31)
Total		627814	306449	321365	369781	178043	191738	77815	38261	39554
					(58.90)	(58.10)	(59.66)	(12.39)	(12.49)	(12.31)

SOURCE: CENSUS 2011

The literacy rate in the ITDA area is 34.84% where as the male literacy rate is 44.44% and that of female is 25.69%. The literacy rate of ST population is 26.99% irrespective of male and female and that of SC population is 44.80%. The block-wise details of literacy rate are depicted below.

Table 15: Block wise Literacy Rate among Total, ST and ST Population

SI No.	Block	Percentage of Literacy								
		Total population			ST population			SC population		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
1	Dasamantapur	42.18	54.27	30.98	33.66	44.72	23.64	55.96	68.56	44.31
2	Lakshmipur	42.49	54.74	30.94	32.20	44.00	21.56	59.17	72.09	46.55
3	Bandhugaon	32.95	41.67	24.92	25.85	33.67	18.72	54.78	66.73	43.65
4	Narayanpatna	37.87	46.81	29.40	31.11	39.68	23.06	61.22	76.20	46.67
5	Poitangi	32.50	41.41	24.08	28.02	36.06	20.57	51.38	63.42	39.42
6	Semiliguda	45.43	58.19	33.31	37.64	48.66	27.57	52.05	65.31	39.25
7	Koraput	56.51	69.96	43.55	42.76	56.63	30.13	59.26	72.92	46.13
8	Lamtaput	42.45	55.97	29.72	34.56	46.66	23.77	45.16	59.07	31.91
9	Nandapur	40.60	54.82	27.43	34.69	47.46	23.29	48.65	64.82	33.45
Total		34.84	44.44	25.69	26.99	35.34	19.25	44.80	55.98	33.99

SOURCE: CENSUS 2011

Table 16: Block wise Land Utilization pattern

SI No	Block	Geographical area (Sq. Km)	Forest (Hec)	Cultivable waste (Hec)	Net Area Sown (Hec)	Paddy			Irrigation Potential Created (Hec)	
						Area in ha	Yield rate in Q/ha	Production in '000 ton	Kharif	Rabi
1	Dasamantapur	663.96	2891	642	15348	8383	22.77	19.09	3666	2047
2	Lakshmipur	310.33	1826	639	9809	4783	2702	12.92	2836	1935
3	Bandhugaon	223.14	4537	1454	8885	3320	25.46	8.45	2711	972
4	Narayanpatna	157.00	1419	216	4352	1305	24.86	3.24	1960	1243
5	Poitangi	258.02	952	305	10986	3551	30.71	10.90	3212	1920
6	Semiliguda	314.65	572	438	9061	3960	31.86	12.62	4382	3669
7	Koraput	433.21	5718	197	11724	4769	19.04	9.08	2660	2098
8	Lamtaput	576.99	3647	892	12272	5690	20.06	11.41	2709	1067
9	Nandapur	685.60	470	1495	16168	7701	29.57	22.77	3062	2438
Total		3622.90	22032	6278	98605	43462	25.42	110.48	27198	17389

SOURCE: District Statistical Handbook 2011

Major Economic Activities

The main economic activities of the tribal of the area are agriculture, supplemented by shifting cultivation, collection and sale of minor forest produce, hunting and food gathering. Rice is their principal crop supplemented by mustard and niger. In course of time, tribal communities have been monetized; however, barter system still prevails in interior areas. The major crops of the area, in addition to rice, are wheat, maize, ragi, green gram, horse gram, til, groundnut, potato, jute and sugarcane.

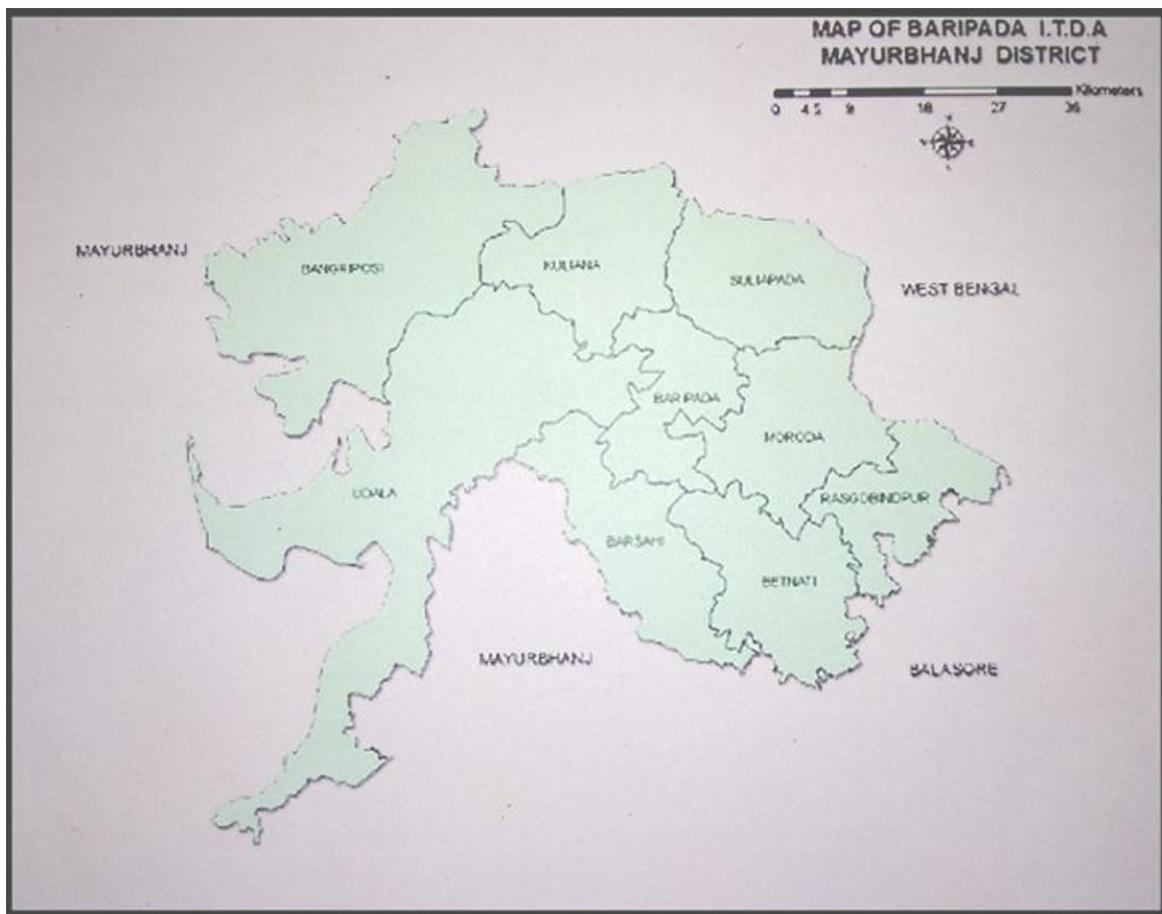
The highland in Koraput ITDA measuring 12,927 hect (3.96%) is the potential resource for horticulture programme, including plantation of fruits, flowers spices, roots and tubers, aromatic plants and herbal gardens. The medium lands are suitable for vegetable cultivation. The agro climatic condition and soil type supports a wide range of horticultural crops. Under different development programmes, medium land has been developed with fruit trees like banana, mango and lime, ber nut and equal area has been covered under vegetables and spices like tomato, cauliflower, cabbage, radish, beans, ginger, turmeric, chilli, coriander leaf, besides tuber crops like yam, colocasia.

The forest area constitutes 22032 hec in the total ITDA area. The major forest produce are sal, pia sal, teak and minor products are tamarind, sabai grass, kendu leaves, sal leaves etc. Mahua flowers are used for preparation of liquor in this area.

Besides agriculture, the people of the ITDA have taken up subsidiary occupation like poultry farming, goat, sheep, pig rearing and dairy farming. During the year 2010-11 as many as 659 mining workers are reported in Koraput district. Since one of the mines is located in Koraput ITDA area, the majority of the workers are from the tribal communities working mostly in Bauxite, Lime stone, Mica and Quartzite mines. Many small scale industries, cottage industries, handloom industries are found in the area. Many people are engaged in these industries to earn their livelihood. Besides cottage industry activities of the area, the artisan groups are also involved in black smithy, carpentry, weaving, bamboo and wood work, mat making and broom making.

BARIPADA ITDA

Baripada ITDA comprising of 10 blocks viz. Shamakhunta, Bangiriposhi, Saraskana, Kuliana, Suliapada, Baripada, Badasahi, Betanati, Rasagobindapur & Moroda comes under Mayurbhanj district and North Central Plateau agro-climatic zone with mean annual precipitation of 1534 mm. The total geographical area is 2702.15sq km and forest area is 287.64 sq. km. The broad soil groups are Lateritic, Red & Yellow, and Mixed Red & Black. The major/minor forest produce are Pia sal, Siris, Kusum, Bandhan, Gambhari, Kendu, Mohua, bamboo and wild grass etc. Sal is one of the common species of tree found throughout the length and breadth of the area. The soil of the plains is loose and loamy with tinges of red and black. The sloppy landscape is built of Haematitic and Keolinic soil with little humus content.



The soil and climate is suitable for plantation crop and there is a great potential for horticultural development in the district. The major agricultural crops grown are cereals, millets, pulses, oil seeds. In addition vegetables are grown in vast area. Cultivable waste land is usually coming under plantation of sabai grass, bamboo and

bulk plantation of trees, like cashew nut, acacia and eucalyptus under soil conservation and other economic up-liftment programmes. The atmospheric temperature varies from 11°C to 36°C. The ITDA area comprises of 1893 villages and 2,49,972 households. The total population of the area as per 2011 census is 10,54,742 with 5,30,068 males and 5,24,674 females. Density of population is 390 per square km and average population per household is 4. The block-wise detail of population distribution is as follows.

Table 17: Block wise distribution of population

Sl. No.	Block	No. of Villages	No. of house holds	Population			Density of population per sq. km	Average population per household
				Total	Male	Female		
1	Shamakhunta	137	19263	79883	39892	39991	416	4
2	Bangiriposhi	227	25259	103880	51880	52000	346	4
3	Saraskana	200	24410	100816	50904	49912	323	4
4	Kuliana	235	23935	101151	50722	50429	337	4
5	Suliapada	193	24918	102263	51425	50838	367	4
6	Baripada	104	16048	69782	35587	34195	362	4
7	Badasahi	224	35175	146232	73567	72665	468	4
8	Betanati	227	34325	150434	75706	74728	504	4
9	Rasagobindapur	177	21472	96526	48808	47718	416	4
10	Moroda	169	25167	103775	51577	52198	365	4
Total		1893	249972	1054742	530068	524674	390	4

SOURCE: CENSUS 2011

Population by Ethno- cultural Groups

The total ST population in Baripada ITDA is 5,78,605 having 2,89,370 males and 2,89,235 females. The ST population comprises 54.86% of total population with almost 1:1 male and female population. The SC population is 8.08% of total population. Badasahi block has the highest concentration of ST population i.e. 74,120 while Suliapada block has the least concentration of ST population i.e. 41,429. The total SC population is 85,212 including 42,683 males and 42,529 females. Betanati has the highest SC population i.e. 16,672 persons while Baripada has the least SC population i.e. 1850 persons.

Table 18: Block wise distribution of population by ethno-cultural groups

SI No.	Block	Total population			ST population			SC population		
		Total	Male	Female	(% within bracket)			(% within bracket)		
					Total	Male	Female	Total	Male	Female
1	Shamakhunta	79883	39892	39991	53306	26410	26896	3830	1924	1906
					(66.73)	(66.20)	(67.26)	(4.79)	(4.82)	(4.77)
2	Bangiriposhi	103880	51880	52000	72362	35821	36541	5576	2791	2785
					(69.66)	(69.05)	(70.27)	(5.37)	(5.38)	(5.36)
3	Saraskana	100816	50904	49912	58337	29227	29110	6524	3258	3266
					(57.86)	(57.42)	(58.32)	(6.47)	(6.40)	(6.54)
4	Kuliana	101151	50722	50429	67045	33302	33743	6556	3331	3225
					(66.28)	(65.66)	(66.91)	(6.48)	(6.57)	(6.40)
5	Suliapada	102263	51425	50838	41429	20902	20527	6538	3246	3292
					(40.51)	(40.65)	(40.38)	(6.39)	(6.31)	(6.48)
6	Bariapada	69782	35587	34195	51716	26255	25461	1850	921	929
					(74.11)	(73.78)	(74.46)	(2.65)	(2.59)	(2.72)
7	Badasahi	146232	73567	72665	74120	37155	36965	14026	7013	7013
					(50.69)	(50.50)	(50.87)	(9.59)	(9.53)	(9.65)
8	Betanati	150434	75706	74728	61880	30929	30951	16672	8375	8297
					(41.13)	(40.85)	(41.42)	(11.08)	(11.06)	(11.10)
9	Rasagobindapur	96526	48808	47718	52715	26568	26147	11377	5722	5655
					(54.61)	(54.43)	(54.79)	(11.79)	(11.72)	(11.85)
10	Moroda	103775	51577	52198	45695	22801	22894	12263	6102	6161
					(44.03)	(44.21)	(43.86)	(11.82)	(11.83)	(11.80)
Total		1054742	530068	524674	578605	289370	289235	85212	42683	42529
					(54.86)	(54.59)	(55.13)	(8.08)	(8.05)	(8.11)

SOURCE: CENSUS 2011

The literacy rate in the ITDA area is 54.92% where the male literacy rate is 63.77% and that of female is 45.98%. The literacy rate of ST population is 45.68% irrespective of male and female and that of SC population is 54.28%. The block-wise details of literacy rate are depicted below.

Table 19: Block wise Literacy Rate among Total, ST and SC Population

SI No.	Block	Percentage of Literacy								
		Total population			ST population			SC population		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
1	Shamakhunta	59.12	68.81	49.53	53.33	63.90	43.08	60.29	66.89	53.62
2	Bangiriposhi	58.58	70.21	47.09	49.80	62.69	37.33	73.59	83.06	64.16
3	Saraskana	63.55	75.09	51.87	53.99	67.27	40.74	61.80	73.41	50.41
4	Kuliana	62.34	73.21	51.44	55.24	66.81	43.87	69.41	80.41	58.20
5	Suliapada	66.18	76.47	55.83	57.66	68.57	46.58	61.29	71.27	51.61
6	Baripada	58.01	68.41	47.10	52.40	63.44	40.94	64.84	75.44	54.55
7	Badasahi	64.31	73.71	54.84	54.84	66.03	43.58	58.52	68.58	48.59
8	Betanati	66.65	76.12	57.09	52.59	64.79	40.47	57.21	67.95	46.40
9	Rasagobindapur	66.21	76.83	55.38	56.99	70.28	43.39	62.36	72.87	51.87
10	Moroda	64.62	75.56	53.93	53.92	65.80	42.27	65.66	76.96	54.64
Total		54.92	63.77	45.98	45.68	55.66	35.70	54.28	63.02	45.52

SOURCE: CENSUS 2011

Table 20: Block wise Land Utilization pattern

SI No	Block	Geographical area (Sq. Km)	Forest (Hec)	Cultivable waste (Hec)	Net Area Sown (Hec)	Paddy			Irrigation Potential Created (Hec)	
						Area in ha	Yield rate in Q/ha	Production in '000 ton	Kharif	Rabi
1	Shamakhunta	192.24	779	2170	7994	7642	17.38	13.29	6452	1230
2	Bangiriposhi	300.16	2793	2826	14045	13396	8.12	10.88	1905	1867
3	Saraskana	311.84	9311	396	10195	9854	13.24	13.04	3367	2122
4	Kuliana	299.77	2862	4485	8584	7336	7.21	5.29	3207	1794
5	Suliapada	278.74	3520	3063	8028	8387	12.27	10.29	7455	3035
6	Baripada	193.02	1287	1613	5142	5216	10.39	5.42	2587	1541
7	Badasahi	312.15	1391	2389	17168	16588	26.23	43.51	10926	7499
8	Betanati	298.31	3893	1617	13902	13788	25.70	35.44	5793	4579
9	Rasagobindapur	231.91	149	1863	9383	9796	17.70	17.34	5043	4001
10	Moroda	284.01	2779	4426	6865	7063	15.11	10.67	6082	2448
Total		2702.15	28764	24848	101306	99066	16.67	165.17	52817	30116

SOURCE: District Statistical Handbook 2011

Major Economic Activities

The Scheduled Tribes of the area mostly depend on agriculture for their livelihood. Some of them like Kol-Lohara go for black smithy, Mahalis for bamboo work, Mankirdias for rope making from bark and Kharia for wage earning. Landless tribals, particularly the Kharias go on seasonal migration to neighbouring districts to work in crop fields and brick kiln as wage labourers. This act of going on seasonal migration is known as '*Namal*'.

Tribal ethnic groups engaged in cottage industries and other non-farm economic activities. The maximum households are engaged in leaf cup and plate making and the minimum in black smithy. Under non-farm sector the maximum numbers of households are engaged in carpentry.

Quite a wide range of flora and fauna species are found in the project area. Sal is one of the common species of trees found throughout the length and breadth of the area. Piasal, sinie, sisu, asan, neem, kusum, bandhan, gambhari, kendu, mahua and mango have greater presence in plain areas. The tribal people collect the forest produces like honey, jhuna, sal leaves, sal seeds, harida, bahada, amla, fire wood for their livelihood.

KARANJIA ITDA

Karanja ITDA comprising of 5 blocks viz. Jashipur, Raruan, Sukruli, Karanja & Thakurmunda comes under Mayurbhanj district and North Central Plateau agro-climate zone with mean annual precipitation of 1534 mm. The total geographical area and forest area are 1571.97 sq km 254.51 sq km respectively. The broad soil groups are Lateritic, Red & Yellow, Mixed Red & Black. The major/ minor forest produce are honey, wax resin, tusser, sal and silali leaves etc.

The atmospheric temperature varies from 11°C to 36°C. The ITDA area comprises of 758 villages and 95773 households. The total population of the area as per 2011 census is 4,24,351 with 2,09,308 males and 2,15,043 females. Density of population is 270 per square km and average population per household is 4. The block-wise details of population distribution are as follows.

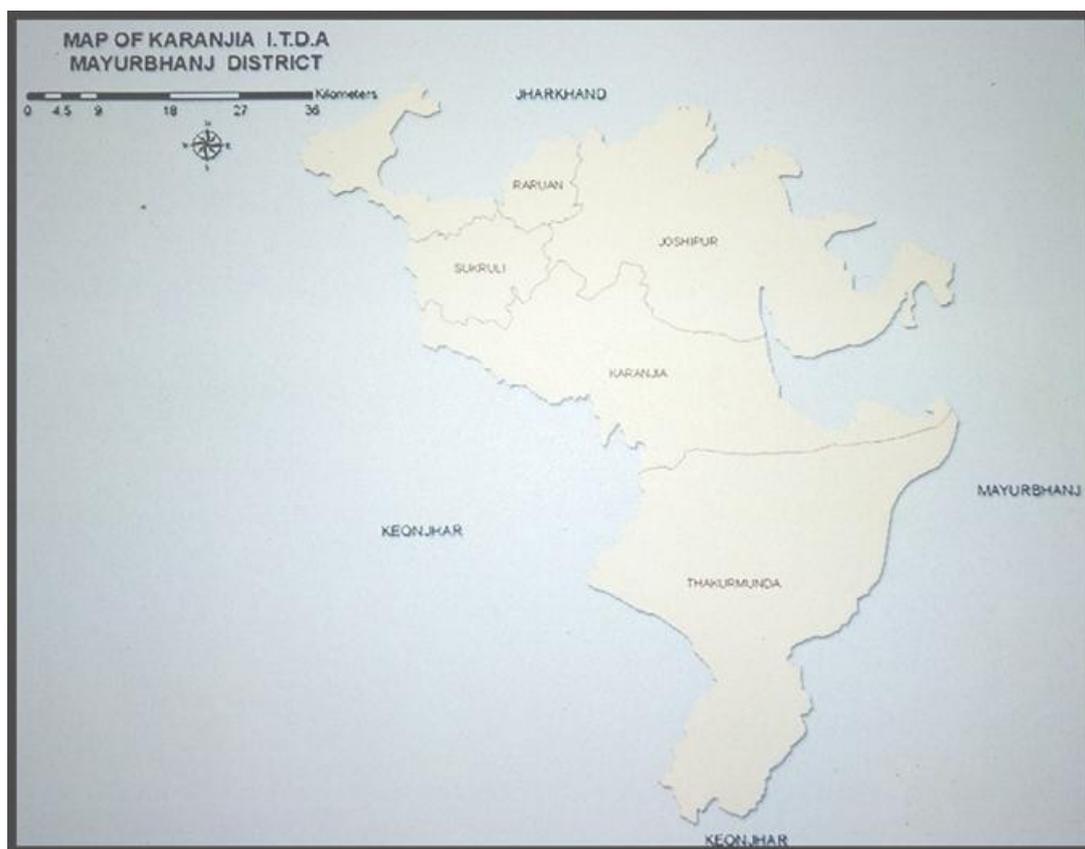


Table 21: Block wise distribution of population

Sl. No.	Block	No. of Villages	No. of house holds	Population			Density of population per sq. km	Average population per household
				Total	Male	Female		
1	Jashipur	229	23461	101058	49862	51196	228	4
2	Raruan	110	15610	66504	33093	33411	313	4
3	Sukruli	90	13706	60577	29823	30754	348	4
4	Karanjaia	156	20389	91518	45310	46208	291	4
5	Thakurmunda	173	22607	104694	51220	53474	245	5
Total		758	95773	424351	209308	215043	270	4

SOURCE: CENSUS 2011

Population by Ethno- cultural Groups

The total ST population in Karanja ITDA is 2,84,889 with 1,39,318 males and 1,45,571 females. The ST population comprises 67.14% of total population with almost 1:1 male and female population. The SC population is 6.50% of total population. Thakurmunda block has the highest concentration of ST population i.e. 78,442 persons while Raruan block has the least concentration of ST population i.e. 35,670 persons. The total SC population is 27,600 including 13,768 males and

13,832 females. Jashipur has the highest SC population i.e. 7255 persons while Sukuruli has the least SC population i.e. 4250.

Table 22: Block wise distribution of population by ethno-cultural groups

SI No.	Block	Total population			ST population (% within bracket)			SC population (% within bracket)		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
		1	Jashipur	101058	49862	51196	70521 (69.78)	34512 (69.22)	36009 (70.34)	7255 (7.18)
2	Raruan	66504	33093	33411	35670 (53.64)	17600 (53.18)	18070 (54.08)	5035 (7.57)	2528 (7.64)	2507 (7.50)
3	Sukuruli	60577	29823	30754	38146 (62.97)	18578 (62.29)	19568 (63.63)	4250 (7.02)	2102 (7.05)	2148 (6.98)
4	Karanjia	91518	45310	46208	62110 (67.87)	30497 (67.31)	31613 (68.41)	6350 (6.94)	3177 (7.01)	3173 (6.87)
5	Thakurmunda	104694	51220	53474	78442 (74.93)	38131 (74.45)	40311 (75.38)	4710 (4.50)	2333 (4.55)	2377 (4.45)
Total		424351	209308	215043	284889 (67.14)	139318 (66.56)	145571 (67.69)	27600 (6.50)	13768 (6.58)	13832 (6.43)

SOURCE: CENSUS 2011

The literacy rate in the ITDA area is 49.48% where the male literacy rate is 58.39% and that of female is 40.80%. The literacy rate of ST population is 41.58% irrespective of male and female and that of SC population is 61.59%. The block-wise details of literacy rate are depicted below.

Table 23: Block wise Literacy Rate among Total, ST and SC Population

SI No.	Block	Percentage of Literacy								
		Total population			ST population			SC population		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
1	Jashipur	56.85	67.49	46.61	48.20	59.39	37.67	68.50	79.44	57.67
2	Raruan	62.99	74.08	52.11	52.29	63.60	41.41	70.93	83.45	58.49
3	Sukuruli	64.12	74.47	54.19	56.95	67.59	47.02	72.37	82.39	62.70
4	Karanjia	60.37	70.69	50.36	53.34	64.23	42.92	69.81	79.88	59.73
5	Thakurmunda	51.68	63.31	40.62	45.17	57.22	33.88	68.19	78.81	57.78
Total		49.48	58.39	40.80	41.58	50.62	32.93	61.59	70.87	52.35

SOURCE: CENSUS 2011

Table 24: Block wise Land Utilization pattern

SI No.	Block	Geographical area (Sq.Km)	Forest (Hec)	Cultivable waste (Hec)	Net Area Sown (Hec)	Paddy			Irrigation Potential Created (Hec)	
						Area in ha	Yield rate in Q/ha	Production in '000 ton	Kharif	Rabi
1	Jashipur	443.12	6518	3810	16552	15388	11.66	17.94	1352	1763
2	Raruan	212.53	1379	1889	9961	9489	12.78	12.13	1702	1014
3	Sukruli	174.05	451	1614	7356	6947	5.43	3.78	1217	1236
4	Karanjia	314.76	4383	1877	12564	11813	10.34	12.22	2477	1482
5	Thakurmunda	427.51	12720	2381	16384	17121	14.61	25.01	1067	1174
Total		1571.97	25451	11571	62817	60758	11.70	71.08	7815	6669

SOURCE: District Statistical Handbook 2011

Major Economic Activities

The major economic activities of Scheduled Tribes of the project area constitute agriculture, horticulture, forest produce collection, animal husbandry, wage earning and traditional cottage industry.

The project area receives irrigation from minor irrigation projects and lift irrigation projects during both kharif and rabi. The principal crops of the project area are paddy, pulses, oil seeds, fibre crops and vegetables. Paddy constitutes the major crops of the area. The light red soil of the project area is suited for raising orchards. Mango groves are found in many parts of the project area. Fruits like banana, papaya, kagzi lime, lichi, pineapple are grown in orchards. The people also grow varieties of vegetables like cauliflower, cabbage, potato, okra, peas, radish, pumpkin, brinjal, chilli etc. The produces of the above fruits and vegetables are usually marketed in the locality. The role of forest in the economy of the Tribals of the project area is important. They get their fire wood, thatching grass, fruits, and tubers in large varieties to use as food during lean seasons. Mahua tree serves their purpose of food and drink. The tribal people make ropes out of sabai grass and siali fibre and sell it in local market.

* * *

VILLAGE PROFILE

The evaluation study was undertaken taking 51 villages into the purview of the study covering 20 blocks out of 38 blocks in the selected five ITDAs namely Paralakhemundi, Baripada, Sundargarh, Koraput and Karanjia. The field survey was conducted for all the interventions executed under FADP during 2012-13 to 2016-17. The locations of the villages are detailed below.

Table 25: Location of the Sample Villages

ITDA	Sl. No	Village	GP	Block	Interventions executed	Distance from			Community facility
						District/ ITDA Hqrs	Block Hqrs	GP Hqrs	
Paralakhemundi	1	Sindhiba	Dambala	Rayagada	Apiculture	25	15	5	Pucca Road
	2	Subalada	Subalada	R.Udayagiri	Apiculture	62	10	2	Pucca Road
	3	Talamunda	Talamunda	Rayagada	Hill broom	57	47	0	Pucca Road
	4	Barangsingh	Munisingh	Gumma	Mushroom	25	10	5	Pucca Road
	5	Adagaon (Newly settled)	Gandahati	Rayagada	Poultry	25	23	3	Pucca Road
	6	Sukei	Ukhuna	Gumma	Rubber	35	25	0	Pucca Road
	7	Munisingh	Munisingh	Gumma	Rubber	25	10	0	Pucca Road
	8	R.Nuasahi	Jallango	Rayagada	Wadi	60	10	2	Pucca Road
	9	Mangarajpur	Mangarajpur	R.Udayagiri	Wadi, Sericulture	45	7	0	Pucca Road
Baripada	1	Chakadhar	Bhuasuni	Bangiriposi	Sericulture	52	30	3	Katcha Road
	2	Ghatiduba	Sorisaduba	Bangiriposi	Lac cultivation	55	20	3	Katcha Road
	3	Sankucha	Chandanpur	Badsahi	Goat Rearing	50	12	2	Pucca Road
	4	Bhandarikula	Paunsia	Badsahi	Colour Fish	30	12	5	Katcha Road
	5	Goudasole	Naupal	Badsahi	Fishery	18	20	2	Pucca Road
	6	Madhupur	Purnachandrapur	Badsahi	Rubber	30	23	3	Pucca Road
	7	Jadunathpur	Jadunathpur	Badsahi	Poultry	30	22	2	Pucca Road
	8	Pratap	Pratap	Badsahi	Diary	27	9	1	Pucca Road
	9	Badjol	Badjol	Baripada	Fishery	25	25	0	Pucca Road
	10	Guhaldihi	Badjol	Baripada	Micro Enterprises	28	25	2	Pucca Road
Sundargarh	1	Rangadhupa	Sundargarh Sadar	Sundargarh Sadar	Poultry	2	2	1	Pucca Road
	2	Sahebadera	Masabira	Lephipada	Wadi	50	18	1	Pucca Road
	3	Champasora	Laidihi	Lephipada	Wadi	50	30	20	Pucca Road
	4	Gultha	Jogimal	Tangrapali	Wadi	35	15	3	Pucca Road
	5	Kanakjura	Tasladihi	Tangrapali	Fishery	22	10	3	Pucca Road

ITDA	Sl. No.	Village	GP	Block	Interventions executed	Distance from			Communication facility
						District/ ITDA Hqrs	Block Hqrs	GP Hqrs	
	6	Sanpatarapali	Sanpatanapali	Tangarapali	Fishery/Poultry	25	15	3	Katcha Road
	7	Rapatjor	Dhobendand	Balisanakara	Fishery	35	22	3	Pucca Road
Koraput	1	Mahaguda	Kutrabeda	Bandhugaon	Gotary	110	11	1	Pucca Road
	2	Ranjitguda	Laxmipur	Laxmipur	Wadi, Poultry, Vegetable	60	2	1	Pucca Road
	3	Dabaput	Balda	Nandapur	Coffee	80	10	2	Pucca Road
	4	Gopalput, Baraguda, Kutiaguda, Misinguda	Padmapur	Koraput	Coffee	10	2	1	Pucca Road
	5	Banasil	Chikamba	Dasmanthpur	Vegetable	45	3	2	Pucca Road
	6	Odiapentha	Narayanpatna	Narayanpatna	Wadi, Vegetable	78	4	2	Pucca Road
	7	Bejuguda	Balipeta	Narayanpatna	Wadi, Poultry	85	8	2	Pucca Road
	8	Katraguda	Bandhugaon	Bandhugaon	Wadi	95	6	6	Pucca Road
	9	Pedisil	Dasmanthpur	Dasmanthpur	Wadi, Vegetable	55	2	2	Pucca Road
	10	Khajuriput	Goudaguda	Laxmipur	Poultry	45	23	2	Pucca Road
	11	Lukumari	Podagada	Dasmanthpur	Wadi	22	30	3	Katcha Road
Karanja	1	Barsia	Baraipani	Jashipur	Farm mechanisation	70	45	2	Katcha Road
	2	Haladia	Baraipani	Jashipur	Farm mechanisation	72	45	1	Katcha Road
	3	Jhanuriposi	Rugudi	Jashipur	Rubber	22	12	5	Pucca Road
	4	Siromanipur	Rugudi	Jashipur	Rubber	25	15	2	Pucca Road
	5	Kaluakhama n	Rugudi	Jashipur	Rubber	26	16	2	Pucca Road
	6	Bhanra	Badadauli	Karanja	Dairy	7	7	2	Pucca Road
	7	Sarangagada	Sarangagada	Karanja	Fishery	13	13	0	Pucca Road
	8	Gayal Chatua	Chatranjali	Sukuruli	Rubber	27	12	4	Pucca Road
	9	Sunaposi	Galusahi	Sukuruli	Goat Rearing	17	10	3	Pucca Road
	10	Chirupada	Keshidiha	Thakurmunda	Fishery	55	15	3	Pucca Road
	11	Khandabandha	Khandabandha	Thakurmunda	Dairy	30	15	0	Pucca Road
	12	Keshadiha	Keshidiha	Thakurmunda	Dairy	54	14	0	Pucca Road
	13	Keluposhi	Khandabandha	Thakurmunda	Dairy	32	17	2	Pucca Road
	14	Bharandia	Bharandia	Thakurmunda	Dairy	38	22	0	Pucca Road

It is revealed from the above Table that the villages taken for the study are ranging from 2 to 110 km from the ITDA headquarters located in different blocks. Care has been taken to take up the study in the villages both near and far from the ITDA headquarters to assess the impact of motivation in different areas. Similarly, the distance of the sample villages are located in the range of 2 km to 47 km from the block headquarters. It was observed that 46 sample villages out of 51 are connected with pucca road to the block and district headquarters. Rest 5 villages, comprising only 10% of the total sample villages are connected with katcha road to the pucca road. Hence, road communication is not a constraint for the villagers to access for the inputs, technology and also marketing facilities.

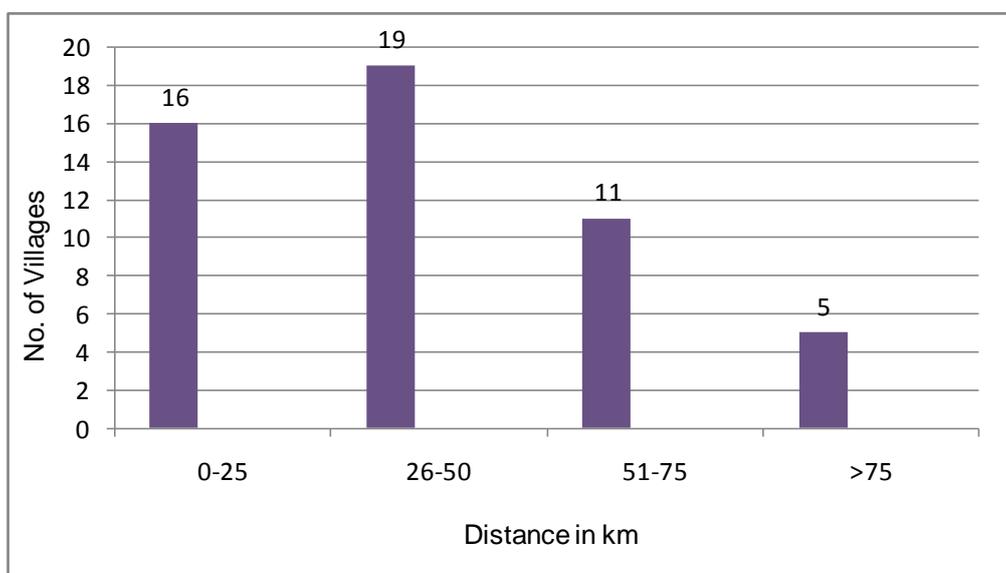


Figure 1: Distance of Villages from ITDA headquarters

Table 26: Educational Facilities

ITDA	Sl. No	Village	Block	GP	Distance (km) to		
					Primary School	High School	College
Paralakhemundi	1	Sindhiba	Rayagada	Dumar	0	0	5
	2	Sublalda	R.Udayagiri	Sublada	0	0	10
	3	Talamunda	Rayagada	Talamunda	0	0	20
	4	Barangsingh	Gumma	Munisingh	0	0	15
	5	Adagaon	Rayagada	Gandahati	0	3	12
	6	Sukei	Gumma	Ukhuna	0	0	10
	7	Munisingh	Gumma	Munisingh	0	0	10
	8	R.Nuasahi	Rayagada	Jallango	0	0	12

ITDA	SI. No	Village	Block	GP	Distance (km) to		
					Primary School	High School	College
	9	Mangarajpur	R.Udayagiri	Mangarajpur	0	0	7
Baripada	1	Chakadhar	Bangiriposi	Bhuasuni	1	2	15
	2	Ghatiduba	Bangiriposi	Sorisaduba	1	1	20
	3	Sankucha	Badsahi	Chandanpur	1	1	3
	4	Bhandarikula	Badsahi	Paunsia	1	3	12
	5	Goudasole	Badsahi	Naupal	1	3	5
	6	Madhupur	Badsahi	Purnachandrapur	1	3	10
	7	Jadunathpur	Badsahi	Jadunathpur	1	3	5
	8	Pratapur	Badsahi	Pratapur	1	1	10
	9	Badjol	Baripada	Badjol	1	2	5
	10	Guhaldihi	Baripada	Badjol	1	1	8
Sundargarh	1	Rangadhipa	Sundargarh	Sundargarh	0	0	0
	2	Sahebadera	Lephipada	Masabira	0	4	20
	3	Champasora	Lephipada	Laidihi	0	2	8
	4	Gultha	Tangarpali	Jogimal	0	0	3
	5	Kanakjura	Tangarpali	Tasladihi	0	2	10
	6	Sanpatarpali	Tangarpali	Sanpatanapali	0	3	15
	7	Rapatjor	Balisanakara	Dhobendand	0	5	8
Koraput	1	Mahaguda	Bandhugaon	Kutrabeda	1	1	2
	2	Ranjitguda	Laxmipur	Laxmipur	0	2	2
	3	Dabaput	Nandapur	Balda	3	8	20
	4	Gopalpur	Koraput	Padmapur	1	2	8
	5	Banasil	Dasmanthpur	Chikamba	0	2	3
	6	Odiapentha	Narayanpatna	Narayanpatna	0	4	4
	7	Bejuguda	Narayanpatna	Balipeta	1	1	4
	8	Katraguda	Bandhugaon	Bandhugaon	1	8	10
	9	Pedisil	Dasmanthpur	Dasmanthpur	0	2	2
	10	Khajuriput	Laxmipur	Goudaguda	0	2	4
	11	Lukumari	Dasmanthpur	Podagada	0	3	22
Karanja	1	Barsia	Jashipur	Baraipani	3	20	45
	2	Haladia	Jashipur	Baraipani	1	20	45
	3	Jhanuriposi	Jashipur	Rugudi	1	8	8
	4	Siromanipur	Jashipur	Rugudi	0	8	15
	5	Kaluakhaman	Jashipur	Rugudi	0	2	17
	6	Bhanra	Karanja	Badadauli	0	0	7
	7	Sarangagada	Karanja	Sarangagada	0	5	5
	8	Gayal Chatua	Sukuruli	Chatranjali	0	4	12
	9	Sunaposi	Sukuruli	Galusahi	0	0	5
	10	Chirupada	Thakurmunda	Keshidiha	0	5	15
	11	Khandabandha	Thakurmunda	Khandabandha	0	0	1
	12	Keshadiha	Thakurmunda	Keshidiha	0	0	14
	13	Keluposhi	Thakurmunda	Khandabandha	0	2	3
	14	Bharandia	Thakurmunda	Bharandia	0	0	5

The facility of Primary School is available either within the village or at close vicinity of 1 km only. High School is available in most of the cases within the village or at a

distance ranging from 2 to 8 km. Only 8 villages out of 51 are having high school facility beyond 5 km. In case of Barsia and Haldia village in Baripani GP of Jashipur block, the situation is more critical as the children have to go up to 20 km for the high school. Similar is the case of college for these villages which is almost 45 km from the village as these villages are located in the remote area of Jashipur block in Similipal Reserve Forest. Otherwise college facility is available to the students at a distance ranging from 2 to 20 km. Almost in case of 31 villages (60% of the total sample villages) the college is located beyond 5 km and the high school and College going students generally use bicycle to cover the distance. But it is a constraint and drudgery for the girl students to avail the facility of high school and college education.

