

**Convergence of Agricultural Development Programmes with  
RoFR Act in Andhra Pradesh**

**Sponsored by  
Department of Tribal Welfare,  
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## Acronyms

AP	: Andhra Pradesh
APFDC	: Andhra Pradesh Forest Development Corporation
APSALTR	: Andhra Pradesh Scheduled Areas Land Transfer Regulation
CWH	: Critical Wildlife Habitat
DLC	: Divisional Level Committee
FD	: Forest Department
FRC	: Forest Rights Committee
GCC	: Girijan Cooperative Corporation
GCPCD	: Girijan Cooperative Plantation Development Corporation
GIS	: Geographic Information System
GoAP	: Government of Andhra Pradesh
GP	: Gram Panchayat
GS	: Gram Sabha
IKP	: Indira Kranthi Pathakam
ITDA	: Integrated Tribal Development Agency
JFM	: Joint Forest Management
MGNREGS	: Mahatma Gandhi National Rural Employment Guarantee Scheme
MoTA	: Ministry of Tribal Affairs
MRO	: Mandal Revenue Officer
NGO	: Non-Governmental Organisation
NSTFDC	: National Scheduled Tribe Forest Development Corporation
NTFP	: Non-Timber Forest Products
OTFD	: Other Traditional Forest Dwellers
PESA	: Panchayat Extension to Scheduled Areas
PRI	: Panchayati Raj Institute
PVTG	: Particularly Vulnerable Tribal Group
RF	: Reserve Forest
RoFR	: Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act
SDLC	: Sub-divisional Level Committee
SLMC	: State Level Monitoring Committee

SPMU : State Project and Monitoring Unit  
ST : Scheduled Tribe  
TSP : Tribal Sub Plan  
VRO : Village Revenue Officer  
VSS : Van SmarakshanaSamiti

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## **Executive Summary**

The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act (in short FRA) was implemented in 2006 for redressing injustice meted to tribals earlier in terms of denying their rights over the forest resource use. The FRA is under implementation across 20 Indian states. As on 31<sup>st</sup> January 2020, about 42.51 lakh claims (41.02 lakh individual and 1.49 lakh community claims) have been made; against to it a total of 19.82 lakh titles (19.06 lakh individual and 0.76 lakh community) were distributed. Many empirical studies have found immense benefits of providing land titles on forest land under cultivation. However, the Act has not been implemented in full spirit as all Indian States experienced many implementation challenges and income levels of RoFR beneficiary households not improved significantly.

To enhance income levels of FRA beneficiaries, the Ministry of Tribal Affairs (MoTA), Government of India had developed convergence model for livelihood promotion in FRA land (Government of India, n.d.). According to which the FRA beneficiaries are getting benefits from various government schemes. Some state governments took initiative to adopt convergence models. Many developmental activities were started in RoFR land in convergence with other Governmental Departments.

### ***Scope and objectives of the study***

The government of Andhra Pradesh, one of tribal populated state in India, also implemented such convergence models to enhance livelihoods base of poor tribals in the state. Tribal livelihood system is traditional in nature and highly vulnerable to shocks and trends. Livelihood diversification started recently although all tribals are accustomed to it. The tribal population in the state facing lots of livelihood challenges despite of implementation of several welfare schemes. As such the livelihood insecurity of tribal households including Particularly Vulnerable Tribal Groups (PVTG) is still a developmental challenge in Andhra Pradesh.

The state has granted individual and community RoFR land titles upon forest land being enjoyed by the tribals since generations. The state government has started some developmental activities in RoFR land in convergence with other schemes. It is promoting horticultural plantations in the FRA recognised lands.



Under this background, this study is assessing the livelihood implications of horticultural plantations undertaken in FRA recognised lands in convergence with MGNREGS to understand on what extent such activities able to improve tribal livelihood.

The broad objectives of this study are:

1. To understand the implementation process of RoFR Act in Andhra Pradesh.
2. To examine the agricultural/ horticulture activities undertaken in RoFR recognised land in convergence with other departments to improve livelihood base of tribals in Andhra Pradesh.
3. To assess the livelihood impact of agricultural/horticulture activities undertaken in RoFR land in convergence mode.
4. To suggest policy recommendations to enhance benefits from RoFR recognised land.

### ***Data and Methodology***

The study is based on both secondary and primary data. The secondary data mainly collected from the Office of State Project and Monitoring Unit (SPMU), Vijayawada. Primary data was collected from 300 sample households from the 16 RoFR recognised villages of Visakhapatnam, Srikakulam and East Godavari districts. The study uses stratified random sampling procedure by considering social group, RoFR beneficiary and benefits under convergence for identification of sample villages for household interview. The sample size from Visakhapatnam district is 200 whereas it is 50 for the East Godavari and Srikakulam districts. Besides household questionnaire, a village level questionnaire and focus group discussions were carried out to understand various issues related to the study. The study mainly uses quantitative methods in orders to prove hypothesis of the study. Cross tabulation and descriptive statistics are generated to draw the inferences.

### **Implementation of RoFR Act and Post-RoFR Developmental activities in Andhra Pradesh**

Andhra Pradesh was one of the leading states in implementation of RoFR Act during the first phase of its implementation. Despite of several obstructions created by the forest officials and other activist; it has tried to implement the scheme as per the guideline from Centre. As on 31<sup>st</sup> January 2020 the state has recognised individual rights over 2.39 lakh acres of land of 0.97 lakh beneficiaries and community rights over 4.53 lakh acres of land of 1374 community groups.

Post-RoFR developmental activities in RoFR land includes land development, irrigation ponds and wells, Indira AwasYojana, stone bunding and bush clearance, horticulture gardens, etc. Attention has been given for promotion of coffee and pepper in Visakhapatnam, cashew in Srikakulam, Vizianagaram and East Godavari, and commercial crops like chilli, paddy, turmeric, groundnut, etc. in north coastal and Rayalaseema districts. These activities are undertaken by the ITDA in convergence with other government schemes like MGNREGS.

Some of the earlier studies shows that the rate of convergence in the state is very low. The convergence mainly happened with the support from MGNREGS. Various land development, crop promotion, irrigation development, etc. activities were initiated that helped a lot to the farmers by increasing farm income. But such success stories were limited to locations where people had adequate awareness and got handholding support from NGOs at the grassroots levels. Such stories could not replicate in other habitations due to absence of such handholding support.

Data collected from the field shows that most of the sample households were aware that ITDA is promoting horticulture crops in RoFR land to uplift tribals from the poverty trap. Most of the farmers got information about the scheme from their fellow farmers. Horticulture liaison workers, horticulture officer, PRI officials, and Gram Sabha are other key informants and supported households in making claims. However these stakeholders are biased towards the influential persons and locations approachable by road. They ignored many PVTG households and villages located in remote locations. Many households are still not aware of the procedure of claiming horticulture plantation or not eligible to avail the benefit due to lack of land title. Households, particularly those who separated recently from their original family, felt it difficult to arrange documentary evidences. Households also faced problems such as inability to follow the procedure, lack of support from the facilitating officers and obstructed by the influential persons while making the claim. While 70 per cent of RoFR beneficiaries claimed for the new plantation the remaining 30 per cent claimed for rejuvenation. The new claims are for coffee in Visakhapatnam, mango, pineapple and other horticulture crops in other districts. The rejuvenation is mainly in the case of cashew plantation. All claims for new plantation or rejuvenation of old plantation were accepted. The average area claimed for horticultural plantation was 1.34 acres with an average of 1.37 acres for the non-PVTG households and 1.29 acres for the PVTG households. In principle, land size didn't govern for the acceptance of claims.

Developmental activities undertaken by the ITDA includes: land preparation/land leveling, bush clearing, removing stones from the field, fencing, digging pit, renovation of irrigation canal and

water storage tank, provision of seed/seedlings, provision of mixed plants, planting seedlings (coffee, cashew and mango), provision of farm implements, weeding, fertilizer and pesticide spray, removing shaded trees for adequate light, etc. While most of these activities are undertaken during the initial year, few activities are continued to the 2-4 years of the maintenance period. Households reported that few seedlings were distributed. It was further complained that these officers, without distributing seedlings, were sold to some influential persons.

labour support under MGNREGS was to undertaken activities such as land preparation, digging pits, plantation of seedlings, etc. during first year and maintenance activities such as terracing, fire path making, fencing, etc. during the 2<sup>nd</sup>-4<sup>th</sup> years of gestation period. On average, 52 male labour and 37 female labour were used under MGNREGS in the 1<sup>st</sup> year of plantation. The non-PVTG RoFR beneficiaries could able to receive more number of labour days than their counterpart PVTG RoFR beneficiaries. The average number of labour days used during 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> years of plantation was 67, 52 and 40 respectively. In these scenarios also, the non-PVTG households could able to receive more number of labour days than the PVTG households.

Households agreed the fact that maintenance activities were not conducted properly under MGNREGS. The main problem highlighted by households are maintenance work were not carried out in prescribed norm, fewer labourer were involved, muster roll had not been maintained, female labour were not involved, no inspection by the superior authorities, MGNREGS field assistants were not cooperative, only known/influential people were engaged in work, wrong entry in the job card and gram sabha recommendations were not executed.

Despite all such problems, all households believe that involvement of MGNREGS for maintenance activities is necessary. It is so because, maintenance activities require adequate and timely availability of labour, which they cannot afford in terms of wage payment. The output generated from lands before horticultural plantation was subsistence oriented and meant for self-consumption. A little income left over self-consumption which they can't invest for horticultural plantation.

### **Livelihood Impact of Post-RoFR Developmental Activities**

Households' capital endowment couple with government interventions to create asset base mainly determines choice of a livelihood strategy. Households mainly involved livelihood strategies that require more of human and natural resources and less of physical and financial

capitals. All livelihood activities adopted by the sample households can be categorised into agriculture, livestock, forestry and wage employment activities. Agriculture is the principal source of livelihood. Major crops grown by households are paddy, turmeric, groundnut, coffee, cashew ragi and vegetables. Households also grow various millets, pulses and fruits. But their share in terms of area and value is less and restructured to certain areas. All these crops are grown in both FRA land and other lands. However, households got convergence benefits only for the horticultural plantation.

Paddy is the principal crop in the RoFR land which is grown both in kharif and rabi seasons. Besides consumption, many households sold paddy. Other cereals and pulses are cultivated for home consumption. Only vegetables and cash crops are cultivated to generate income. Other principal crop in RoFR land are cashew, coffee, fruits and turmeric. Vegetables, mainly chilli and tomato are found in areas with rich water availability. There is not much change in cropping pattern after receiving land title. The cultivation of same crops continued even after receiving the land title. But the change is visible in terms of declining total area under millets and pulses whereas total area under cash crops like coffee, turmeric, fruits and vegetables has been increased. Such changes are due to the support provided by various Govt. Departments in promotion of commercial crops in the tribal areas of Andhra Pradesh.

Households grown similar crops in land other than RoFR recognised land. Paddy, ragi, cashew, coffee, turmeric and vegetables are mainly cultivated in these lands. These lands located in plain areas and some have access to good water sources.

The income generated from other lands is higher than of income generated from RoFR land. It is so because other lands are located in plain areas where households grown many profitable crops including paddy and vegetables. RoFR lands are suitable only for pulses, small millets, and horticultural lands. Smaller land size coupled with lower area under the horticultural crops is mainly responsible for lower income from the RoFR land. The PVTG households have more income from agriculture in comparison to that of non-PVTG households. The RoFR beneficiary households generate more income than that of non-beneficiary households. Similarly, the RoFR beneficiaries who got convergence benefit have less agricultural income than that of RoFR beneficiaries who don't receive the convergence benefits. It is so because these households could not able to generate more income from the RoFR recognised land. This is equally true for both PVTG and non-PVTG households.

The mean monthly per capita income (MPI) difference between PVTG and non-PVTG

households is not statistically significant. The same holds true for income derived from agriculture and non-agricultural activities. Among the PVTG households, the mean income from agriculture of RoFR beneficiaries with convergence is significantly different from that of RoFR non-beneficiaries. Such a difference causes a mean difference in total income between these two groups. However, the mean income from agriculture among these two categories is not significantly different from RoFR non-beneficiary households. Among the non-PVTG households, the mean income difference among these three categories of RoFR beneficiary households is not statistically significant although the mean income from non-agriculture of RoFR beneficiary with convergence is significantly different from RoFR beneficiary without convergence and RoFR non-beneficiary. As a result, the RoFR beneficiary households without convergence could able to generate more income than the RoFR beneficiary with convergence.

The income levels of RoFR beneficiary households after receiving convergence benefits has been significantly higher than their income before the convergence benefits. The agricultural income remained the dominant contributor to the total income followed by the wage employment activities. The share of agriculture during these two periods remained the same and the share of wage employment has been increased whereas the share from other sources declined. Thus, this change can be attributable to increasing inflation over the years.

After convergence benefit, households' dependency on agriculture has come down whereas the proportion of households dependent on agricultural wage and non-agricultural wage has been increased. The involvement in self-employment activities is negligible. However, more PVTG households could able to retain in agriculture. Their dependency on agricultural wage, forestry and livestock has come down.

RoFR beneficiaries have highlighted eight welfare changes due to horticultural plantation after receiving the convergence benefits: a) increased consumption expenditure, b) decline in distress migration, c) repayment of loans, d) meeting medical expenses, e) renovation/ building house, f) increased bargaining power, g) purchase of household durables, and h) improved social status.

### **Summary of suggestions**

1. Provisions should be available to all beneficiaries

2. All the provisions should be as per the norm
3. Compulsory land development activities and irrigation facility in all RoFR land
4. Provision of farm inputs and tools at subsidized rate
5. Provision of crop loan on the basis of RoFR land title
6. Protection of output price and reduce marketing exploitations
7. Institutional reforms for better governance system
8. Activities need to be executed by Gram Sabha and creating pressure group at the village level
9. Adequate cooperation from Administration
10. Provision of more working days under MGNREGS

# Chapter 1

## Introduction

### 1.1. Introduction

Tribals are the most vulnerable group in society. Many tribal groups, mainly Particularly Vulnerable Tribal Group (PVTGs), are nomadic, shifting cultivators and pastoralist communities with no permanent habitat. Their position among social groups regarding various socioeconomic performances is very low. Their low development indicators are not a chance of misfortune rather a by-product of systematic exploitation. They are deprived in many forms. The national and State governments exploited the tribals by enforcing strict legal provisions which destroyed their indigenous culture, tradition, livelihoods and social organizations (Springate-Baginski, et al., 2009; Bose, 2011; Aggarwal, 2011). Displacement and relocation of tribals were carried out due to various development projects like dams, ports and irrigation projects. They are also deprived off access to safety-net programmes.

The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act (in short FRA) was implemented in 2006 for redressing injustice meted to tribals earlier in terms of denying their rights over the forest resource use (Government of India, 2006). In other words, the RoFR Act recognises rights of Schedule Tribes (STs) and Other Traditional Forest Dwellers (OTFDs) groups over the forest land which they are cultivating/enjoying since generations for their sustainable livelihood needs. The rights assigned under this Act include a bundle of individual and community tenure rights that provide security over the ownership of forest lands. The legal recognition enables the forest dwellers to participate actively in the decision-making process with adequate gender equality, besides empowering them in terms of protecting the wildlife, forests, biodiversity, adjoining catchment areas, water bodies and other ecologically sensitive areas.

The RoFR Act is under implementation across 20 Indian states. As on 31<sup>st</sup> January 2020, about 42.51 lakh claims (41.02 lakh individual and 1.49 lakh community claims) have been made; against to it a total of 19.82 lakh titles (19.06 lakh individual and 0.76 lakh community) were distributed. Empirical studies found immense benefits in terms of ensuring forest product harvests and enterprises, promoting reforestation, carbon sequestration and providing ecological services (Kumar, Singh, & Rao, 2017). There was significant increase in household income from the lands recognised under FRA. There were evidences of new investments to improve crop productivity (Mishra, 2016) and approached banks for credit (Bandi, 2015).

However, it was complained that the Act has not been implemented in full spirit as all Indian States experienced many implementation challenges (Sathyapalan, 2010; Mishra, 2018). As such there was negligible livelihood contribution of RoFR across all Indian states. Poor tribal communities, particularly of pastoralists, nomadic groups, shifting cultivators and women headed households were excluded from many benefits that they were enjoying prior to the RoFR implementation (Government of India, 2010). The extended benefit from RoFR was so less so that households unable to produce sufficient crops/forest products for their sustenance (Anitha, Balakrishnan, & Krishnakumar, 2015).

## **1.2. Post-RoFR Developmental Activities in Convergence Mode**

To enhance income levels of RoFR beneficiaries, the National Committee on RoFR felt the need for convergence of other schemes with RoFR. The main aim was to develop forest land to optimise production, provide infrastructure to habitations, create employment opportunities preferably in-situ in sectors in addition to land based agriculture, proper utilisation of community resources to generate sustainable livelihoods, facilitate hassle-free convergence of governmental schemes operating in the areas of education, training, health, employment, etc. (Government of India, 2010). Activities such as land leveling, fencing, bunding, digging well for irrigation, provision of proper equipment, promotion of integrated agriculture-fisheries-animal husbandry, etc., were proposed under MGNREGS. The RoFR beneficiaries are entitled for additional 50 days of work, beyond the prescribed 100 days, under MGNREGS.

The Ministry of Tribal Affairs (MoTA), Government of India had developed convergence model for livelihood promotion in RoFR land (Government of India, n.d.). According to which the RoFR beneficiaries are getting benefits from various central government schemes such as MGNREGS, National Rural Livelihood Mission (NRLM), Indira AwasYojana (IAY), National Bamboo Mission, National Horticulture Mission, and State government schemes meant for land development, improving soil productivity, undertaking soil moisture conservation, horticultural development, conservation of community forest resources, value addition to NTFPs, house construction, etc. (SCSTRTI, 2015).