Table 27: Basic Amenities Available
(Distance in km)

ITDA	SI No	Village	Block	PHC/ Hospital	Post Office	Bank	LAMP S	VAW Centre	LI Centre	Input Sale Centre	Forest
Paralakhemundi	1	Sindhiba	Rayagada	0	0	5	5	5	5	5	0
	2	Sublalda	R.Udayagiri	5	0	5	5	2	5	2	0
	3	Talamunda	Rayagada	0	0	45	45	0	0	0	0
	4	Barangsingh	Gumma	0	0	0	10	5	10	10	0
	5	Adagaon	Rayagada	23	3	8	8	3	0	3	0
	6	Sukei	Gumma	0	2	5	5	0	5	5	0
	7	Munisingh	Gumma	0	0	10	10	0	10	0	0
	8	R.Nuasahi	Rayagada	2	0	5	2	2	3	2	3
	9	Mangarajpur	R.Udayagiri	7	0	7	7	0	0	0	0
Baripada	1	Chakadhar	Bangiriposi	2	2	2	5	5	2	2	1
	2	Ghatiduba	Bangiriposi	20	3	20	20	3	20	20	1
	3	Sankucha	Badsahi	3	2	3	12	2	3	2	5
	4	Bhandarikula	Badsahi	2	5	12	2	8	5	5	5
	5	Goudasole	Badsahi	5	2	3	5	5	5	5	5
	6	Madhupur	Badsahi	5	3	9	10	5	4	3	1
	7	Jadunathpur	Badsahi	3	5	12	5	5	5	5	2
	8	Pratapur	Badsahi	1	1	1	5	5	5	5	1
	9	Badjol	Baripada	2	2	2	5	5	5	3	1
Sundargarh	10	Guhaldihi	Baripada	5	1	5	5	5	5	5	1
	1	Rangadhupa	Sundargarh	0	0	0	0	0	0	0	5
	2	Sahebadera	Lephipada	4	4	4	4	4	20	4	0
	3	Champasora	Lephipada	2	2	2	8	8	8	8	0

ITDA	SI No	Village	Block	PHC/ Hospital	Post Office	Bank	LAMPCS	VAW Centre	LI Centre	Input Sale Centre	Forest
	4	Gultha	Tangrapali	3	0	3	10	10	10	3	0
	5	Kanakjura	Tangrapali	2	2	20	10	10	10	10	0
	6	Sanpatrapali	Tangrapali	3	3	15	15	15	15	15	3
	7	Rapatjor	Balisanakara	10	10	10	10	10	10	8	0
Koraput	1	Mahaguda	Bandhugaon	2	2	2	2	2	2	2	2
	2	Ranjitguda	Laxmipur	2	2	2	2	2	2	2	2
	3	Dabaput	Nandapur	4	4	3	4	4	3	4	2
	4	Gopalpur	Koraput	8	2	8	8	8	8	8	2
	5	Banasil	Dasmanthpur	3	3	3	3	3	3	3	3
	6	Odiapentha	Narayanpatna	4	4	4	4	4	4	4	4
	7	Bejuguda	Narayanpatna	4	4	4	4	4	4	4	4
	8	Katraguda	Bandhugaon	6	6	6	6	6	6	6	2
	9	Pedisil	Dasmanthpur	3	3	5	4	4	5	3	2
	10	Khajuriput	Laxmipur	2	4	4	4	4	4	2	2
	11	Lukumari	Dasmanthpur	3	3	3	3	3	3	3	1
Karanja	1	Barsia	Jashipur	45	2	45	45	2	35	45	0
	2	Haladia	Jashipur	45	2	45	45	1	35	45	0
	3	Jhanuriposi	Jashipur	15	5	15	15	5	2	15	8
	4	Siromanipur	Jashipur	15	5	15	15	3	8	4	8
	5	Kaluakhaman	Jashipur	15	2	17	17	2	10	2	9
	6	Bhanra	Karanja	7	0	7	7	2	5	7	7
	7	Sarangagada	Karanja	12	1	12	13	0	6	5	5
	8	Gayal Chatua	Sukuruli	12	4	12	12	4	4	4	12
	9	Sunaposi	Sukuruli	10	1	10	2	3	3	10	5
	10	Chirupada	Thakurmunda	15	5	15	15	3	15	15	15
	11	Khandabandha	Thakurmunda	1	0	1	15	0	1	15	7
	12	Keshadiha	Thakurmunda	0	0	14	14	0	14	14	16
	13	Keluposhi	Thakurmunda	2	2	17	17	2	3	17	10
	14	Bharandia	Thakurmunda	0	0	15	15	0	0	10	5

The above Table reveals that the basic amenities like health services, Post Office, Bank, LAMPCS, VAW Centre, LI Centre, Input Sale Centre are available to the villagers at a distance ranging from 2 to 15 km in most of the cases excepting for Barsia and Haladia village in Jashipur block which is an exceptional case because of their location in the remote area within the forest. The basic amenity like health services is beyond 5 km and even up to 45 km in around 30% of the villages. As

understood during discussion, the VAW and Livestock Inspector (LI) are visiting regularly and facilitating technical guidance and care. Almost 60% of the villages are situated within the close vicinity of forest and they get the facilities of collection of forest products mostly *Mahula*, *Kendu leaves*, Tamarind etc and use firewood for cooking purpose.

Table 28: Number of Households

ITDA	Sl. No.	Village	Block	No. of households				No. of FADP Beneficiaries	ST Community
				ST	SC	Others	Total		
Paralakhemundi	1	Sindhiba	Rayagada	30			30	5	Lanjia Soura
	2	Sublalda	R.Udayagiri	47			47	9	-do-
	3	Talamunda	Rayagada	145	10		155	35	-do-
	4	Barangsingh	Gumma	200			200	30	-do-
	5	Adagaon	Rayagada	108			108	54	-do-
	6	Sukei	Gumma	61			61	40	-do-
	7	Munisingh	Gumma	106			106	106	-do-
	8	R.Nuasahi	Rayagada	90	5		95	3	-do-
	9	Mangarajpur	R.Udayagiri	67	9	2	78	26	-do-
		TOTAL		854 (97.04)	24 (2.73)	2 (0.23)	880 (100)	308 (35.00)	
Baripada	1	Chakadhar	Bangiriposi	25	0	0	25	80	Bathudi
	2	Ghatiduba	Bangiriposi	100	0	0	100	12	Santal
	3	Sankucha	Badsahi	70	30	0	100	10	Santal
	4	Bhandarikula	Badsahi	52	0	0	52	13	Santal
	5	Goudasole	Badsahi	120	10	20	150	1	Bhuyan
	6	Madhupur	Badsahi	108	0	2	110	110	Bhumij
	7	Jadunathpur	Badsahi	250	50	100	400	3	Santal
	8	Pratapur	Badsahi	85	2	8	95	2	Bhuyan
	9	Badjol	Baripada	350	0	100	450	2	Bathudi
	10	Guhaldihi	Baripada	200	0	100	300	53	Bathudi
		TOTAL		1360 (76.32)	92 (5.16)	330 (18.52)	1782 (100)	286 (16.05)	
Sundargarh	1	Rangadhipa	Sundargarh	170	40	40	250	1	Bhuyan
	2	Sahebadera	Lephipada	75	5	20	100	4	Bhuyan
	3	Champasora	Lephipada	130	2	0	132	25	Gonda
	4	Gultha	Tangarapali	80	20	20	120	1	Gonda
	5	Kanakjura	Tangarapali	300	70	30	400	1	Bhuyan
	6	Sanpatarapali	Tangarapali	130	3	120	253	1	Bhuyan
	7	Rapatjor	Balisanakara	100	0	0	100	6	Oram
		TOTAL		985 (72.69)	140 (10.33)	230 (16.97)	1355 (100)	39 (2.88)	
Koraput	1	Mahaguda	Bandhugaon	330	43	0	373	10	Kandha
	2	Ranjitguda	Laxmipur	65	0	0	65	27	Paraja
	3	Dabaput	Nandapur	47	0	0	47	40	Paraja
	4	Gopalpur	Koraput	40	0	0	40	40	Paraja
	5	Banasil	Dasmanthpur	120	5	0	125	20	Paraja
	6	Odiapentha	Narayanpatna	38	0	0	38	18	Kandha
	7	Bejuguda	Narayanpatna	50	5	0	55	15	Paraja

ITDA	Sl. No.	Village	Block	No. of households				No. of FADP Beneficiaries	ST Community
				ST	SC	Others	Total		
	8	Katraguda	Bandhugaon	40	0	0	40	17	Kandha
	9	Pedisil	Dasmanthpur	58	20	42	120	25	Paraja
	10	Khajuriput	Laxmipur	180	0	0	180	20	Kandha
	11	Lukumari	Dasmanthpur	33	30	0	63	10	Paraja
		TOTAL		1001 (87.35)	103 (8.99)	42 (3.66)	1146 (100)	242 (21.12)	
Karanjia	1	Barsia	Jashipur	104	0	1	105	12	Kolha
	2	Haladia	Jashipur	36	0	0	36	11	Kolha
	3	Jhanuriposi	Jashipur	96	0	0	96	5	Bathudi
	4	Siromanipur	Jashipur	90	0	0	90	18	Bathudi
	5	Kaluakhaman	Jashipur	135	2	10	147	10	Bathudi
	6	Bhanra	Karanjia	600	32	168	800	1	Saunti
	7	Sarangagada	Karanjia	300	15	25	340	3	Kolha
	8	Gayal Chatua	Sukuruli	85	0	0	85	14	Bathudi
	9	Sunaposi	Sukuruli	241	7	2	250	14	Gonda
	10	Chirupada	Thakurmunda	285	0	0	285	4	Kolha
	11	Khandabandha	Thakurmunda	53	0	19	72	1	Kolha
	12	Keshadiha	Thakurmunda	530	2	21	553	1	Kolha
	13	Keluposhi	Thakurmunda	25	0	132	157	1	Kolha
	14	Bharandia	Thakurmunda	317	25	20	362	1	Kolha
		TOTAL		2897 (85.76)	83 (2.46)	398 (11.78)	3378 (100)	96 (2.84)	
Total of all ITDAs				7097 (83.09)	442 (5.18)	1002 (11.73)	8541 (100)	971 (11.37)	

(Figures in the parenthesis indicate percentage)

The number household in the villages ranges from 25 to 800 depending upon the geographical area of the village. More than 200 households are available in only 13 villages out of 51 which accounts for 25% of the total sample villages. Household of 400 or more exists in 5 villages which accounts for 10% of the total sample villages taken for the study.

The villages are mostly covered by ST households which accounts for 83% of the total households. The percentage of SC household is only 5.18%. Out of the total households, around 11% and out of the ST households 14% have been covered under FADP as envisaged during discussion with the villagers. The ST families in the above villages mostly belong to Lanjia Soura in Paralakhemundi, Bathudi, Santal, Bhuyan and Bhumij in Baripada, Bhuyan, Gonda and Oram in Sundargarh, Kandha and Paraja in Koraput, Kolha, Bathudi, Saunti and Gonda community in Karanjia ITDA area. The pictorial representation of distribution of ST communities is presented below.

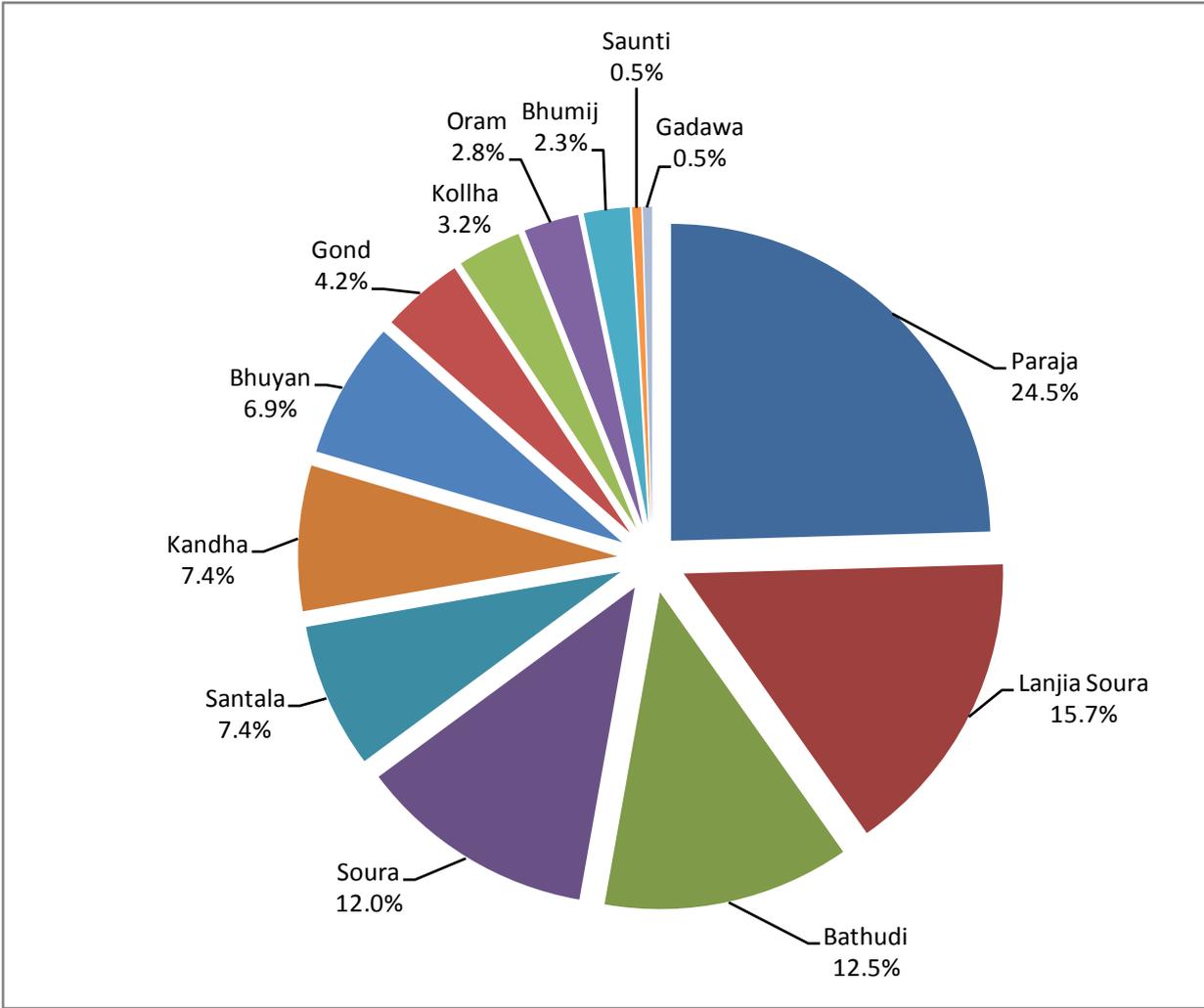


Figure 2: Distribution of Community-wise Sample Beneficiaries

Table 29: Basic Needs Available in the Villages

ITDA	Sl. No.	Village	Block	House Type		No. of Latrine		No. of electrified houses		Source of drinking water	
				Pre-Project Period	Project Period	Pre-Project Period	Project Period	Pre-Project Period	Project Period	Pre-Project Period	Project Period
Paralakhemundi	1	Sindhiba	Rayagada	Thatched	Asbestos/IAY	25	30	25	30	Open Well	Open Well
	2	Sublalda	R.Udayagiri	Asbestos	Asbestos/IAY	40	45	40	40	Open Well	Tubewell
	3	Talamunda	Rayagada	Thatched	Thatch/ Asbestos/ Pucca	85	105	94	155	Open Well	Open Well
	4	Barangsingh	Gumma	Asbestos	Asbestos/IAY	170	170	120	120	Gravity water	Gravity water
	5	Adagaon	Rayagada	Thatched	Pucca/Asbestos/IAY	0	108	0	108	Tubewell	Tubewell
	6	Sukei	Gumma	Thatched	Asbestos/IAY	15	61	25	61	Open Well	Open Well
	7	Munisingh	Gumma	Asbestos	Asbestos/IAY	106	106	3	104	Open Well	Open Well
	8	R.Nuasahi	Rayagada	Asbestos	Asbestos/IAY	70	70	60	65	Open Well	Open Well
	9	Mangarajpur	R.Udayagiri	Thatched	Asbestos/IAY	28	78	45	70	Tubewell	Tubewell
		TOTAL			539 (61.25)	773 (87.84)	412 (46.82)	753 (85.57)			
Baripada	1	Chakadhar	Bangiriposi	Thatched/ Tile	Thatch/ Tile/ IAY	0	0	22	25	Tube well	Tube well
	2	Ghatiduba	Bangiriposi	Thatched/ Tile/ Asbestos	Thatched/ Tile/ Asbestos/ IAY	80	90	80	90	Tube well	Tube well
	3	Sankucha	Badsahi	Asbestos	Asbestos/ IAY	0	0	80	100	Tube well	Tube well
	4	Bhandarikula	Badsahi	Thatched/ Title	Thatched/ Tile	52	52	52	52	Open Well	Open Well
	5	Goudasole	Badsahi	Thatched/ Title	Tile/ IAY	120	150	150	150	Open Well/ Tube Well	Open Well/ Tube Well
	6	Madhupur	Badsahi	Asbestos/ Tile/ IAY	Asbesto/ Tile/ IAY	5	10	110	110	Open Well	Open Well
	7	Jadunathpur	Badsahi	Thatched/ Asbestos/ IAY	Thatche/ Asbestos/ IAY	20	50	350	350	Open Well	Open Well
	8	Pratapur	Badsahi	Thatched/ Tile/ IAY	Thatched/ Tile/ IAY	60	60	80	80	Bore well	Bore well
	9	Badjol	Baripada	Thatched/ Tile/ IAY	Thatched/ Tile/ Asbestos/I AY	100	150	200	200	Well/ Tube Well	Well/ Tube Well
	10	Guhaldihi	Baripada	Thatched/ Asbestos	Thatched/ Asbestos/ IAY	50	60	30	30	Well	Well

ITDA	Sl. No.	Village	Block	House Type		No. of Latrine		No. of electrified houses		Source of drinking water	
				Pre-Project Period	Project Period	Pre-Project Period	Project Period	Pre-Project Period	Project Period	Pre-Project Period	Project Period
		TOTAL				487 (16.33)	622 (20.73)	1154 (38.47)	1187 (39.57)		
Sundargarh	1	Rangadhipa	Sundargarh	Tile/ IAY	Tile/ IAY	110	230	220	240	Tube well	Tube well
	2	Sahebadera	Lephipada	Tile	Tile	80	90	80	90	Tube well	Tube well
	3	Champasora	Lephipada	Thatched/ Tile	Thatched/ Tile	80	100	120	120	Tube well	Tube well
	4	Gultha	Tangrapali	Thatched/ Tile	Thatched/ Tile	40	50	80	90	Tube well	Tube well
	5	Kanakjura	Tangrapali	Local Tile	Local Tile	150	170	200	200	Open Well	Open Well
	6	Sanpatarapali	Tangrapali	Local Tile	Local Tile	220	230	200	220	Tube well	Tube well
	7	Rapatjor	Balisanakara	Thatched/ Local Tile	Thatched/ Local Tile	10	20	90	100	Tube well	Tube well
		TOTAL				690 (50.92)	890 (65.68)	990 (73.06)	1060 (78.23)		
Koraput	1	Mahaguda	Bandhugaon	Local Tile	Local Tile	40	50	373	373	Tube well	Tube well
	2	Ranjitguda	Laxmipur	Local Tile/ IAY	Local Tile/ IAY	0	0	30	35	Tube well	Tube well
	3	Dabaput	Nandapur	Local Tile/ IAY	Local Tile/ IAY	0	0	47	47	Tube well	Tube well
	4	Gopalput	Koraput	Local Tile/ IAY	Local Tile/ IAY	30	30	40	40	Tube well	Tube well
	5	Banasil	Dasmanthpur	Local Tile	Local Tile	20	32	60	70	Tube well	Tube well
	6	Odiapentha	Narayanpatna	Local Tile/IAY	Local Tile/IAY	38	38	38	38	Tube well	Tube well
	7	Bejuguda	Narayanpatna	Local Tile/ Asbestos	Local Tile/ Asbestos	55	55	30	40	Tube well	Tube well
	8	Katraguda	Bandhugaon	Local Tile/ IAY	Local Tile/ IAY	20	25	40	40	Tube well	Tube well
	9	Pedisil	Dasmanthpur	Local Tile	Local Tile	100	100	110	110	Tube well	Tube well
	10	Khajuriput	Laxmipur	Local Tile/ IAY	Local Tile/ IAY	0	0	150	150	Tube well	Tube well
	11	Lukumari	Dasmanthpur	Local Tile/ IAY	Local Tile/ IAY	20	27	30	45	Tube well	Tube well
		TOTAL				323 (28.18)	357 (31.15)	948 (82.72)	988 (86.21)		
Karanja	1	Barsia	Jashipur	Tile	Tile	0	0	5	5	Perennial stream	Perennial stream
	2	Haladia	Jashipur	Tile/ Asbestos	Tile/ Asbestos	0	0	8	8	perennial stream	Perennial stream

ITDA	Sl. No.	Village	Block	House Type		No. of Latrine		No. of electrified houses		Source of drinking water	
				Pre-Project Period	Project Period	Pre-Project Period	Project Period	Pre-Project Period	Project Period	Pre-Project Period	Project Period
	3	Jhanuriposi	Jashipur	Tile	Tile	0	0	80	80	Tube well	Tube well
	4	Siromanipur	Jashipur	Tile	Tile	75	75	90	90	Tube well	Tube well
	5	Kaluakhaman	Jashipur	Local tile/ Asbestos Thatched	Tile/ Asbestos	20	60	95	120	Tube well	Tube well
	6	Bhanra	Karanjia	Tile	Asbestos	780	780	775	775	Tube well	Tube well/ Bore well/ River
	7	Sarangagada	Karanjia	Local tile/ Asbestos/ Thatched	Local tile/Asbestos/Thatched	150	150	340	340	Tube well	Tube well
	8	Gayal Chatua	Sukuruli	Thatched/ Tile	Thatched/Tile/Asbestos	30	30	60	60	Tube well	Tube well
	9	Sunaposi	Sukuruli	Tile	Tile/ Asbestos	0	0	250	250	Bore well	Tube well
	10	Chirupada	Thakurmunda	Local tile	Local tile	0	0	150	150	Bore well	Bore well
	11	Khandabandha	Thakurmunda	Local tile/ Asbestos/ Thatched	Tile/ Asbestos	0	0	60	72	Tubewell	Tube well
	12	Keshadiha	Thakurmunda	Local tile	Local tile	95	150	260	300	Tube well	Tube well
	13	Keluposhi	Thakurmunda	Local tile/ Asbestos/ Thatched	Tile/ Asbestos	0	0	80	80	Tube well	Tube well
	14	Bharandia	Thakurmunda	Local tile/ Asbestos/ Thatched	Tile/ Asbestos	0	0	240	240	Tube well	Tube well
		TOTAL				1150 (34.04)	1245 (36.86)	2493 (73.80)	2570 (76.08)		
		All ITDA Total				3189 (32.68)	3887 (39.83)	5997 (61.45)	6558 (67.20)		

(Figures in the parenthesis indicate percentage to total household)

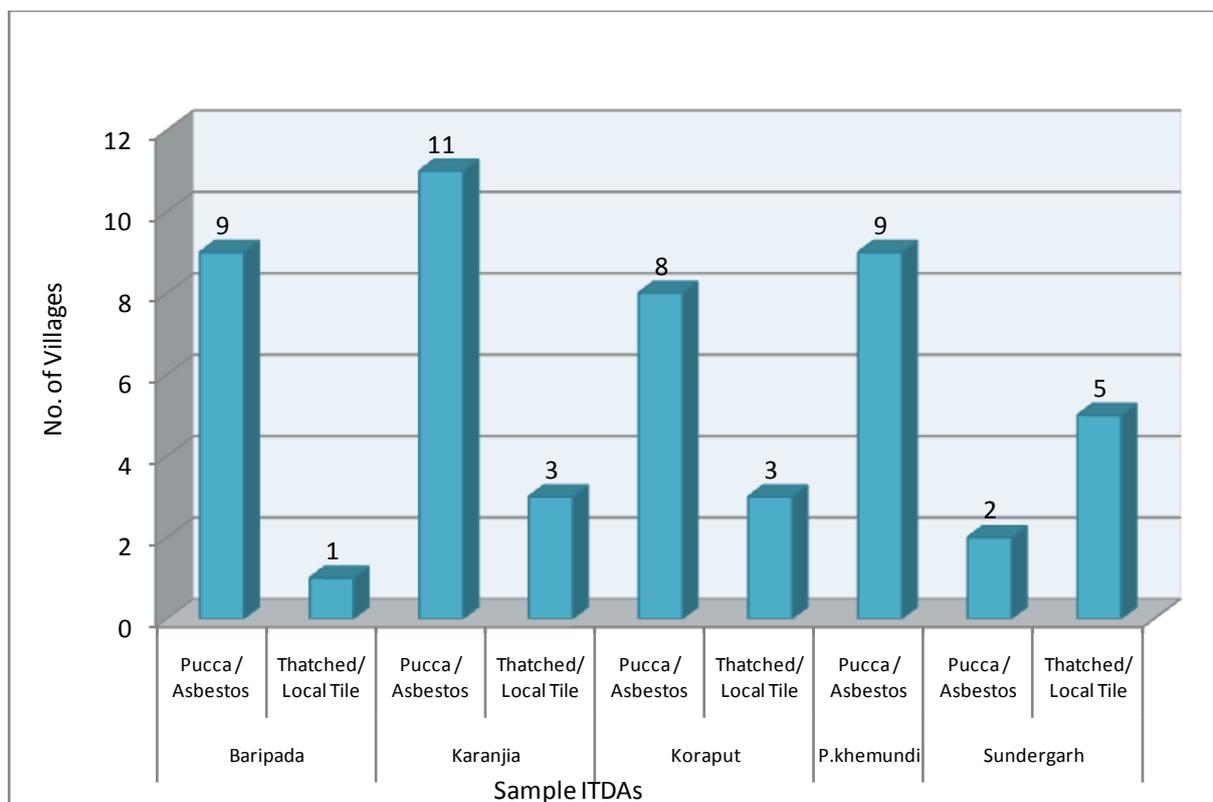


Figure 3: Present House Type in Sample Villages

During visit in the villages, it was observed that almost all the houses are either pucca with RCC roof or with asbestos roof. Mostly the houses are constructed under Indira Awas Yojana (IAY). The villagers have availed the facility extended by the Government and are satisfied with such facility. Before inception of the FADP, around 43% of the villages were having thatched houses. During the Project period the number of thatched houses has been reduced to 25%. Similarly, percentage of household having latrine has been increased from 33% to 40% during the Project period. It is observed from the above Table that 87% of the households in Paralakhemundi followed by 66% in Sundargarh ITDA are having latrine. Percentage of households having latrine is 37% in Karanjia, 31% in Koraput and as low as 21% in Baripada. Number of households having electrification was 61% during the Pre-Project period and has been enhanced to 67% subsequently. Government has made provision of solar light system in each household in Barsia and Haladia village in the remote forest area in Jashipur block as observed during field visit. There is meager increase in use of latrine in the household or electrification of the household during the project period. Because the the impact of the FADP has not yet been reaped any visualizing result as most of the major livelihood interventions like Rubber Plantation,

Wadi, Coffee cultivation etc have not yet given any production and it will take another 2 to 3 years to start production. It appears that the villagers have changed their attitude towards better living and utilizing the facilities provided by the government under different schemes. The source of drinking water in the villages is mostly open well, tube well and bore well. In some villages, utilization of gravity water has been facilitated by the government through pipe connection where such natural facility is available which may not be considered as the impact of the FADP rather the impact of the facilities extended by the Government.

Table 30: Household Amenities Available

ITDA	SI No	Village	Block	Television		Radio		Motor Cycle		Bicycle	
				Pre-Project Period	Project Period						
Paralakhemundi	1	Sindhiba	Rayagada	2	2	0	0	4	5	10	12
	2	Sublalda	R.Udayagiri	5	10	5	5	0	2	10	12
	3	Talamunda	Rayagada	5	15	4	0	0	4	12	15
	4	Barangsingh	Gumma	20	20	0	0	5	5	15	15
	5	Adagaon	Rayagada	0	4	8	0	0	3	3	10
	6	Sukei	Gumma	0	5	2	0	0	15	14	30
	7	Munisingh	Gumma	0	15	0	15	0	22	10	102
	8	R.Nuasahi	Rayagada	15	20	0	0	5	5	25	30
	9	Mangarajpur	R.Udayagiri	0	10	0	0	0	5	10	50
		TOTAL		47	101	19	20	14	66	109	276
Baripada	1	Chakadhar	Bangiriposi	3	3	2	5	1	3	25	25
	2	Ghatiduba	Bangiriposi	10	20	5	8	5	10	80	90
	3	Sankucha	Badsahi	80	90	20	12	40	50	70	80
	4	Bhandarikula	Badsahi	10	15	2	2	15	20	25	30
	5	Goudasole	Badsahi	30	50	10	12	10	15	110	130
	6	Madhupur	Badsahi	30	40	10	10	30	40	80	90
	7	Jadunathpur	Badsahi	50	70	10	10	100	150	350	400
	8	Pratapur	Badsahi	40	50	10	11	20	25	70	90
	9	Badjol	Baripada	100	100	20	30	100	100	400	450
	10	Guhaldihi	Baripada	20	20	5	10	10	20	250	250
		TOTAL		373	458	94	110	331	433	1460	1635
Sundargarh	1	Rangadhupa	Sundargarh	80	230	40	35	120	120	190	240
	2	Sahebadera	Lephipada	20	30	10	15	5	10	80	100
	3	Champasora	Lephipada	30	40	10	12	30	40	120	125
	4	Gultha	Tangarapali	20	30	10	14	20	30	90	100
	5	Kanakjura	Tangarapali	50	50	10	12	70	80	350	350
	6	Sanpatarapali	Tangarapali	30	40	20	16	40	50	250	250
	7	Rapatjor	Balisanakara	30	40	10	10	30	35	90	100
		TOTAL		260	460	110	114	315	365	1170	1265
Koraput	1	Mahaguda	Bandhugaoan	40	50	10	20	10	10	50	60
	2	Ranjitguda	Laxmipur	10	10	10	10	10	10	40	50
	3	Dabaput	Nandapur	5	5	5	5	2	2	2	2

ITDA	SI No	Village	Block	Television		Radio		Motor Cycle		Bicycle	
				Pre-Project Period	Project Period						
	4	Gopalpur	Koraput	10	10	5	5	20	20	40	40
	5	Banasil	Dasmanthpur	5	5	0	0	3	3	8	8
	6	Odiapentha	Narayanpatna	0	0	0	0	0	0	30	38
	7	Bejuguda	Narayanpatna	20	25	10	10	10	15	55	55
	8	Katraguda	Bandhugaoan	10	15	5	5	1	1	40	40
	9	Pedisil	Dasmanthpur	5	0	10	10	15	15	80	80
	10	Khajuriput	Laxmipur	5	5	0	0	12	12	40	40
	11	Lukumari	Dasmanthpur	30	45	5	0	0	2	60	60
		TOTAL		140	170	60	65	83	90	445	473
Karanja	1	Barsia	Jashipur	0	0	0	0	5	5	70	70
	2	Haladia	Jashipur	0	0	0	0	4	4	25	25
	3	Jhanuriposi	Jashipur	8	8	2	2	12	12	96	96
	4	Siromanipur	Jashipur	20	20	5	5	10	10	70	70
	5	Kaluakhamaan	Jashipur	70	80	0	0	20	25	70	75
	6	Bhanra	Karanja	300	300	0	0	40	40	800	800
	7	Sarangagada	Karanja	40	40	4	4	15	15	340	340
	8	Gayal Chatua	Sukuruli	2	2	0	0	1	1	50	50
	9	Sunaposi	Sukuruli	225	225	15	15	150	150	250	250
	10	Chirupada	Thakurmunda	20	20	0	0	7	7	285	285
	11	Khandabandha	Thakurmunda	50	60	0	0	40	45	25	25
	12	Keshadiha	Thakurmunda	120	140	5	5	70	75	290	320
	13	Keluposhi	Thakurmunda	35	40	0	0	5	10	50	65
	14	Bharandia	Thakurmunda	80	115	0	0	65	70	75	90
		TOTAL		970	1050	31	31	444	469	2496	2561
		All ITDA Total		1790	2239	314	340	1187	1423	5680	6210
		% increase over pre-project period			25%		8%		20%		9%

It is revealed from the above Table that over the period of time the use of TV, radio, motor cycle and bicycle has been increased in the villages. The use of TV has been increased by 25% where as that of radio is only 8%. It is observed that the number of radio has not been increased significantly as the TV has occupied the place of radio. As it was revealed from discussion, in addition to the entertainment channels in TV, they are getting the awareness on different agricultural and allied activities and introduction and popularization different schemes by the Government. Besides, they are also getting knowledge on market price of agricultural produces. The use of

motor cycle and bicycle has been increased by 20% and 9% respectively in comparison to the pre-project period. The increase in bicycle number is not remarkable as most of the households have their bicycles since long which is a part of their life. Use of motor cycle and bicycle make their access to the nearby market, knowledge centre of different departments like ITDA, Agriculture, Horticulture, Veterinary, OLM etc to enhance their technical knowledge and getting inputs for the interventions under FADP as well as in agriculture and allied sectors.