The Ministry of Rural Development (MoRD) in its operational guidelines for MGNREGS prescribed to provide at least 100 days of wage employment in a financial year to every RoFR beneficiary whose adult member willing to do unskilled manual work (Government of India, 2013). The NSTFDC has launched Tribal Forest Dwellers Empowerment Scheme under which loan amount of Rs. 1.0 lakh is to be disbursed to the RoFR beneficiaries without any collateral



security. This loan needs to be utilised for value addition to NTFPs and use better technology for land development. Adequate training will also be imparted to the RoFR beneficiaries at the ITDA/ Block level so that they can generate more benefits from agriculture, horticulture, livestock and collection of NTFPs.

Some state governments took initiative to adopt convergence models. Emphasis was given for more productive use of land by creating resources, assets and infrastructure. It enabled the right holders to enhance their livelihood base by developing forest land and other community resources. Many developmental activities were started in RoFR land in convergence with other Governmental Departments and Schemes such as Irrigation, Horticulture, Rural Development, MGNREGS, etc. (SCSTRTI, 2013). The field level experiences of such initiatives suggest a mix of successes and failures. Some states showed good progresses where convergence activities proved successful in terms of shifting the cropping pattern from low profit millet to high profit cash crops like horticultural crops (NIRMAN, 2013). It also promoted pisciculture. Some organisations provided handholding support to select right crops and adopt sustainable harvesting practices. Many communities have planned certain interventions such as gully plugging, soil and water conservation measures. They were in expectation of generating more income and also get formal source of credit.

However, such success stories are a few and limited to few locations. They do not present the true picture of the pro-activeness of the State administration rather reflect a grim picture. The success stories were mainly limited to places where the administration had considered the rights of people (Das & Suryakumari, 2015). The Act talks of rights not considerations or privileges (SCSTRTI, 2015). The community at the recipient end has not been able to break the vicious cycle of government apathy and has been struggling to realize their rights. The injustice still continued as the claims have not been approved to the desired extent and no convergence with the development schemes has happened (Reddeppa, n.d.).

### **1.3. Scope of the study**

Total ST Population in the state according to 2011 Census is 27.5 lakhs which is about 5.5 per cent of total population of the state. They are largely concentrated in Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, West Godavari districts and partly located in the Srisailam area of Kurnool district. About 31 per cent of tribal population lives in the three north coastal districts. The decadal growth rate of tribal population in both rural and urban areas is not showing any systematic increase/decline although there is a significant rural-urban

migration of tribal population in recent years (Government Andhra Pradesh, 2017). There are 34 tribes in Andhra Pradesh among these, Yanadis, Yerukulas, Sugalis, Koya, KondaDhoras, Savaras, Bagata and Jatapus are the major tribes in term of their share in total tribal population. Khond, Porja, Gadaba, KondaSavara, Chenchus, are KondaReddis are the Particularly Primitive Tribal Groups (PVTGs) due to their stagnant/declining population, low literacy levels and adoption of pre-agricultural level technology. Only 49 per cent of tribals are literate. The literate tribals are mainly living in plain areas of Chittoor, West Godavari, Kurnool and Ananthapur districts.

Occupational pattern of tribals are highly diversified. The traditional livelihood activities of tribals were one or a combination of: hunting, hill-cultivation, plainagriculture, simpleartisan, pastoral and cattle-herding, folk-artists, and agricultural and non-agricultural labour. Tribals mainly depend on agriculture on their sustenance whereas wage employment and NTFP collection are subsidiary activities. While most tribals are cultivators, some are nomadic, others practice NTFP gathering, livestock rearing, village artisans, etc. Most tribals are settle cultivators. Some tribalsare living in hilly areas and practice shifting cultivation. Some tribals are artisans who build agricultural implements and sell to other tribals for farming. Some tribals are strictly follows their traditional livelihood activities.

According to the Census of India, most of the ST main workers and marginal workers in rural area were engaged in agriculture and forestry. It implies agriculture was the main livelihood activity for most of the rural ST persons whereas forestry remained as a subsidiary livelihood activity. Manufacturing was the next best opted livelihood activity followed by fishing. The involvement of rural ST households in other types of livelihood activities was negligible or nil. On the other hand, most of the ST main workers in urban area were involved in manufacturing, forestry, transportation and storage, construction, wholesale and retail trade. The ST marginal workers mainly engaged in forestry, construction, manufacturing, and wholesale and retail trade. Some are also involved in fishing, mining and quarrying, real estate, finance and insurance services, and technical services. It implies that the urban livelihood pattern was quite diverse than that in rural areas. The NSS data also gives similar workforce participation among tribals in the state.

Higher involvement of rural tribals in traditional livelihood activities and lower diversification of livelihood pattern in urban areas can be attributed of long standing exploitations made to the tribals and failure of the policy interventions in of the Five Year Plan period. Since pre-

independence era, forest lands were diverted to development projects by depriving the rights of tribals over their ancestral properties. Various Acts/Legislations were implemented which restricted the use of forest resources. The exploitations to tribals by the moneylenders, contractors, traders and cultivator had been continued.

During the post-independence era, the Indian government had adopted a three-fold approach (protective, mobilisational and developmental) for economic development of all sections of more diversified population (Xaxa, 2003). The protective approach includes constitutional and legislative rights and safeguards. The mobilisational approach includes reservation extended in development fields. The developmental includes programmes and activities initiated for promoting tribal welfare. Various Commissions were constituted to give suitable policy recommendations for upliftment of tribal population from the poverty trap. Accordingly, many central schemes were extended to the tribal areas. Tribal specific policies/approaches such as establishment of ITDP/ITDA, Tribal Sub-Plan, etc. also implemented with specific goal of eliminating all types of exploitations, reduce poverty, improve agriculture, subsidiary occupations and related services, village and small industries and minimum need programmes. Emphasis also given for establishment of local self-governance system that empowered Gram Panchayat/Gram Sabha for execution of various developmental activities in tribal villages located in Fifth Schedule Area.

Despite all such efforts, the unresolved issues and persisting problems in tribal areas is continuing. The incidence of poverty among the tribals is highest in the state, although the incidence is declining over time. The incidence of indebtedness was also quite high and mainly taken from the non-institutional sources. The rural-urban seasonal migration was also quite high. They were also deprived off from many non-monetary dimensions such infrastructure, education and health. The Radhakrishna Commission has observed that land alienation is a serious issue in the tribal areas of Andhra Pradesh. There was poorer implementation of the Andhra Pradesh Scheduled Areas Land Transfer Regulation (APSALTR), 1959 and/or lower coverage of RoFR Act (CESS, 2016). As such illegal encroachments and conflicts among the forest dwellers are wide-spread. They are subject to exploitation by both the Forest and Revenue Departments and excluded from various government schemes. Due of lack of land title, they are unable to get institutional credit for cultivation and other productive activities. Development induced displacement is a regular phenomenon which caused transfer of tribal lands to development projects and mining (Reddy & Nagaraju, 2015). The on-going tribal welfare programmes are unable to protect tribal people from periodic shocks. As such the

livelihood insecurity of tribal households including Particularly Vulnerable Tribal Groups (PVTG) is still a developmental challenge in Andhra Pradesh (CESS, 2016). The Radhakrishna Commission had suggested for effective implementation of the RoFR to address land alienation problem and denial of land rights. It may also encourage the tribal Gram Sabha/ FRC to adopt successful models of local self-governance.

Provision of individual and community RoFR land titles has provided security over the land from outside exploitations. However, there is not much change in cropping pattern and income from RoFR land is not sufficient for a subsistent living. As such land development and other developmental activities including value addition and access to institutional credit are necessary to improve livelihoods of RoFR beneficiaries. The state government has started some developmental activities in RoFR land in convergence with other schemes. It is promoting horticultural plantations in the RoFR recognised lands. It is also planning in coming years to undertake activities like land development, enhancement of crop yield, provision of supplemented agricultural inputs, and financial assistant and value addition. It is expected that these developmental activities have significant positive livelihood implications.

An assessment of livelihood implications of such developmental activities is necessary to find out on what extent these activities bringing prosperity in the tribal areas of Andhra Pradesh and make policy suggestions for better implementation of the programmes. Thus this study is assessing the livelihood implications of horticultural plantations undertaken in RoFR recognised lands in convergence with MGNREGS. Prior information shows that horticultural plantations mainly undertaken in north-coastal and south-coastal districts of Andhra Pradesh. While coffee is planted in Paderu ITDA, cashew, mango, tamarind and other fruits were widely spread in other ITDAs. By keeping the practical limitations in mind, this study is limited to assess livelihood implication of horticultural plantations undertaken in RoFR lands in Andhra Pradesh.

#### **1.4. Objectives**

The main broad objectives of this study are:

1. To understand the implementation process of RoFR Act in Andhra Pradesh.
2. To examine the agricultural/ horticulture activities undertaken in RoFR recognised land in convergence with other departments to improve livelihood base of tribals in Andhra Pradesh.

3. To assess the livelihood impact of agricultural/horticulture activities undertaken in RoFR land in convergence mode.
4. To suggest policy recommendations to enhance benefits from RoFR recognised land.

## **1.5. Methodology**

### **1.5.1. Data base**

The study is based on both secondary and primary data. The secondary data mainly collected from the Office of State Project and Monitoring Unit (SPMU), Vijayawada. Data is about status of implementation of RoFR in Andhra Pradesh and agricultural developmental activities have been undertaken in RoFR land in convergence with other schemes and government Departments. Primary data was collected from 300 sample households from the 16 RoFR recognised villages of Visakhapatnam, Srikakulam and East Godavari districts. Data was collected on varied issues including provision of individual land right under RoFR Act, land development activities, horticulture promotion activities, crops grown in RoFR land, production, processing and marketing of crops grown, and the welfare aspects of such developmental activities in RoFR land.

### **1.5.2. Sampling framework**

The study uses stratified random sampling procedure for identification of sample villages for household interview. Three districts i.e. Visakhapatnam, East Godavari and Srikakulam were purposively selected for the study. All the villages of each district where RoFR Act has been implemented by October 2018 are divided into ten stratum (in Visakhapatnam district) and three stratum (in East Godavari and Srikakulam districts) on the basis of number of RoFR beneficiaries and access to basic amenities and infrastructure. One village has been selected from each stratum to identify sample households for interview. The sample size from Visakhapatnam district is 200 whereas it is 50 for the East Godavari and Srikakulam districts. As the main aim of the study is to assess livelihood impact of convergence activities in RoFR land with any significant difference between PVTGs and non-PVTGs with regards to the access to convergence benefits and improvements in livelihoods, it is planned the sample households of each village should be proportionate to number of RoFR beneficiary, number RoFR beneficiaries getting convergence benefit and PVTG/non-PVTG status. Accordingly, all households in each village are classified into six groups and sample households randomly selected from these groups according to the probability proportionate to size method. The distribution of 300 sample households is as follows (Table 1.1).

**Table 1.1: Distribution of sample households according to caste, RoFR beneficiary, and convergence benefits (Nos)**

Group	RoFR beneficiary			RoFR non-Beneficiary	Total
	With convergence benefit	Without convergence benefit	Sub-Total		
PVTG	35	27	62	33	95
Non-PVTG	90	64	154	52	206
Total	125	91	216	85	301

Source: Field Study 2019 and 2020

A village schedule was canvassed in these villages to collect village level information about RoFR implementation, nature of developmental activities in post-RoFR recognised land, crops grown in RoFR land before and after development, access to infrastructures, basic services and government schemes, credit linkage, etc. Focus Group discussions also carried out to gather qualitative information relevant to the study. Besides these, government staffs involved in the process of implementation of RoFR and horticultural plantation were interacted to understand their potentials and constraints towards effective implementation of the programmes.

### **1.5.3. Method of Analysis**

The study mainly uses quantitative methods in orders to prove hypothesis of the study. Cross tabulation and descriptive statistics are generated to draw the inferences.

### **1.6. Ethical Consideration**

The study respects ethical considerations of data collection. Adequate care has been undertaken while canvassing the household schedule. Households were informed about the purpose of the survey and the nature of information to be collected through household questionnaire. They were also informed that at any point of time they can leave the interview and utmost care will be undertaken to hide the identity of the household. Adequate respect was given to households without interfering them during the interview although they faced problems to recall certain aspects; and finding of this study is purely based on the perception of sample households.

## **Chapter 2**

# **State Level Experiences on Post-RoFR Developmental Activities through Convergence**

### **2.1. Introduction**

The notion of recognition of rights of tribals over the forest land under cultivation was not proved successful in improving land productivity and increasing agricultural income. The post-RoFR developmental activities are crucial component to enhance income from RoFR recognised land as it promoted many land development, irrigation and crop promotion activities in RoFR land. This chapter explains the evolution of such convergence activities in RoFR land and narrates state level experiences about successfulness/failure of such activities.

### **2.2. Convergence activities in RoFR Land**

The National Committee on RoFR felt the need for convergence of other schemes with RoFR Act for developing forest land to optimise production, provision of infrastructure to habitations, creating employment opportunities preferably in-situ in sectors in addition to land based agriculture, proper utilisation of community resources to generate sustainable livelihoods, facilitate hassle-free convergence of governmental schemes operating in the areas of education, training, health, employment, etc. (MoEF/MoTA Forest Rights Act Committee, 2010). To achieve these goals, the Committee had recommended that the land of the right holders should be developed to make it more productive, through organic and biologically diverse means. Activities such as consolidation, levelling, fencing to protection from damage by wildlife or, bunding, digging of well for irrigation, providing proper equipment, integrated agriculture-fisheries-animal husbandry, etc., can be undertaken by generating funds under MGNREGS. The right holders can be provided additional 50 days, beyond prescribed 100 days, of work under MGNREGS. It is the duty of the district Collector to make budgetary provisions so that every possible infrastructural and family-based development works can be undertaken for the beneficiary households. The Committee also suggested that forest or agricultural raw-material or animal husbandry-based microenterprises can be established with adequate handholding support from the Ministry of Tribal Affairs, Government of India.

The Ministry of Tribal Affairs, Government of India had developed convergence model for livelihood promotion in RoFR land (Government of India, n.d.). According to which the RoFR beneficiaries are getting benefits from various central government schemes such as MGNREGS, National Rural Livelihood Mission (NRLM), Indira Awas Yojana (IAY),

National Bamboo Mission, National Horticulture Mission, and State government schemes meant for land development, improving soil productivity, undertaking soil moisture conservation, horticultural development, conservation of community forest resources, value addition to NTFPs, house construction, etc. (SCSTRTI, 2015). According to Rule 16 of the RoFR Act, the State Government shall ensure that all government schemes including those relating to land improvement, land productivity, basic amenities and other livelihood measures are provided to RoFR beneficiaries through its various Departments especially Tribal and Social Welfare, Environment and Forest, Revenue, Rural Development, Panchayati Raj and other Departments. Another guideline issued by the Ministry of Tribal affairs (MoTA) mentioned that the state government shall make available through its Departments, funds available through tribal sub-plan, MGNREGA, funds for forestry available with the gram panchayat, funds under CAMPA to the committee at the gram sabha, etc. The State government may also send proposals to Ministry of tribal affairs for development of RoFR land.

The Ministry of Rural Development in its operational guidelines for MGNREGS has listed out activities such as land development, construction of farm pond, horticultural development, pisciculture, rehabilitation of degraded forest and waste lands, etc., which can be undertaken in RoFR land through MGNREGS (Government of India, 2013). Further, the mandate of the Act is to provide at least 100 days of wage employment in a financial year to every rural household whose adult member volunteers to do unskilled manual work. The Ministry mandates the provision of additional 50 days of wage employment, beyond the stipulated 100 days, to every Scheduled Tribe household in a forest area, provided that these households have no other private property except for the land rights provided under the RoFR Act, 2006.

The NSTFDC has launched a scheme called Tribal Forest Dwellers Empowerment Scheme under which loan amount of Rs. 1.0 lakh is to be disbursed to the RoFR beneficiaries without any collateral security. The loan needs to be utilised for value addition to NTFPs, and introducing better technology for land under cultivation. Adequate training will also imparted to the RoFR beneficiaries at the ITDA/ Block level so that they can generate more benefits from agriculture, horticulture, livestock and collection of NTFPs.

Some State governments have taken initiative to enhance benefits from the ROFR recognised land. Emphasis has been given for more productive use of land by creating resources, assets and infrastructure so that the right holders can enhance their livelihood base by developing forest land and other community resources. Developmental activities are started in RoFR land



in convergence with other Governmental Departments and Schemes such as Irrigation, Horticulture, Rural Development, MGNREGS, etc. to achieve these goals (National Committee on RoFR, 2010).

### **2.3. State Level Experiences on Post-RoFR Developmental Activities in RoFR Land**

#### **(A) Odisha**

The Commissioner, Panchayati Raj Department has given guidelines to all districts in the state to initiate various activities such as land development, horticultural plantation, irrigation and farm pond in RoFR land under MGNREGS. All the eligible job card holders are eligible to avail such benefits, the expenditure of which is borne from the MGNREGS fund subject to prescribed ceiling of Rs. 50000 to each household.