Table 31: Agriculture

ITDA	Sl. No	Village	Block	Powertiller (No.)		Tractor (No.)		Custom hire centre		Primary Occupation		Secondary Occupation	
				Pre-Project Period	Project Period	Pre-Project Period	Project Period						
Paralakhemundi	1	Sindhiba	Rayagada	0	0	0	0	No	No	Agriculture	Agriculture	Wage Earning	Apiculture/Agriculture
	2	Sublalda	R.Udayagiri	0	0	0	0	No	No	Agriculture	Agriculture	Wage Earning	Wage Earning/ Apiculture
	3	Talamunda	Rayagada	0	0	0	1	No	No	Agriculture	Agriculture	Wage Earning	Hill Broom, Tamarind, Banana, Pineapple, Mango
	4	Barangsingh	Gumma	0	0	0	0	No	No	Agriculture	Agriculture	Wage Earning	Mushroom
	5	Adagaon	Rayagada	0	0	0	0	No	No	Agriculture	Wage Earning	Wage Earning	Wage Earning
	6	Sukei	Gumma	0	0	0	0	No	No	Agriculture	Agriculture	Rubber	Rubber
	7	Munisingh	Gumma	0	0	0	1	No	No	Agriculture	Agriculture	Rubber	Rubber
	8	R.Nuasahi	Rayagada	0	0	0	0	No	No	Agriculture	Agriculture	Wage Earning	Wage Earning/ Inter cropping
	9	Mangarajpur	R.Udayagiri	0	0	0	1	No	No	Agriculture	Agriculture	Wage Earning	Orchard / Inter cropping
TOTAL				0	0	0	3						
Baripada	1	Chakadhar	Bangiriposi	0	0	0	0	No	No	Agriculture	Agriculture	Vegetable/ Sericulture	Vegetable/ Sericulture
	2	Ghatiduba	Bangiriposi	0	0	0	0	No	No	Agriculture	Agriculture	Wage Earning	Wage Earning
	3	Sankucha	Badsahi	2	2	2	2	No	No	Agriculture	Agriculture	Wage Earning/ Sabai	Wage Earning/ Sabai
	4	Bhandarikula	Badsahi	0	2	0	0	No	No	Agriculture	Agriculture	Wage Earning	Wage Earning
	5	Goudasole	Badsahi	0	1	0	0	No	No	Agriculture	Agriculture	Wage Earning/ Shop	Wage Earning/ Shop
	6	Madhupur	Badsahi	2	4	0	2	No	No	Wage Earning	Wage Earning	Forest collection	Forest collection

ITDA	Sl. No	Village	Block	Powertiller (No.)		Tractor (No.)		Custom hire centre		Primary Occupation		Secondary Occupation	
				Pre-Project Period	Project Period	Pre-Project Period	Project Period						
	7	Jadunathpur	Badsahi	5	10	2	3	No	No	Wage Earning	Wage Earning	Wage Earning	Wage Earning
	8	Pratapur	Badsahi	2	5	2	5	No	No	Agriculture	Agriculture	Wage Earning	Wage Earning
	9	Badjol	Baripada	10	10	5	5	No	No	Agriculture	Agriculture	Wage Earning	Wage Earning
	10	Guhaldihi	Baripada	2	3	2	5	Yes	Yes	Agriculture	Agriculture	Wage Earning	Wage Earning
TOTAL				23	37	13	22						
Sundargarh	1	Rangadhipa	Sundargarh	10	10	10	10	Yes	Yes	Agriculture	Wage Earning	Agriculture	Wage Earning
	2	Sahebadera	Lephripada	0	0	0	0	No	No	Agriculture	Wage Earning	Agriculture	Wage Earning
	3	Champasora	Lephripada	3	3	3	3	No	No	Agriculture	Wage Earning	Agriculture	Wage Earning
	4	Gultha	Tangarapali	5	5	5	5	No	No	Agriculture	Wage Earning	Agriculture	Wage Earning
	5	Kanakjura	Tangarapali	10	10	10	10	Yes	Yes	Agriculture	Wage Earning	Agriculture	Wage Earning
	6	Sanpatarapali	Tangarapali	5	5	5	5	Yes	Yes	Agriculture	Wage Earning	Agriculture	Wage Earning
	7	Rapatjor	Balisanakara	1	1	1	1	Yes	Yes	Agriculture	Wage Earning	Agriculture	Wage Earning
TOTAL				34	34	34	34						
Koraput	1	Mahaguda	Bandhugaon	0	0	0	0	No	No	Agriculture	Wage Earning	Agriculture	Wage Earning
	2	Ranjitguda	Laxmipur	0	0	0	0	No	No	Agriculture	Wage Earning	Agriculture	Wage Earning
	3	Dabaput	Nandapur	0	0	0	0	No	No	Agriculture	Wage Earning	Agriculture	Wage Earning
	4	Gopalpur	Koraput	0	0	0	0	No	No	Agriculture	Coffee	Agriculture	Coffee
	5	Banasil	Dasmanthpur	0	0	0	0	No	No	Agriculture	Agriculture	Wage Earning	Wage Earning
	6	Odiapentha	Narayanpatna	0	0	0	0	No	No	Agriculture	Wage Earning	Agriculture	Wage Earning

ITDA	Sl. No	Village	Block	Powertiller (No.)		Tractor (No.)		Custom hire centre		Primary Occupation		Secondary Occupation	
				Pre-Project Period	Project Period	Pre-Project Period	Project Period						
	7	Bejuguda	Narayanpatna	0	0	0	0	No	No	Agriculture	Wage Earning	Agriculture	Wage Earning
	8	Katraguda	Bandhugaon	0	0	0	0	No	No	Agriculture	Agriculture	Agriculture	Agriculture
	9	Pedisil	Dasmanthpur	0	0	0	0	No	No	Agriculture	Wage Earning	Agriculture	Wage Earning
	10	Khajuriput	Laxmipur	0	0	0	0	No	No	Agriculture	Wage Earning	Agriculture	Wage Earning
	11	Lukumari	Dasmanthpur	0	0	0	0	No	No	Agriculture	Wage Earning	Agriculture	Wage Earning
TOTAL				0	0	0	0						
Karanjia	1	Barsia	Jashipur	1	1	0	0	No	No	Agriculture	Agriculture	Agriculture	Wage Earning
	2	Haladia	Jashipur	1	1	0	0	No	No	Agriculture	Agriculture	Agriculture	Wage Earning
	3	Jhanuriposi	Jashipur	0	0	0	0	No	No	Agriculture	Agriculture	Wage Earning	Wage Earning
	4	Siromanipur	Jashipur	1	1	1	1	No	No	Agriculture	Agriculture	Wage Earning	Wage Earning
	5	Kaluakhaman	Jashipur	0	0	0	0	No	No	Agriculture	Agriculture	Wage Earning	Wage Earning
	6	Bhanra	Karanjia	4	4	1	1	No	No	Agriculture	Agriculture	Wage Earning	Wage Earning
	7	Sarangagada	Karanjia	5	5	2	2	No	No	Agriculture	Agriculture	Wage Earning	Wage Earning
	8	Gayal Chatua	Sukuruli	1	1	1	1	Yes	Yes	Agriculture	Agriculture	Wage Earning	Wage Earning
	9	Sunaposi	Sukuruli	0	0	0	0	No	No	Agriculture	Agriculture	Wage Earning	Wage Earning
	10	Chirupada	Thakurmunda	1	1	1	1	No	No	Agriculture	Agriculture	Wage Earning	Wage Earning
	11	Khandabandha	Thakurmunda	0	0	1	1	No	No	Agriculture	Agriculture	Wage Earning	Wage Earning
	12	Keshadiha	Thakurmunda	0	0	0	0	No	No	Agriculture	Agriculture	Wage Earning	Wage Earning
	13	Keluposhi	Thakurmunda	0	0	0	0	No	No	Agriculture	Agriculture	Wage Earning	Wage Earning
	14	Bharandia	Thakurmunda	0	0	0	0	No	No	Agriculture	Agriculture	Wage Earning	Wage Earning
TOTAL				14	14	7	7						
All ITDA Total				71	85	54	66						
% increase over pre-project period					20%		22%						

It is observed that the increase in number of power tillers and tractor is only 20% and 22% respectively. The farmers mostly depend upon the bullock labour either available with them or availing the facility from the neighbouring farmers. The farmers in the village and the neighbouring villages are getting facility of these tractors and power tillers especially for farming purpose on hiring basis. There is no custom hiring centre for farm machineries in any of the villages. It is suggested that the ITDA may take steps for establishment of Custom Hiring Centres through SHGs in different locations keeping in view the feasibility of the area and demand of the farmers through the intervention "Farm Mechanization". The primary occupation of the beneficiaries is agriculture. They produce crops like rice, ragi, maize, oilseeds and vegetables in their own land as well as in the leased in land for their own consumption and sale of the surplus produce.

Wage earning is their secondary occupation. Currently all villagers have their job cards under MGNREGS. They remain engaged for 80 to 90 days in a year through their job cards. The daily wage varies from Rs.100 to Rs.150 per day when they work in the village through their own arrangement. They earn Rs.176 per day when they work through job card. In addition to wage earning they also remain engaged in FADP interventions like Rubber cultivation, Apiculture, Hill broom cultivation, Inter cropping in Rubber and Wadi fields, Coffee plantation, Poultry, Goat Rearing, Female calf rearing, Fishery, Vegetable cultivation etc.

It is revealed from the following Table that the number of children going to schools and colleges has been increased over a period of 5 years. With the advance of time, introduction of new schemes like FADP, the response of the children is in the increasing trend to be enrolled in schools and colleges. There is 14% Increase among primary school children as well as among high school children, 23% among college going youths. There is also increase of attending high school and college among the girl students to the tune of 17% and 25% respectively. Increase in education level both in case of boys and girls have positive impact on the FADP Interventions for success in execution and giving good and effective results. Among the 5 sample ITDAs, the interest in going to school and college is more in case of Paralakhemundi ITDA. Interest for higher education among the boys and girls will help in proper execution of the schemes and have positive impact and help to enhance the livelihood of the beneficiaries.

Table 32: Village-wise Impact on Education

ITDA	Sl. No.	Village	Block	No. of Primary School going children		No. of High School going children.		No. of College going youths		No. of girls going to High school		No. of girls going to College	
				Pre-Project Period	Project Period	Pre-Project Period	Project Period	Pre-Project Period	Project Period	Pre-Project Period	Project Period	Pre-Project Period	Project Period
Paralakhemundi	1	Sindhiba	Rayagada	20	20	20	20	15	15	10	10	5	5
	2	Sublalda	R.Udayagiri	20	25	20	25	15	15	10	15	5	5
	3	Talamunda	Rayagada	95	100	10	15	20	20	8	10	5	7
	4	Barangsingh	Gumma	30	30	20	20	15	15	10	10	5	5
	5	Adagaon	Rayagada	37	80	2	5	1	1	0	2	0	0
	6	Sukei	Gumma	15	20	20	25	15	20	10	12	5	10
	7	Munisingh	Gumma	45	100	25	35	10	25	5	15	3	10
	8	R.Nuasahi	Rayagada	25	30	20	22	10	15	10	10	5	10
	9	Mangarajpur	R.Udayagiri	20	30	15	20	10	15	5	10	8	12
TOTAL				307	435	152	187	111	141	68	94	41	64
% Increase over Pre-project period					42%		23%		27%		38%		64%
Baripada	1	Chakadhar	Bangiriposi	10	15	0	0	0	0	0	0	0	0
	2	Ghatiduba	Bangiriposi	10	15	5	10	2	5	5	5	0	0
	3	Sankucha	Badsahi	40	45	35	45	25	30	15	20	10	12
	4	Bhandarikula	Badsahi	20	25	15	20	20	25	12	15	10	15
	5	Goudasole	Badsahi	40	45	30	40	20	20	14	12	7	7
	6	Madhupur	Badsahi	30	40	20	30	20	30	8	14	5	10
	7	Jadunathpur	Badsahi	30	40	20	30	10	15	11	15	5	7
	8	Pratapur	Badsahi	30	40	20	30	10	20	10	15	10	10
	9	Badjol	Baripada	60	70	40	50	32	35	25	32	18	22
	10	Guhaldihi	Baripada	50	60	20	30	10	15	10	12	5	7
TOTAL				320	395	205	285	149	195	110	140	70	90

ITDA	Sl. No.	Village	Block	No. of Primary School going children		No. of High School going children.		No. of College going youths		No. of girls going to High school		No. of girls going to College	
				Pre-Project Period	Project Period	Pre-Project Period	Project Period	Pre-Project Period	Project Period	Pre-Project Period	Project Period	Pre-Project Period	Project Period
% Increase over Pre-project period					23%		39%		31%		27%		29%
Sundargarh	1	Rangadhipa	Sundargarh	60	70	50	60	40	50	30	35	30	35
	2	Sahebadera	Lephrpada	35	40	20	25	20	25	15	20	15	20
	3	Champasora	Lephrpada	40	50	30	35	20	25	10	15	20	25
	4	Gultha	Tangrapali	30	35	30	35	30	30	20	20	15	15
	5	Kanakjura	Tangrapali	70	80	50	50	40	40	30	30	20	20
	6	Sanpatrapali	Tangrapali	40	50	40	50	30	70	40	50	40	50
	7	Rapatjor	Balisanakara	30	40	20	25	20	25	10	15	10	15
TOTAL				305	365	240	280	200	265	155	185	150	180
% Increase over Pre-project period					20%		17%		33%		19%		20%
Koraput	1	Mahaguda	Bandhugaon	50	60	50	60	40	50	40	50	30	40
	2	Ranjitguda	Laxmipur	20	30	20	30	10	15	10	15	10	15
	3	Dabaput	Nandapur	20	30	20	30	10	15	10	15	10	15
	4	Gopalpur	Koraput	15	15	10	10	15	15	10	10	10	10
	5	Banasil	Dasmanthpur	50	50	22	25	8	10	8	10	0	0
	6	Odiapentha	Narayanpatna	20	25	20	25	10	15	10	15	10	15
	7	Bejuguda	Narayanpatna	20	25	20	25	10	15	10	15	10	15
	8	Katraguda	Bandhugaon	20	25	20	25	10	15	10	15	10	15
	9	Pedisil	Dasmanthpur	40	60	10	15	10	15	10	15	10	10
	10	Khajuriput	Laxmipur	30	35	40	50	20	30	20	25	10	10
	11	Lukumari	Dasmanthpur	35	40	15	18	5	5	12	14	2	1
TOTAL				320	395	247	313	148	200	150	199	112	146

ITDA	Sl. No.	Village	Block	No. of Primary School going children		No. of High School going children.		No. of College going youths		No. of girls going to High school		No. of girls going to College	
				Pre-Project Period	Project Period	Pre-Project Period	Project Period	Pre-Project Period	Project Period	Pre-Project Period	Project Period	Pre-Project Period	Project Period
% Increase over Pre-project period					23%		27%		35%		33%		30%
Karanjia	1	Barsia	Jashipur	55	55	0	0	0	0	0	0	0	0
	2	Haladia	Jashipur	20	20	0	0	0	0	0	0	0	0
	3	Jhanuriposi	Jashipur	30	30	12	12	10	10	8	8	6	6
	4	Siromanipur	Jashipur	40	40	5	5	10	10	3	3	6	6
	5	Kaluakhaman	Jashipur	30	32	20	22	12	12	15	15	5	7
	6	Bhanra	Karanjia	500	500	400	400	30	30	120	120	10	10
	7	Sarangagada	Karanjia	85	85	45	45	50	50	20	20	30	30
	8	Gayal Chatua	Sukuruli	40	40	5	5	2	2	3	3	0	0
	9	Sunaposi	Sukuruli	80	80	100	100	14	14	65	65	4	4
	10	Chirupada	Thakurmunda	100	100	15	15	30	30	40	40	15	15
	11	Khandabandha	Thakurmunda	50	60	110	110	12	15	45	54	4	5
	12	Keshadiha	Thakurmunda	80	90	60	65	35	40	35	35	15	18
	13	Keluposhi	Thakurmunda	22	25	15	15	10	12	5	7	2	2
	14	Bharandia	Thakurmunda	130	125	75	85	25	18	40	45	8	15
TOTAL				1262	1282	862	879	240	243	399	415	105	118
% Increase over Pre-project period					1.58		1.97		1.25		4.01		12.38
All ITDA Total				2514	2872	1706	1944	848	1044	882	1033	478	598
% Increase over Pre-project period					14%		14%		23%		17%		25%

Table 33: Source of Irrigation, Major Crops Grown, Cattles per household and Type of Farm Equipment Used

ITDA	Sl. No	Village	Block	Source of Irrigation		Major Crops grown		No. of cattle/ household		Farm equipment	
				Pre-Project Period	Project Period	Pre-Project Period	Project Period	Pre-Project Period	Project Period	Pre-Project Period	Project Period
Paralakhemundi	1	Sindhiba	Rayagada	Dug well	Dug well	Paddy	Paddy	2	2	Plough	Plough
	2	Sublalda	R.Udayagiri	Rainfed	Rainfed	Paddy/Ragi	Paddy/Ragi	3	2	Plough	Plough
	3	Talamunda	Rayagada	Rainfed	Rainfed	Paddy, ragi, Cashew	Paddy, ragi, Banana, Cashew,	3	3	Plough	Plough
	4	Barangsingh	Gumma	Gravity flow	Gravity flow	Paddy	Paddy	2	2	Plough	Plough
	5	Adagaon	Rayagada	Natural Stream	Rainfed	Paddy/Ragi	Paddy/Ragi	2	2	Plough	Plough
	6	Sukei	Gumma	Rainfed	Rainfed	Paddy/Ragi	Paddy/Ragi	2	2	Plough	Plough
	7	Munisingh	Gumma	Rainfed	Rainfed	Paddy/Ragi/ Jowar	Paddy/ Ragi/ Jowar/ Rubber	4	4	Plough/ Bullock cart	Plough/ Bullock
	8	R.Nuasahi	Rayagada	Dug well	Dug well	Paddy	Paddy	2	2	Plough	Plough
	9	Mangarajpur	R.Udayagiri	Rainfed	Rainfed	Paddy	Paddy	2	2	Plough	Plough
Average								2.44	2.33		
Baripada	1	Chakadhar	Bangiriposi	Natural Stream	Natural Stream	Paddy	Paddy	2	2	Plough	Plough
	2	Ghatiduba	Bangiriposi	Natural Stream	Natural Stream	Paddy	Paddy	4	6	Plough	Plough
	3	Sankucha	Badsahi	Rainfed	Rainfed	Rice	Rice	2	2	Plough	Plough
	4	Bhandarikula	Badsahi	Canal	Canal	Rice	Rice	6	7	Plough	Plough
	5	Goudasole	Badsahi	Stream	Stream	Paddy	Paddy	10	10	Plough	Plough
	6	Madhupur	Badsahi	Rainfed	Rainfed	Paddy	Paddy	4	4	Plough	Plough
	7	Jadunathpur	Badsahi	Stream	Stream	Paddy	Paddy	4	4	Plough	Plough
	8	Pratapur	Badsahi	Bore well	Bore well	Paddy	Paddy	2	2	Plough	Plough
	9	Badjol	Baripada	Canal	Canal	Paddy	Paddy	3	5	Plough	Plough
	10	Guhaldihi	Baripada	Canal	Canal	Paddy	Paddy	10	15	Plough	Power tiller
Average								4.7	5.7		

ITDA	Sl. No	Village	Block	Source of Irrigation		Major Crops grown		No. of cattle/ household		Farm equipment	
				Pre-Project Period	Project Period	Pre-Project Period	Project Period	Pre-Project Period	Project Period	Pre-Project Period	Project Period
Sundargarh	1	Rangadhipa	Sundargarh	Rain-fed	Rain-fed	Paddy	Paddy	4	1	Plough/Tractor	Power tiller
	2	Sahebadera	Lephipada	Rain-fed	Rain-fed	Paddy	Paddy	2	2	Plough	Plough
	3	Champasora	Lephipada	River	River/ Pumpset	Paddy	Paddy	2	2	Plough/Tractor	Power tiller
	4	Gultha	Tangarapali	Rain-fed	Dug well	Paddy	Paddy	2	2	Plough	Plough
	5	Kanakjura	Tangarapali	Rain-fed	Rain-fed	Paddy	Paddy	2	2	Plough	Plough
	6	Sanpatarapali	Tangarapali	Pond Water	Pond Water	Paddy	Paddy	2	2	Plough	Plough
	7	Rapatjor	Balisanakara	Rain-fed	Rain-fed	Paddy	Paddy	2	4	Plough	Plough
Average								2.29	2.14		
Koraput	1	Mahaguda	Bandhugaon	River	River	Paddy	Paddy	2	2	Plough	Plough
	2	Ranjitguda	Laxmipur	Stream	Stream	Paddy	Paddy, Vegetables	2	2	Plough	Plough
	3	Dabaput	Nandapur	Rainfed	Rainfed	Paddy	Paddy, Coffee	2	2	Plough	Plough
	4	Gopalpur	Koraput	Rainfed	Rainfed	Paddy	Paddy, Coffee	2	2	Plough	Plough
	5	Banasil	Dasmanthpur	Canal	Canal	Paddy	Paddy , Ragi	2	2	Plough	Plough
	6	Odiapentha	Narayanpatna	Canal	Canal	Paddy	Paddy, Vegetables	1	1	Plough	Plough
	7	Bejuguda	Narayanpatna	Dam	Dam	Paddy	Paddy	2	2	Plough	Plough
	8	Katraguda	Bandhugaon	Rainfed	Rainfed	Ragi	Paddy	2	2	Plough	Plough
	9	Pedisil	Dasmanthpur	Stream	Stream	Paddy	Paddy, Vegetables, Mango	2	2	Plough	Plough
	10	Khajuriput	Laxmipur	Stream	Stream	Paddy	Paddy, Vegetables	2	2	Plough	Plough
	11	Lukumari	Dasmanthpur	Stream	Stream	Paddy	Paddy, Vegetables	2	2	Plough	Plough
Average								2.89	3.1		
Karanja	1	Barsia	Jashipur	Rainfed	Rainfed	Paddy	Paddy	3	3	Plough	Plough
	2	Haladia	Jashipur	Rainfed	Rainfed	Paddy	Paddy	3	3	Plough	Plough

ITDA	Sl. No	Village	Block	Source of Irrigation		Major Crops grown		No. of cattle/ household		Farm equipment	
				Pre-Project Period	Project Period	Pre-Project Period	Project Period	Pre-Project Period	Project Period	Pre-Project Period	Project Period
	3	Jhanuriposi	Jashipur	Rainfed	Rainfed	Paddy	Paddy	3	3	Plough	Plough
	4	Siromanipur	Jashipur	Rainfed	Bore well	Paddy	Paddy	2	2	Plough	Plough
	5	Kaluakhaman	Jashipur	Rainfed	Bore well	Paddy	Paddy	2	2	Plough	Plough
	6	Bhanra	Karanjia	Rainfed	Rainfed	Paddy	Paddy	3	4	Plough	Plough
	7	Sarangagada	Karanjia	Rainfed	Rainfed	Paddy	Paddy	2	2	Plough	Plough
	8	Gayal Chatua	Sukuruli	Rainfed	Bore well	Paddy	Paddy	2	2	Plough	Plough
	9	Sunaposi	Sukuruli	Rainfed	Rainfed	Paddy	Paddy	2	2	Plough	Plough
	10	Chirupada	Thakurmunda	Rainfed	Rainfed	Paddy	Paddy	2	2	Plough	Plough
	11	Khandabandha	Thakurmunda	Rainfed	Rainfed	Paddy	Paddy	6	7	Plough	Plough
	12	Keshadiha	Thakurmunda	Rainfed	Rainfed	Paddy	Paddy	3	4	Plough	Plough
	13	Keluposhi	Thakurmunda	Rainfed	Rainfed	Paddy	Paddy	4	5	Plough	Plough
	14	Bharandia	Thakurmunda	Rainfed	Rainfed	Paddy	Paddy	5	6	Plough	Plough
Average								3	3.36		
Average of all ITDAs								2.90	3.16		

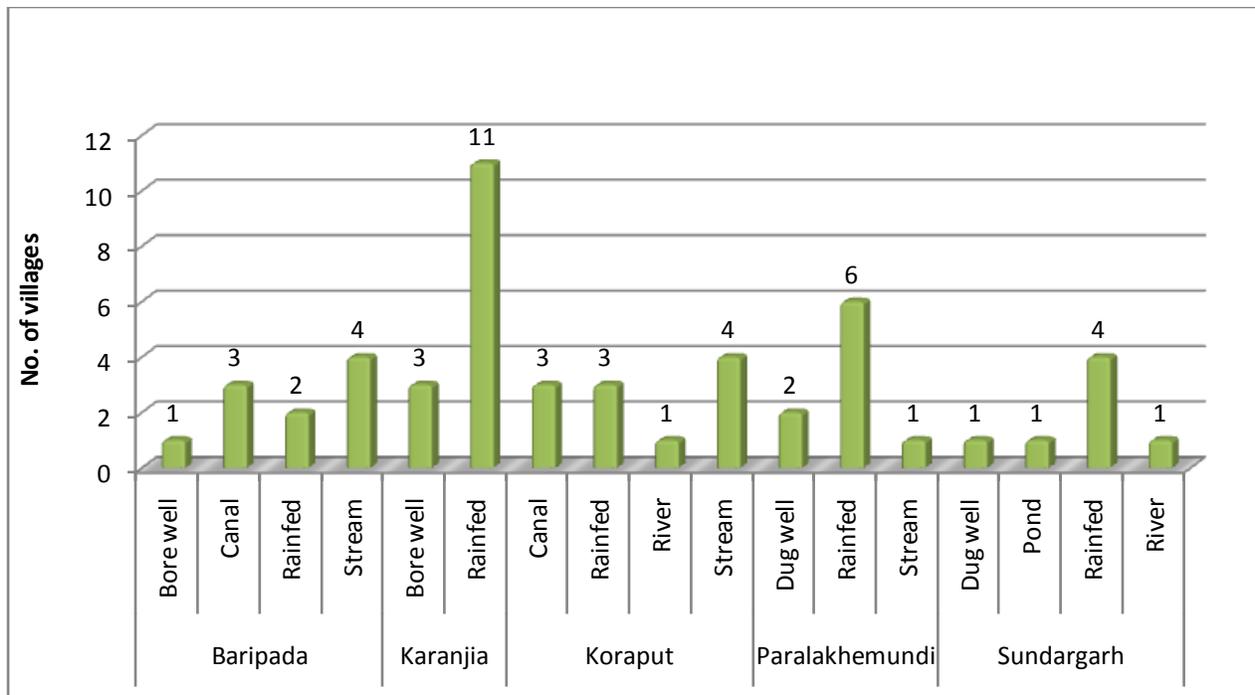


Figure 4: Source of Irrigation in sample villages

It is revealed from the above Table that adequate source of irrigation is lacking in the sample villages. Out of 51 villages, 25 are rainfed which accounts for 50% of the total sample villages. The cultivated lands in the villages are mostly rainfed and lifesaving irrigation is provided from the dug well, natural stream and bore well. Because of unavailability of assured irrigation, farming depends on rain resulting less use of high yielding varieties and chemical fertilizers leading to low crop yield. In most of the cases rabi/ summer crop is not possible due to lack of irrigation facility. Besides, cow menace is a main constraint in agriculture during rabi/ summer season. Paddy, millets, niger and vegetables are the main crops cultivated by the farmers. The cattle population per household in the villages is around 3 and increase in the cattle population on an average is marginal, i.e. from 2.90 to 3.16 per household over the project period. The farmers do not generally use improved farm implements or farm machineries during the pre-project as well as in project period mainly due to poor economy of the people. Use of tractor and power tiller is very rare. Use of pump sets for providing lifesaving irrigation was observed in a few villages. There is need to popularize Custom Hiring Centres and distribution of pump sets by the Government to bring an improvement over the traditional method of farming and increase the gross cropped area for better farm income.

**PROFILE
OF THE
PROJECT AREA
AND
THE PEOPLE**

In the five sample ITDAs, 281 beneficiaries were interacted covering 20 blocks, 48 GPs and 61 villages through personal interview, FGD, Case Studies and field visit. All the 5 ITDAs cover 16 interventions except NTFP collection and marketing which has not been implemented in any of the sample ITDAs. In addition to these 16 interventions, Mushroom cultivation has also been executed only in Gumma block and Hill Broom Cultivation in Rayagada block of Paralakhemundi ITDA. Also goat rearing under Income Generating Scheme (IGS) has been executed in Baripada, Karanjia and Koraput ITDA. Number of beneficiaries interacted individually and in group discussions under different interventions are depicted below.

Table 34: Village-wise Interventions

Sl. No.	Interventions	ITDA	Block	GP	Village	No. of Beneficiaries interacted		
1	Apiculture	Paralakhemundi	R.Udayagiri	Dombala	Sindhiba	3		
				Sublada	Sublada	7		
2	Coffee Plantation	Koraput	Nandapur	Balda	Dabaput	15		
			Koraput	Padhampur	Gopalput	10		
3	Dairy	Baripada	Badasahi	Pratappur	Pratappur	5		
		Karanjia	Thakurmunda	Badadeuli	Bhanara	1		
				Keshadiha	Keshadiha	1		
				Khandabandh	Khandabandh	1		
				Keluposhi	Keluposhi	1		
				Bharadia	Bharandia	1		
				Kendujiani	Kendujiani	1		
4	Farm Mechanisation/ Pump set	Koraput	Dasamantpur	Girili Gumma	Gumma	1		
					Rata Bandha	1		
			Koraput	Mahadeiput	Mandaguda	2		
				Machora-2	1			
		Baripada	Badsahi	Purnachandrapur	Madhupur	1		
		Karanjia	Jashipur	Baraipani	Barsia	1		
					Haladia	1		
		5	Fishery	Baripada	Badasahi	Naupal	Goudsoul	1
							Naranpur	2
						Paunsia	Bhandarikula	5
Baripada	Badajole				Badajole	2		
Sundargarh	Balisankara			Dhubendand	Rapatjor	6		
					Tangrapalli	Sanapatrapalli	Sanapatrapalli	1
						Tasaladihi	Kanakjura	1
Karanjia	Karanjia			Sarangagada	Sarangagada	3		
	Thakurmunda			Keshadiha	Chirupada	2		
6	Goat Rearing	Baripada	Badasahi	Chandanpur	Sankucha	5		
			Baripada	Chandanpur	Binodpur	10		
		Koraput	Bandhugaon	Mahaguda	Mahaguda	12		
		Karanjia	Sukruli	Galusahi	Sunaposi	8		
7	Hill Broom	Paralakhemundi	Rayagada	Talmunda	Talmunda	5		

Sl. No.	Interventions	ITDA	Block	GP	Village	No. of Beneficiaries interacted
					Ukarsing	5
8	Improved Agriculture	Karanjia	Jashipur	Rugudi	Siromanipur	2
			Sukruli	Chatranjali	Gayal chatua	1
9	Lac cultivation & processing	Baripada	Bangiriposi	Sorispal	Ghatiduba	5
10	Micro Enterprise Development	Baripada	Baripada	Badajole	Guhaldihi	6
11	Poultry Rearing	Parlakhemundi	Gumma	Ukhura	Sukei	5
			Rayagada	Gandahati	Adagaon	5
		Sundargarh	Sundargarh	Sundargarh	Rangadhipa	1
			Tangrapalli	Sanapatrapalli	Sanapatrapalli	3
		Koraput	Narayanpatna	Balipeta	Bejuguda	7
					Jhaliaguda	3
			Laxmipur	Gaudaguda	Khajuriput	2
				Laxmipur	Ranjitguda	1
12	Rubber Plantation	Baripada	Badasahi	Purnachandrapur	Madhupur	5
		Parlakhemundi	Gumma	Munising	Munising	7
				Ukhura	Sukei	3
		Karanjia	Jashipur	Rugudi	Siromanipur	3
					Jhanuraposhi	6
					Kaluakhaman	3
		13	Sericulture	Baripada	Bangiriposi	Bhuasuni
Parlakhemundi	R.Udayagiri			MangarajPur	Mangaraj Pur	2
14	Vegetable Cultivation	Koraput	Dasamantpur	Chikamba	Banasil	6
				Dasamantpur	Pedisil	8
			Narayanpatna	Narayanpatna	Odiapentha	5
			Laxmipur	Laxmipur	Ranjitguda	1
		Karanjia	Jashipur	Rugudi	Siromanipur	2
	Mushroom	Parlakhemundi	Gumma	Munising	Barasing	10
15	Wadi	Parlakhemundi	R.Udayagiri	MangarajPur	Mangaraj Pur	5
			Rayagada	Jallango	R. Nuasahi	3
		Sundargarh	Lephripara	Masabira	Sahabadera	1
				Raidihi	Champasora	20
			Tangrapalli	Jogimal	Gulatha	1
		Koraput	Dasamantpur	Dasamantpur	Pedisil	6
			Narayanpatna	Narayanpatna	Odiapentha	5
			Koraput	Podagada	Lukmari	4
			Laxmipur	Gaudaguda	Khajuriput	3
				Laxmipur	Ranjitguda	2
Bandhugaon	Bandhugaon	Katraguda	1			
16	Skill Development Training	Sundargarh	Sundargarh	--	--	--
		Baripada	Baripada	--	--	--
		Koraput	Narayanpatna	--	--	--
		Karanjia	Karanjia	--	--	--
17	Production and Processing Centres	Paralakhemundi	Gumma	--	--	--
18	NTFP Collection & Marketing	Koraput, Karanjia, Paralakhemundi, Sundargarh	Not executed	--	--	--
TOTAL	17	5	20	48	61	281

Table 35: Level of Education of the Beneficiaries - Block-wise (no.)

ITDA	Block	Total family members	Child 0 to 6 Years	Total family members excepting child up to 6 years	Illiterate	Just Literate	Primary	HS C	Intermediate	Graduate	Total Literate
Paralakhemundi	Gumma	157	5	152	49	29	57	14	7	1	108
	R.udayagiri	90	6	84	27	19	27	12	5		63
	Rayagada	97	5	92	25	17	42	10	3		72
	Total	344	16	328	100	65	126	36	15	1	243
Baripada	Badsahi	130	6	124	21	40	35	23	8	3	109
	Bangriposhi	84	0	84	8	12	30	21	11	2	76
	Baripada	48	0	48	2	10	22	10	3	1	46
	Total	262	6	256	31	62	87	54	22	6	231
Sundargarh	Sundargarh	4	0	4	0	2	0	2	0	0	4
	Lephipara	35	1	34	8	4	11	8	3	1	27
	Tangrapalli	31	0	31	2	9	7	8	4	1	29
	Balisankara	32	0	32	5	8	10	8	1	0	27
	Total	102	1	101	15	23	28	26	8	2	87
Koraput	Dasamantpur	110	7	103	35	32	34	8	0	1	75
	Laxmipur	45	1	44	9	13	17	5	1	0	36
	Narayanpatna	86	8	78	27	33	23	3	0	0	59
	Nandapur	21	0	21	2	5	8	2	3	0	18
	Koraput	54	4	50	18	17	18	1	0	0	36
	Bandhugaon	72	8	64	52	8	12	0	0	0	20
	Total	388	28	360	143	108	112	19	4	1	244
Karanjia	Jashipur	56	2	54	3	21	19	9	0	0	49
	Karanjia	25	2	23	1	5	10	9	0	0	24
	Thakurmunda	38	0	38	3	12	13	9	1	0	35
	Sukruli	12	0	12	0	0	10	2	0	0	12
	Total	131	4	127	7	38	52	29	1	0	120
Total All ITDAs	1227	55	1172	296	296	405	164	50	10	925	

Table 36: Level of Education of the Beneficiaries - Block-wise (Figs. In %)

ITDA	Block	Just Literate	Primary	HSC	Intermediate	Graduate	% of Literacy
Paralakhemundi	Gumma	26.85	52.78	12.96	6.48	0.93	71
	R. udayagiri	30.16	42.86	19.05	7.94	0	75
	Rayagada	23.61	58.33	13.89	4.17	0	78
	Total	26.75	51.85	14.81	6.17	0.42	74
Baripada	Badsahi	36.70	32.11	21.10	7.34	2.75	88
	Bangriposhi	15.79	39.47	27.63	14.47	2.63	90
	Baripada	21.74	47.83	21.74	6.52	2.17	96
	Total	26.84	37.66	23.38	9.52	2.60	90
Sundargarh	Sundargarh	50	0	50	0	0	100
	Lephripara	14.81	40.74	29.63	11.11	3.70	79
	Tangrapalli	31.03	24.14	27.59	13.79	3.45	94
	Baliskara	29.63	37.04	29.63	3.70	0	84
	Total	26.44	32.18	29.88	9.20	2.30	86
Koraput	Dasamantpur	42.67	45.33	10.67	0.00	1.33	73
	Laxmipur	36.11	47.22	13.89	2.78	0	82
	Narayanpatna	55.93	38.98	5.08	0	0	76
	Nandapur	27.78	44.44	11.11	16.67	0	86
	Koraput	47.22	50.00	2.78	0	0	72
	Bandhugaon	40.00	60.00	0	0	0	31
	Total	44.26	45.90	7.79	1.64	0.41	68
Karanjia	Jashipur	42.86	38.78	18.37	0	0	91
	Karanjia	20.83	41.67	37.50	0.00	0	104
	Thakurmunda	34.29	37.14	25.71	2.86	0	92
	Sukruli	0	83.33	16.67	0	0	100
	Total	31.67	43.33	24.17	0.83	0	94
All Sample ITDAs		32.00	43.78	17.73	5.41	1.08	79

It is revealed from the above Table that the literacy percentage is 79% in the entire sample ITDAs taken together. However, the percentage of literacy is more than 85% in Baripada, Karanjia and Sundargarh ITDA area. The literacy percentage is highest in Karanjia ITDA area (94%) and lowest in Koraput ITDA area (68%). About 18% of the beneficiaries have passed HSC where as percentage of graduates is only 1% of the total literates.