The empirical studies shows that some tribal habitations Odisha were growing many crops like cereals, pulses, vegetables, and mix of these in a very traditional way with low returns. But soon after getting ROFR right households applied for land development activities under MGNREGS and construction of farm ponds by linking with 'Mo Pokhari' scheme (NIRMAN, 2013). For this, they got adequate handholding support from RCDC, Block Development Officer, etc. The households also took their own effort for construction of farm ponds. It proved successful in terms of shifting the cropping pattern from low profit millet to high profit cash crops like horticultural crops. Improved irrigation facilities also supported towards rice cultivation. Later wards the government had planned for promotion of Pisciculture on these farm ponds. The Fishery Dept. had provided fingerlings so that households can enhance their livelihoods. The Dept. also provided net, boat, by-cycle, bucket, etc. at a subsidised rate. These farmers also availed bank loans at a subsidised rate to purchase farm inputs. Farm ponds also constructed in other places which proved immense success. Their success was also partly attributable to intervention of NGOs/ civil society organisations.

In some places households have planted cash crops such as cashew which require minimum inputs (labour) thus have high expected profits. Some organisations are providing them handholding support to select right crops and good harvesting practices so that crops can be harvested in a sustainable way. The Horticulture Dept. had provided horticultural saplings such as drumstick, papaya, mango, lemon plants whose survival rate was close to 100%. The Forest Dept. had provided teak saplings.

However, many communities due to lack of awareness and inadequate handholding support are still lack of how to get such benefits. They were not aware of the livelihood enhancement activities in convergence with other schemes such as MGNREGS, RKVY, and NHM. Except crop production, there are also instances where households after getting land title had got Indira Awas houses. With this successful case, the households of other villages also applied for new houses under Indira Awas Yojana. The government had also sanctioned toilets and cattle shed in some habitations.

The NABARD had adopted some villages for overall development of communities. It provided all types of handholding support according to the Village Development Plan preferred by the communities. The village development committee established by the communities is solely responsible for implementation of various development schemes. In other village, SHGs with support from NABARD have developed vermi-composting and kitchen garden for which they got adequate handholding support from the Agricultural Officer and KVK officers.

However, success stories are a few and limited to few locations. They do not really present picture of the pro-activeness of the State administration rather reflect a grim picture. The success stories are mainly limited to places where the administration had been considerate about the Rights of people. The Act talks of rights not considerations or privileges. The community at the recipient end has not been able to break the vicious cycle of government apathy and has been struggling to realize their rights. The injustice continues as the claims have not been approved to the desired extent and no convergence with the development schemes has happened. Many communities have planned certain interventions such as gully plugging, soil and water conservation measures and are in expectation of government interventions for better results. They are also in a hope for repayment of long outstanding loans and could able to get formal sources of credit like in unique case of households in one village had got agricultural loan from a local bank against their RoFR land.

Thus, it was suggested that the livelihoods security with provisioning of water, crop diversification, forward and backward linkages for economic growth should be given utmost priority to make the ROFR more meaningful in a community and their livelihood context. Further, the community level awareness is not enough to steer the process to develop post-settlement land development and access to other related entitlements. There is always a gap in awareness levels of communities and implementation officers. While communities lack adequate information, the officers were also confused while interpreting the Act leading to a

slower progress of the Act. The success stories in some cases are attributable to active intervention of NGO and civil society organisations. These have been strategizing to expedite the process by providing direct handholding support and following up at the administration level, and by capacitating community level youth on procedures and systems so that the community volunteers facilitate the process. The communities who could not able to get such support were not able to steer their processes right from claim making to claim granting and forget the processes to access resources from other schemes and programs.

### **(B) Andhra Pradesh**

Convergence activities in Andhra Pradesh are land development, irrigation ponds and wells, Indira Awas Yojana, stone bunding and bush clearance, horticulture gardens, etc. These programs are routed and monitored through ITDAs. The Commissioner, Tribal Welfare suggested in the SLMC that plantations of bamboo, teak, casuarinas, eucalyptus, silver oak, pepper, coffee, rubber, etc. may be raised in the degraded forest areas.

The Centre for People's Forestry undertook a study on convergence activities in RoFR land in Andhra Pradesh. Out of total individual RoFR land, the rate of convergence was only 28.8 per cent (Das & Suryakumari, 2015). While it is 39.3 per cent in Srikakulam district, the rate is only 22 per cent in Visakhapatnam district. The convergence mainly happed with the support from MGNREGS for cashew rejuvenation and promotion of other livelihoods activities. The land development activities were also undertaken in convergence with MGNREGS which benefited to about 23 per cent of RoFR beneficiaries. Such activities include pruning, digging, pits for horticultural plantation, stone removal, trenches, stone packing, stone bunding, etc. Such activities helped a lot to the farmers in terms of enhancing farm income. Such success stories are limited to place where people have adequate awareness and got handholding support from NGOs at the grassroots levels. Such stories could not replicate in other habitations due to absence of such handholding support.

Promotion of RoFR land requires adequate irrigation facilities and handholding support to undertake various agricultural development activities. The farmers who got handholding support from NGOs and KVKs could able to adopt better farming practices. But such innovative practices were missing in most of the villages. Farmers, on their own, were trying to improve crop productivity by adopting traditional farming practices. Such a system is highly unproductive and rest with a meagre farm income.

RoFR land, though transferable to the next kin, is not alienable. Farmers require loans for agricultural activities. But no bank is willing to sanction loan against RoFR title as collateral. Among the title holders, only one per cent could be able to take loan from the bank. These were sanctioned loans as they possess more agriculture land with revenue patta and have the capacity to repay the loan. It is thus suggested to scale up the financial inclusion process for greater outreach and to provide credit facility to RoFR beneficiaries. The RoFR land title can be treated as safe collateral and loan can be sanctioned on the basis of such titles.

Another study in Vizianagaram, Chittoor, and Kurnool districts shows that, nearly 8.67% of the sample RoFR respondents were covered under different convergence initiatives (SCSTRTI, 2013). Most of the claimants are covered under land development like stone bunding and bush clearance followed by Indira Awas Yojana. The convergence is more prominent in Kurnool district followed by Vizianagaram, while it is absent in Chittoor district.

### **(C) Telangana region of erstwhile Andhra Pradesh**

One study in Bhadrachalam ITDA shows that horticultural plantations were promoted in RoFR land in convergence with MGNREGS (Reddeppa, n.d.). Micro-irrigation also promoted in some habitations. Mango and cashew are the two principal horticultural crops that drew attention of most of the farmers. Assistance made for horticulture programme was meant for meeting the labour cost for digging pits, plantation and refilling of soil and staking; weeding and trench cutting around the plant; fencing; digging compost pits, etc. in convergence with MGNREGS. The kind components like supply of the seed, seedlings or grafts, and fertilisers and pesticides; and cash component for fencing, watering (if irrigation was not provided) charges, etc. were provided by the Department of Horticulture. Regarding irrigation, budget provision was available for bore well with drip irrigation under Andhra Pradesh Micro Irrigation Project (APMIP), including energisation depending on the ground water potential, and feasibility for power connection. For un-irrigated areas, budget provision was made from ITDA for pot watering for each acre @ Rs 1200 per month for 3 months. There were 20 to 25 tasks for funding as per the guidelines of the State and Horticulture Mission for the implementation of horticulture scheme. But the proposed level of support under the ITDA was only 12 to 15 tasks. Further, the budget provisions to meet the financial and material component of the project was much less than the budget allocated. As such the distribution was not adequate.

The component available under Andhra Pradesh Micro-Irrigation Project (APMIP) was not implemented by the ITDA that bore wells were not given to the farmers even if the groundwater feasibility was available in some of the habitations. In one or two habitations bore wells were dug, but the provision of energisation was pending for lack of power supply. It shows that there was no proper assessment by the concerned departments regarding the provision of irrigation. Due to inadequate irrigation and delay in distribution of seed/seedlings, the survival rate of plants was less than 50 per cent in many habitations. Poor survival also attributable to heavy flash floods, lack of proper assessment of soil quality, and non-provision of budget for manual water supply in the month of January.

Creating awareness among tribals about the eligible benefits through convergence of all schemes for promotion horticulture is most essential for motivating people to demand their entitlements and for the functioning of the delivery mechanism with utmost care and efficiency. But the awareness levels with regard to the provisions of the scheme like cash for plough, inter crop cultivation, watering, weeding, trenching cutting around the tree and digging compost pits, preparation of natural fertilizers, etc. were seems to be very poor. Even if they had awareness, they were not sure that they will get all the entitlements. It implies that the horticulture department could not put sincere efforts or hand holding support for promotion of horticulture.

There are coordination problems among the department of horticulture, soil conservation and agriculture, and irrigation at the gross-root level with regard to the delegation of powers, and delivery of inputs and disbursement of wage component under MNREGS by the mandal level officials and also Mandal Parishad Development Officers (MPDOs). For an effective convergence model, these problems need to be addressed.