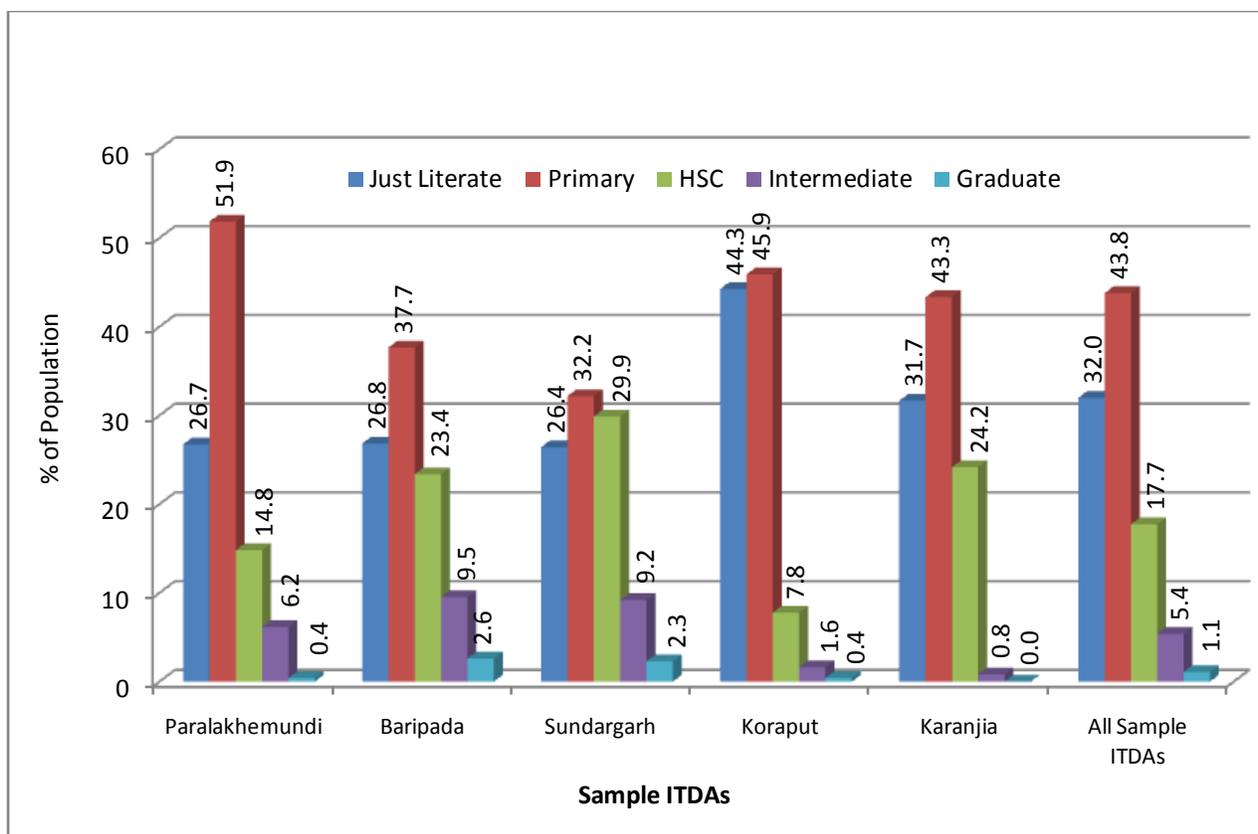


Figure 5: Level of Education in Sample Households in ITDAs

The Table below reveals that the total family members of the sample beneficiaries in 5 sample ITDA areas is 1227 where as the adult population is 750 and that of children is 476. In each family workforce is available to the tune of 93% on an average. Hence, the availability of manpower for execution of the interventions is not a constraint as workforce, both male and female, is available in every family. The ratio of adult male and adult female is almost 1:1.

Agriculture is the primary occupation of the villagers before and after execution of the FADP Interventions. In addition to agriculture, they are also involved in wage earning as the secondary source of income. Some of the families also earn out of apiculture, mushroom cultivation, vegetable production, goat rearing, poultry rearing. Also rubber cultivation, fruit crops like litchi and mango which have already been introduced under other schemes prior to introduction of FADP is also a source of income for the farmers. Besides, the villagers also collect firewood and other minor forest produces for their own consumption and sale. The farm land of the households is indicated below where paddy

and ragi are grown in kharif season. The source of irrigation is mainly dug well or natural stream which is confined to kharif season only for agriculture purpose. During Rabi season, vegetables are grown in limited area where water source is available.

Table 37: Number of Family Members and Workforce

ITDA	Block	Total family members	Adult			Children			Work Force			% of Work Force to adults
			Male	Female	Total	Male	Female	Total	Male	Female	Total	
Paralakhemundi	Gumma	157	38	43	81	39	37	76	36	40	76	94
	R.udayagiri	90	28	23	51	20	19	39	26	21	47	92
	Rayagada	97	27	23	50	24	23	47	25	21	46	92
Total		344	93	89	182	83	79	162	87	82	169	93
Baripada	Badsahi	130	35	39	74	28	28	56	32	37	69	93
	Bangriposhi	84	26	18	44	19	21	40	26	18	44	100
	Baripada	48	13	16	29	11	8	19	12	13	25	86
Total		262	74	73	147	58	57	115	70	68	138	94
Sundargarh	Sundargarh	4	1	1	2	1	1	2	1	1	2	100
	Lephripara	35	13	13	26	4	5	9	13	11	24	92
	Tangrapalli	31	7	7	14	9	8	17	6	6	12	86
	Balisankara	32	10	9	19	6	7	13	10	9	19	100
Total		102	31	30	61	20	21	41	30	27	57	93
Koraput	Dasamantpur	110	39	35	74	16	20	36	36	34	70	95
	Laxmipur	45	16	15	31	5	9	14	15	11	26	84
	Narayanpatna	86	30	27	57	11	18	29	30	26	56	98
	Nandapur	21	7	9	16	3	2	5	7	9	16	100
	Koraput	54	22	18	40	6	8	14	22	15	37	93
	Bandhugaon	72	31	26	57	8	7	15	25	21	46	81
Total		388	145	130	275	49	64	113	135	116	251	91
Karanja	Jashipur	56	21	16	37	11	8	19	19	16	35	95
	Karanja	25	9	8	17	4	4	8	9	8	17	100
	Thakurmunda	38	11	10	21	12	5	17	10	10	20	95
	Sukruli	12	5	5	10	1	1	2	5	5	10	100
Total		131	46	39	85	28	18	46	43	39	82	96
Total All ITDAs		1227	389	361	750	238	239	477	365	332	697	93

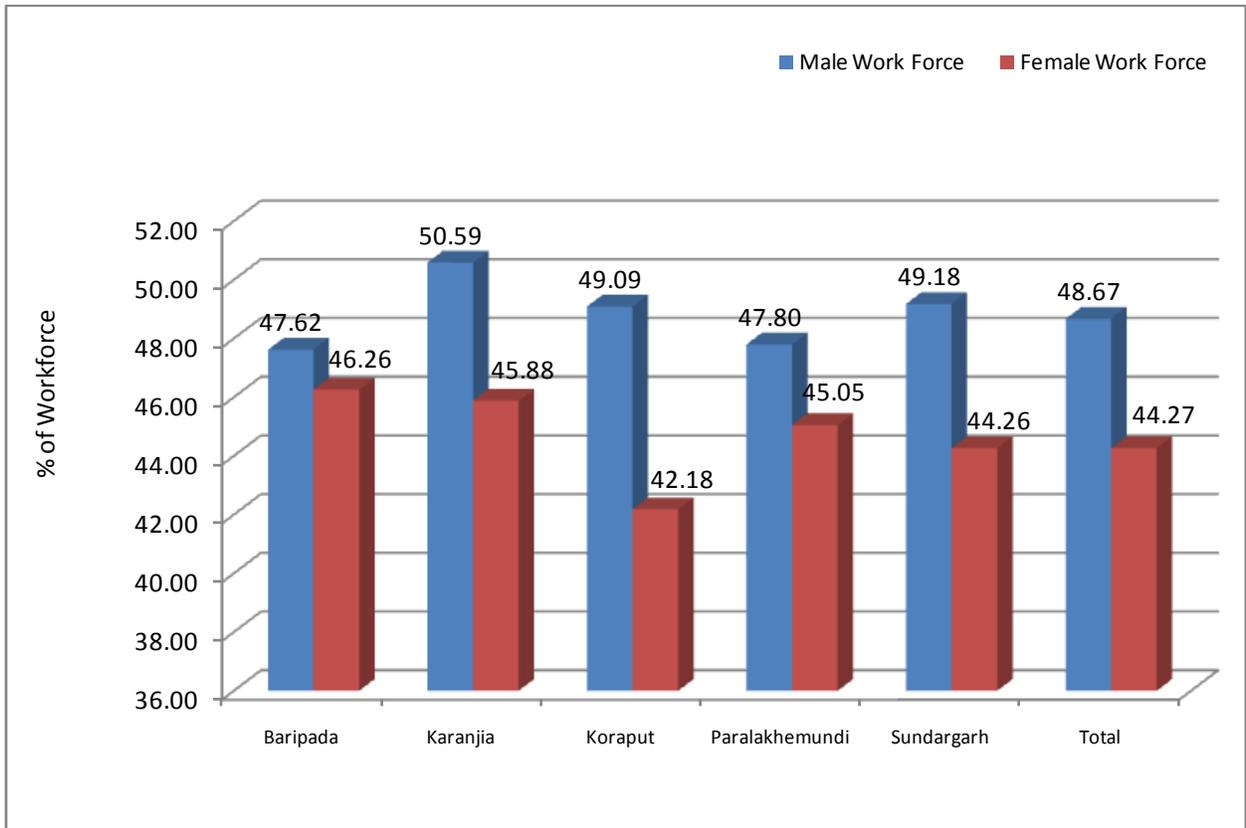


Figure 6: Genderwise Division of Work Force in Sample ITDAs

Table 38: Average Cultivated Land and Livestock per Household

ITDA	Block	Average per household											Percentage of households use					
		Cultivated land (acre)			Number of Cows		Number of Bullocks		Number of Goats/Lambs		No. of Egg laying birds		Improved Seeds		Fertilizer		Pesticides	
		Total	Irrigated	Rainfed	Pre-Pro	Project	Pre-Projec	Project	Pre-Projec	Project	Pre-Projec	Project	Pre-Projec	Project	Pre-Projec	Project	Pre-Projec	Project
Paralakhe mundi	Gumma	2.26	1.28	1.63	1.08	1.16	1.88	1.88	1.44	1.68	2.52	3.00	50	100	50	100	40	90
	R. udayagiri	2.37	2.10	0.38	1.00	0.8	1.8	1.6	0.33	0.47	1.40	2.07	100	100	100	100	100	100
	Rayagada	1.49	1.05	0.54	1.44	1.17	0.78	0.67	2.17	1.72	4.11	2.89	100	100	100	100	100	100
Average		2.06	1.24	0.82	1.18	1.03	1.47	1.42	1.33	1.32	2.90	2.80	83	100	83	100	100	100
Baripada	Badsahi	3.27	0.73	2.54	1.91	1.91	1.57	1.52	3.57	3.48	8.13	6.57	100	100	100	100	100	100
	Bangriposhi	3.00	0.00	3.00	2.27	2.27	1.73	1.82	5.45	5.55	11.00	11.00	91	91	91	91	91	91
	Baripada	3.56	3.00	0.56	0.50	0.38	1.00	0.50	2.13	1.38	8.00	6.88	100	100	100	100	100	100
Average		3.26	0.97	2.29	1.74	1.71	1.50	1.40	3.79	3.62	8.86	7.79	97	97	97	97	97	97
Sundargarh	Sundargarh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Lephipara	1.88	0.63	1.25	0.75	0.75	1.50	1.50	8.13	6.25	1.38	0.63	100	100	100	100	100	100
	Tangrapalli	3.17	2.00	1.17	0.83	0.83	0.00	0.00	1.33	1.67	5.50	2.83	100	100	100	100	100	100
	Balisankara	4.67	0.00	4.67	0.33	0.83	0.33	0.33	1.17	1.17	3.67	3.17	100	100	100	100	100	100
Average		2.95	0.81	2.14	0.62	0.76	0.67	0.67	3.81	3.19	3.14	1.95	100	100	100	100	100	100
Koraput	Dasamanpur	4.68	2.14	2.55	1.27	1.09	0.64	0.73	0.64	0.73	2.41	2.14	100	100	100	100	90	90
	Laxmipur	3.36	0.99	2.37	0.22	0.11	0.22	0.22	0.56	0.33	2.22	3.89	90	90	90	90	80	80
	Narayanpatna	3.81	1.42	2.39	0.65	0.7	0.55	0.55	0.1	0.1	0.65	0.75	100	100	100	100	100	100
	Nandapur	1.60	0.00	1.60	1.40	1.20	1.00	1.20	0.40	0.40	1.20	1.20	100	100	100	100	100	100
	Koraput	5.27	2.60	2.91	1.17	0.17	0.42	0.42	0.17	0.17	0.17	0.33	100	100	100	100	100	100
	Bandhugaon	2.0	0	2.0	0	0	0	0	0	0	3	3	100	100	70	70	70	70
Average		4.10	1.68	2.42	0.93	0.68	0.54	0.58	0.36	0.36	1.41	1.59	98	98	93	93	90	90
Karanja	Jashipur	2.81	0.88	1.93	2.00	2.25	2.00	1.88	1.25	2.13	4.00	4.38	100	100	100	100	100	100
	Karanja	1.88	0.00	1.88	1.50	2.25	2.00	2.00	1.25	2.50	10.00	12.5	100	100	100	100	100	100
	Thakurmunda	3.07	0.86	2.21	2.86	3.00	2.00	1.86	2.43	3.43	7.00	9.29	100	100	86	86	86	86
	Sukruli	2.00	1.00	1.00	0	0	2.00	2.00	0	0	0	0	100	100	100	100	100	100
Average		2.68	0.70	1.98	2.1	2.4	2.0	1.9	1.6	2.5	6.0	7.5	100	100	96	96	96	96
Average All ITDAs		3.11	1.23	1.87	1.24	1.16	1.14	1.11	1.77	1.76	3.92	3.75	96	99	94	97	93	95

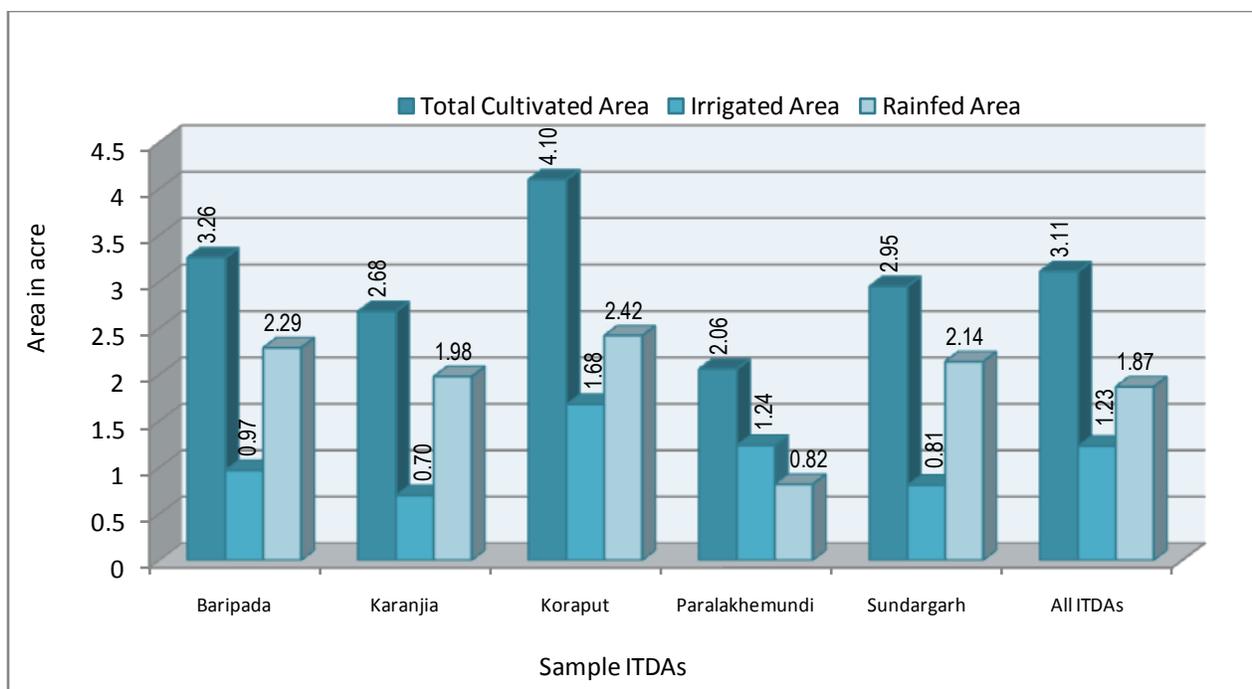


Figure 7: Average Cultivated Land and Irrigation Status in Sample Households

The above Table reveals that the average cultivated land holding of the beneficiaries is 3.11 acre out of which the area under irrigation is 1.23 acre and rain fed land accounts for 1.87 acre. The land holding and irrigated land per household is highest in Koraput ITDA (4.10 acre & 1.68 acre respectively). The land holding per household is lowest in Paralakhemundi ITDA (2.06 acre) and irrigated land per household is lowest in Karanjia ITDA (0.70 acre). There is marginal decrease in cow, bullock population as well as average number of goats/ lambs and egg laying birds per household during project period in comparison to pre-project period. It is observed that most of the sample beneficiaries are using improved and high yielding seeds, fertilizers and pesticides in agriculture.

The Table below reveals the socio-economic status of the beneficiaries before execution of FADP and during the execution. There is improvement in the house type of the beneficiaries. Prior to execution of FADP, 48% of the beneficiaries had pucca houses either asbestos or tile or RCC roof where as the status has been improved to 68% during the project period. During the project period 42% of the houses are having latrine where as it was 26% during the pre-project period. Electrification has been done in 90% houses

currently which was only 70% prior to FADP. Similarly, there is 8% increase in use of Television in the households i.e. shifting from 31% to 39%. During field visit and interaction with the beneficiaries, it was observed that use of radio is gradually decreasing after availability of TV facility with dish antenna and people loss their interest in radio. All the households are using firewood before as well as during the project period. It is because around 1/3rd of the villages are located either close to the forest or within a distance of 2 km. Besides, most of the villages are not far from the forest and hence they collect firewood for their kitchen from the forest. Hence, there is no change in attitude with respect to fuel use. There is no substantial increase in the use of bi-cycle by the people but use of motor cycle is gaining popularity which has been enhanced from 13% to 19% which is a positive trend in socio-economic development. During interaction with the beneficiaries it was revealed that their food habit of rice and ragi being their staple food has not been changed over the project period as they continue production of rice and ragi for their own consumption and sell the surplus quantity. Besides, rice is available to the villagers under Public Distribution System (PDS) in subsidized rate. Use of Mobile Phone has been increased by 20% i.e. from 59% to 79% during the Project Period. It is a positive trend of communication facility availed by the beneficiaries that facilitates accessing improved technology, input availability, market price and market situation.

Table 39: Socio-Economic Status of the Beneficiaries (%)

Sample ITDAs	Block	Pucca House		Latrine		Electrification		TV		Motor Cycle		Bicycle		Mobile Phone	
		Pre-Project	Project	Pre-Project	Project	Pre-Project	Project	Pre-Project	Project	Pre-Project	Project	Pre-Project	Project	Pre-Project	Project
Baripada	Badasahi	65.22	86.96	34.78	52.17	73.91	95.65	34.78	43.48	17.39	17.39	100	100	60.87	82.61
	Bangiriposi	54.55	81.82	0	18.18	63.64	72.73	45.45	45.45	9.09	9.09	100	100	54.55	54.55
	Baripada	50.00	100	12.50	12.50	50.00	50.00	50.00	50.00	25.00	25.00	87.50	87.50	75.00	87.50
	Total	59.52	88.10	21.43	35.71	66.67	80.95	40.48	45.24	16.67	16.67	97.62	97.62	61.90	76.19
Karanjia	Jashipur	40.00	60.00	10.00	10.00	70.00	80.00	60.00	70.00	30.00	30.00	80.00	80.00	70.00	80.00
	Karanjia	25.00	75.00	0	0	75.00	100	75.00	100	25.00	75.00	100	100	25.00	100
	Sukruli	0	50.00	50.00	50.00	50.00	50.00	50.00	50.00	0.00	0.00	50.00	50.00	50.00	50.00
	Thakurmunda	57.14	57.14	14.29	14.29	85.71	100	57.14	71.43	14.29	14.29	100	100	57.14	100
	Total	39.13	60.87	13.04	13.04	73.91	86.96	60.87	73.91	21.74	30.43	86.96	86.96	56.52	86.96
Koraput	Bandhugaon	50.00	50.00	0	0	50.00	50.00	0	0	0	0	50.00	50.00	50.00	50.00
	Dasamantpur	36.36	50.00	27.27	31.82	90.91	100	31.82	36.36	0	0	63.64	63.64	81.82	90.91
	Koraput	33.33	33.33	16.67	16.67	83.33	100	8.33	16.67	8.33	8.33	66.67	58.33	83.33	91.67
	Laxmipur	44.44	44.44	0	0	100	100	11.11	11.11	0	0	66.67	66.67	77.78	88.89
	Nandapur	20.00	40.00	20.00	20.00	40.00	60.00	20.00	40.00	0	20.00	100	100	60.00	80.00
	Narayanpatna	20.00	30.00	15.00	15.00	65.00	90.00	10.00	25.00	0	10.00	85.00	85.00	75.00	90.00
	Total	31.43	40.00	17.14	18.57	78.57	92.86	17.14	25.71	1.43	5.71	72.86	71.43	77.14	88.57
Parlakhemundi	Gumma	24.00	88.00	12.00	96.00	20.00	96.00	0.00	8.00	4.00	16.00	20.00	48.00	4.00	60.00
	R.Udayagiri	88.24	88.24	76.47	76.47	88.24	94.12	29.41	35.29	11.76	23.53	29.41	41.18	29.41	52.94
	Rayagada	77.78	94.44	66.67	88.89	77.78	94.44	38.89	44.44	38.89	44.44	55.56	61.11	50.00	66.67
	Total	58.33	90.00	46.67	88.33	56.67	95.00	20.00	26.67	16.67	26.67	33.33	50.00	25.00	60.00
Sundergarh	Balisankara	50.00	66.67	33.33	33.33	83.33	100	66.67	83.33	50.00	66.67	100	100	83.33	100
	Lephripara	50.00	50.00	12.50	37.50	87.50	87.50	25.00	50.00	12.50	12.50	100	100	87.50	87.50
	Sundergarh	100	100	100	100	100	100	100	100	0	0	100	100	100	100
	Tangrapalli	83.33	83.33	16.67	16.67	83.33	83.33	66.67	66.67	33.33	33.33	100	100	100	100
	Total	61.90	66.67	23.81	33.33	85.71	90.48	52.38	66.67	28.57	33.33	100	100	90.48	95.24
All Sample ITDAs Total		48.15	68.06	26.39	42.13	70.37	90.28	30.56	38.89	13.43	18.98	70.83	75.00	58.80	78.70

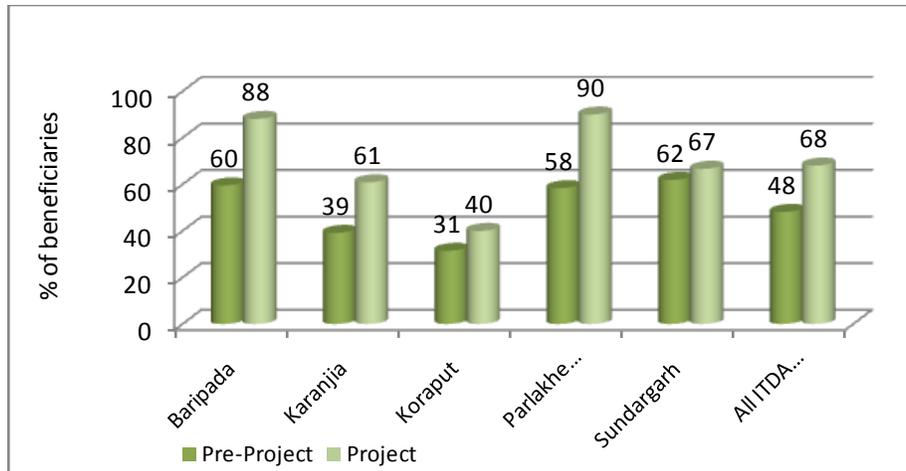


Figure 8: Pucca House of Sample Beneficiaries

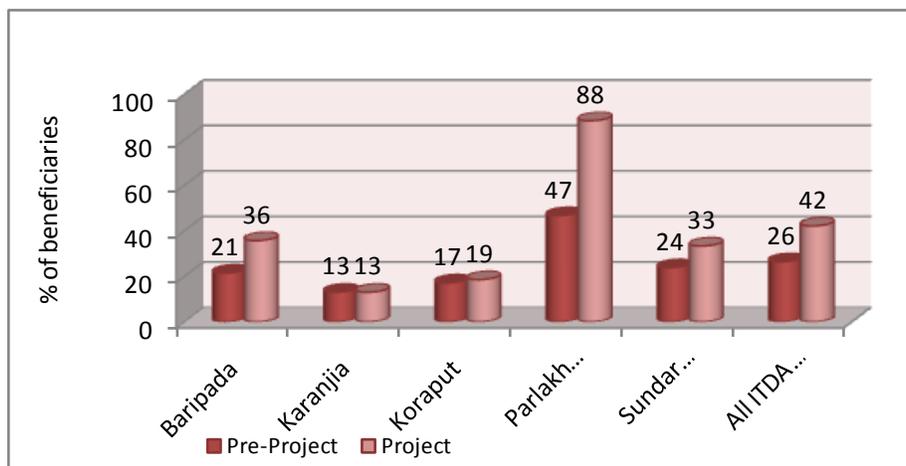


Figure 9: Latrine Facility of Sample Beneficiaries

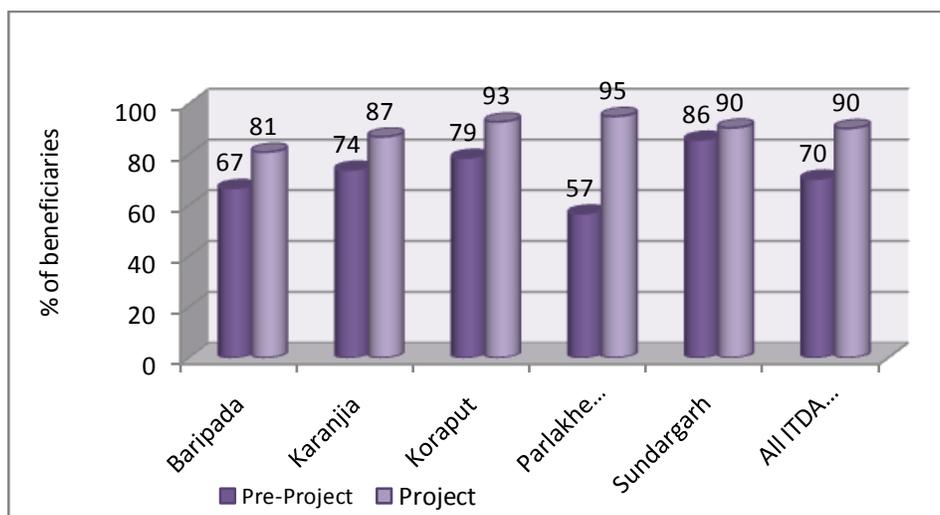


Figure 10: Electrification Facility Among Sample Household

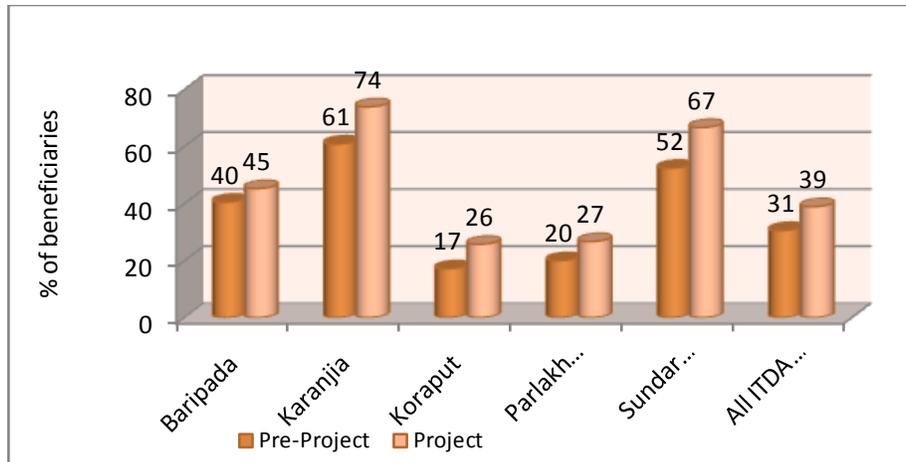


Figure 11: Households Having TVs

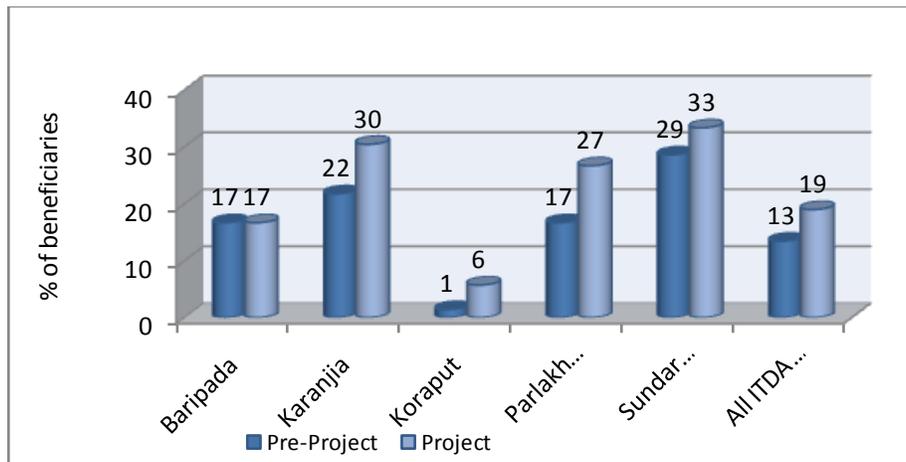


Figure 12: Households Having Motor Cycle

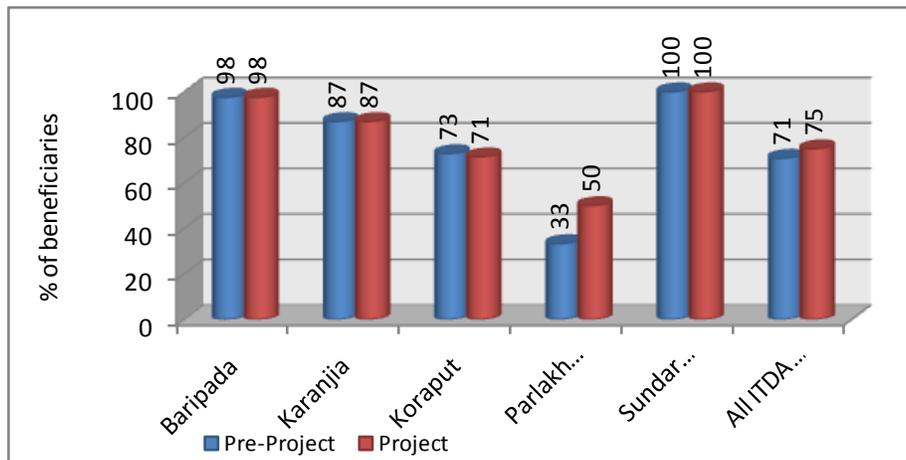


Figure 13: Households Having Cycle

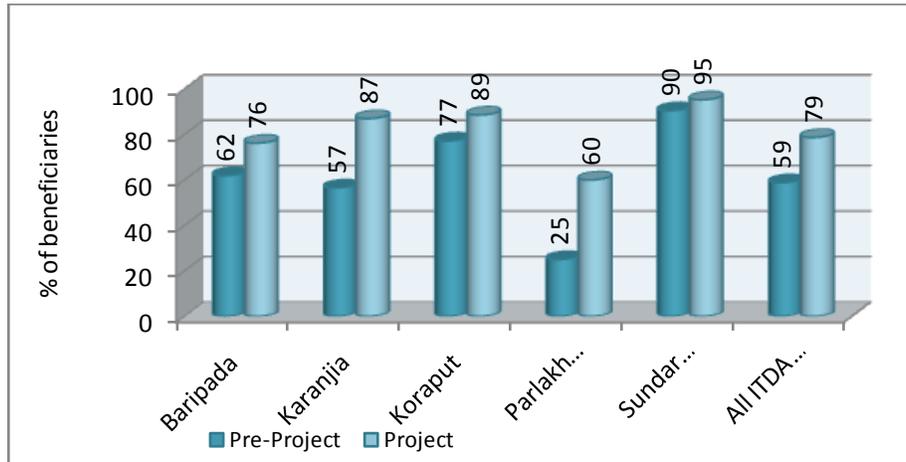


Figure 14: Households Having Mobile Phone

INTERVENTIONS

Table 40: INTERVENTION – COFFEE PLANTATION

ITDA	Sample Block	No. of sample villages	Name of the village	No. of sample beneficiaries	Average area under Coffee/beneficiary (acre)	Total area covered (acre)	Inputs supplied to each beneficiary	Beneficiary share for inputs	Year of execution	Executing Agency	Convergence	Source of Irrigation	Expected Annual Income from Coffee Plantation (Rs)	Primary/ Secondary occupation	Employment generation in man days per annum
Koraput	Nandapur	1	Dhabaput (47 beneficiaries)	5	1	47	Coffee seedlings/ DAP 40kg/ Chloropyriphos	NIL	2015-16	Coffee Development Division of Soil Conservation Deptt/ITDA	Coffee Development Division/ Coffee Board (for seeds)	Natural stream (1 km distance)	39000	Primary	120
	Koraput	4	Gopalput, Baraguda, Kutiaguda, Misinguda (50 beneficiaries)	5	1	50	-do-	NIL	2015-16 & 2016-17	-do-	-do-	River (Back water of Kolab Reservoir)	39000	Primary	120

Coffee Plantation

In India, Karnataka, Kerala and Tamil Nadu are the traditional coffee growing region. Recently new areas developed in the non-traditional areas of Odisha in Koraput district.

Coffee is grown in shade on the high altitudes range between 1,000 m to 1,500 m above sea level for Arabica (premier coffee) which is grown in Koraput district on the gentle to moderate hill slopes. Coffee, *Arabica* variety, prefers temperature in the range of 23 °C and 28 °C with rainfall incidence in the range of 1500 to 2000 mm followed by a dry spell of



2–3 months. Relative humidity for *Arabica* ranges 70–80%. In Koraput region these conditions prevail and suit to coffee plantations. Coffee plantation has been popularized in Koraput ITDA area through Coffee Board since 2003. Currently, ITDA, Koraput has taken steps to enhance the livelihood of the tribal population through coffee plantation in the barren land of hilly terrain under FADP. The study was conducted in the sample blocks like Nandapur in Dhabaput village of Balda GP with involvement of 47



beneficiaries in 47 acres of land and Koraput in Gopalput, Baraguda, Kutiaguda, Misinguda village of Padmapur GP with involvement of 50 beneficiaries in 50 acres of land. The interventions have been executed by the Coffee Development Division headed by the Deputy Director, Coffee Development, Koraput under Soil

Conservation Department with the financial support of the ITDA. Awareness, motivation and site selection have been done through several meetings jointly by the Coffee

Development Division, Coffee Board and ITDA with the approval of the District Collector. The seedlings have been raised in the nursery raised in the village near the water source in Nandapur block and on the hill near the river (back water of Kolab reservoir) in Koraput block. Plantation has been done on the unproductive barren land on the hill surface during 2015-16 in Nandapur block and during 2015-16 and 2016-17 in Koraput block. Three years prior to plantation of coffee, silver oak was planted which provides shade to the coffee plants as coffee plants are shade loving and can not resist high temperature and scorching sunlight.



The beneficiaries have been provided wages towards labour cost from the funds allocated under SCA to TSP placed with the Deputy Director, Coffee Development for cleaning of land, digging of pits, transportation of seedlings, planting, manuring, scaffling, hotting and watering during first and second

year. The source of water in case of Nandapur block is a perennial stream at a distance of around 1 km from the plantation area. Generally the women tribals are engaged in watering manually by carrying water from the stream. It is a laborious process. The beneficiaries suggested for provision of pump set so that water source can be brought nearer to the plantation area and the drudgery for watering will be reduced to the maximum extent. The plant population has been maintained at



920 per acre with the recommended spacing of 7'x7'. The beneficiaries are regularly guided by the Coffee Development Division Experts. It was ascertained that the plantation area will be handed over to the beneficiaries after 3 years of planting and they will take care of the plantation area from their own resources. The fruiting will start from the 4th year. The yield of coffee as assessed will be 300 kg/acre of coffee seeds. Coffee seeds are collected during November-December. The existing selling price of coffee seeds is Rs.130 per kg. At present the local traders and middlemen collect coffee seeds in the area and hence there is chance of distress sale. In this regard Coffee Board may take adequate steps to fix up the price and communicate to all concerned to save the farmers from distress sale. With proper maintenance of the plantation area, one acre will provide income of Rs.39,000/- annually. On an average 120 days of employment is generated annually per household from 1 acre of coffee plantation. Currently, the beneficiaries are having average cultivated land of 3 acres irrigated from stream where they grow kharif and summer paddy and ragi. Their major source of income is farming and wage earning. The present annual average income is around Rs.46,000/- per household.



During interaction with the beneficiaries and the officials of Coffee Development Division, it was ascertained that cultivation of Black Pepper along with Coffee will enhance the income as estimated below.

- In 1 acre plantation area 200 black pepper creepers can be planted.
- Each plant yields 2-3 kg of dry black pepper.
- The price of 1 kg of dry black pepper is Rs.500-700/- .
- With minimum production of 1.5 kg per plant the yield per acre will be $200 \times 1.5 = 300$ kg of dry black pepper.

- With the minimum selling price of Rs.500/kg, the income will be Rs.1.50 lakh per acre without additional expenses for maintenance of black pepper in addition to the income from coffee.

Suggestions of the beneficiaries:

- ITDA to facilitate Silver Oak plantation prior to coffee plantation.
- Include free distribution of black pepper planting material along with coffee plantation so that the income will be much more and livelihood can be enhanced to a considerable extent.
- In Gopalput village of Koraput block, 95 forest trees were damaged by Hudhud needs to be removed. Social Forestry Department to accord necessary permission for removal of the damaged trees. The area with damaged trees covering 50 acres of land need to be brought under coffee plantation for which permission has already been accorded to Coffee Development Division. The damaged trees will also be utilized for fencing by the beneficiaries. The ST & SC Development Department to take care for the permission. Besides, the beneficiaries will also take care of the existing forest.
- The restriction of 1 acre per beneficiary restricts to cover the entire patch where one beneficiary may have more than one acre of land. This aspect may be examined by the Government.

Table 41: INTERVENTION – RUBBER PLANTATION

ITDA	Sample Block	No. of sample villages	Average sample area (acre) under rubber/ house hold	Year of inception	Awareness got from	Executing Agency	Technical guidance	Source of planting material	Irrigation	Convergence	Inter-cropping	Net average income/acre from inter-cropping (Rs)	Marketing Support
Paralakhemundi	Gumma	2	1.25	2012-13 & 2013-14	ITDA/ Rubber Board/ Neighbouring farmers	ITDA/ Rubber Board	Rubber Board	ITDA	60% (Dug well/ Perennial Source)	MGNREGS (Labour component)	Turmeric/ Ginger/ Pineapple	15000	Village (Price fixed online by Rubber Board)
Baripada	Badsahi	1	1.30	2015-16	-do-	-do-	-do-	ITDA	No	-do-	Maize/ Vegetables	17000	-do-
Karanjia	Sukuruli	1	1.00	2015-16	ITDA	ITDA	-do-	ITDA	Bore well	-do-	-do-	21000	Not yet produced
	Jashipur	2	1.00	2015-16	ITDA	ITDA	-do-	ITDA	Bore well	-do-	Vegetables	20000	Not yet produced

ITDA	Block	Distance of market	Existing market Price per kg (Rs)	Expected Production of rubber sheet/ acre in kg	Expected Net Income/ acre (Rs)	Primary/ Secondary occupation	Employment generation in man days per annum
Paralakhemundi	Gumma	To be Collecte	130	240	31200	Primary	90-110
Baripada	Badsahi	-do-	127	240	30480	Primary	90-110
Karanjia	Sukuruli	--	130	220	28,600	Primary	100
	Jashipur	--	130	220	28,600	Primary	100

Rubber Plantation

ITDA, Paralakhemundi, ITDA, Baripada as well as ITDA, Karanjia are successful in propagating rubber cultivation. In Gumma block of Paralakhemundi ITDA, study was



undertaken in 2 villages namely Sukei and Munising covering 10 beneficiaries. The project started during 2012-13 and 2013-14. The beneficiaries got awareness and knowledge from the ITDA officials and neighbouring farmers who have already adopted rubber cultivation since more than 10 years and production has already been started with the support of

Rubber Board. The Rubber Board is also extending technical support and guidance for rubber cultivation under FADP in this area. In Sukei village 50 hectare covering 58 beneficiaries and in Munising village 66 hectare covering 70 beneficiaries are under rubber plantation under FADP. In Madhupur village of Badsahi block under ITDA, Baripada rubber has been cultivated in 451 hectare covering 264 farmers. They have also gone for intercropping of maize and vegetables and earned Rs.17,000/- from an acre on an average.

In Karanjia ITDA Rubber growers have been interacted in Gayalchatua village of Chaturanjali GP of Sukruli block covering 14 hectare by 7 beneficiaries and Siromaipur village of Rugudi GP in Jashipur block covering 20 hectare by 18 beneficiaries during 2015-16. One bore well has



been executed in convergence with Jananidhi programme of Agriculture Department. There is additional requirement of 3 bore wells but can not be executed as there is no feasibility in the area. ITDA may take immediate steps for executing open wells for survival of rubber plants. Planting material (rubber stumps) was procured by ITDA from Kerala through tender process and supplied free of cost to the farmers and nursery was

raised in the farmers' field for propagation. Besides, chemical fertilizers and pesticides as per recommendation of the Rubber Board have been supplied by the ITDA for the first three years of plantation. Fencing has been developed by the farmers with assistance of ITDA in convergence with MGNREGS. Also land preparation, planting etc has been taken up by the farmers with assistance under MGNREGS. The production of rubber will start after 8 years of plantation and the farmers have adopted inter-cropping of Turmeric/ Ginger/ Pineapple/ Vegetables/ Maize during the first and second year with the financial assistance of the ITDA. In subsequent years, the beneficiaries did not go for inter-cropping because of spreading type of root growth in the surface soil which hinders growth of any other crop. During the first and second year, the farmers have earned around Rs.18,000/- per acre from inter-cropping and the average size of the land holding under rubber is



1.25 acre per household. The main constraint in inter-cropping is elephant menace in Badsahi block under Baripada ITDA. The rubber producers will not face any problem for marketing of their produce as Rubber Board supports and provides daily price through internet and the produce will be sold at their doorstep as per the present practice of the old rubber plantation. In Karanjia, Rubber Producers Groups have been formed for facilitating better marketing of the produce. After 7 years of plantation, Processing Plants will be established with the assistance of ITDA and Rubber Board. The farmers of Sukruli and Jashipur block have gone on exposure visit to Rubber growing areas in the district. It is the primary occupation of the farmers now and capable of generating 90 to 110 labour days annually on an average per household. The existing market price of rubber is Rs.130/- per kg of dry sheet. The farmers expressed that one plant yields 40 ml of rubber extraction per day and one acre of plantation will yield 8 litre taking into account 200 plant population in an acre. During 8 months of productive period in a year 1920 litre will be produced. This quantity of rubber extraction will give 240 kg of rubber sheet after processing. The net income will be Rs.31,200/- from one acre of rubber plantation taking

into consideration the engagement of family labour for maintenance of the plantation area. In order to reduce the weed infestation, they also grow cover crop with the guidance of the Rubber Board. In addition to rubber cultivation as the primary occupation, the farmers have secondary occupation of wage earning of around 80 days in a year per household through their job card and also income from agriculture for their own consumption.

ITDA has sent the Rubber beneficiaries to Kottayam in Kerala for training and exposure visit. The ITDA has provided all inputs free of cost to the beneficiaries. Also ITDA will make provision for smoke house and Roller Machine to the rubber growers. During current year i.e. 2017-18, ITDA, Baripada has supplied bio-fertilizers for rubber plantation area during October i.e. after cessation of rain which was not fruitful and seems to have no impact on the crop. Hence, the ITDAs may take adequate steps to supply fertilizers to the farmers well in ahead of monsoon season for better impact on the crop. Rubber plants in other farmers' field of the same age group developed by Rubber Board have better growth in comparison to the plantation supported by the ITDA. Hence, ITDA, Baripada may seek necessary technical advice and package of practices from Rubber Board for better and healthy plant growth.

In Barsia village of Baraipani GP in Jashipur block Rubber has been planted in 12 acre IFRA land by 84 beneficiaries during 2013-14. Out of around 2000 plants, 1750 survived at present. The growth of the plants is not healthy. The Rubber Board has suggested not going for expansion of area under Rubber in this area as extreme low temperature results in stunted growth of the plants.

Rubber cultivation is found success and being a commercial crop, the income from Rubber is encouraging for the beneficiaries. The ITDAs to take care:

- for pre-positioning of inputs like fertilizers, pesticides and seeds for inter-cropping well in ahead of the start of the season.
- availability of water for irrigation to rubber crop as well as for the inter-cropping.

Table 42: INTERVENTION – WADI/ HORTICULTURE PLANTATION

ITDA	Sample Block	No. of sample villages	No. of sample beneficiaries	Fruit crops planted	Average area under WADI (Acre)	Inputs supplied to each beneficiary	Beneficiary share for inputs	Year of inception	Awareness got from	Executing Agency	Technical guidance	Mortality	Frequency of visit for guidance	Convergence	Border plantation
Paralakhemundi	R.udaygiri	2	7	Mango/ Litchi	1.32	Mango/ Litchi grafts	Free distribution	2016-17	ITDA	ITDA	Horticulture	20-25% (Gap filling done)	Once in a month	Horticulture/ MGNREGS	Forest species
	Rayagada	1	3	Mango	1.33	Mango grafts	Free distribution	2016-17	ITDA	ITDA	Horticulture	20% (Gap filling done)	Once in a month	-do-	Forest species
Sundargarh	Lephipara	2	8	Mango	0.80	Mango grafts	Free distribution	2014-15 to 2016-17	ITDA/ FNGO	ITDA	Horticulture / FNGO	10-20%	Twice a month	-do-	25% area (forest species)
	Tangarpali	1	1	Mango	5.00	Mango grafts	Free distribution	2015-16	ITDA/ FNGO	ITDA	Horticulture / FNGO	10%	Twice a month	-do-	Forest species
Koraput	Bandhugaon	1	1	Mango	1.00	Mango grafts	Free distribution	2015-16	ITDA/ FNGO	ITDA	Horticulture / FNGO	10%	Once in a month	-do-	Forest species
	Dasamantpur	1	6	Mango	1.50	Mango grafts	Free distribution	2013-14/ 2016-17	ITDA/ FNGO	ITDA	Horticulture / FNGO	12%	Twice a month	-do-	Forest species
	Koraput	1	4	Mango	1.50	Mango grafts	Free distribution	2016-17	ITDA/ FNGO	ITDA	Horticulture / FNGO	9%	Twice a month	-do-	No
	Laxmipur	2	5	Mango	1.00	Mango grafts	Free distribution	2015-16/ 2016-17	ITDA/ FNGO	ITDA	Horticulture / FNGO	10%	Twice a month	-do-	No
	Narayanpatha	1	5	Mango	1.00	Mango grafts	Free distribution	2015-16	ITDA/ FNGO	ITDA	Horticulture / FNGO	10%	Twice a month	-do-	Forest species

ITDA	Block	Source of Irrigation	Provision of Fencing or Tree Guard	Intercropping	Average annual income/ ac. from Intercropping (Rs)	Expected Annual Income (Rs) from mango/ litchi per acre	Primary/ Secondary occupation	Employment generation in man days per annum
Paralak hemundi	R.uday giri	Dug well/ Natural stream	Yes (with ITDA assistance)	Ragi/ Vegetables (60%)	4,000	3,00,000	Primary	85
	Rayagada	Dug well	Yes (with ITDA assistance)	Ragi/ Vegetables (50%)	4,500	-do-	Primary	70
Sundargarh	Lephripara	River	Yes (with ITDA assistance)	--	--	-do-	Primary	60
	Tangarpali	Open well	Yes (with ITDA assistance)	Til/ Horse gram	5200	-do-	Primary	140
Koraput	Bandhugaon	Tube well	Yes (with ITDA assistance)	Horse gram	4000	-do-	Primary	90
	Dasamantpur	Canal	Yes (with ITDA assistance)	Niger/ Vegetables	5400	-do-	Primary	105
	Koraput	Natural stream	Yes (with ITDA assistance)	Ragi/ Niger/ Minor millet	4500	-do-	Primary	80
	Laxmipur	River/ Natural stream	Yes (with ITDA assistance)	Ragi/ Pulses	4600	-do-	Primary	110
	Narayana patna	Canal	Yes (with ITDA assistance)	Niger/ Pulses	5200	-do-	Primary	95

Wadi / Horticulture Plantation

Wadi in Paralakhemundi

In Paralakhemundi ITDA, a study was undertaken in Rayagada and R.udaygiri block to assess the impact of Wadi in tribal area. Interaction and field visit was made in 2 sample villages with 5 beneficiaries from R.udaygiri block and 4 beneficiaries from Rayagada block. The plantation of mango and litchi was introduced in convergence with Horticulture Department during 2015-16 and 2016-17. The farmers got awareness from the ITDA and also executed by the ITDA with technical support from Horticulture. Horticulture personnel as well as ITDA personnel visit the project area at least once in a month as revealed from the beneficiaries. The technical experts guided the beneficiaries starting from land preparation to digging of pits, manuring, planting of the grafts, spacing, method of irrigation etc. The average area under Wadi per household is 1.30 acre. The grafts of mango and litchi were supplied by the ITDA to the beneficiaries free of cost. Border plantation with forest species has been done by the beneficiaries with the support of the ITDA. The project areas are getting irrigation from the natural sources. In case there is no natural source or insufficient water for



irrigation, ITDA has made provision of dug well. The beneficiaries are satisfied with the support of the ITDA and also Horticulture Department. The beneficiaries as well as the ITDA Experts expressed that there was 20% mortality in case of mango and 40% and even more in case of litchi. Summer temperature more than 42°C is harmful for litchi trees and mainly responsible for excess mortality.

Mango starts fruiting from 6th year of planting and Litchi takes 6-7 years to yield a commercial crop. Due to more planting distance, sufficient vacant space is available for the first 3-4 years. The beneficiaries have utilized this vacant space judiciously by growing intercrops. Vegetables can also be profitably grown for 3-4 years. The fillers

should be removed before these start interfering with the litchi plants. The nutritional requirements of crops, vegetables and filler plants should be separately attended to. In Paralakhemundi area, the farmers have gone for intercropping in Wadi fields with ragi



and vegetables and in some cases with pulses. Pulses add nitrogen to the soil improves soil health and give high returns. During the first year of plantation, almost all the farmers have gone for intercropping as the seeds were supplied with the assistance of ITDA. The average annual income from intercropping was around Rs.4000/- per

household. In the subsequent years, 40% of the beneficiaries did not take any interest for intercropping as there was no provision of free input supply. It is envisaged that the farmers are looking for free supply of inputs and have no interest for sustainability of the programme. Annually 65 man-days of labour is generated per household on an average from Wadi.

Wadi in Sundargarh

Under Sundargarh ITDA, Wadi was visited in three sample villages namely; Sahabdera and Raidihi in Lefripada block, Gulatha in Tangarpali block. Sahabdera and Raidihi are about 20 kms from block headquarters and 50 km from district/ ITDA headquarters where as Gulatha is 15 km from block and 35 km from district/ ITDA headquarters. In



Sahabdera, 5 acres mango plantation has been taken up by three beneficiaries during 2014-15 with the assistance of ITDA and training and guidance by *Self Employed Workers' Association Kendra (SEWAK)*, the FNGO. A group discussion was made with

the beneficiaries as well as other villagers. They have maintained spacing of 10mx10m and the NGO has guided them during planting. Organic fertilizers, neem cake and neem oil have been provided by the NGO with the financial assistance of the ITDA during



planting. The labour for land preparation, digging of pits and planting, fixing of net fencing has been contributed by the beneficiaries and the cost has been met in convergence with MGNREGS. The beneficiaries have installed the net fencing supplied by the ITDA utilizing their own labour. During the two subsequent years,

gap filling has been done with the guidance of the NGO for which grafts have been supplied by the ITDA. The beneficiaries provide water to the plants carrying from a perennial stream, *Guti Nala*, from a distance of about 300 metres. The farmers with their own interest and guidance of the NGO have cultivated local paddy as intercrop during kharif only for own consumption and got yield of about 8 qtl per acre. The primary source of income is wage earning through Job Card against which they get 100 days labour in a year. The NGO is taking steps for marketing of the produce through *Chhedlagan Farmers' Producers Company* formed by NABARD covering the area under four watersheds.



In Raidihi village of Lefripada block, 40 acres of land has been developed under Wadi with mango plantation with participation of 25 beneficiaries. The Wadi area is in the forest covered with *Mahula* trees. *SEWAK*, the FNGO has created awareness and provided technical guidance to develop the Wadi. The beneficiaries, including the female members of the family, maintains the plantation and provide water to the plants through a 5 HP diesel pump set from perennial stream. The scheme was executed during 2015-16 and gap filling has

been done during next two years. They will start intercropping with vegetables and chilli during coming kharif and rabi season. They have provided net fencing with the financial assistance of the ITDA and guidance of the NGO. Wage earning is their primary occupation and they get 100 days job in a year through MGNREGS.

In Gulatha village in Tangarpali block Wadi has is also a success with the effort and guidance of SEWAK, the FNGO and hard labour of one beneficiary, Sri Jenamani Majhi,



a tribal farmer from Gond community. He had planted 200 mango grafts (Langra and Baganpali) in 5 acre land during 2014-15. The farmer has taken effort for fencing and takes maximum care for cleaning of the area and maintenance of the plants. ITDA has supplied grafts, fertilizers and wire net. Labour for land preparation and planting has been met from MGNREGS as in case of other Wadi fields. Due to lack of irrigation, 40 plants died and at present 160 plants exist. During 2017-18, a dug well has been executed with a cost of Rs.1.45 lakh assisted by the Panchayat. In a limited area he has developed intercropping of vegetables, til and horse gram during 2017-18. During kharif, he has earned about Rs.9000/- from intercropping of vegetables. Besides, he earns from paddy cultivation during kharif from one acre of rain-fed land and also from wage earning through Job Card for 100 days in a year. Due to his effort and guidance of the FNGO, he will be able to earn from mango after 7 years of planting.

It is observed that Wadi is a success in Sundargarh ITDA area especially due to interest taken by the ITDA officials and motivation and effort of SEWAK, the FNGO and hard labour and interest of the beneficiaries.

Wadi in Koraput

Wadi is executed in Koraput ITDA area since 2013-14 and continuing till 2016-17 as observed in the sample blocks. The study was confined to 6 sample villages in 5 blocks and 21 beneficiaries were interacted. The area was limited to 1 acre for each beneficiary executed after 2015-16. The awareness, motivation selection of beneficiaries and area has been done by the ITDA with involvement of CYSD, the FNGO. Good quality mango grafts of Amrapalli variety have been distributed free of cost to the beneficiaries through the FNGO. In addition, neem cake, chloropyriphos have been supplied to the beneficiaries for control of termites. Net for tree guard, earthen pitchers have also been supplied by the FNGO with the financial support of the ITDA. In case of Amrapalli variety, the concept of “Off Year” and “On Year” is not applicable because of the hybrid nature. Hence, fruiting comes every year in such hybrids. The beneficiaries have taken effort for border plantation with forest species. The source of irrigation is mostly natural stream or canal but located far away from the wadi field in most of the places even up to 300 metres. The beneficiaries suggested for supply of pump sets to minimize the drudgery of carrying water to the wadi field which is mostly done by the women farmers. On an average mortality rate is around 10% in the sample villages. The beneficiaries have taken effort for gap filling in the subsequent years for which ITDA has supplied the grafts. They will also take steps for gap filling for the plantations taken up during 2015-16 to 2017-18 after onset of monsoon during 2018. The labour towards land preparation, digging of pits and planting, fixing of net fencing has been contributed by the beneficiaries and the cost has been met in convergence with MGNREGS. The beneficiaries have taken up inter-cropping of ragi, kulthi, niger in their own effort during kharif and pre-rabi and in a few cases they have taken up winter vegetables where water source is available. The annual net income from inter-cropping ranges from Rs.4000-5000/- per acre. The intervention generates around 90 man-days of labour. Wadi is now primary occupation which will generate income after 5-6 years. In addition, they also get job for around 80 days against their job card and also grow paddy, ragi and vegetables mostly for their own consumption.

Wadi in Baripada

In Baripada ITDA area Wadi was executed in Karanjia village of Basabilla GP in Baripada block during 2013-14. Plantation of mango and cashew was done in 11.49 acre. There was no water source which was the constraint for survival of the plantation. Besides, the beneficiaries did not take any interest for maintaining the plant population in the Wadi field resulting damage of the entire Wadi plantation and no plant was found in the field. Hence, the Wadi intervention is found unsuccessful in Baripada ITDA area.

Wadi in Karanjia

As ascertained, in Karanjia ITDA area, 264.83 acre of land was taken under Wadi intervention with plantation of mango and cashew with the involvement of 127 beneficiaries with convergence of MGNREGS and the estimated outlay was Rs.69.90 lakh out of which share of SCA to TSP was Rs.24.88 lakh and MGNREGS was Rs.45.02 lakh during 2012-13. The intervention was executed and expenditure of Rs.13.67 lakh and Rs.9.50 lakh has been incurred out of SCA to TSP and MGNREGS respectively. The unspent amount is still available with the ITDA. The intervention was executed in the following blocks as detailed below.

Sl. No.	Block	Village	Area in acre	No. of beneficiaries involved
1	Karanjia	Nuadeogaon	65.66	37
2	Thakurmunda	Chakulia	63.75	26
3	Jashipur	Badduma	41.76	17
4	Sukruli	Parbatipur	52.77	30
5	Sukruli	Majurasahi	40.89	17
	TOTAL		264.83	127

As it was ascertained that the Wadi intervention was taken up during 2012-13 only and no further plantation has been taken up in the subsequent years. Due to lack of interest of the beneficiaries, the mango plantation did not survive and only cashew plantations in some areas still exist. During interaction with the ITDA personnel it was revealed that the Wadi is not a success in Karanjia ITDA area.

Assessment of Income

Since plantation of mango and litchi under wadi has started during 2015-16 and 2016-17, it will take more than 5 years for production. In the 5th year of plantation, one mango tree yields only 10-15 kg of fruits. In its 10th year a mango tree yields around 1000 kg (600 Q/acre) on an average. In the age group of 20-40 years, a tree bears 2000-6000 kg (1200-3600 Q/acre) of mango in a “ON” year with proper maintenance like weeding, manuring, watering, pest and disease management etc. Generally, productive age group of mango is 40-50 years.

Similarly, litchi plants start bearing after fifth year of planting and the yield continue to increase with the increase in tree size up to 20 years of age. The yield varies with the cultivar, age, weather, presence of pollinators and cultural practices. A 5-year-old tree is supposed to produce 500 fruits, a 20-year-old tree 4,000 to 5,000 fruits. The average yield per acre is approximately 4,000 kg annually with proper agronomic and pest management practices.

The plant population of mango and litchi per acre is 40 plants with recommended spacing of 10mx10m. Hence, taking in to consideration of 40 plants per acre, the yield has been estimated under optimum condition. In the sample villages, it was observed that the population is about 60% of the recommendation because of poor maintenance attributing to high mortality. Taking in to consideration of the plant population and growth of the plant in the sample villages, the concept of “ON” and “OFF” year, weather aberration, and the productivity of 10 year old mango orchard is around 300 Q/acre in every 2 years. Hence, annual average production is estimated to be 150 Q/acre. Under the same circumstances, taking in to consideration the plant population and growth, the annual average yield of litchi is estimated to be 25 Q/ acre.

So the annual gross income from mango will be Rs.3,00,000/- and that of litchi will be Rs.75,000/- taking the market price of Rs.2000/- and Rs.3000/- per qtl respectively at the minimum.

Since Wadi is developed in the culturable waste land, with a little maintenance of the orchard, agronomic and pest management practices Wadi generates additional income for the farmers. With the growth of the plants, the yield and income will be doubled or even more. It was observed during the study that Wadi has become very much successful where the NGO is involved in the process starting from creation of awareness, selection of patch, execution, technical guidance as in case of Sundargarh ad Koraput. In other ITDAs Wadi has been failed mainly due to lack of manpower for motivation and extending continuous guidance to the beneficiaries. The Government may examine the role of the NGOs in execution of plantation programme like Wadi.

Sericulture

Sericulture is under execution in Baripada and Paralakhemundi ITDA out of the five sample ITDAs selected for the study.



The Intervention is supposed to facilitate rearing of silkworms and preservation of cocoons by supporting tribal farmers engaged in Sericulture activity with Seed subsidy, Training on Tassar reeling and spinning and purchase of twin reeling charkha. Coordination with the Dept. of

Handlooms & Textile is to facilitate for establishment of processing units and marketing of the silk.

In Baripada ITDA, Tassar rearing centres have been established in 7 locations in 4 blocks namely; Suliapada, Kuliana, Saraskana and Bangiriposi. ITDA has provided Rs.2 lakh to each of 5 centres in 3 blocks during 2013-14 and 2 centres in Saraskana block during 2015-16. In total ITDA, Baripada has extended financial



assistance of Rs.14 lakh to 7 centres in 4 blocks for construction of concrete drying yards. A group discussion was conducted in Chakodara village of Bhuasuni GP in Bangriposi block. It was ascertained from the tassar farmers that Asana and Arjuna are the host trees for multiplication of tassar larvae. Disease free eggs are supplied to the farmers by the Tassar rearing centres at a cost of Rs.600/- per 100 DFL (eggs). It was ascertained from Sri Sanjeeb Lochan Patnaik, Production Officer, Sericulture, Baripada that around 2000 host trees belong to one beneficiary. In Chakadara village, during discussion with the tassar farmers, it was learnt that the production of seed tassar from



100 eggs is around 1 *kahana* of seed tassar. 1600 seed tassar constitute one *kahana*. Depending upon the population of host trees, one farmer is given 200 to 400 DFL (eggs). The production of seed tassar is 4 *kahana* from 100 eggs. During a year each farmer harvests thrice. Average price

is Rs.4000/- per *kahana* and each beneficiary produces 6 to 8 *kahana* on an average in a year. So the estimated annual return per farmer is Rs.30,000 to Rs.40,000/- at the minimum. It is an encouraging enterprise for the tassar farmers. The Tassar rearing centre has taken the responsibility of marketing of the produce. In addition to the market price, Government is providing subsidy of 25 paise per each seed tassar (*khosa*). The ITDA is not extending any facility or assistance to the tassar farmers. Tassar cultivation has improved the livelihood of the tribal farmers in the area.

Sericulture in Paralakhemundi ITDA

In Mangarajpur GP/ Village of R. Udayagiri block, Sericulture has been executed with involvement of 2 beneficiaries. Mulberry plantation has been taken up in consultation with Asst. Director, Sericulture, Chandragiri in 3 acres of land. Plant population is maintained at 6000 per acre. Planting materials are provided free of cost by the ITDA through Asst. Director Sericulture including assistance for gap filling. Labour cost towards land preparation and planting has been met from MGNREGS. Guidance,

Training & Exposure visit has been provided by Sericulture Department. While interacting with the beneficiary it was ascertained that he has obtained highest net return of Rs.65,000/- from sericulture from the last crop. Sharing from past experiences the



beneficiaries told that the income obtained from sericulture was comparatively higher than all other major crops cultivated in the area. The generation of labour per acre goes up to 250 per annum. The average cost of production is Rs.15,000/- per acre and gross return is Rs.50,000/-. One acre of mulberry plantation fetches good income

ranging from Rs. 35,000 to Rs. 45,000 if cultivated in accordance with the scientific methods. The average household income of the beneficiaries was Rs.40,000/- from farming and wage earning which has been raised to Rs.75,000/-. During interaction it was revealed that production of cocoons has assured higher income as compared to other crops. The life span of the mulberry crop is 15 to 20 years. Regular and ensured market support is extended by the Sericulture Department and hence there is no distress sale and the farmers are getting right price.

During the discussion, the Mulberry growers requested to ensure timely supply of quality DFL in adequate quantity to meet the requirement. Sericulture generates return continuously almost every month. This crop is suitable for poor and marginal farmers even also very suitable for small family size. Gestation period is short as compared to other plantation crops like fruits, rubber and coffee. It also generates employment for family throughout the year and women friendly nature of activities.

Lac Cultivation

Initiative was taken to improve the livelihood of the tribal population by the ITDA, Baripada through introduction of Lac cultivation. The ITDA, Baripada has introduced lac cultivation in Ghatiduba village in Sorisapal GP of Bangriposhi block. The location of the village is 3 kms from GP headquarters, 20 kms from block headquarters and 60 kms

from ITDA/ district headquarters. These are remote villages surrounded by forest. The project has been executed by the ITDA with Semialata plantation, the host plant for Lac



insects, during 2015-16 in an area of 3 hectare covering 22 beneficiaries. The plant population is 8000 per hectare as recommended for the project. Plantation was executed by Kishore Chandrapur Lac Industrial Coop. Society, Tartari, Nilagiri Block. As understood from Sri Sukanta Kumar Behera, Secretary of the Society during the course of

discussion, an estimate amounting to Rs.23 lakh (approx) for implementation of the project was prepared by Indian Institute of Natural Resins and Gums (IINRG), Ranchi. This cost includes field preparation, digging of pits, fencing, cost of planting materials, planting of seedlings, watering, manure and fertilizers, supervision for 3 years. Accordingly, ITDA, Baripada granted Rs.12.11 lakh and released on 9.6.2016. A farmers' Committee was formed on 25.6.2016 in the name of "*Budhabalanga Semialata Chasi Samitee*" with 22 members. The Secretary, Kishore Chandrapur Lac Industrial Coop. Society agreed to manage Semialata cultivation for next 3 years which has been passed in the meeting of the *Chasi Samitee* and intimated to the PA, ITDA, Baripada. Plantation of Semialata has been completed by the Lac Industrial Co-op Society. In the meantime the plantation has completed 2½ years. Subsequently, as per the instruction of the District Collector in a review meeting held on 29.9.2016, it is not to be taken up the 2nd maintenance of Semililata Plantation at Ghatiduba village under Bangriposhi block by Secretary, Kishore Chandrapur Lac Industrial Coop. Society. Accordingly, vide letter no. 6861 dt.22.10.2016 of the PA, ITDA, Baripada, Sri Pitambar Raybadu, Junior Engineer of the ITDA was directed to take over the charge after detailed count of the plant immediately. The Junior Engineer took over the charges of 21,954 plants out of 24,000 planted on 20.12.2016. No insects have been inoculated in the plantation and crop is not in a good condition. Hence, the initiative of the ITDA, Baripada gone waste and the tribal

population of the area could not get any benefit out of the project although they have invested their own/ family labour for maintenance of the plantation.

During the discussion with the Deputy Director of Horticulture, Baripada it was revealed that the ITDA, Baripada has placed Rs.39.09 lakh with the Horticulture office during 2015-16 and 2016-17. In the first phase Rs.29.06 lakh was placed during 2015-16 and in the 2nd phase during 2016-17, Rs.10.00 lakh has been placed. Out of the total funds placed, an expenditure of Rs.7.25 lakh has been incurred for plantation of Semialata in Morada block as inter-cropping with mango in 10 hectare area.



The entire plantation has been damaged due to lack of maintenance and technical expertise. No insects were supplied to beneficiaries. Hence, it may be concluded that Lac cultivation taken up by the ITDA directly or through Horticulture is a complete failure and has no role in upgrading the livelihood of the tribals in the area.

In Karanjia ITDA area, Lac cultivation was taken up in Thakurmunda block during 2013 in Kusumi as the host plant. The larvae of lac were propagated during July-August but all the larvae were damaged due to Phailin, the natural calamity, during October and no further step was taken for lac intervention.

Economics of Lac cultivation:

One hectare plantation yields 4 qtl Lac. The current market price is Rs.200/- per kg. Hence, the return from 1 hectare plantation is expected to be Rs.80,000/- annually. After harvesting of Lac, the plant parts meet the firewood requirement for cooking. The Lac Industrial Co-operative Society takes the responsibility of marketing. The reason for discontinuance of the project at the productive stage after 2½ years of plantation needs to be examined.