#### **(D) Tripura**

The state government of Tripura had initiated two externally aided bilateral projects in convergence with RoFR i.e. the Tripura Japan international co-operation Agency (JICA) Project called the “Tripura forest environmental improvement and poverty alleviation project” (2007) and the Indo-German Development Cooperation Project (IGDC) called “Participatory Natural Resource Management in Tripura Project” (2009). Both are aimed at faster improvement of the socio-economic conditions of the tribal population and forest land. Also, benefits were provided under MGNREGS and other line Depts. such as Forest Department, Horticulture Dept., Agriculture Dept., Animal Resource and Development Department,

Fisheries Dept., and Handloom Handicraft and Sericulture. Many of the RoFR rights holders were benefited from IAY. As on 2015, about 73000 RoFR right holders were benefited under various line departments with an expenditure of Rs. 6212.87 lakhs. Further about 20200 households were benefited from MGNREGA for which Rs. 7199 lakhs were spent from the MGNREGS fund (Khosla & Bhattacharya, 2018). The mechanism was such that the Village Council has to identify eligible households and prioritise the list of works which is then forwarded to the Tribal Welfare Dept. to allocate funds for effective execution of works at the ground. However, such process is highly politicized. The households supporting to the current political governing body were benefited more. Benefit was also more to the powerful tribal community members who can able to get benefited from more than one scheme. In short, the vulnerable tribal groups benefited least from various schemes. There is a significant improvement in cultivation practices. Huge number of households could able to go for horticulture plantations, and other plantation crops such as bamboo and rubber. As a result, there is drastic increase in household income. For instance, empirical studies show that tribal farmers of Tripura could able to generate Rs. 50,000-75,000 per annum from agriculture in RoFR land. On the other hand, farmers who could able to go for horticultural crops/ agroforestry in RoFR land in convergence with other Dept. could able to generate Rs. 75,000-1,00,000 per annum (*ibid*). Households with incomes greater than INR 100,000 either have large plantations on Individual ROFR land, mainly mature Rubber plantations, or family member(s) is (are) employed with government agencies or have private employment. The other RoFR right holders could not gained much from the convergence schemes. Their cultivation practices are still old dated e.g. shifting cultivation and many of such lands remained fallow. The main reasons for not reaching benefits to more number of households are lack of capacity development programme, lack of adequate training about better farm practices, etc. As such the households could not able to enhance benefits from the RoFR land.

#### **(E) Maharashtra**

Maharashtra is one of the leading states who undertook various developmental activities in convergence with MGNREGS and other Depts. in community forest lands (CFR) recognized under RoFR. It adopted a cluster approach for development. According to which, every few years, a cluster of 20 to 30 villages are identified and focused upon to address their concerns through convergence of resources from all departments before moving on to the next cluster of villages. With support from MGNREGS and Forest Dept. funds, activities such as plantation and soil treatment activities were initiated. A district level committee headed by District

Collector and block level committee headed by Block Development Officer were constituted to conduct monthly follow up meetings. The convergence committees dealt with issues across various sectors. Soil water conservation works, forest conservation works, individual benefits, drinking water, public distribution system and collective community action evolved through this process.

A case study in Payvihar village by KHOJ shows that after getting title, Gram Sabha was more empowered to revive Joint Forest Management Committee (Mokashi & Pathak Broome, 2015). A micro plan was prepared for overall development of the village within 7 years. The micro plan helped to mobilise resources from MGNREGS and FD. Resources were mobilized for soil and water conservation, well repairs, farm ponds, stone bunding across water streams, drinking water tank and water taps for all houses, construction of cattle sheds, construction of houses under Indira Aawas Yojana, village approach road, plantation etc. FD provided resources for plantation, construction of Water Absorption Trenches (WAT) and Continuous Contour Trenches (CCT) on forest lands for water conservation. As a result Well irrigation is now available to many households. The Gram Sabhas mobilized development works of more than Rs. 1 Crore which helped in controlling distress out migration among all households. In addition, income is being generated from non-timber forest produce namely, tendu leaves and custard apple. The FD also provided productive milch animals and established community biogas system which significantly increased household income and reduced pressure on biomass (wood/forest).

#### **(F) Chhattisgarh**

The convergence initiatives in the RoFR land have been started. As on 2012, about 91640 RoFR beneficiaries have been benefited from various convergence activities. Among these about 28000 were benefited for land levelling, about 63000 for provision of agricultural inputs, about 500 for irrigation works, and about 63000 for Indira Awaas Yojana. But the progress was very slow. Major convergence activities include providing Indira Awas (IAY), bund repair, land leveling and provision of seeds and fertilizers. In some villages, preference was given to the women headed households. One empirical study had noted the following convergence initiatives in RoFR land in the selected districts of the State (SCSTRTI, 2013).

**Table 2.1: Percentage of RoFR beneficiaries covered for various benefits in convergence mode**

District		% of title holders covered for	
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	Distributed Title (nos.)	Land levelling and bund repair	Fertiliser & seed support	Agricultural equipment	Irrigation facility	Achievement Rate (%)
Bilaspur	13484	11.35	23.04	0.0	0.23	8.65
Dhamtari	10337	2.27	22.06	0.0	0.22	6.14
Korba	24674	2.25	25.15	0.0	0.0	6.85

Source: SCSTRTI (2013)

Table 2.1 clearly states that the overall achievement rate on convergence is very low across the three districts. There has been no support for agriculture equipment and coverage under irrigation is negligible. The villagers who are in close proximity to block headquarters have apportioned better share of convergence interventions whereas remote villages could not access to convergence initiative. Thus, it was suggested that convergence initiatives are yet to take off in a big way and categories of support areas have to be need based and tailor-made. For example, the forest lands located on a highly undulated terrain are susceptible to heavy flow of water during rainy season and require regular maintenance. The tribals with limited resources available in hand are unable to develop these patches and preserve excellent vegetation around such patches. The land development activities under convergence are basically focused on bund repair and land leveling without taking into account the specificities of the land and requirement of resources. As such allotment of resources and exact nature of intervention for any particular land was found to be inadequate and even found to be incomplete for want of resources.

#### **2.4. Conclusion**

The chapter clearly states that many state governments have taken initiatives for development of RoFR land in convergence mode. Some states proved highly successful while others not. The successfulness of some states is mainly because of their early response and financial obligations for tribal welfare. But many states lack proper vision and unable to plan properly. They, due to resource crunch, could not get much scope to extend benefits from other schemes and programmes. As such their performance is quite low and developmental activities could not result desired levels of performance.



## **Chapter 3**

### **Implementation of RoFR Act and Post-RoFR Developmental Activities in Andhra Pradesh**

#### **3.1. Introduction**

Both RoFR and post-RoFR developmental activities have the potential to enhance household well-being, if implemented effectively. Their effectiveness in terms of extending the benefits to maximum households, particularly to poor and disadvantaged persons highly depends on proper vision of the state government. The state government should keep the leakages and constraints faced at the time of implementing other welfare schemes in mind. Thus, a proper understanding of the implementation process of RoFR and post-RoFR development activities is necessary to assess their effectiveness in terms of enhancing economic benefits and addressing inclusiveness. This chapter explains various issues related to the implementation process of RoFR in Andhra Pradesh. It also narrates the post-RoFR developmental activities undertaken to enhance income from the RoFR recognised land. Such an explanation will help in understanding the strength and weaknesses of the state government while implementing welfare schemes. Also, livelihood enhancement with adequate inclusion of poor and marginalised sections highly depends on the efficient implementation of the programmes.

#### **3.2. Implementation of RoFR Act in Andhra Pradesh**

The process of implementation of RoFR had been initiated in AP soon after the enactment of the Act in 2008. The chronology of RoFR implementation process in AP is shown in Table 3.1 (Reddy, Kumar, Rao, & Springate-Baginski, 2011). The Principal Secretary, TW Department, the Forest Department (FD) and district Collectors had prepared the roadmap for the rapid and effective implementation of the Act. Target was set for the wider coverage of the Act within a period of ten months (by 30<sup>th</sup> October 2008) and convenes Gram Sabha (GS) for constitution of FRC by 29<sup>th</sup> February 2008 and receives claims by 31<sup>st</sup> May 2008. The plan was to distribute titles to 2.93 lakh hectares of land in 7,500 habitations of 2,500 Gram Panchayats (Ramdas S. R., 2009). About Rs. 20 crore was allocated and human resources were deputed from the Indira Kranthi Pathakam (IKP) poverty alleviation programme to help the executing officers in their task. District officials had visited to tribal habitations to organise GS and formation of FRCs.