Table 43: INTERVENTION – VEGETABLE CULTIVATION

ITDA	Sample Block	No. of sample villages	No. of sample beneficiaries	Size of plot	Year of inception/execution	Awareness got from	Executing Agency	Technical guidance	Source of irrigation	Crops grown (Kharif & Rabi)	Inputs supplied (Free)	Distance of market	Net Income assessed (Rs) from 0.5 acre	Primary/Secondary occupation	Employment generation in man days per annum/household
Koraput	Dasmanthpur	2	11 Banasil	0.5 acre	2016-17	ITDA/NGO (CYSD)	ITDA	NGO (CYSD)/ Horticulture	MIP canal	Brinjal, Tomato, Chilli	Seeds, Bio-pesticides	2 km	60,000	Secondary	50
	Laxmipur	1	3	0.5 acre	2017-18	-do-	-do-	-do-	Perennial stream	-do-	-do-	2 km	58,000	-do-	45
	Narayanpatna	1	5	0.5 acre	2017-18	-do-	-do-	-do-	MIP Canal	-do-	-do-	4 km	60,000	-do-	50
Karanja	Jashipur	2	4	0.5 acre	2016-17	ITDA	-do-	ITDA/ Horticulture	Bore well (Jalandi)		Seeds, Fertiliser, Pesticides	2 km	66,000	-do-	40
	Sukruli	1	1	0.5 acre	2016-17	ITDA	-do-	-do-	-do-		-do-	4 km	70,000	-do-	45

Vegetable Cultivation

Vegetable cultivation with the financial assistance of ITDA, motivation and guidance of CYSD, the NGO and convergence with Horticulture department has gained popularity in Koraput ITDA area. During interaction with 19 beneficiaries in 3 blocks and 4 villages as indicated in the above Table, it was revealed that the ITDA has supplied hybrid vegetable seeds like brinjal (40 gram), chilli (20 gram) and tomato of 40 gram to each beneficiary to cover 0.5 acre and technical guidance to cultivate during kharif/ rabi as per the suitability of land and availability of irrigation. Also ITDA has distributed bio-pesticides free to the farmers. Horticulture department has provided technical knowhow and the FNGO has made frequent visits before and during the execution of the intervention for motivation, selection of land and beneficiaries and extend technology and guidance. As the farmers interacted, the FNGO experts have conducted several meetings before the execution and visit to the villages almost every fortnight to make the programme a success. The farmers have sold brinjal @ Rs.30/kg during the early stage of production and subsequently at Rs.20/kg. Similarly the green chilli has been sold at Rs.40/kg and tomato at Rs.10/kg. As ascertained from the beneficiaries, they have produced around 35 Q of brinjal and tomato and 1 Q of green chilli from the patch of 0.5 acre. The gross income from the patch is at least Rs.60,000/- and the family labour has been utilized so that the expenditure towards labour employment has been saved. The beneficiaries have the scope to utilise the irrigation and cover the entire patch of 0.5 acre during both kharif and rabi utilizing the vegetable seeds from their own source and enhance the income. With regard to marketing, the traders are collecting the produces from the farmers when adequate vegetables are produced in the village. The beneficiaries also sell in the local market within 2–4 km from their village. Prior to introduction of vegetables, the farmers were mainly cultivating paddy and some vegetables. The yield of paddy was only around 10-12 Q per acre. Their primary source of income was from wage earning utilizing the Job Card and also with their own effort in the nearby villages. Some of the farmers are growing local red gram (*Kandula*) on the hilly lands (*Dangar*) and get yield of around 3Q per acre and sell at Rs.35 per kg and also use for their own consumption. Hence, vegetable cultivation has encouraged the farmers to enhance the status of their livelihood. ITDA may take steps for formation of

Farmer Producers' Group with the support of the NGO so that the vegetable producers will get right price for their produces.

In Karanjia, 5 beneficiaries in 3 villages of Jashipur and Sukruli block were interacted. During 2016-17 Rabi season vegetable cultivation was introduced in Karanjia ITDA area in 3 blocks namely Thakurmunda, Jashipur and Sukruli covering 12 villages, 82 beneficiaries in 50.50 acre land. The seeds of cauliflower, cabbage, radish, peas, tomato, bean, knolkhol, lettuce, coriander and chilli were distributed to the beneficiaries free of cost. The crop area is irrigated through bore wells. As the beneficiaries interacted, vegetable production is remunerative for them.

The functional infrastructure for collection, sorting, grading with Pack Units as well as cool chamber and refrigerated van for marketing support are yet to be developed with the increase of area in clusters.

Table 44: INTERVENTION – MUSHROOM CULTIVATION

ITDA	Sample Block	No. of sample villages	Average size of net house per beneficiary	Year of inception/ execution	Awareness got from	Executing Agency	Technical guidance	Convergence	Distance of market	Existing market Price per kg (Rs)	Expected Production/ unit in kg	Expected Net Income/ unit (Rs)	Primary/ Secondary occupation	Employment generation in man days per annum
Paralakhemundi	Gumma	2	200 sqm	2015-16	ITDA/ Horticulture	ITDA/ Horticulture	Horticulture	MGNREGS (Labour component)	Collected from village by Traders/ Paralakhemundi market (20 km)	150	300	30,000/-	Primary	90-110

Mushroom Cultivation

In place of vegetable production, ITDA, Paralakhemundi has facilitated for popularization of mushroom production with technical assistance from the Deputy Director of Horticulture, Paralakhemundi in convergence with NHM programme. During field visit it was ascertained that mushroom production has been executed in Barasing (25 units), Rangadei (2 units) and Kimtesing village (3 units) of Munising GP in Gumma Block. Nine beneficiaries in Barasing and one in Rangadei village were interacted. A group discussion was conducted in Barasing village. Sri Prahlad Gomango, Ex-Ward Member was also a respondent as well as a beneficiary under the scheme. Sri Dilon Raita of

Barasing village has passed Higher Secondary and has taken initiative for mushroom cultivation and coordinates the villagers with ITDA and Horticulture. The scheme is under execution since 2016-17. As ascertained during discussion, average adult family members of the house hold is 2.3 out of which 50% belongs to adult female who



constitutes the family labour to work in the agriculture field as well as involve in wage earning through job card and also through exchange policy in and around the village. Out of the 54 family members around 25% are illiterate and 28 persons have gone to school and 3 are intermediate. Average land holding per household under agriculture is 2.35 acre which is mostly irrigated through gravity flow of natural stream. But no irrigation to crop is available during summer. Paddy and ragi are their main agricultural crops grown during kharif. They have knowledge of using high yielding seeds, fertilizers and pesticides for paddy. Prior to execution of the Project, they were using 48 man-days of family labour but after their enrollment in mushroom production, the family labour use has been increased to almost 100 man-days. As it was revealed during discussion, the annual net income prior to adoption of mushroom production was Rs.19,500/- on an average per household including wage earning which has been enhanced to Rs.45,000/-

per household taking into account the family labour engagement after taking interest in mushroom production.

Deputy Director, Horticulture has taken the effort to select 30 farmers under NHM with a total outlay of Rs.72,000/- for each beneficiary towards construction of bamboo net house including cost of shade net, fogger and sprinkler system, cost of bamboo and labour charges out of which Rs.36,000/- is the subsidy part from NHM and rest Rs.36,000/- is the farmers share which has been met out of labour component under MGNREGS. Besides, ITDA has borne Rs.4.29 lakh towards electric pump set of 0.5 HP, polythene sheet for covering mushroom bed and spawn bottle for 30 beneficiaries. Hence, ITDA has extended financial assistance of Rs.14,300/- for each beneficiary towards the above mentioned components.

The awareness has been created by the ITDA and Horticulture. Horticulture Department has extended the technical guidance and training. Two mushroom growers have undergone training in OUAT during 6-17, November, 2017. Also 20 farmers including mushroom growers have visited Deras, the Centre of Excellency, and Institutions in Khorda district. Each beneficiary has been supplied with 300 mushroom spawn bottles arranged by Horticulture @ Rs.15/- per bottle which is borne by the ITDA. Each bed starts production after 15 days of inoculation of spawn and yields 1 kg each from bed. The mushroom is sold at a price of Rs.150/- per kg in Paralakhemundi town which is 20 kms far from the village. Also the spawn suppliers regularly visit the farmers and collect mushroom from their doorstep. At a time 30 beds are inoculated and 15 days interval is maintained to inoculate all the beds for regular and smooth production without any hindrance for marketing. Hence, every 15 days interval, the farmer gets 30 kg mushroom which is sold at a cost of Rs.150/ kg.

Assessment of Income

Recurring Expenses to be borne by the beneficiaries after one year:

Component	Unit cost	Total cost
1. Maintenance of mushroom beds, repairing, irrigation using sprinklers, reconstruction of bamboo net house		Involvement of family labour of the farmer
2. Requirement of bamboo for the net house and beds for maintenance and fresh straw for beds.		From own source/ farm of the farmers
3. Polythene sheet for covering mushroom bed @ Rs.20/- each	Rs.600/- for 30 beds x 10 replications i.e. 300 beds	Rs.6,000/-
4. Mushroom spawn bottle @ Rs.15/- each	Rs.450/- for 30 beds x 10 replications i.e. 300 beds	Rs.4,500/-
Total Recurring Expenses		Rs.10,500/-
Gross Return from 30x10 = 300 beds annually	300 kg production @ 1 kg/ bed	Rs.45,000/- @ Rs.150/- per kg
Risk and uncertainty in production and market price (Less 10%)		Rs.40,500/-
Net Annual Income from 300 beds (One Net House of 200 sqm size) per household		Rs.30,000/-

The production continues for 8 months i.e. during March to October. During winter, there is no production and the farmers maintain and repair the bamboo net house during this lean season. For the first time, mushroom is cultivated in the area and the farmers are taking a lot of interest as they earn good return from mushroom. Officers from Horticulture regularly visit the project (almost every fortnight) and provide guidance. The DDH has also visited the area and encouraged the beneficiaries. Since it is a profitable enterprise in agriculture sector and has positive impact on enhancing the livelihood of the farmers, it may be considered to replicate the project in other areas also.

Improved Agriculture

ITDA, Baripada has not taken any initiative for implementation of the intervention 'Improved Agriculture'. In Koraput ITDA, a programme was chalked out for distribution of 300 diesel pump sets in convergence with Agriculture Department utilizing the funds available under 'Improved Agriculture' as well as under 'Farm Mechanisation' against which 250 pump sets have already been distributed and an amount of Rs.24.74 has already been utilized out of the sanctioned amount of Rs.38.92 lakh.

In Karanjia ITDA, initiative has been taken during kharif 2015 for popularization of maize cultivation under this head. Hybrid maize 'Pioneer' has been supplied to 63 farmers in 6 villages of Jashipur, Sukruli and Thakurmunda block covering 24 hectare as inter-cropping in Rubber field. Seeds of green maize of 187 qtl sold at Rs.2,80,500/- and dry maize of 85.17 qtl sold at Rs.1,23,497/- in the local market. On an average, the return per hectare comes to Rs.16,800/-out of inter-cropping. During discussion, it was observed that the beneficiaries are interested in maize cultivation and as they told there is scope of market if it will be cultivated in large patches as solo crop.

Farm Mechanization/ Pump sets

As per the Guide Line, the Women SHGs are to be provided with tractors, power tillers, levelers, paddy threshers, maize shellers, rice mills etc. The members of the WSHGs are to utilise these farm machineries for their agricultural work after getting training in Odisha Farm Machinery Research and Development Centre in Bhubaneswar. These SHGs are to develop "User mechanism/rules" and collect 'User fee' for rental usage of these machineries by members/other tribal farmers. These fees ensure maintenance of the machineries and increase members' earnings.

It is ascertained from Paralakhemundi ITDA that the farmers have been supplied with 1.5 HP and 3.0 HP diesel pump sets with 50% subsidy from Agriculture Department and 50% subsidy from ITDA limiting to Rs.10,000/- in each case for providing irrigation to their crops. As ascertained from the ITDA, during 2015-16, 379 pump sets have been distributed under farm mechanization intervention.



Similarly in Baripada ITDA, under Farm Mechanization, only one Mahindra Yubraj mini tractor of 22 HP has been supplied free of cost to Sri Ramesh Chandra Singh of Madhupur village in Purnachandrapur GP of Badsahi block during 2016-17. During previous years no funds have

been sanctioned to Baripada ITDA under this head. The mini tractor is not found feasible to work in the field in hard soil and accrues more expenses towards maintenance. As ascertained from Baripada ITDA, only this mini tractor has been provided under Farm Mechanization intervention.

In Sundargarh ITDA, no initiative has been taken for popularization of farm mechanization by the ITDA. The funds have been sanctioned during 2016-17 only. The farmers have been supplied with pump sets for providing life saving irrigation to the crop field where water source is available. As ascertained from the ITDA, the pump sets have been supplied with 50% subsidy by Agriculture and F.E. Department and 50% subsidy has been provided by the ITDA



limiting to Rs.10,000/- in each case for the tribal farmers out of the funds available under SCA to TSP. It was ascertained that against the physical programme of 400 beneficiaries, 399 beneficiaries have been supplied with diesel pump sets and amount of Rs.39.90 lakh has been spent under this head.

In Koraput ITDA, funds amounting to Rs.14.84 lakh and Rs.24.80 lakh have been sanctioned under the head Farm Mechanisation and Agricultural Activities during 2016-

17 respectively. Out of the total funds of Rs.38.92 lakh, the expenditure of Rs.24.74 lakh has been incurred for distribution of pump sets to the eligible tribal farmers in 9 blocks under the ITDA. As such 250 pump sets have been distributed through Agriculture Department against the target of 300. The ITDA has already taken steps for selection of beneficiaries and distribution of rest 50 pump sets through Agriculture Department.

Two tribal farmers namely Sama Muduli and Bhakta Paraja in Mandaguda and one tribal farmer Sadasiba Chapadi in Machhara-II village in Mahadeiput GP of Koraput block were interacted and found to use the pump sets supplied by the ITDA and Agriculture Department for



cultivation of vegetables in both kharif and rabi season like pumpkin, bottle gourd, baby corn, tomato greens and field pea and providing lifesaving irrigation in paddy during kharif. The vegetables are sold in the nearby village market as well as in Koraput which is only 8-10 km from the village. The beneficiaries have purchased 3.1 HP diesel pump sets of Usha make and UNK-2520 model during 2016-17 (July, 2016). The full cost of the pump set is Rs. 22,846/- out of which the beneficiary has availed subsidy of Rs.20,000/- from both Agriculture and ITDA. As ascertained from the beneficiaries during discussion, the pump set is very useful for providing irrigation from the available water source and has positive impact for enhancing income especially from vegetables including off-season vegetables and providing lifesaving irrigation to rice crop.

In Ratabandh village, Girliguma GP of Dasmanthpur block under Koraput ITDA, one farmer Sri Khuda Muduli has also availed the facility of Rs.20,000/- subsidy from ITDA and Agriculture Department and purchased one 3.1 HP diesel pump set Usha make UNK-2520 model during 2016. He also utilises the pump set for irrigation of his vegetable field of 1 acre and gets incremental income of around Rs.12,000/- annually.

In Karanjia ITDA, 9 SHGs have been provided with Power Tiller, Sprinkler set and step has been taken for supply of diesel Pump set to the WSHG covering all the 5 blocks under the ITDA during 2017-18 under Micro Enterprise Development. The ITDA has taken steps for execution of the intervention and has planned to supply one paddy transplanter, one pump set and one power weeder to the WSHGs in convergence with Agriculture Department. The ITDA, Karanjia has also introduced 'Service Call System' from the supplier to get the feedback from the WSHG on working of the machineries and equipments.

It is observed that the sample ITDAs have taken initiative for supply of diesel pump sets under the intervention "Farm Mechanisation" and in Karanjia, the WSHGs have been supplied with Power Tiller and Sprinkler sets and the intervention has positive impact on sustainability of farm income and enhancing the livelihood status through mitigating the moisture stress and drought like situation with the provision of life saving irrigation facility. It is suggested that the farm machineries and equipments may be supplied in consultation with the Experts of Agriculture Department so that the situation will not be faced as in case of Badsahi block of Baripada ITDA where the mini tractor is not feasible to work in the field in hard soil and accrues more expenses towards maintenance.

Dairy Development

Dairy Development under ITDA, Paralakhemundi

During the 66th PLC meeting held on 29th July, 2016 under the chairmanship of the Collector, Gajapati following decisions were taken with regard to dairy development.

- i. Poor ST beneficiaries never benefited from any subsidized schemes of Government/ ITDA earlier may be taken up for the dairy promotion scheme.
- ii. Interested ST Widows/ ST beneficiaries having own cowshed and having experience in cow rearing may also be considered for this scheme.
- iii. ST beneficiaries completed 100 man-days in MGNREGA or willing to construct cowshed in convergence with MGNREGA may be given top priority. List clubbing at least 10 interested beneficiaries per village in Milk

Producers' Society (MPS) may be communicated to BDOs of respective blocks for construction of low cost cowshed in convergence with MGNREGA. Also it was stipulated to complete this exercise by 29th February, 2016.

- iv. On receipt of the certificate from CDVO, Gajapati with respect to completion of cowshed, green fodder arrangement, and willingness of the beneficiary for purchase of 2nd cow after 6 months or on completion of lactation period of 1st cow (supposed to be funded by the ITDA), the PA, ITDA, Paralakhemundi would release fund of Rs.35,000/- per cow and insurance charges as per actual to the bank account of Milk Producers' Society (MPS).

Accordingly, a committee headed by the CDVO, Gajapati scrutinized and shortlisted the applications of the beneficiaries and a list of 54 members eligible for cow rearing support supposed to be provided by the ITDA was prepared and placed in the file for approval of the Collector on 29.2.2016. But no further action has been taken for approval of the beneficiaries list or execution of the intervention without indicating any reason in the file.

Hence, the benefits of the intervention on Dairy Development aimed to uplift the livelihood of the tribal people could not reach the target group in Paralakhemundi ITDA area.

Dairy Development under ITDA Baripada

A Female Calf Rearing Scheme (FCRS) is under execution in Badsahi block under Baripada ITDA since 2013-14 to promote dairy development among the tribals. The Evaluation Team visited Pratappur and adjacent villages and ascertained that the villages like T.Gambharia, Barpoda, Uchabali, Kuchilapada, Pratappur, Jamuna, Haripur under Badasahi block were covered under this Calf Rearing programme. Training was imparted to the beneficiaries on calf rearing; feeding and dairy management and as such 34 beneficiaries have undergone training in different batches. The ITDA, Baripada has placed funds with CDVO, Baripada for the scheme. The scheme has been implemented

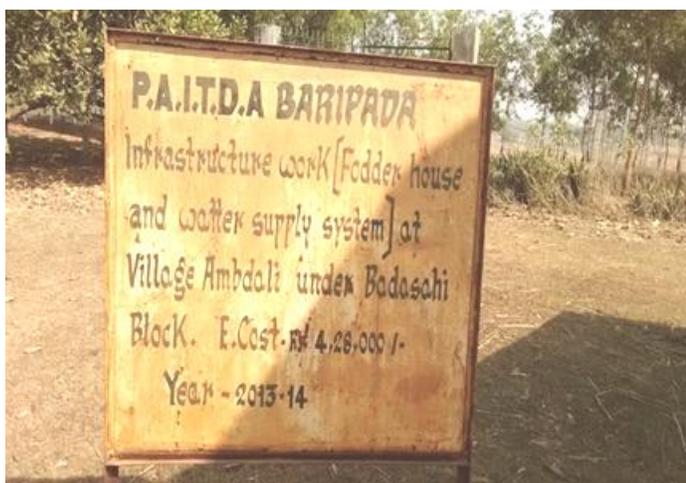
in convergence with District Veterinary Department with their technical support and guidance.

The objective of the Scheme is to provide cattle feed to calves over a period of 30 months. Accordingly, 125 kg of cattle feed is provided to the beneficiaries every three months interval for each calf. The breeds like Red Sindhi, Jersey, CBJ are reared under the scheme. All the female calves benefitted under this scheme have been registered at the level of Sub-Divisional Veterinary Officer, Baripada.

Fodder Development Programme under ITDA, Baripada

To meet the green fodder requirement and overcome the scarcity situation of the cattle population in this region, a fodder house with water supply system has been developed in a 5 acre patch in Ambdali village under Badasahi Block during the year 2013-14 with an estimated cost of Rs.4.28 lakh where grass variety Co3 was under cultivation. For

smooth operation, a revolving fund of Rs.70,000/- was placed with the CDVO by the ITDA, Baripada. The project meets green fodder requirement of around 2000 cattle population of the nearby two Panchayats. It was ascertained that during the year 2014-15 and 2015-16 around 20 quintal and 29 quintal of



green fodder was harvested respectively. Cowpea and Bajra were harvested as fodder to the tune of about 35 and 40 quintal respectively during 2016-17. The green fodder was sold @ Rs.1.50 per Kg.

The fodder activity worked smoothly in the initial years. But due to lack of watch and ward activity in the said area, the electric pump which was installed for water supply for the fodder crop was stolen. Action has been taken for installation of new pump set. The important constraint to run the project is that energy consumption is charged in commercial rate which hinders installation of the pump set which ultimately restricts

green fodder cultivation. The cultivation of fodder continued till 2016-17 depending on monsoon rain but the project is not sustainable during the succeeding year and fodder cultivation has been stopped after kharif 2016-17 due to lack of irrigation. Hence, the programme is not in operation during 2017-18. During the field visit for the Evaluation Study during January 2018, the land was found barren and the pump house was abandoned resulting no fodder cultivation activity.

Under the circumstances, in order to make the programme viable, it is suggested to take adequate steps to convert the energy tariff from commercial to agriculture to reduce the financial burden, provide watch and ward, ensure irrigation facility, provide revolving fund of Rs.2.00 lakh and develop fencing so that the programme will fulfill the growing demand of the beneficiaries.

Female Calf Rearing Scheme in ITDA, Baripada

Livestock is the major source of supplementary income for the rural households and also an integral part of the rural livelihood systems. Livestock development helps in alleviation of rural poverty. Rich protein feed is a highly essential to develop a cow from a calf.



Genetic potential of the animal requires high nutritional status. The first two years is very crucial period for cattle as far as growth is concerned. In Odisha, the growth of cattle population is suppressed due to lack of high genetic potential and deficiency in nutritional status. Rearing of cattle population otherwise helps to improve socio-

economic development of the rural people, enabling increase of rural employment opportunities, increase in family income and improving quality of life.



Basing on this requirement, the Female Calf Rearing Scheme (FCRS) was developed in Baripada ITDA. FCRS is primarily a genetic up-gradation and rearing with reach protein feed of cattle population. The main aim of the scheme is to provide proper nutrition to enable the calves to mature earlier and produce more milk. The feed is supplied from the 4th month up to 30th month or calving whichever is earlier.

It is important that the calf is given nutritious feed in the form of concentrates or fodder right from its 4th month. This will ensure good milk yield when the calf becomes a cow. So, it is recommended that right from the 4th month concentrate feed should be made available to the calf. The desired effect may not be fully realized if the animal is introduced into the feeding schedule after the 6th month of age. A cow consumes around 1200 kg of concentrate which may vary depending on breed as well as its body weight. This quantity can be substantially reduced if good quality green fodder is available.

A Female Calf Rearing Scheme (FCRS) was started under Baripada ITDA during the year 2013-14 to promote dairy development among the tribal people. This scheme seeks to assist the dairy beneficiaries to rear cross bred heifer calves. The FCR Scheme has been widely accepted among the tribal dairy beneficiaries. Farmers who were not able to afford for hybrid cow were supported with Artificial Insemination (AI). Under this scheme, the concentrated cattle feed with mineral mixtures were provided for 30 months.



During the field visit in Pratapur and adjacent villages it was ascertained that the villages like T.Gambharia, Barpoda, Uchabali, Kuchilapada, Barpoda, Pratapur, Jamuna, Haripur

under Badasahi block were covered under this Calf Rearing programme. Training was imparted to the beneficiaries on calf rearing, feeding and dairy management. The training has been imparted to 34 beneficiaries in different batches by the Veterinary Experts. The scheme has been implemented during 2013-14 in convergence with the Veterinary department with their technical support and guidance in all the blocks under ITDA, Baripada. The improved female calf breeds like Red Sindhi, Jersey, CBJ from indigenous cows through Artificial Insemination (AI) have been provided to the beneficiaries. The funds have been placed by the ITDA, Baripada. The scheme aims at providing cattle feed to calves over a period of 30 months @ 125 kg per beneficiary at three months interval. Under the scheme the dairy beneficiaries have received feed, vitamin and mineral mixture for their calves. The periodical health care facility has been provided by the Animal Husbandry experts like preventive vaccination, treatment, de-worming etc. The implementation of the scheme has been proved successful by relaxing the financial burden towards feed cost of the tribal beneficiaries. All the female calves benefitted under this scheme have been registered at Sub-Divisional Veterinary Office, Baripada.

Female Calf Rearing Scheme in Karanjia ITDA

The Female Calf Rearing Scheme has been implemented in Karanjia ITDA area. An amount of Rs.3.50 lakh has been placed with the SDVO, Karanjia during 2016-17 against execution of the scheme through 44 beneficiaries covering all the 5 blocks under Karanjia ITDA during 2014-15 and 2015-16. Interacted with one beneficiary in Bhanra village of Karanjia block, one each in Khandabandha, Keluposhi, Keshadiha, Bharandia and Kendujuani in Thakurmunda block executed during 2014-15 and 2015-16. The beneficiaries belong to Saunti and Kolha community of ST respectively. The villages are located at a distance of 6 km and 15 km respectively from the block headquarters. The scheme has been implemented in convergence with Veterinary department. The funds have been placed with the CDVO, Baripada by the ITDA. The female calf is the crossbred of Red Sindhi. The Veterinary department supplies 2.5 qtl of cattle feed for the growth of the female calf. The beneficiaries are mostly small and marginal farmers grow mainly paddy of high yielding varieties and vegetables in the back yard for their own consumption. The major source of their livelihood is wage earning through job card as

well as in their village and neighbouring villages. Also some of the beneficiaries earn from goatary. Their annual income is limited to Rs.60,000/- from all sources.

Economic Impact of the Scheme:

Through the Female Calf Rearing Scheme, the ITDA in convergence with Veterinary Department has facilitated for production of milk to the extent of 7-8 litres per day from



one milch cow for a period of 240 days of lactation period in a year. The milk is sold @ Rs.30-35/- per litre in the local market especially to the sweet stalls. So the annual average income of each beneficiary from this intervention is estimated to be Rs.50,000/- from one milch cow. This intervention is a remunerative one and has gained popularity by the

beneficiaries and proved successful in enhancing the livelihood of the tribal beneficiaries. Because of optimum nutritional management, regular health care, these calves are matured within two and half years and their body weight have been increased considerably. Now these adult cows have given birth to one calf and in some cases two and resulting in increased milk production. Now this income generating scheme has been proved sustainable and assured income source as well as productive asset.

Goat Rearing

Out of the 5 sample ITDAs, Goat Rearing Unit has been allotted to ITDA, Karanjia only. Including Karanjia ITDA, Goat Rearing Units have also been established through WSHGs in Koraput and Baripada ITDAs under Income Generating Scheme - Assistance to SHGs. The ITDA, Karanjia has extended assistance to Hasa Khusi WSHG in Sunaposhi village in Galusahi GP of Sukruli block during 2016-17 for goat rearing. The WSHG is having 14 women members out of which 12 are BPL. All of them are ST Gonda community. The scheme has been executed by the WEO of Sukruli block with

financial support of the ITDA and technical support of Veterinary Department. ITDA has placed Rs.1.20 lakh in the bank account of the SHG in Sarubil branch of Odisha Gramya Bank. The account was opened on 19.1.2017 and currently the bank balance is Rs.72,722/- as on 23.2.2018. The bank has provided Rs.2.70 lakh loan including assistance of the ITDA. The members have purchased 28 goats @ 2 for each from the local market. The average cost of each goat is Rs.3000/-.



Out of 28 goats, 4 died suffering from disease. The insurance claim has not been settled against the death of the goats. Now the population of the goats has reached 40. Out of the 14 women members, one has passed HSC and the other Higher Secondary. The Veterinary Experts regularly visit the goats. Three-year old goats

are sold at Rs.8,000-10,000/-. It is a profitable enterprise for the WSHGs. Paddy is their main crop during kharif only which they use for own consumption and sell the surplus produce. Besides, wage earning is their primary occupation through MGNREGS and in the neighbouring area. As such they earn around Rs.32,000/- per head annually from sell of paddy and wage earning. Construction of goat sheds is under progress with the financial assistance of the ITDA. It was observed that the health condition of the goats is not good and they need proper care including health care. It was ascertained that the breeds are not improved quality and purchased from the local market. During purchase no guidance was extended by the WEO although he is executing the scheme. It was ascertained from the members that the WEO is not visiting the village and guiding the members. The ITDA may take care for purchase of improved breeds through the WEO with the support of Veterinary Experts instead of entrusting the member of the WSHG to purchase from the village or local market in their own choice.

Table 45: INTERVENTION – POULTRY REARING

ITDA	Sample Block	No. of sample villages	No. of sample farmers	Year of inception	Awareness created	Executing Agency	Technical guidance	Convergence	Individual/ Group	No. of chicks supplied	Breed supplied	Any Poultry Co-operative Society	Interval of visit of Experts
Koraput	Laxmi pur/ Narayanpatna	2	13	2015-16	ITDA/ NGO	ITDA	Veterinary Deptt/ NGO (CYSD)	Veterinary Deptt for training and health care	Individual Beneficiaries	30 to each beneficiary	Banaraj	No	Monthly

Distance of market	Existing market Price (Rs)	Current average annual income (Rs)	Expected Net Income/ unit (Rs)	Primary/ Secondary occupation	Employment generation in man days per annum
Local market	500/ live bird	35,000	25,000-30,000	Secondary	30

Poultry Rearing

As per the Guidelines, two models of poultry interventions are as follows.

- In the first model, Mother Chick Units (MCUs) are linked with Backyard units. Birds of Banaraj and Kuroiler breed are mostly reared in this model. In the MCUs, 600/1000 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 and ;
- In Broiler/Layer units, 400 birds are reared by individual tribal families.

During field visit it was observed that Sri Jagannath Sing of Village/GP – Jadunathpurin Badsahi block under Baripada ITDA has developed a Poultry Unit with the assistance of



M/s Pasupati Agrovvet Private Ltd. The poultry shed of 100'x20' was constructed during 2017 with investment of Rs.2.50 lakh with bank loan of Rs.1 lakh from Bank of India. M/s Pasupati Agrovvet supplies one/ two day old chicks. On the day of visit i.e. 6th January, 2018, the beneficiary had received 1900 chicks. There is chance of

5% mortality. The chicks will be sold after 40 days when the weight will be around 2.5 kg each. The supplying firm provides chicks, feed free of cost and provide technical guidance and takes health care of the birds. The market price is Rs.85/- per kg of live bird. Hence, after 5% mortality the supplying firm will take back 1800 birds costing Rs.3.80 lakh approximately. The beneficiary will get a margin of Rs.6 to 7 for each bird and as such the net return of the beneficiary will be Rs.12,000/- after 40 days.

It is observed that the poultry unit has not been facilitated by ITDA rather a



private firm has extended all facilities and provides marketing support and facilitates to enhance the livelihood of the poultry farmer. The ITDA, Baripada has planned to provide Rs.10,000/- to each unit as subsidy towards development of infrastructure.

Under Paralakhemundi ITDA, an attempt was taken during 2013-14 in Rayagada and Gumma block for upgrading the livelihood of the tribal people through Poultry Rearing.



Mother Chick Unit,

Two such projects were introduced in Adagaon village in Ganadahati GP of Rayagada block and Sukei village in Guma GP of Guma block during 2013-14. There is no existence of the projects in any of the villages as revealed through interaction with 5 beneficiaries from each of the

villages. The average land holding of the respondents is around 0.5 acre in Adagaon village being irrigated through natural stream. In case of Sukei village, the average land holding is 1.6 acre of rain fed land. They cultivate mainly rice, ragi and some back yard vegetables for their own consumption. Their major source of income is wage earning mostly through MGNREGS. The projects were executed by Agragati SHG in Adagaon village and Tribal Women SHG in Sukei village with financial assistance from the ITDA. In Adagaon, 54 members of Agaragati SHG were supplied with 40 Banaraj chicks each free of cost. The ITDA has constructed the Mother Chick Unit. Technical guidance and health support was regularly extended by the



Group Discussion in

Animal Husbandry Experts. As ascertained from the respondents, out of 40 birds, they have sold around 10 birds at the price of Rs.150/- each. The net return from 40 birds was supposed to be Rs.6000/- within 6-month period. Out of the rest 30 birds, some have been consumed by the beneficiaries and some met death due to attack of wild animals

or some other reason. It is ascertained that the beneficiaries have neither taken any interest for the Banaraj breeds nor any care for the birds. Due to lack of interest of the beneficiaries the project failed and there is no sustainability of the project. Similar is the case in Sukei village where the project has been seized within one year of inception. The respondents demand local breeds instead of Banaraj as the maintenance will be easier for them since they are habituated with such local breeds. This aspect may be examined thoroughly to restart the project with a view to utilize the Mother Chick Unit and enhance their level of income. It may also be examined to facilitate the tribal people for poultry rearing through private firms like M/s Pasupati Agrovet Private Ltd as it is observed in case of Badsahi block under Baripada ITDA where the risk is less and income is assured.

Under Sundargarh ITDA, an attempt was made during 2012-13 for providing assistance for enhancing the livelihood of the tribal beneficiaries through poultry rearing.



Rangadhupa, a sample village close to Sundargarh town was visited to assess the status of the poultry rearing unit. The beneficiary Sri Abani Kalo was interacted in his poultry farm. He has developed the farm in his house premises during 2012-13 with the financial assistance of Rs.1.00 lakh from ITDA, Sundargarh. One FNGO, CIRTD, facilitated for construction of the

infrastructure for Mother Chick Unit of 550 sft. At the time of inception of the scheme during 2012-13, Banaraj breed of chicks were provided by the Veterinary Department with the assistance of the ITDA. But there is no existence of the original scheme i.e. rearing of Banaraj chicks at present. It was learnt from the beneficiary that the Banaraj chicks are voracious feeder. These birds have less demand in the market for table purpose and hence not profitable. Subsequently, the mother chick unit was closed. The outcome of the mother chick units developed with the assistance of Sundargarh ITDA is the same in almost all the cases. In this particular case the beneficiary has closed

rearing of Banaraj breed and shifted to broiler. He has partitioned this 550 sft rearing unit to 4 sheds and keeps 500 chicks of 1 day old in one shed. The chicks are supplied by Veterinary officials at a cost of Rs.24/- per chick and it involves transportation cost of Rs.2000/- from their Bonai hatchery for a lot of 2200-2400 one-day old chicks. As such in 4 sheds he reared 2000 chicks at a time and sells the one month old birds at cost of Rs.58/- to Veterinary department. Veterinary Experts visit once in a fortnight for necessary guidance. Assuming mortality of 200 birds, he spends Rs.52.50 for one chick towards purchase of one day old chicks including transportation, feed, medicine and vaccine etc and earns Rs.5.50 from each bird after one month. So for 2200 birds he gets net return of around Rs.12,000/- from every batch in a period of two months and annual net return is Rs.72,000/-. Poultry rearing is the primary occupation and he is engaged round the year.

Sri Dukhabandhu Naik and his wife of Sanpatrapali village/GP in Tangarpalli block of Sundargarh also depicted the similar story. The project was executed during 2012-13 with the assistance of ITDA, Sundargarh where 50 birds of Banaraj breeds, 30 days old, were supplied free to the beneficiaries. Besides, the ITDA provided Rs.1500/- for



construction of the birds' shed, 2 bags of feed, one water container and one feed container. After 3 months almost 50% birds died because of disease infestation which could not be controlled by the Veterinary officials as the beneficiaries expressed. Rest 25 birds were sold at a cost of Rs.400/- each @ Rs.100/- per kg of live bird approximately. The beneficiary got around Rs.10,000/- from 25 birds after 3 months. Other beneficiaries like Hemanga Naik, Sita Naik, Pradip Majhi, Kumudini Naik also faced the same problem

as revealed during discussion. Sri Dukhabandhu Naik, because of his interest, is still continuing poultry project by nurturing broiler birds to the tune of 100 numbers and sell 3-



month old birds when attains 2–2.5 kg weight at a cost of Rs.100/- per kg of live bird. The broiler birds fetch good market in the locality where as the beneficiary faced problem for marketing of Banaraj breeds because of low quality of flesh. After meeting all costs, he earns around Rs.20,000/- from 100 birds every 4 months.

He finds it as a profitable enterprise and risk factor is less in comparison to Banaraj breed. He gets regular guidance from Veterinary officials towards disease management.

The intervention Poultry Rearing is found success in Koraput ITDA area. In the sample villages like Khajuriput of Goudguda GP in Laxmipur block and Bejuguda village of Balipeta GP in Narayanpatna block, each beneficiary was provided with 30 chicks of Banaraj breed during 2015-16. In these two villages 23 tribal persons have adopted



poultry rearing with the assistance of ITDA. The ITDA has supplied chicks free of cost amounting to Rs.1500/- @ Rs.50/- per chick along with drinker and feeder amounting to Rs.700/- and 6 kg poultry feed amounting to Rs.108/- to each beneficiary. Besides, poultry shed of 45 sft has been built by each beneficiary with financial assistance of Rs.

6892/- by the ITDA. The Veterinary department has provided training to the beneficiaries with the funds placed by the ITDA with the Veterinary deptt. At the age of 5 months each bird is sold at Rs.500/- on an average. Each Banaraj breed gives birth to 30 chicks in a year. Besides, each bird gives at least 170 eggs in a year. Birds mostly live on grazing and also fed granules of maize and rice. Because of the voracious feeding nature and low quality taste of the flesh, the beneficiaries have not taken interest for Banaraj breed and subsequently shifted to local breeds. However, they are still continuing poultry rearing with local breeds. The farmers are mostly small and marginal having average cultivated land of 2 acres irrigated during both kharif and rabi from the existing natural stream and MIP and cultivate mostly high yielding paddy in both the seasons which meet their own requirement. The primary source of income is wage earning under MGNREGS where each family gets 100 days job through job card and in addition they also work in the village or neighbouring villages mostly in the agricultural field and heir income from wage earning is limited to around Rs.35,000/- annually. The poultry rearing has improved their livelihood and the beneficiaries earn Rs.25,000 – 30,000/- annually and even more depending on their interest even from the local breeds keeping in view the risk factors. Poultry rearing is found successful to some extent in Koraput ITDA area due to involvement of CYSD, the FNGO who constantly guides the beneficiaries.

As ascertained from Karanjia ITDA, the funds for Poultry Rearing have been allotted during the current year. The ITDA is taking steps for execution of Poultry Rearing during the coming year in consultation with Veterinary officials of the district.

After interacting and visiting the poultry rearing project in Paralakhemundi, Baripada and Sundargarh ITDA area, it is observed that the beneficiaries are not satisfied with rearing of Banaraj breed because of their voracious feeding nature, low quality taste of the flesh and disease susceptibility and ultimately Banaraj birds rearing units have been closed in all these three sample ITDA areas. The beneficiaries in Koraput ITDA area are still continuing with the local breeds because of the extension activities and guidance of CYSD, the FNGO. Under the circumstances, Government may examine to provide broiler breeds to the beneficiaries and help them to enhance their livelihood.

Table 46: INTERVENTION – FISHERY

ITDA	Sample Blocks	No. of sample villages	No. of beneficiaries	Year of inception	Awareness got from	Executing Agency	Technical guidance	Convergence	Materials supplied free	Meetings held prior to execution	Training imparted	Technical Guidance	Frequency of Visit
Baripada	Badsahi	4	11	2016-17 & 2017-18	ITDA/ Fishery Dept/Matshya Kanya SHG	ITDA	Fishery Dept	Fishery Department/ (FFDA)	Fingerlings/ Fish feed/ Fishing Net	Yes	DFO, Baripada/ Dakshyata, New Delhi	Fishery Dept Officials	Monthly
Sundargarh	Tangarpali	2	2	2012-13	ITDA/ Fishery Dept	ITDA	-do-	-do-	-do-	Yes	DFO, Sundargarh in partnership with NFDB, Hyderabad	-do-	Fortnightly
	Balisankara	1	6	2012-13	-do-	ITDA	-do-	-do-	-do-	Yes	-do-	-do-	-do-
Karanjia	Karanjia	1	3	2016-17	-do-	ITDA	-do-	-do-	-do-	Yes	FEO	-do-	-do-
	Thakurmunda	1	2	2016-17	-do-	ITDA	-do-	-do-	-do-	Yes	FEO	-do-	-do-

ITDA	Sample Block	Distance of market in km	Existing market Price per kg (Rs)	Expected Production/ 0.5 acre water area in kg	Expected Net Income/ 0.5 acre water area (Rs)	Primary/ Secondary occupation	Employment generation in man days per annum
Baripada	Badsahi	15-20	120	2000	1,92,000	Primary	120
Sundargarh	Tangarpali	10-15	110	2000	1,76,000	Primary	100
	Balisankara	3-5	120	1600	1,53,600	Primary	100
Karanjia	Karanjia	15	150	1600	1,92,000	Primary	90
	Thakurmunda	15	150	1500	1,80,000	Primary	100

Fishery

The study on Fishery Intervention was taken up in Baripada, Sundargarh and Karanjia ITDA area covering 5 blocks, 9 villages and 24 beneficiaries. Prior to execution of fishery, the beneficiaries had primary occupation of agriculture and wage earning. ITDA with the support of District Fisheries Officer created awareness for the tribal people having at least ½ acre of pond. The Fishery Department has arranged trainings for the beneficiaries in partnership with National Level Institutions. The ITDA provided fingerlings, fish feed, fishing net free of cost during the first year of execution through the District Fisheries Officer (DFO). Under convergence programme, Fishery Department has extended all support including technical guidance and input supply. In almost all the cases the beneficiaries have earlier knowledge of fishery but they could be able to polish and upgrade their knowledge and technical knowhow for improved and commercialised fishery through the technical guidance of Fishery Department. The Experts of Fishery Department visit the beneficiaries at least once in a month. Currently, the fish production level is around 15-20 quintal annually from ½ acre pond which is sold at the price of Rs.110 to 150/- per kg depending on the demand for sweet water fish. The traders collect the produce from the farm or they sell in the nearby market at block/ sub-division/ district headquarters located at a distance of 3-20 kms. As the beneficiaries expressed, there is no much difference of price either sold through the trader or directly in the market taking transportation cost and labour cost into account. The beneficiary earns around Rs.1.50 – 1.90 lakh of net income from fishery annually. As such there is scope for generation of 100-120 man-days of labour. The beneficiary himself and family members are engaged in the project. Besides, the beneficiaries are also facilitating employment generation for others. For the tribal people having a pond, fishery is a feasible and sound intervention for enhancing their livelihood and found success in Baripada, Karanjia and Sundargarh ITDA area.

Table 47: INTERVENTION – APICULTURE

ITDA	Sample Block	No. of sample villages	No. of sample beneficiaries	Inputs supplied to each beneficiary	Year of inception	Awareness got from	Executing Agency	Technical guidance	Source of Boxes	Frequency of visit for guidance
Paralakhemundi	Rayagada/ R.udaygiri	2	10	5 honey boxes/ 1 smoker/ 1 honey extractor	2016-17	ITDA/ OLM	OLM	KVIB/ Horticulture/ KVK	KVIB through OLM	Once in a fortnight

Convergence	Processing unit	Marketing Support	Distance of market	Existing market Price per kg (Rs)	Expected Production/ Box/ Year in kg	Expected Net Annual Income (Rs)	Primary/ Secondary occupation	Employment generation in man days per annum
OLM/ ORMAS	Not established	ORMAS	2-5 km	300	12-15 kg	15,000 – 18,000/-	Secondary	50

Apiculture (Bee keeping)

Attempt was taken by the ITDA, Karanjia prior to FADP project period i.e. 2009-10 to 2012-13 for popularization of Apiculture. Beneficiaries @ 25 each from Thakurmunda, Jashipur and Karanjia blocks were selected during 2009-10, 2010-11 and 2012-13 respectively. ITDA also arranged the training for all the 75 beneficiaries in OUAT of 3 days duration during 24-26 October, 2009, 25-27 October, 2010 and 26-28 February, 2013 in 3 batches. Order was also placed with Khadi and Village Industries Board (KVIB), Bhubaneswar for supply of Bee Boxes and other equipments and also Rs.3,56,760/- was placed with the KVIB. But KVIB failed to supply the materials and subsequently the KVIB refunded the funds placed with them to the ITDA, Karanjia.

Subsequently the ITDA has taken steps for revival of the scheme and accordingly the Secretary, KVIB, Odisha has taken steps to supply the bee boxes and other requisite materials to each beneficiary at 50% subsidized price after imparting 7 days training and exposure visit vide his letter no.235 dt.17.1.2018 as detailed below. The

cost of training including free lodging and boarding along with stipend @ Rs.100/- per day per participant will be provided by the KVIB. The objective of the training is to popularize bee keeping and empowering rural poor to earn their livelihood.

Bee Box @ Rs.1490/- each	5 boxes	Rs.7450/-
Honey Extractor @ Rs.100/- each	1 extractor	Rs.1100/-
Smoker @ Rs.290/- each	1 smoker	Rs.100/-
GST		Rs.1145/-
Unforeseen expenses		Rs.500/-
Total		Rs.10,485/-

The KVIB will supply the above materials to the beneficiaries after completion of the training at 50% cost as subsidy and rest 50% cost i.e. Rs.5243/- is to be borne by the ITDA on behalf of the beneficiaries. Definitely the attempt taken by the ITDA, Karanjia and KVIB will be beneficial to enhance the status of livelihood of the tribal beneficiaries as it has been proved in case of Paralakhemundi ITDA.



Apiculture (Bee keeping) has gained popularity in Paralakhemundi ITDA area especially in Rayagada and R.udaygiri block being promoted by ITDA in convergence with Odisha Livelihood Mission (OLM), Khadi and Village Industries Board (KVIB), Krushi Vigyan Kendra (KVK) and Horticulture Department. Under the study 2 sample villages namely Sindhiba and Subalada were included for evaluation from Dambala GP of Rayagada block and Subalada GP of R.udaygiri block respectively. The villages are located in the forest area and 25 km and 62 km far

from ITDA/ dist headquarters respectively. These villages are around 15 and 10 kms respectively from block headquarters. Both the villages are connected with pucca road. From the two villages, 10 beneficiaries were interacted. The project has been started during 2016-17. Some of the farmers have early experience of apiculture being promoted by KVIB and they act as inspiration for the newly introduced farmers. The awareness was created by ITDA and OLM and the project has been established with the technical support of KVIB, Horticulture and KVK. ITDA has provided financial support and OLM has taken the responsibility of selection of beneficiaries, training and capacity building of the beneficiaries, formation of producers' group. ORMAS provides market support through linking with existing traders & producers, branding the product and exhibit the product in both inside and outside the state. Hence, it is revealed that the convergence with other departments has been successfully done under this project. The technical experts visit the project area once in a fortnight for necessary guidance.

One unit has been provided to each beneficiary that includes 5 honey boxes, 1 smoker, 1 honey extractor. The cost of one unit is Rs.9782/- out of which KVIB



extends 50% subsidy i.e. Rs.4891/- and ITDA provides Rs.2891/-. Rest amount of Rs.2000/- is the beneficiary's contribution.

During interaction with the farmers, it was understood that the annual production of honey from one bee hive is 12-15 kg.

Hence, total production per farmer from 5 boxes is 60 to 75 Kg. As understood from the beneficiaries, they sell honey at a cost of Rs.300/- per kg. Taking into account around 20% loss towards fluctuation in production, wastage during extraction and own consumption, 50–60 kg is available to the beneficiary as marketable surplus. Accordingly, net annual income from each unit varies from Rs.15,000 to 18,000/-. This project, on an average, generates 50 labour days in a year.

Constraints:

- Squeezing of plantation and deforestation hinders honey production.
- Main vegetation for honey collection is Mustard, Acacia, and Orange. As the beneficiaries expressed, the area under Orange is gradually decreasing which attribute towards lower honey production.

It is suggested that this activity can be replicated to other areas as it generates good income utilizing the family labour. This activity needs no expenses towards maintenance. Besides, thrust to be given for formation of more producer groups for better and assured marketing. In addition exposure visit of the producers will upgrade their knowledge and skill.

Production and Processing Centre

Under Paralakhemundi ITDA area a Ragi Processing Unit has been established keeping in view the abundant production of ragi in Gajapati district. PA, ITDA, Paralakhemundi has sanctioned Rs.6.50 lakh vide his order no.3153/SCA to TSP/ITDA/2016 dt.19.11.2016 in favour of Block Development Officer, Gumma for executing renovation work of existing OTELP building for Ragi Processing Unit at Badakalakote out of SCA to TSP grant for the year 2015-16.

It was ascertained from the Baripada and Sundargarh ITDAs that no work has been taken up for establishment of Production and Processing Units yet although funds have been sanctioned during 2015-16 and 2016-17. The ITDAs need to identify the sectors having need for such units and utilize the funds provided for the purpose.

Micro-Enterprise Development

Sabai Industry in Baripada ITDA

Micro Enterprise Development intervention promoted by the ITDA, Baripada with support from ORMAS, National Horticulture Mission and DIC, Baripada for Training-cum-Production unit for *Sabai* has been established in Guhaldihi village of Badjod GP in Baripada block. 'Guhaldihi Sabai Producers Group', the micro enterprise, has been formed with enrolment of 13 SHGs during 2001 to 2017. Total 53 tribal women members of Bhatidi community from 13 SHGs are involved in this activity of Sabai

unit. The ITDA, Baripada has extended financial assistance of Rs.1.50 lakh as subsidy during 2013-14. Sarojini Mohanta is the President of this producers group.

The Training-cum-Production unit established in Guhaldihi village is having the assets like 10 looms, power *charkha*, warping machine, sewing machine. A materials bank/ godown has been established with the support of DRDA, Mayurbhanj in the village. The annual turnover of the Group is Rs.10.00 lakh out of which raw material costs around Rs.4.00 lakh and rest Rs.6.00 lakh was the net return during the last year.



Mayurbhanj district has a scope for development of *Sabai* unit as agro climatic conditions of the district is favourable for *Sabai* grass production. This grass is cultivated in barren and waste lands even also in forest lands by the rural folks where water retention capacity is poor and not suitable for harvesting crops and

orchards. Such highland can be utilised for production of this grass. Except sowing and harvesting no other cost is involved in the process of *Sabai* grass production. The cultivation is purely organic. *Sabai* grass is cultivated during June to December. In general the male farmers are having skill of cultivation, bundling and making ropes. The quality of the grass, i.e., dryness, cleanliness and colour determines the price. Due to versatile in nature, *Sabai* grass is being used with other products like Jute for making diversified market driven products through training, designing and handholding support. Varieties of utility articles like Dining mat, Fruit Basket, Tray, Flower vases etc.



are produced by using jute. Artistically designed *Sabai* products are very popular and fetch good market price.

Sabai grass is supposed to be the money plant for poor and landless labourers and marginal farmers. The grass is sold in the village and local market @ Rs.1000 per quintal during the harvesting period and subsequently the price goes up to Rs.1200-1500/-. Now, it is an alternative livelihood of *Sabai* grass producers.

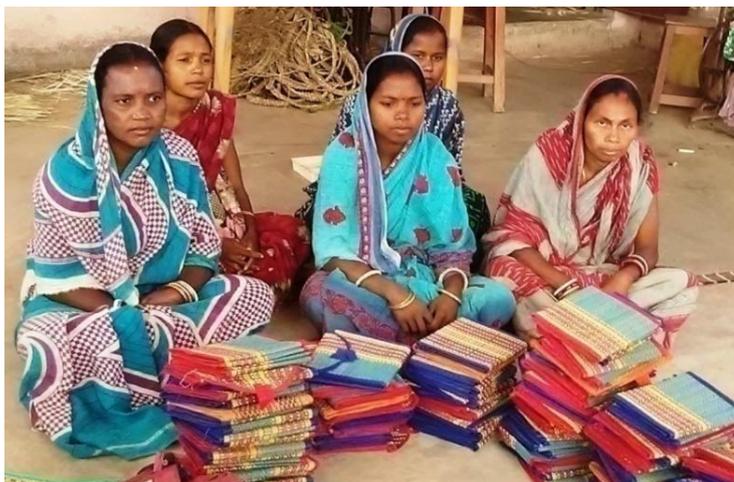
Earlier, this grass was primarily used for making of ropes which in turn are used in making sofa sets, chairs, car mats, screens, carpets, tables etc. Now this grass is used for diversified decorative and life style crafts. The Producer groups have undergone several trainings organised by ORMAS and DIC, Baripada. *Dakshyata* of New Delhi and National Institute of Design, Ahmedabad are imparting skill based and design development training to the women folks. The National Institute of Fashion Technology (NIFT), Bhubaneswar is providing training for designing and promoting their products in fashion world. *Dakshyata*, New Delhi is also imparting training on different aspects like design, machine operation, colour and dyeing, book keeping, capacity building, market linkages etc.

Employment and Income:

The group sells a wide range of products at a cost ranging from Rs.50-800/- per piece. Earlier due to limited economic prospective the women folks were struggled to earn Rs.20 to Rs.30 in a day. Presently, they are getting employment throughout the year working in own village even own house and earn Rs.200-300/- per day and even more depending upon one's skill and efficiency out of *Sabai* crafts along with their household work.

Marketing:

These products have distinct market value not only in the State and the country but also have export value to abroad, being environment-friendly. Market support is extended by ORMAS and ITDA, Baripada by



providing stalls in different exhibitions. Apart from the traditional business process, ORMAS has taking necessary arrangements for market tie-up with various e-commerce sites, like Amazon, and Flip kart etc. to provide round-the-year market support of these products.

Women Empowerment:

The women have developed their skill in making *Sabai* grass products and gained economic freedom and additional income. Thus, not only this skill has been empowered the women socially and financially but also help in getting recognition and exposure from far and wide. The ITDA, ORMAS and DRDA have opened the business prospective and the finished products have tremendous business opportunity and export potential.

Micro-Enterprise Development

Farm Mechanisation in Karanjia ITDA

An attempt has been taken by Karanjia ITDA for supply of Power Tiller, Pump Set and Sprinkler with HDPE Pipes to the farmers under Micro-Enterprise

Development through SHGs.

The ITDA, Karanjia has selected 9 SHGs for the purpose and already supplied Power Tiller and Sprinkler with pipes through Odisha

Agro Industries Corporation as detailed below.



Block	No. of SHG	Village
Jashipur	2	Barsia, Haldia
Sukruli	1	Haldia
Karanjia	3	Jhalkiani, Neduapal, Sardha
Raruan	2	Baidyanath, Khuntapada
Thakurmunda	1	Giribeda

The SHGs have been provided with Power Tiller with subsidy of 50% limiting to Rs.75,000/- from Agriculture Department. ITDA has provided assistance of Rs.87,000/- for the power tiller against the full cost of Rs.1,62,000/-. Similarly, Sprinkler sets are provided with subsidy of Rs.20,000/- from Horticulture and Rs.14,000/- from the ITDA. Diesel pump set of 1.5 HP capacity (Honda make) will be supplied to the SHGs for which permits have already been generated with Rs.9,000/- subsidy from Agriculture Department and rest Rs.10,000/- from ITDA. The members of *Sibashankar* WSHG in Barsia and *Maa Durga* WSHG in Haldia village of Barheipani GP in Jashipur block were interacted. The Power Tiller and Sprinkler sets



have been supplied during the current year i.e. 2017-18. These villages are around 45 km from Jashipur, the block headquarters and 70 km from Karanjia, the ITDA headquarters. The ITDA has taken initiative to supply these farm machineries and equipments to the remote villages where bullocks are not available adequately and there is problem in providing irrigation. These WSHGs will take up vegetable cultivation with their own funds of Rs.80,000/- during both kharif and rabi season. In addition to their own use, the SHGs will also develop Custom Hiring Unit and earn from this source and try to meet the requirement of the neighboring farmers. The WSHG members were found very encouraged for this attempt of the ITDA as it will be beneficial to the farmers in the remote area and have positive impact on enhancing their livelihood.

Non-Timber Forest Produces (NTFP) Collection and Marketing

The objective of this Intervention is providing seed capital to Producers' Groups/ SHGs for collection of non-timber forest produces (NTFP) for procurement of weighing scales and creation of primary value addition infrastructure such as Storage godown & Drying yard etc., for better price realisation by tribal beneficiaries

(NTFP gatherer) and to face lesser market exploitation. But none of the sample ITDAs has taken any step for execution of this intervention. The funds for this intervention have been kept unutilized.

Table 48: INTERVENTION - HILL BROOM CULTIVATION

ITDA	Block	No. of sample villages	No. of sample beneficiaries	Year of inception	Awareness got from	Executing Agency	Technical guidance	Source of seeds & other inputs	Distance of market
Paralakhemundi	Rayagada	2	10	2016-17	ITDA	ITDA	OLM	ITDA	Village

Marketing Support	Market Price per broom	Expected Production of brooms/ acre	Primary/ Secondary occupation	Employment generation in man days per annum	Expected Net Income/ acre (Rs)
OLM	Rs.50/-	300	Secondary	80	15000

Hill Broom Cultivation

Tribal farmers in Rayagada block of Gajapati district have been encouraged by



Paralakhemundi ITDA for hill broom cultivation under FADP. Under the study Talamunda and Munising villages in Talamunda block were taken to assess the impact evaluation. Ten sample beneficiaries were interacted regarding the management and practices of hill broom

cultivation. The project was implemented during 2016-17. During group discussion it was learnt that the farmers got awareness from ITDA and Odisha Livelihood Mission (OLM). They started the project with the technical support and guidance of OLM. The hill broom is cultivated in the hilly areas. ITDA supplied seedlings free of cost @ 1000 seedlings per acre. In convergence with MGNREGS, ITDA provides Rs.2000/- to each beneficiary towards labour cost for fencing, digging of pits and planting,

maintenance and cleaning of land. First harvest takes 18 to 19 months as the plants take time for establishment. Subsequent harvest will take one year and every year the farmers get the broom. Life span of the crop is 7 to 8 years. The ratoon crop yields during the subsequent years. In the sample village under study, harvesting has not yet started as the crop was planted during kharif 2016. On an average one plant provides material for 3 brooms. As such 300 brooms are expected from 1 acre of land. The average selling price of one broom is Rs.50/- at farmers' door step. Hence, the estimated gross income from one acre of land will be Rs.15,000/- @ Rs. 50/- for each broom. The farmers are able to generate income from the unproductive hilly area and are encouraged for hill broom cultivation. OLM is extending support for marketing through formation of Producers' Group which is under process. The important constraints in hill broom cultivation is rabbit and rodent during tillering stage and monkey menace during flowering stage which is responsible for low production. It is the secondary occupation of the farmers in the area and primarily they are engaged in cultivation of paddy and ragi.



On an average this intervention generates around 80 man-days of labour annually. Instead of going for wage earning the farmers keep them engaged along with the family labour for management of hill broom cultivation. The farmers in the sample village are very much encouraged and take care for hill broom cultivation keeping in view the income generation from the uncultivable hilly land and assured marketing through formation of Farmers' Producers Group with the support of OLM.

Skill Training Programme for Tribal Youth

Under Skill Training Programme three different sets of activities are promoted namely Skill Development Training (SDT), Placement Linked Employability Training (PLET) and Pre-Recruitment Training (PRT) to tribal youths.

In Paralakhemundi ITDA, 850 youths, both male and female, have been trained under the scheme during 2012-13 to 2016-17 out of which 592 youths have got self employment/ job. An expenditure of Rs.214.96 has been incurred during 5 years. The year-wise details are as follows.

Table 49: No. of Persons Benefited

Year	No. of persons trained			No. of beneficiaries got self employment/ job		
	Male	Female	Total	Male	Female	Total
2012-13	92	115	207	70	86	156
2013-14	121	83	204	90	62	152
2014-15	115	94	209	80	61	141
2015-16	138	52	190	110	33	143
2016-17	21	19	40	--	--	--
Total	487	363	850	350	242	592

In Baripada ITDA, 188 youths have undergone Skill Up-gradation Training and 170 youths have undergone Placement Linked Employability Training (PLET) during 2016-17. The details are as follows.

Table 50: Skill Up-gradation Training

Sl. No.	Institution	Trade	No. undergone training
1	Skill Solution, Baripada	BPO/ Mobile Repairing	40
2	Indus Info Management, Baripada	Mobile Repairing/ Tally	40
3	Shrasta Creation Eye, Baripada	Computer Multimedia/ Graphics	20
4	MaaTarini Driving Institute, Udala	Driving-cum-Mechanic	28
5	OCA, Baripada	DEO/ DCA/ / PGDCA	40
6	HDF, Badasahi	Horticulture	20
	Total		108

In Baripada visited the institute named 'Skill Solution' at Palbani. From the documents maintained in the Institute, it was revealed that the residential trainings on BPO for 30 participants (25 male & 5 female) and Mobile Repairing for 10 participants (5 male & 5 female) were conducted for 3 months during 1st October, 2016 to 1st January, 2017. All the participants were from tribal community. The Institutes were selected in a committee chaired by the District Collector. The

applications from the interested candidates were invited through advertisement in News Paper. The candidates were selected through screening and personal interview. It was ascertained that the Institute has training room and laboratory facilities.

Table 51: Placement Linked Employability Training (PLET)

Sl. No.	Institution	Trade	No. undergone training
1	APPEC - A Unit of CEPET, Bhubaneswar	PPO	74
2	NTTF, Gopalpur, Ganjam	Electrical/ Fitter/ Welder	20
3	CTTC, Bhubaneswar	CNC	30
4	Xavier's College of Hotel Management, Cuttack	Hotel Management	23
5	State Institute of Hotel Management, Bolangir	Hospitality Management	16
6	Gram Tarang, Khorda	Two Wheeler Technician	7
	Total		170

Orissa Computer Academy at Takatpur in Baripada has been registered vide regn. no. 137/2008 under Trust Act with the ADM, Baripada. In a 6 month course, 40 trainees have undergone training during 3.10.2016 to 3.4.2017 as detailed below.

Course	No. of Trainees		
	Male	Female	Total
Data Entry Operator (DEO)	7	3	10
DCA	10	10	20
PGDCA	1	9	10
Total	18	22	40

It was observed that the class room and laboratory facilities are available. It was ascertained that out of 40 trainees, 31 have been engaged out of which 6 are self-employed and rest have been engaged in private sector.

In Sundargarh, under Skill Training Programme, 3-month duration Multipurpose Health Workers Training only for ST girls sponsored by the ITDA was continuing in Sikhya Bharati Trust. The Institute started on 12.12.2017 in Sundargarh although it is 7-year old institute with its head office at Banki of Cuttack district. It was observed that the hostel, class room, laboratory and computer lab facilities are available for all the 45 participants. The centre is managed by one Centre Head, one Asst Centre

Head and 2 Teachers having B.Sc (Nursing) qualification. The training course commenced on 12th December, 2017. It was ascertained that the Institute will arrange practical training in government and private hospitals in



Sundargarh. The Institution has also taken steps for engagement of the pass out trainees in private hospitals in and around Sundargarh and Rourkela. During interaction with trainees it was revealed that the teaching process, accommodation and food are satisfactory. The Institute takes adequate care of the trainees.



ITDA, Sundargarh has also sponsored 85 candidates for Tally course who have already undergone 630 hours training @ 6 hours a day including 4 hours practical during 14th September, 2017 to 20th January, 2018 in Academy of Computer Education (ACE), Sundargarh. All the trainees are day-scholars. ITDA

has provided funds of Rs.14,72,625/- @ Rs.27.50 per student per hour. The Institute has adequate class room and computer facility @ 1 computer to 2 trainees. After conducting the examination, the Institute will arrange to provide engagement to the interested candidates suitably. The Institute is managed by one Branch Head, one Project Coordinator, one Administrative Executive and two teaching staff.

It is suggested that the ITDA officials need to visit the concerned Institutes regularly and assess the status of trainings, accommodation and boarding facilities etc. Review meetings may be conducted at regular interval involving all the Institutes for better monitoring. Necessary steps may be taken by the ITDA to introduce Pre and Post evaluation of the knowledge of the participants.

In Koraput, Upasana Education Trust in Palapat of Narayanpatna block was allotted Sewing Machine Operator Training during 2016-17. During the course of discussion with the Project Coordinator Sri Anil Kumar Dalai, it was ascertained that 60 trainees in 3 batches have been imparted with the training out of which 28 are female. Around 50% of the participants have been self employed. Bardhaman Textiles in Madi in Uttaranchal has absorbed 7 male trainees with remuneration of Rs.10,000/- per month with subsidized accommodation and boarding facility. Besides, the same training institute has also imparted 3-month Data Entry Operator (DEO) training to 35 participants during 2016-17 which was residential type having separate hostel facility for boys and girls. The Institute has taken steps for recommended infrastructure of



ITDA like Fire Safety, Bio-metric Attendance and bed for each participant, dining table and dining room. The Institute is yet to make provision of dining table. The Institute has also make arrangement for providing Driving Training to male trainees and Beauty Parlour Training to girls.

ITDA, Karanjia has allotted Skill Development Training to 26 institutes in Mayurbhanj and Keonjhar district during 2013-14 to 2016-17. The Institutes are selected through a Committee after verification of the facilities available for the candidates with the approval of the District Collector. The applications from the interested candidates were invited through advertisement in News Paper. The candidates were selected through screening and personal interview. The detailed position of the trainees during last 4 years is as follows.

Table 52: Year wise Status of Training in Mayurbhanj & Keonjhar District

Year	No. of Trainees	Total trg. Cost (Rs)	Fund released (Rs)	No. of Student Placed	% of Placement
2013-14	1114	2,53,65,000	2,33,85,625	565	50.7
2014-15	1336	3,79,50,000	3,68,19,000	635	47.5
2015-16	881	2,62,80,000	2,07,57,000	237	26.9
2016-17	662	1,98,60,000	1,30,55,000	180	27.2
Total	3993	10,94,55,000	9,40,16,625	1617	40.5

Out of 3993 candidates sponsored during 2013-14 to 2016-17, 1617 have been placed in job which comes to 40.5%.

The ITDA, Karanjia has also sponsored candidates to 28 institutions including CIPET, Bhubaneswar, Xavier College of Management, Balangir, Priyanka School of Nursing, Puri, Mayurbhanj School of Nursing, Baripada, Mahavir School of Hotel Management, Cuttack, State Institute of Hotel Management, Bolangir, Hitech School of nursing, Bhubaneswar, Bhava Institute of Medical Science, Bhubaneswar, Hitech School of nursing, Bhubaneswar, KIIT, Bhubaneswar under Placement Linked Employability Training Programme during 2013-14 to 2016-17. The details of training and placement and utilization of funds is given below.

Table 53: Year wise Status of Training in State level Institutes

Year	No. of Trainees	Total trg. Cost (Rs)	Fund released (Rs)	No. of Student Placed	% of Placement
2013-14	170	1,12,05,570	1,08,00,050	156	92
2014-15	122	77,13,601	55,89,044	107	88
2015-16	173	51,30,000	41,95,570	62	36
2016-17	70	21,00,000	6,18,000	44	63
Total	535	2,61,49,171	2,12,02,664	369	69

The placement percentage is 69% in case of Placement Linked Employability Training Programme.

In Karanjia visited one such Institute 'Soft Tech Education'. The institute was registered during 2013 vide no.947 of 2013 by O/o the Inspector General of Registration-cum-Registrar of Firms, Orissa, Cuttack. This is an ISO-9001:2008 and ISO-9001:2015 Institute as ascertained from their record. The Institute is offering

DCA and PGDCA courses. During 2016-17, the PGDCA course was residential where 30 candidates were sponsored by the ITDA, Karanjia out of which 13 are female. It was ascertained that out of 30 candidates, 6 are engaged in Jana Seva Kendra and 5 are self employed. The Institute has class room, computer lab and 4 teaching staff (2 male and 2 female) with PGDCA qualification and hostel facility separately for boys and girls.

It is suggested that the Government may examine for facilitating trainings on repair and maintenance of the farm machineries and equipments in consultation with the Development Engineer, Odisha Farm Machinery Research and Development Centre, Satyanagar, Bhubaneswar under Agriculture and Farmers' Empowerment Department. After completion of the training a repairing and maintenance Kit may be provided to each trainee so that they can take up the work immediately after completion of the training programme. Besides, basing on the local demand, skill training on nursing, fitter, masonry, carpentry, rod binding, plumber, auto mechanic, electrical and electronic repairing, mushroom cultivation, raising of plant nursery may be included under the Skill Development Training which will facilitate self employment.

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CASE STUDIES

Coffee Plantation in Dhabaput village in Nandapur block under Koraput ITDA

Coffee plantation was introduced in Dhabaput village of Balda GP in Nandapur block during 2015-16 with the initiative of ITDA, Koraput and Coffee Development Division of Soil Conservation Department in Koraput. The village located at a distance of 3 km from the GP headquarters, 23 km from Nandapur block headquarters. Distance from the district as well as ITDA headquarters is 75 km. The village is close to hills



covered with forest. Coffee has been planted on the hill top by 47 beneficiaries covering 47 acres. The nursery was developed in the village for which seeds were supplied by the Coffee Board. The plants have been provided free of cost to the farmers and wage towards cleaning of land, digging of pits, transportation of

plants, planting, manuring, scaffling, hotting and watering during first two years of planting has been paid to the beneficiaries by Soil Conservation officials with funding of the ITDA from SCA to TSP source. During the course of discussion with the beneficiaries it was ascertained that 920 coffee plants have been planted per acre with 7'x7' spacing. During plantation the beneficiaries have been supplied with DAP @ 40 g per plant and also chloropyriphos for treatment of soil against termites. The beneficiaries have taken a lot of pain for carrying water manually in pots to hill top from a natural stream flowing at a distance of around 1 km for two years for survival of the plants. After completion 3 years the plantation area will be handed over to the beneficiaries and during the subsequent years they will take care for maintenance of the plantation. Fruiting will start from 4th year of planting.

During discussion it was revealed that meetings were held for creation of awareness, selection of site and beneficiaries several times by the officials of ITDA, Coffee Board and Coffee Development Division of Soil Conservation Department.

It was understood that the production of marketable coffee seeds will be 2–3 Q per acre depending on the growth of the plants. The current market price of coffee seeds ranges from Rs.150–200/- per quintal. The beneficiaries have taken much interest in coffee plantation keeping in view the income from marketing of coffee seeds. It is assessed that each beneficiary will get an income of at least Rs.40,000/- from his one acre of plantation area annually and the income may go up to Rs.50,000 to 60,000/- if the plantation is properly maintained. The life span of coffee plants is around 40 years and there will be sustainable income for such a long period will benefit the farmers. The beneficiaries are getting rice cultivated both in kharif and rabi in the land getting irrigation from the natural stream close to their village from around 2 acres of land which meet their requirement for consumption. Also wage earning is their secondary source of income from which they earn around Rs.20,000/- per year per family. Hence, coffee plantation has definitely positive impact in enhancing the present livelihood status of the beneficiaries to a considerable extent.



After the discussion with the beneficiaries, government officials as well as visiting the established plantation programme developed by the Coffee Development Division of Soil Conservation Department in the nearby villages, it is suggested that funds may be provided by the ITDA for cultivation of black pepper as intercrop in coffee plantation area which is a profitable commercial crop. It is ascertained that each acre of coffee plantation area accommodates 200 black pepper creepers and one plant yields 1.50 kg of dry black pepper in a year. Each kg of dry black pepper is sold at a price of Rs.500-700/- per kg. As such, each beneficiary will be able to get an additional income of Rs.1.50 lakh from one acre annually. For trailing of black pepper creeper, it is essential for plantation of silver oak, the most suitable host tree, prior to 3 years of plantation of coffee. So cultivation of black pepper along with coffee is one of the best solutions for enhancing the livelihood of the tribal people in Koraput.

As regards marketing of coffee seeds as well as black pepper, it is observed that the local traders collect from the farmers' door step and supply to the companies. There

is no price fixation policy and hence, the farmers are dependent on the middlemen for disposal of their produces.

It is suggested that:

- Coffee Board may take active role for fixation and communication of market price of both coffee seeds and black pepper seeds as it is done by Rubber Board to give price support to the farmers.
- ITDA may take necessary steps for providing full support for plantation of silver oak trees.
- Also supply of black pepper seeds free of cost to the beneficiaries of coffee plantation and technical guidance through Coffee Development Division of Soil Conservation Department and Coffee Board may be considered.
- In addition to these supports, the limitation of one acre plantation of coffee may be enhanced as the beneficiaries are interested for coffee plantation and coffee is planted on the hill top in barren and uncultivated land which is available adequately in the area.
- Government may examine the feasibility of providing financial assistance through ITDAs for installation of pump sets to the beneficiaries adopting coffee plantation so that the drudgery especially of the women can be reduced and the mortality of coffee plants can be minimised.