**Table 3.1: Summary of the process of RoFR Act Implementation in AP**

Date	Action
31 <sup>st</sup> December 2006	: Passing of RoFR by Indian Parliament.
26 <sup>th</sup> September 2007	: Petitions were filed in High Court by environmentalists and FD for issue of an order, direction or writ declaring the Forest Rights Act as illegal and unconstitutional.
1 <sup>st</sup> January to 31 <sup>st</sup> December 2007	: Interim period while rules were drafted.
1 <sup>st</sup> January 2008	: Passing of rules leading to enactment of RoFR.
January 2008	: Issue of AP government plan/roadmap for RoFR implementation.
March 2008	: AP government's order to district magistrates to commence GS meetings to form FRCs.
15 <sup>th</sup> April 2008	: High Court ordered that the process of implementing the Act might go on. However, distribution of land in recognition of forest rights would not take place.
13 <sup>th</sup> August 2008	: Government order misinterprets the term "community" to allow AP FD Joint Forest Management (JFM) committees to usurp community lands under RoFR.
18 <sup>th</sup> August 2008	: The High Court passed an Interim Order, directing the process of verification of the claims shall go on, but orders shall be obtained from the Court before the certificate of title is actually issued.
21 <sup>st</sup> October 2008	: AP Chief Minister reviews progress at a district Collectors' conference. Only 700-800 out of estimated 5,000 forest villages were mobilized.
February 2009	: Interim order of the high court to proceed with RoFR Act implementation
1 <sup>st</sup> May 2009	: Govt. of AP filed an interim application in AP High Court seeking direction to issue land titles (pattas) to eligible forest dwelling STs and OTFDs. On consideration of the interim application, AP High Court permitted for issue of pattas to the eligible claimants of forests rights.

Source: Reddy et al. (2011), MoTA FRA Status Report (various years)

According to the plan, the claim process was started in most of the villages. These villages are easily accessible and approachable by road. The programme was started late in villages located in interior areas. Due to remoteness of the villages, these were unnoticed by the government officials during the initial phase of implementation. However, the officials could able to visit some of the interior villages located close to the mandal headquarter to initiate the claim process. Also, initiation of the claim process was started early in most of the non-PVTG villages while the process was late in many PVTG villages.

### **3.2.1. Institutional setup and the claim process**

The RoFR implementation process is a four tier setup from FRC/GS at the Gram Panchayat (GP) level to the Sub-Divisional Level Committee (SDLC) at the Mandal level, District Level Committee (DLC) at the district level and State Level Monitoring Committee (SLMC) as the apex institution at the top level in the state. Although the SDLCs, DLCs and SLMC were constituted at the earliest, GS had not been convened for the selection of FRCs. The district Magistrates could able to convene GS only in March 2008, soon after administrative orders issued by the GoAP (Reddy, Kumar, Rao, & Springate-Baginski, 2011).

The Revenue Dept. had played the critical role during the entire claim process as the Mandal Revenue Officer (MRO) and Village Revenue Officer (VRO) mainly took the lead to spread the information about RoFR. The VROs were used to travel villages/hamlets to inform people that they are entitled to get land title upon forest lands in cultivation prior to December 2005. Although the Tribal Welfare Dept. is the nodal agency for implementation of the Act and Forest Dept. is the other important stakeholder of the implementation process, the officials of these Departments were not very active in spreading information about RoFR.

On an average, 6 days before households were informed about the commencement of GS at GP office. While households in some villages could able to receive information about 7-10 days prior to commence of GS, for many villages it was just 3 days. The information was basically about commencement of GS at Gram Panchayat office to discuss various modalities for claim of individual land rights. But there was no discussion about the process of claiming community rights over the common pool resources. As such, only 51 per cent of sample households could able to attend the GS meeting. Among these, 49 per cent were non-PVTG households and 55 per cent were PVTG households. Organising GS in a shorter notice was one of the main reasons for such a lower attendance. Remoteness of the area was another main reason for poorer attendance. According to 63.2 per cent of the sample households, consisting

63.2 per cent of PVTG households and 62.5 per cent of non-PVTG households, longer distance of the venue of GS was the main reason for not attending the GS meeting (Table 3.2). The average distance of venue of GS was 7 kms. For some villages, the distance was as high as 11 kms. No transportation provisions were arranged to attend the GS meeting. Those who are anxious about the programme took lot of effort i.e. either by walk or own vehicle to reach the venue.

However, about 22 per cent of absentee households consisting of 26.3 per cent of PVTG and 20 per cent non-PVTG households reported that lack of time was the main reason for not attending the GS meeting. Many households had some livelihood activities on that day. As such despite knowing about the meeting, they preferred to attain their usual livelihood activities. For them, wage earning was top priority than attending such meetings where their views are least preferred. About 12 per cent of absentees were not present in the village at time of GS meeting. They were migrated to outside city for daily wage activities. It is to be noted that 3.4 per cent of absentees were not informed about commencement of GS meeting. Perhaps these households were absent during that time or they could not recall perfectly.

The GS was conducted at the Gram Panchayat (GP) level but not at the habitation level as prescribed by the Act. It was happened so because a village, according to the AP Panchayat Raj Act, interpreted as an administrative village i.e. Gram Panchayat which in most cases is a cluster of hamlets rather than an individual hamlet. Households of many villages were gathered together in a GS meeting for a discussion about various modalities of the Act. Organization of GS at the GP level had created many problems. There were evidences where even a GS in a larger GP having as large as 30 habitations could not meet the quorum (Ramdas S. R., 2009). Also, there was an evidence of formation of a FRC for 45 hamlets belong to several villages of the same GP. The agenda of many GS meetings was not centred on RoFR implementation. RoFR was one of the agendas along with many other issues. There was no adequate space for a detailed discussion on a particular issue. Households were attended only to meet the quorum of the meeting. They could not understand what was going on and why for such discussions. Only 48 per cent of sample households could able to grasp the essence of meeting. Further, households were not allowed to express their views in the GS meeting. Only 43.5 per cent of total attendants could able to express their view in the meeting. But their views were not adequately respected. The meetings were organised in a haphazard manner. The local politicians and government functionaries were dominated in the meeting and discussion was centred among themselves.

The executing officers with the help of few attendants selected FRC members. There was no election process to select the FRC members which was another flaw of the implementation process of RoFR. These members mostly belong to the villages close to the GP. There was no representative from the village/hamlet located far from the GP. As a result, the FRCs were failed to do their work properly. It was very difficult for the FRC to manage huge population (Government of India, 2010). They could not start the claim process in few villages and households in many villages could not make the claim or the claim process was delayed. Even though there was long delay in starting the claim process, the executing officers meticulously declared that GS were conducted and FRCs were formed in each GP within the stipulated time period (Ramdas S. R., 2009). It is further observed that the FRC in all sample villages were collapsed immediately after the completion of the claim process. The RoFR members in some of the sample villages agreed the fact that their role/function had been automatically collapsed after distribution of the land title. At present, households could not recall names of the FRC members. They also unable to answer questions related to the role of FRC members.

Both MRO and VRO played major role in helping households while filling claim form and arranging documentary evidences. The MRO helped to about 38 per cent of sample claimants whereas VROs helped to about 32 per cent of claimants. It is further noticed that the MRO/VRO helped more to the PVTG households whereas a higher proportion of non-PVTG households (34.3 per cent) filled forms by themselves. It implies that the non-PVTG households were comparatively well versed with such system and could able to fill the forms without others helps. The remaining claimants, by their own effort, arranged necessary documents and filled the form. Some school/college students also filled the form, took signature/thumb impression, arranged necessary documents and submitted forms to the concerned officials while visited to their villages. The claims of most of the claimants who got help from MRO/VRO were recognised at the latter period. A higher proportion of claims of households who filed claim forms themselves were not recognised in the latter stage. Filling forms by themselves may committed huge mistakes which in the latter stage created problems while recognising claim.

### ***Role of civil society organisations***

Civil societies had played a crucial role in organizing GS meeting and formation of FRCs. The GoAP appointed some educated youths selected by the villagers themselves as social

mobilisers. The role of these persons is to help illiterate vulnerable tribal groups like Chenchu to arrange documentary evidences and making claims.

### *Use of GIS technology*

AP was one of the leading states in using remote sensing/ GIS enable device for land verification and demarcation of boundaries. The device verifies whether the land as on December 2005 was under cultivation or not. It established a transparent implementation system by minimizing errors in demarcation of boundaries. It also identified fresh encroachments. However, initial years its use becomes more troublesome in some habitations. The persons involved in land verification lack required skills to handle these devices properly. As a result the survey was not properly undertaken for cultivated lands leaving more lands not surveyed. The problem was more critical in interior tribal habitations (Government of India, 2010).

### **3.2.2. Operational challenges in the implementation process**

#### *Obstructions by the forest officials*

Many working and retired forest officers were against the implementation process. Before enactment of the Act, several writ petitions were filled on High Court by the forest officials on the fear that such process may promote forest degradation and people may misuse the Act. A stay order was granted by the AP High Court on 19<sup>th</sup> August 2008 and the GoAP had initiated the implementation process without distributing the final land title. On 1<sup>st</sup> May 2009, AP High Court dismissed all cases filled by the forest officials and directed to GoAP to complete the implementation process and distribute land title. However, such process created lots of confusions among the executive administrative machinery and tribal households in understanding the Act which slowed down the implementation process. In later stage also forest officials did not issued land right documents and identity proof. Since these two documents are mandatory to apply for land rights under FRA, many tribals could not make the claim and were in the risk of forced eviction.