Rubber Cultivation in Ahari Village of Baripada Block

The farmers of Ahari village in Budhikhamari GP of Baripada block have been motivated and facilitated for rubber cultivation by the ITDA, Baripada under FADP during 2015-16. The plantation has been taken up in 100 acres of contiguous patch involving 58 beneficiaries. The programme has been executed convergence of other departments as well as Rubber Board. The Rubber Board located in Baripada has given technical support to the farmers. The ITDA has created awareness among the farmers. The beneficiaries were provided rubber stumps free of cost. The land preparation and planting has been done by the farmers' own/family labour and the cost towards labour component was paid from MGNREGS. Five bore wells have

been executed with support of Agriculture and Farmers Empowerment Department under *Jalanidhi* programme by extending subsidy and execution of the bore wells. The ITDA has borne the rest part of the execution cost from FADP and hence the farmers got the bore well project free of cost. ITDA has procured rubber stump from Kerala at a cost of Rs.31/- each through tender process and supplied to the farmers free of cost. Vermi compost, bio-fertilisers have been supplied under MGNREGS and chemical fertilisers out of the allocation under SCA to TSP free of cost to the farmers. As such the rubber growers learnt the use and experienced the benefits of organic manure and bio-fertiliser thereby maintaining soil health. The farmers informed that ITDA has supplied bio-fertilisers at the end of monsoon season although that needs to be applied during initial monsoon stage and hence did not give desired result and affected plant growth. The crop will yield rubber after 8 years of plantation.



It is estimated that the existing crop planted earlier by Rubber Board which has already in the peak stage of production, yields 8 litres of rubber extraction per day per acre (200 trees in one acre yield 40 ml each per day). During the production period of 8 months in a year, approximately 1920 kg extract is produced which, after processing, gives 240 kg rubber sheet per acre. The rubber growers sell the rubber sheet approximately at a cost of Rs.130/- per kg and as such the gross return from one acre is Rs.31200/-. The farmers have experienced that 20 year old rubber trees planted during 1995 with the support of Rubber Board gives a return of Rs.60,000/- annually. The rubber growers search for the daily update of market price from the



Internet determined by the Rubber Board on daily basis. They sell the rubber sheets to the traders in the village. Birla Tyres in Balasore facilitates marketing in the area.

In the field, in some places, intercropping of arhar as well as vegetables has been adopted by some farmers. Last year the farmers adopted intercropping of maize and earned income from the culturable wasteland where rubber has been planted. Utilisation of land which is suitable for inter cropping of maize and vegetables and also optimum use of valuable irrigation water from the bore wells by the farmers is appreciable. This activity of the farmers facilitated to enhance their farm income, maximum utilisation of their family labour and generation of additional employment. Since the root of rubber crop spreads in the surface soil and do not allow better growth of other crops and the land type where rubber is grown is barren and unproductive, the yield from intercropping is not encouraging. Besides, ploughing in between the rubber plants has a chance of damaging the plants as it is multiplied through patch bonding method. Also ploughing within the plantation area also damages the root growth of rubber plant and causes damage to the plants. These aspects restrict the rubber growers to go for intercropping after one or two years of plantation.

Rubber Cultivation in Sukei Village of Gumma Block in Paralakhemundi

The farmers of Sukei village of Ukhura GP in Gumma block of Gajapati district have been motivated and facilitated for rubber cultivation by the ITDA, Paralakhemundi under FADP during 2015-16. The plantation has been taken up in 100 acre of contiguous patch involving 58 beneficiaries. The programme has been executed convergence of other departments as well as Rubber Board. The Rubber Board located in Baripada has given technical support to the farmers. The ITDA has created awareness among the farmers. The beneficiaries were provided rubber stumps free of cost. The land preparation and planting has been done by the farmers' own/family labour and the cost towards labour component was facilitated



from MGNREGS. Five bore wells have been executed with the support of Agriculture and Farmers Empowerment Department under *Jalanidhi* programme by extending subsidy and execution of the bore wells. The ITDA has borne the rest part of the execution cost from FADP and hence the farmers got the bore well project free of cost. Vermi compost, bio-fertilisers have been supplied under MGNREGS and chemical fertilisers through the allocation under SCA to TSP free of cost to the farmers. As such the rubber growers learnt the use and experienced the benefits of organic manure and bio fertiliser thereby maintaining soil health. In the field, in some places, intercropping of arhar as well as vegetables has been adopted by some farmers. Last year the farmers adopted intercropping of maize and earned income from the culturable wasteland where rubber has been planted. Utilisation of land which is suitable for inter cropping maize and vegetables and also optimum use of valuable irrigation water from the bore wells by the farmers is appreciable. This activity of the farmers



facilitated to enhance their farm income, maximum utilisation of their family labour and generation of additional employment. But during the current year most of the farmers did not take any interest for intercropping as no incentive or input has been provided by the ITDA for intercropping during the current year. It is not a positive sign of sustainability of any technology or innovation. But some of the farmers who have experienced the benefit of intercropping utilised the available land and water resources for generation of employment as well as farm income. The Rubber Board is facilitating marketing of the produce. The production will start after 7-8 years of planting. The farmers having interest in agriculture can earn a good profit from intercropping during these initial 8 years and then enhance their income in the subsequent years after production of rubber.

Wadi in Raidihi village in Lephripada block of Sundargarh district

The tribal farmers in Raidihi village/GP in Lephripada block of Sundargarh district have been encouraged by the ITDA, Sundargarh and converted 40 acres of barren land to a successful Wadi project by cultivating mango with involvement of 25 beneficiaries. Tribal beneficiaries belonging to Gonda, Munda and Kisan community have planted mango of Baganpali and Langra with the financial assistance of ITDA and direct supervision and guidance of the FNGO i.e. *Self Employed Workers' Association Kendra (SEWAK)* during 2015-16. The village is about 20 km from the block and 50 km from



district/ ITDA headquarters. The village is close to the forest area and the Wadi field is in the forest area. There are 130 households in the village who mainly depend on agriculture and wage earning. It was ascertained that each household gets 100 days of job in a year through their job card under MGNREGS. Besides, they also maintain their livelihood from collection of *Mahula* from the forest. Prior to execution of Wadi, the villagers have grown lime in about half a acre of land in the same place but it was not properly attended and maintained by the villagers because of cow menace. At present they have provided the land with net fencing utilising their own labour and finance from the ITDA. *SEWAK*, the FNGO has taken intensive effort starting from creation of awareness and knowledge, collection of mango grafts, digging of pits, spacing and planting. The NGO has facilitated for purchase of a 5 HP diesel pump in instalment for irrigation utilising the water source from a perennial stream close to the Wadi field. The plantation has already completed 2½ years and the plant growth is satisfactory. The beneficiaries have not grown any inter-crop since its execution. The FNGO has motivated and the beneficiaries have planned for inter-cropping of potato, tomato, bottle gourd, bitter gourd, pumpkin, chilli etc during the coming kharif and rabi season from their own source with the technical guidance of the FNGO. The farmers will utilised the services of 3 tractors and 2 power tillers available in the village for land preparation to take up inter-cropping. Currently, the farmers are

growing paddy mainly for their own consumption and vegetables during kharif only due to lack of irrigation and cattle menace during rabi/summer. Vegetables are sold in the local market which is also a source of income for the farmers. The



beneficiaries will get return from the mango plantation after 7 years. The NGO is also planned for formation of Producers' Group for marketing of mango. The Wadi has become a successful in Sundargarh ITDA because of the extensive effort taken by SEWAK, the FNGO and guiding the beneficiaries at each step of

development of Wadi and maintenance of the plants including fertilization, irrigation, weeding and cleaning of the field.

Wadi in Lukumari village of Dasmanthpur block under Koraput ITDA

ITDA, Koraput has taken much effort with the support of CYSD, the NGO for development and popularisation of Wadi in different blocks under the ITDA. In Lukumari village of Padagada GP and Dasmanthpur block is an example of success of Wadi taken up by the tribal people who are very labourious and developed on the uncultivable barren land in the hilly terrain. The area is surrounded by forest and around 1 km far from the



village. The effort taken by 10 beneficiaries in 10 acres of land in 2 patches of 8 acre and 2 acre each during the year 2016-17 with *Amrapalli* variety of mango is a good example of successful Wadi intervention. The village comprises of 33 ST households belonging to *Paraja* community and 30 SC households. The location of the village is 3 km from GP headquarters, 30 km from block and 22 km from ITDA headquarters.

The village is connected with 3 km kucha road to pucca road at GP headquarters. The primary school is located within the village but the high school is around 3 km and the nearest college is at Koraput, 22 km from the village. The facility of health services, bank and post office are available 3 km



away in the GP headquarters. The source of drinking water is a perennial stream. As far as the socio-economic status of the villagers is concerned, all houses in the village are electrified, 5 houses are having TV with disc antenna, all families are having bicycles and 2 motor cycles are available in the village. There is no gas connection in the village and they depend on fire wood for cooking. The primary occupation of the inhabitants is agriculture, mainly vegetable production. Around 50 goats are available in the village. Wage earning is their secondary occupation. The wage rate for male is Rs.200/- per day and that of the female is Rs.150/-. Through job card, they get job for about 70 days in a year with wage rate of Rs.176/- per day. Because of poor status of living of most of the villagers, they took interest in Wadi when got awareness and motivation by the ITDA as well as the NGO. The ITDA supplied *Amrapalli* variety of mango grafts and plantation was taken up during August, 2016. During the next year ITDA also facilitated for gap filling. The plant population is 40 per acre with recommended spacing of 10m x 10m. For cleaning of land, digging of pits, application of manure etc, the wage has been paid to the beneficiaries out of MGNREGS funds. ITDA has supplied neem cake, Chloropyriphos, earthen pitchers for drip irrigation, net for tree guard. The beneficiaries have fixed tree guards with net supplied by the ITDA and provided green fencing from their own source. The growth and condition of the plants is good and the beneficiaries are taking interest for maintenance.

During the current year, the beneficiaries have taken up inter-crop of ragi and niger in the Wadi field during kharif under rain-fed condition. The production of niger was



minimum 1Q/acre and sold @ Rs.40/- per kg and the gross return was Rs.4,000/- per acre. The yield from ragi was around 5Q per acre and sold at Rs.15/- per kg and as such the gross return from ragi per acre was Rs.7500/- as ascertained from the beneficiaries. Hence, on an average, one beneficiary has

earned Rs.6000/- from his one acre of Wadi field from intercrop only without any expenditure excepting seed cost and engagement of family labour. The beneficiaries, during interaction, suggested to provide them pump sets for irrigation from the natural stream which will minimise their labour for irrigation by carrying water manually from the stream. The Project Manager, ITDA and the FNGO officials have visited the village and the field regularly, conducted meetings before execution to create awareness. During execution of the intervention, the PA, ITDA has also visited the field and interacted with the beneficiaries. After 5 years the beneficiaries will earn from mango production continuously for 30-40 years and there will be sustainability in their income generation.

Assistance to SHGs under Income Generating Scheme (IGS)

Goat Rearing Unit – Binodpur Village in Baripada Block

A goat rearing unit has been facilitated by the ITDA, Baripada in Binodpur Village of Chandanpur GP in Baripada Block under Income Generating Scheme- Assistance to SHGs. The village is about 20 kms from Baripada block. The Women SHG, *Jaharaya* with 10 members has developed the goat rearing unit in the village. The beneficiaries belong to Santal community. Smt Sinigo Hansda is the President of the SHG and Srimati Nisamani Hembram is the Secretary. The unit was established during 2016-17 with Rs.3.00 lakh financed by Bank of India, Baripada. The loan was sanctioned by the bank on 19th December, 2016. The beneficiaries have got subsidy of Rs.90,000/- from ITDA, Baripada. Each member has owned 6 female goats and

as such there are 60 goats in the unit. The unit has been provided with 3 bucks to facilitate rearing. Each goat costs Rs.3000/- and each buck costs Rs.5000/-. As such



total cost of the breeds comes to Rs.1.95 lakh. The rest amount has been spent for construction of shed for the breeds and towards the cost of feed at the preliminary stage as well as during the lean period and insurance premium. The breeds have been insured with New India Assurance Company. The

awareness was created by the ITDA personnel, WEO as well as Animal Husbandry personnel. The breed is local i.e. Black Bengal. Each goat gives birth to 3 kids on an average in a period of 2 years. The village is surrounded by forest and hence it facilitates the goats for grazing. The fodder cultivation is yet to be developed by the SHG members. The project has generated the family labour for maintenance of the breed, their grazing etc.

The convergence with Animal Resources Department is quite satisfactory. There is Livestock Aid Centre in Chandanpur, the GP headquarter which is only 4 km far from the village. The Livestock Inspector, Sri Rasgovinda Sethi frequently visits the project. Sri Akhaya Kumar Dalai, VAS of Baripada also guides the beneficiaries and takes care of the breeds. Besides, Sri Sanjay Kumar Das, *Gomitra* of the GP also extends guidance and take care. The staffs of Animal Resources Development Department also take care for de-worming and vaccination at regular interval.



The members convene the meeting regularly and record the resolution in register. The loan amount outstanding as on 26.9.2017 is Rs.2,66,406/- and the up to date saving in bank is Rs.12,296/-. At present 14 kids have been reared out of which 9 are male and 5 female in the project. The goats are sold after attaining 2 years of age at a cost of minimum

Rs.5000/- and the cost goes up to Rs.7000/-. Each goat will rear 3 kids on an average in a period of 2 years. Hence, each beneficiary is supposed to earn at least Rs.90,000/- in a time span of 2 years out of 6 female goats. The traders collect the goats from the village. To encourage the villagers in the locality, vocational training on goat rearing is imparted to the students in Ranibhol Government Girls High School which is not far away from the village. Practical training is imparted for which shed has been constructed and 15 goats of Black Bengal breed are kept in the school premises which is facilitated and supervised by the Welfare Extension Officer of Baripada block.

The main occupation of the villagers is farming which include mono cropping of paddy for their own consumption and *Sabai* grass cultivation for commercial purpose. There is no source of irrigation. From each acre the farmers get about 40Q of *Sabaigrass* which gives a financial return of Rs.40,000/- in a year. They sell the grass in *Sabai Hat* located at Dantimuhan, about 22 kms from Baripada. Introduction of Goat Rearing project gives an incremental annual income of Rs.1.20 lakh which is quite helpful for the villagers for their socio-economic development and considerable improvement in their livelihood.

Goat Rearing Unit – Sankucha Village in Badasahi Block Under Baripada ITDA

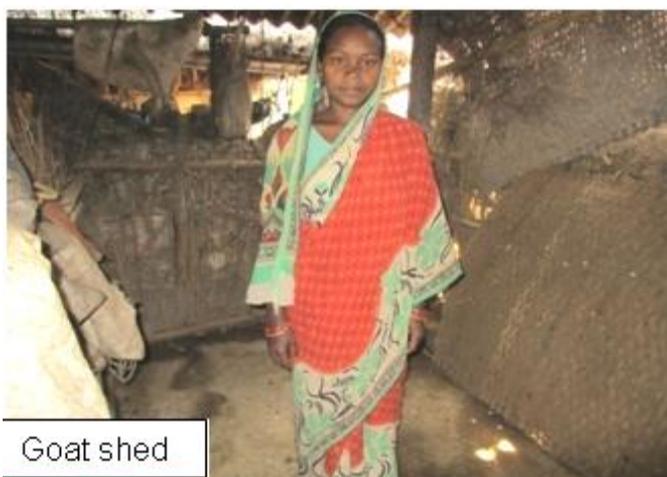
A Goat Rearing Unit has been executed by *Maa Tarini Kalanjium SHG* with 10



women members in Sankucha village of Chandanpur GP in Badasahi block during 2015-16 with financial assistance of the ITDA, Baripada under Assistance to SHGs – Income Generation Scheme and technical guidance of Animal Resources Department. The village is surrounded with dense forest which facilitates

grazing of the goats and hence encouraged the villagers to form the Women SHG and implement the goat rearing unit. Sanjukta Mohanto is the President and Maina Marndi is the Secretary of the WSHG. Saraswati Nayak, Bank Mitra of Chandanpur

GP has coordinated and facilitated bank loan from Odisha Gramya Bank, Manitri @ Rs.15000/- to each member. ITDA has sanctioned Rs.2.50 lakh @ Rs.25000/- per member out of which Rs.1.00 lakh is subsidy amount and rest Rs.1.50 lakh is bank loan. As discussed with the members, it was ascertained that



Goat shed

each goat was purchased at a cost of Rs.1500/- and ITDA has made provision for purchase of 10 goats for each beneficiary. The awareness was created by ITDA and Animal Resources Department Officials. Training was also arranged for the beneficiaries by the Animal Resources Department Officials in Baripada before starting the project. The 18 month old goats are sold at the minimum price of Rs.5000/- each. The traders purchase the goats from the village mostly. But it was ascertained during discussion with the members that most of the members have not purchased 10 goats and spent the loan amount in unproductive way. Besides, no improved breed was supplied and they have purchased from the locality. Again these goats have not been insured by any Insurance Companies as it was revealed

during discussion. Although the project is profitable and has positive impact on enhancing the livelihood of the tribal people but the project has not been attended properly by the Government Officials and failed to meet the objective of the project.

Goat Rearing Unit – Mahaguda Village in Bandhugaon Block Under Koraput ITDA

Mahaguda village in Kutrbeda GP of Bandhugaon block is located at the remote end of Koraput ITDA at distance of about 110 kms from the district and ITDA headquarters and 11 km from the block headquarters surrounded by hills and forests. The situation of the village is favourable for goat rearing and hence goat rearing has been introduced by the ITDA, Koraput through *Maa Panchalinga Women*



SHG since 2013-14 with the involvement of the ITDA and funding from SCA to TSP. The WSHG was formed during 2005 and continues with 12 women members and Sati Melka is the President and Akalu Harka is the Secretary. The awareness

was created by the WEO of Bandhugaon block. During the inception of the scheme 36 goats were supplied @ 3 to each member. At present 26 goats are available with the members and as the members say 10 goats have been died due to some disease. The goats have not been insured for which the beneficiaries could not get the compensation. In last 4 years they have reared the goats and sold in the market and also consumed in the village. It was ascertained that each 2-year old goat is sold at a minimum cost Rs.5000/-.

The State Bank of India, Kumbhariput has sanctioned loan amounting to Rs.3.00 lakh but has not taken any step for insurance as told by the members. The interference of the WEO is essential for



insurance of the goats. Out of Rs.3.00 lakh loan the subsidy part extended by the ITDA is Rs.1.20 lakh and rest Rs.1.80 lakh is loan from the bank. The bank has

disbursed Rs.1.50 lakh. The members of the WSHG is depositing Rs.1200/- @ Rs.100/- per member every month. The beneficiaries have 2 acres of rain-fed land on an average where paddy is grown during kharif for their own consumption. Some of the beneficiaries have backyard poultry farm and they sell birds. Besides, they collect tamarind during winter and mango during summer and sale in the local market. The beneficiaries have implicit that the scheme is helpful in generating additional income but they need guidance from the WEO, Bank and Veterinary department to make it a success. During discussion the members of the WSHG agreed that the scheme is definitely has good impact in enhancing the economic condition of the tribal villagers. Also more villagers are interested in this scheme and requested for extending the facilities to them.

Fishery in Dahisalo Village of Baripada Block

ITDA, Baripada has created awareness for fishery and facilitated under FADP in Dahisalo village of Badjod GP in Baripada block. The beneficiary, Sri Rabindra Nath Nayak, has taken up fishery in his existing pond which is about 1.50 acre. Under



FADP, financial assistant was extended to the beneficiary limiting to 0.5 acre amounting to Rs.30,000/-.

Under convergence programme, Fishery Department has extended all support including technical guidance and input supply.

The beneficiary has earlier

knowledge of fishery but he could polish and upgrade his knowledge and technical knowhow through the technical guidance of Fishery Department. He has been provided with fingerlings grown in the departmental nursery in Baripada block, dolomite, soil pro-biotic, water freshener, phytobio-boost and feed for the fish both sinking and floating. Asst. Fishery Officer of Baripada block regularly visits the beneficiary and provides technical guidance regularly. The beneficiary has owned 12

acres of canal irrigated land where he grows high yielding varieties of paddy both during kharif and summer. He grows some vegetables for his own consumption. In addition to income from paddy, he gets additional income from fishery. Currently, his fish production level is around 20 quintal annually from ½ acre pond which he sells at the price of Rs.120/- per kg. The traders collect the produce from his doorstep. Sometimes he also sells fish in Betanati market which is around 20 kms from his village. As he told, there is no much difference of price either sold through the trader or directly in the market taking transportation cost and labour cost into account. The beneficiary earns around Rs.2.40 lakh of gross income from fishery annually. His family members are employed in the project and he is able to generate employment for others.

Fishery in Kanakjura Village in Tangarpali Block Under Sundargarh ITDA

Sri Nilamani Guru, a tribal farmer, is found to be a successful Fish Farmer in



Kanakjura village of Tasladishi GP in Tangarpali block under Sundargarh ITDA. The location of his village and fish pond is 10 km from block and 14 km from district headquarters. The intervention was executed during 2012-13 with the

assistance of the ITDA and guidance of Fishery Officials. ITDA assisted Rs.1.00 lakh for digging of a new tank in ½ acre area (50mx40m) and Rs.10,000/- towards fish feed during the first year. During the first year he reared 1000 fingerlings of Rohu, Catla and Mrigel. He has been imparted with 5 days training on Fresh Water Aquaculture in Tangarpali block facilitated by Fish Farmers' Development Agency (FFDA) during 25-29, November, 2013. He has also successfully completed 3-day training on Fresh Water Carp Culture at Sundargarh organised by the District Fisheries Officer (DFO) in partnership with National Fisheries Development Board (NFDP), Hyderabad during 20-22, October, 2017. After one year he got an income of

Rs.40,000/-. Subsequently, the production increased to 20 qtl from ½ acre pond and he sells @ Rs.110/- per kg and his net earnings is around Rs.2.00 lakh annually. The Experts from the District Fisheries Office regularly visit his farm and extends guidance almost every fortnight. Sri Guru is very much satisfied with the intervention and utilises all his effort for the success of the project and enhance his livelihood. Besides, Fish farm, he grows high yielding paddy like CR-1030 and Pooja during kharif in one acre of rain-fed land for his own consumption. In addition he has 22



goats which are sold at an average price of Rs.5000/- each. He also earns Rs.10,000/- annually from forest produce collection like *Mahula* and wage earning of 100 days from his job card. Prior to fish farming, his annual income was around Rs.1.25 lakh but it has been increased to Rs.3.25 lakh. Now he is able to send his grandson/

granddaughter to public school. He maintains a good house with tile roof, TV and motor cycle. He extends his obligation to the ITDA and DFO for their effort in enhancing his livelihood.

Colour Fish Culture Project in Bhandarikula Village of Badsahi Block

The Fishery Department has facilitated production and marketing of colour fish for aquarium purpose with the financial assistance of ITDA, Baripada in Bhandarikula village in Paunsia GP of Badsahi block in the homestead land of MalatiMarndi, a tribal girl of Bathudi community. She is continuing graduation in Arts in Betanati Collage which is about 12 kms from her village. This village is 45 kms far from ITDA headquarters i.e. Baripada and 20 kms far from Badsahi block and 5



kms from GP headquarters. The beneficiary has got awareness from Fishery Department and executed the project with technical guidance of Sri Biren Nayak, Asst. Fishery Officer of Badsahi block during 2016-17. ITDA has extended financial support of Rs.10000/- towards construction of concrete tank at a cost of Rs.7000/- including roof net and scoop net, 40 kg of fish feed at a cost of Rs.1440/-, medicine at cost of Rs.265/- and 200 colour fish species in Advance Fry Stage i.e. 25 days old at a cost of Rs.1300/- @ Rs.6.50 per fish. In one month self-breeding will start and each species gives birth to 500 species. The mortality rate is around 60%. The life span of colour fish is 6



months and it is sold at 3 month stage. The colour fishes are sold in Baripada market and also the traders collect from the village. The market price of each colour fish is Rs.3/- to Rs.5/-. The market price of each Gold Fish is Rs.60/-. The ITDA and Fishery Department have developed the *Matsya Kanya* Women SHG with 10 members in the village. Out of 10 members 5 have been imparted with training in National Centre for Cooperative Education in New Delhi during 24-26 October, 2016. Also they have been trained in ICAR-CIFRI, Barrackpore, and West Bengal during 15-19 November, 2017. Also FISHFED in Bhubaneswar has also imparted training 3-week training during August-September, 2016 in Bhubaneswar. The SHG members have also gone on exposure visit to Landijhari village in Deogarh district, the first ornamental fish village in Odisha and got inspired for the project. Every household of the Women SHG earn net return of around Rs.50000/- in a year depending on the market feasibility.

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RECOMMENDATIONS

Rubber Plantation

- Provision irrigation to be made by providing pump sets in convergence with Agriculture Department to reduce the drudgery especially of the women beneficiaries.
- Provision of irrigation will also encourage for intercropping in rubber field.

Coffee Plantation

- Provision of pum set for irrigation in coffee field.
- Distribution of Black Pepper planting material for cultivation in coffee to enhance income from coffee field.
- It was ascertained that cultivation of Black Pepper along with Coffee will enhance the income to the extent of Rs.1.50 lakh per acre at the minimum as one creeper yields 2-3 kg of dry black pepper and 200 creepers maintained in 1 acre plantation area. The selling price of black pepper is Rs. Rs.500-700/- per kg.
- Coffee Board may intervene in fixation of market price of coffee to save the coffee growers from distress sale as it is done by Rubber Board in case of rubber.
- ITDA may consider to facilitate Silver Oak plantation prior to coffee plantation as it provides perennial shade to coffee plants.
- In Gopalput village of Koraput block, 95 forest trees were damaged by Hudhud needs to be removed. Social Forestry Department to accord necessary permission for removal of the damaged trees. The area with damaged trees covering 50 acres of land need to be brought under coffee plantation for which permission has already been accorded to Coffee Development Division. The damaged trees will also be utilized for fencing by the beneficiaries. The ST & SC Development Department to take care for the permission. Besides, the beneficiaries will also take care of the existing forest.
- The limitation of 1 acre area per beneficiary restricts to cover the entire patch where one beneficiary may have more than one acre of land. This aspect may be examined by the Government.

IGS - Goat Rearing

- Execution of Goat Rearing Unit under Income Generation Scheme by the WSHGs has been proved successful in Baripada, Karanjia and Koraput ITDA area. The WSHGs are also interested for the scheme as the selling price of a two-year old goat goes up to Rs.5000/-.
- The ITDA officials and the concerned WEOs to take care to supply improved breeds in consultation with Veterinary Department in stead of placing funds with the SHGs in their bank account. The SHG members do not take care for purchase of improved breeds.
- Also insurance of the goats need to be ensured by the ITDA and the WEO.

Supply of Inputs under Plantation and Vegetable Cultivation

- In many cases it was observed that the inputs like seeds, fertilisers, pesticides are supplied to the beneficiaries much after starting of the crop season and monsoon. The inputs need to be pre-positioned well in ahead for utilisation at right time.

Apiculture

- Apiculture has been proved successful in Paralakhemundi ITDA area. It is suggested to keep close coordination with KVIB for timely supply of materials.
- Organising exposure visit of the beneficiaries and imparting field level training.
- Replication of this intervention in other places having feasibility.

Mushroom Cultivation

In Paralakhemundi ITDA, Mushroom production has been popularised in Munising GP of Gumma block by 30 beneficiaries in place of Vegetable cultivation. Keeping in view the profit of this intervention and less risk factor, this may be replicated in other areas.

Poultry Rearing

Poultry Rearing is not a successful intervention and has not gained popularity. During interaction with the beneficiaries it was ascertained that Banaraj breeds are heavy feeder and hence the beneficiaries lose their interest and in place of Banaraj breed they requested for supply of local or broiler breeds. However, Poultry Rearing is found successful in Koraput ITDA area.

Skill Training

The Government may examine for imparting training to the tribal youths on repairing and maintenance of farm machineries and equipments so that the farmers will get service at their doorstep. The Odisha Farm Machinery Research and Development Centre under Agriculture and FE Department in Bhubaneswar may be consulted for such trainings.

Farm Mechanisation

The selection of farm machineries and equipments need to be done in consultation with the Experts of Agriculture Department so that the situation will not be faced as in case of Badsahi block of Baripada ITDA where the mini tractor is not feasible to work in the field in hard soil and accrues more expenses towards maintenance.

Lac Cultivation

The Government may examine the reason for taking over the plantation of Semialata for Lac cultivation in Ghatiduba village under Bangriposhi block by the ITDA, Baripada from the Secretary, Kishore Chandrapur Lac Industrial Coop. Society on 20.12.2016 as per the instruction of the District Collector in a review meeting held on 29.9.2016. In the meantime the plantation has completed 2½ years. No insects have been inoculated in the plantation and crop is not in good condition. Hence, the initiative of the ITDA, Baripada gone waste and the tribal population of the area could not get any benefit out of the project although they have invested their own/ family labour for maintenance of the plantation. The ITDA, Baripada has granted Rs.12.11 lakh and released on 9.6.2016. The reason for failure in execution of the intervention after expenditure of such a huge amount needs to be assessed by the Government.

Involvement of FNGO

The Wadi has been proved successful in Sundargarh and Koraput ITDA areas where the FNGO like SEWAK and CYSD are involved and they work starting from creation of awareness, motivation, selection of patches and beneficiaries, plantation of grafts, regular technical guidance. In Koraput, CYSD, the FNGO, is also involved in Poultry Rearing and Vegetable Production which have been proved successful. Because of shortage of staff in the ITDAs and large area of operation, the FNGOs may be involved in all the ITDAs for better implementation of the schemes. Steps may be taken to fill up the vacant posts in the ITDAs for smooth operation of FADP. Besides,

Data Entry Operatyor may be engaged in each ITDA in FADP Cell for creation and maintenance of the databases and performing the computer related work of FADP in the ITDAs. The existing staff pattern of the sample ITDAs is given below.

Table: Staffing Pattern in FADP in Sample ITDAs

Sl. No.	ITDA	Regular Staff	Contractual Staff	FNGO Supportive Staff	Total Staff	Remark
1	Baripada	--	1	--	1	One SMS
2	Parlakhemundi	--	2	--	2	One Livelihood Expert and One Agriculture Expert
3	Karanjia	--	1	--	1	One Project Manager
4	Koraput	--	1	3	4	One Project Manager and 3 supportive staff of NGO (CYSD)
5	Sundargarh	--	1	2	3	One Project Manager and 2 supportive staff of NGO (SEWAK)
	Total	--	6	5	11	

Conveyance Facility

The Government may examine to provide conveyance facility, may be utilising hired vehicles, to the FADP staff for 15 days in a month so that field visit, execution of the interventions and interaction and provding guidance to the beneficiaries, monitoring of the activities can be taken up more efficiently which is lacking at present.

Monitoring of the Programme

1. The PA, ITDAs may take up regular review meetings with the line department officials like Agriculture, Veterinary, Fisheries, OLM where they have placed funds for implementation of the schemes.
2. Regular reporting/ submission of Monthly Progress Reports and submission of UCs to be ensured by the PA, ITDAs.
3. Review meetings of the ITDAs to be convened by the State headquarter officials at least every 6 months where physical and financial progress along with constraints faced in implementation can be discussed. Besides, this review meeting will also facilitate excvhnage of ideas among the FADP officials in different ITDAs and reason of success or failure can be assessed.
4. The Action Plan to be prepared well in advance of the start of the season at the state headquarter level with active participation of the FADP officials of the ITDAs by giving due importance to their experience and views.

5. It may be examined to reduce the number of interventions to 5-6 for each ITDA and allocate only important interventions taking the implementation status of the interventions and acceptance of the farmers in the particular ITDA into consideration. It will help smooth implementation, monitoring and assessment of success of the intervention.
6. The Interventions may be implemented in cluster approach so that different interventions can be confined to a limited area so that the scheme will have better impact on the tribals.
7. Maintenance of database is very poor in most of the ITDAs as ascertained during the study. It is observed that out of the 5 sample ITDAs the maintenance of databases is much better in Koraput and Karanjia ITDAs because of the keen interest and effort taken by the concerned Programme Managers. It needs focus and be strengthened in all ITDAs.
8. Inter intervention change of expenditure is incurred by the ITDAs basing on the decision taken in the PLC meeting held under the chairmanship of the District Collector but care may be taken to obtain prior approval of the Government so that monitoring the physical and financial aspect of the programme and assessment of expenditure will be smooth.
9. It may be examined to simplify the format for submission of monthly progress reports and all the ITDAs to be directed to give the report in a uniform format as prescribed by the State headquarter.
10. The Officials from State headquarter may visit the ITDAs and the field and if necessary, may conduct review meetings zone-wise for better monitoring.

Conclusion

No doubt, FADP executed in the tribal areas by the ITDAs for the tribal people has positive impact in upgrading their livelihood. Although the plantation programmes like Rubber, Coffee, Wadi/ Horticultural Plantations are yet to yield return to the beneficiaries but the inter-crop taken in the plantation field is remunerative both in employment and income generation to those beneficiaries who are laborious and have interest in farming. During the field study it was observed that inter-cropping has no sustainability in some cases where the beneficiaries expect free distribution of seeds and other input during the subsequent years. The Wadi has been failed in some cases due to lack of interest of the beneficiaries and also lack of supervision by the ITDA officials because of shortage of staff. Availability of irrigation is the main constraint in plantation programme. The Poultry rearing has not gained popularity as the beneficiaries mostly consume the birds and do not take interest for multiplication. Dairy, Fishery and Goat rearing have got good impact on income generation but supply of improved breeds of goats is to be ensured and insurance should not be neglected. Vegetable cultivation and mushroom production are gaining popularity for their immediate return. Apiculture need to be replicated in the feasible areas being a non-land activity and high return. Under Farm Mechanization, thrust has been given for supply of Pump sets for ensuring life saving irrigation but simultaneously popularisation of Custom Hire Centres need to be addressed. The NTFP collection and marketing has not been given due importance and no achievement has been made. The reason for failure of Lac cultivation in Baripada needs to be assessed. Monitoring of the proper implementation of the interventions through review meetings at regular intervals and field visit need to be strengthened both at State headquarters as well as ITDA level. Staff constraint at the ITDA level need to be addressed and involvement of NGOs for execution of the schemes need to be considered. The successful beneficiaries/ SHGs may be encouraged through felicitation in public gatherings like exhibitions, *Krushak Sampark Mela* and Awareness Camps.

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PICTURE SPEAKS LOUDER THAN WORDS

Photo Gallery - Focused Group Discussions ITDA, Baripada



Colour Fish, Bhandarikula, Block-Badasahi



Rubber, Madhupur, Block-Badasahi



Goat Rearing, Sankucha, Block-Badasahi



Sericulture, Chakadhar, Block-Bangiriposi



Fishery, Goudasole, Block-Badasahi



Goat Rearing, Binodpur, Baripada Block

ITDA, Paralakhemundi



Apiculture, Sindhiba, Block-Rayagada

Hill Broom, Talamunda, Block-Rayagada



Poultry, Adagaon, Block-Rayagada

Rubber, Munisingh, Block-Gumma



Rubber, Sukej, Block-Gumma

Apiculture, Sindhiba, Block-Rayagada

ITDA, Koraput



Vegetable Cultivation, Banasil,
Block-Dasamanthpur



Coffee, Dabaput, Block-Nandapur



Coffee, Gopalput, Block-Koraput



Poultry, Khajuriput, Block-Laxmipur



Wadi, Lukumari, Block- Dasmanthpur



Farm Mechanisation, Machhera,
Block-Koraput



Goat Rearing, Mahaguda, Block-Bandhugaon



Wadi, Dasmanthpur, Block-Dasmanthpur



Wadi & Vegetable Cultivation, Laxmipur,
Block- Laxmipur



Wadi & Vegetable Cultivation, Laxmipur,
Block- Laxmipur

ITDA, Sundargarh



Wadi, Champasora, Block- Lephripada



Wadi, Champasora, Block- Lephripada



Wadi, Sahebdera, Block- Lephripada



Discussion with SEWAK NGO on Wadi, Sudargarh

ITDA, Karanjia



Rubber, Gayalachatua, Block-Sukruli



Rubber, Gayalachatua, Block-Sukruli



Micro-Enterprise of WSHG, Haladia,
Block-Jashipur



Goat Rearing of WSHG, Sunaposi, Block-Sukruli

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