#### *Conflicts during the claim process*

About 36 per cent of sample households faced some types of conflicts with the fellow farmers, local politician, village community leaders, VSS members, forest officials and other government officials while making the claim. The conflict was more among the sample

households whose claim were approved in the latter stage (36.5 per cent) than the households whose claims were not recognised. Similarly, the conflict was more among the non-PVTG households (36.7 per cent) than the PVTG households (35.7 per cent). Conflict between the fellow farmers was comparatively less and was mainly concerning to demarcation of boundary, encroachment of fresh lands, etc. Conflict with VSS members was due to interferences in the various process of claim e.g. land verification. The GS in most cases gave preferences to the VSS members and neglected views of the other farmers in the village. It was claimed that the GS and SDLC members involved in land verification were prioritised views of the VSS members by undermining interests of households. Forest officials also created problems during the land verification. They interfered in every stage of the land verification and in most cases were not agreed on the ground of forestland. However, a larger proportion of the sample households reported absence of conflicts during the entire process of and recognition of claims.

### ***RoFR vis-à-vis JFM***

The State Government issued an order on 13<sup>th</sup> August 2008 to reinterpret the community rights, according to which VSS was empowered to claim community rights and the claims of actual village communities were neglected. The FD, without following the due process, converted JFM arrangements into community RoFR title (Bijoy, 2017). The VSSs were simply converted into FRCs which is against the Act (Vasundhara & Kalpavriksh, 2012). By May 2010, 1669 VSSs in the undivided state of Andhra Pradesh got land title over 9.43 lakh acres of forest land (CFR-LA, 2017). Many civil society organisations had criticised such supremacy of FD but situation was not altered. The MoTA also declared that granting community rights to VSSs was illegal. It directed to GoAP to withdraw the rights. But the GoAP could not comply the order by withdrawing the order.

The VSS members became more powerful while making the claim that suppressed interests of the common people. In one instance, the AP FD by the use of JFM communities evicted PVTGs from about 37,000 hectares of podu land (Kumar, Singh, & Kerr, 2015). In the latter stage, the GoAP gave a little consolation by allowing individual members of VSS to claim rights over the forest land occupied earlier for own use so that such lands can subsequently brought into common use under FRA. But this could not operationalised because the AP FD stated that individual members of VSS cannot claim rights in VSS areas as these lands were not under possession before December 2005.

### ***Protected Areas and CWH***

The GoAP accepted claims of tribals living in Protected Areas (PAs). However, at the same time fresh encroachments were reported around the PAs (Government of India, 2010). Households were relocated from the tiger reserve by declaring Critical Wildlife Habitat (CWH) and many tribals, particularly of PVTGs, were most affected by such relocation policy.

### ***Relocation Issue***

The GoAP has initiated Polavaram project in East Godavari district which displaced lot of tribals, particularly of PVTG, from their original habitations. Though there is a provision for claim of both individual and community rights in such areas under FRA, no clear information was provided to these households. As such many household could not claimed community forest rights and habitat rights. Many individual claims were rejected on the basis of missing GS resolution, though there was approval of FRCs (Government of India, 2010).

### ***Rejection of claims***

A large number of claims had been rejected without any valid reason (*ibid*). Individual claims within JFM areas were summarily rejected. Although MoTA directed to review the rejected claims, review of such claims was not undertaken. There were lot of pending cases of community claims. Households do not know when these pending cases will be solved. Only community claims over school, road, fishing pond, etc. measuring a mere 1-2 acres of lands were accepted (Ramdas S. R., 2009). Huge numbers of claims were rejected at the GS level without any valid reasons. There was an ambiguity in understanding that whether GS had rejected these claims or the high level committee took such arbitrary decisions and pressurised GS to pass the resolution. Further, the recognised land was much lower than the area claimed. Also, lands cultivated earlier but currently not under cultivation were not recognized.

However, in the sample villages, most of the claims were recognised and only 5 per cent of claims were either rejected or pending. The pending cases were more in comparison to the rejected cases. All these pending cases are with the AP FD. The forest officials were not accepted the plea of households over these lands even though they are cultivating these since generations. If households' claim is genuine then the injustice needs to be immediately corrected. Perhaps absence of FRC members in these villages weaken plea of these households. But if forest officials were correct on the ground that claims were made on encroached forest land then it is necessary to verify further the actual reasons for non-recognition of such claims.



### 3.2.3. Recognition of Individual claims

Amidst all these problems, AP is one of the leading states in recognition of individual rights under FRA. It gave utmost attention for maximum recognition of the individual rights. By the target of 30<sup>th</sup> October 2008, it was possible to recognise individual rights in 800 villages out of the 5000 forest villages. But by October 2018, titles were distributed to 0.87 lakh beneficiaries upon 2.07 lakh acres of land of (Table 3.2). The state has achieved close to its maximum potential of recognition of individual rights (CFR-LA, 2017).

**Table 3.2: Year wise Status of Recognition of Individual Rights in AP**

Year	No. of Claims Received		No. of Claims Rejected		No. of Claims Pending		No. of Titles Distributed	
	Claims (No.)	Extent (Acres)	Claims (No.)	Extent (Acres)	Claims (No.)	Extent (Acres)	Claims (No.)	Extent (Acres)
2015	92,359	1,99,903	31,359	59,470	26,372	59,832	34,628	80,600
2016	1,50,345	3,36,577	53,915	1,10,336	12,556	27,567	83,874	1,98,633
2017	1,68,879	3,65,218	60,811	1,18,950	21,452	42,964	85,628	2,02,284
2018	1,69,153	3,67,239	53,636	1,04,449	17,526	3,43,98	87,861	2,07,829

Source: SPMU, Vijayawada

In the study villages, the average area of land recognised was 1.3 acre. The land recognised in the case of PVTG households was 1.2 acre and for non-PVTG households was 1.4 acre. There was no gap between the lands claimed and recognised. However, households in few villages were not yet received land titles, though their claims were recognised long back. In some villages, titles were distributed after long years, during the promotional visit of hon'able Chief Minister. Later they were taken back due to missing of Collector's signature. As on date of survey, these titles are not returned back. Households have enquired several times to return their titles and are in panic that they might not get these titles again.

### 3.2.4. Recognition of Community Claims

By May 2010, the GoAP issued community RoFR titles to 1669 VSSs over 948076 acres which constitute larger proportion of total community claims recognised in the state (Reddy, Kumar, Rao, & Springate-Baginski, 2011). As on October 2018, the state was recognised 4.51 lakh acres of land of about 1400 communities (Table 3.3). It also emphasised recognition of community rights of vulnerable tribal groups living in interior areas. But the state was recognised only a fraction of the total potential of recognition of community claims (CFR-LA, 2017). It was reported that executive officers were deliberately not provided information about

the provision of community forest rights, although they had no problem in recognition of large number of individual rights (Ramdas S. R., 2009). The forest officials were mostly responsible for such a slow progress. And the government/ political parties and civil society organisation were silent on this fact.

**Table 3.3: Status of Recognition of Community Claims in AP**

Year	No. of Claims Received		No. of Claims Rejected		No. of Claims Pending		No. of Titles Distributed	
	Claims (No.)	Extent (Acres)	Claims (No.)	Extent (Acres)	Claims (No.)	Extent (Acres)	Claims (No.)	Extent (Acres)
2015	2,255	1,90,882	565	17,298	1,186	89,533	504	84,050
2016	4,493	6,52,780	1,367	74,616	1,807	1,43,849	1,319	4,34,355
2017	4,711	6,52,908	1,825	65,966	1,935	1,32,621	1,415	4,41,062
2018	4,726	6,58,535	1,761	65,829	713	1,22,994	1,428	4,51,408

Source: SPMU, Vijayawada

The GoAP was also silent about the powers given to GS for governing, managing and protecting the forest. The clear boundary line specifications were absence in many titles (Government of India, 2010). As such there were confusions with regards to demarcation of boundary of neighbouring communities. The titles did not contain the extent of area recognised. The pastoralist communities were told not to claim RoFR rights over grazing lands as they were enjoying its rights under some other mechanisms (Ramdas, Rao, Rajamma, Digamber, & Narsimhulu, 2010). Households were not allowed to claim lands that belong to JFM communities. In the initial stage, community claims were recognised only in JFM areas and in forest village lands. The claims over other community lands were summarily rejected. Thus, the Act just became a mere land distribution scheme instead of becoming a powerful weapon to strengthen the collective democratic rights of the forest dependent communities.

### 3.3. Post-RoFR Developmental Activities through Convergence

Developmental activities in RoFR land in convergence with other schemes in Andhra Pradesh are land development, irrigation ponds and wells, Indira AwasYojana, stone bunding and bush clearance, horticulture gardens, etc. These programs are routed and monitored through ITDAs. The Commissioner, Tribal Welfare Dept. also suggested in the SLMC that plantations of

bamboo, teak, casuarinas, eucalyptus, silver oak, pepper, coffee, rubber, etc. may be raised in the degraded forest areas. Attention has been given for promotion of coffee and pepper in Visakhapatnam, cashew in Srikakulam, Vizianagaram and East Godavari, and commercial crops like chilli, paddy, turmeric, groundnut, etc. in north coastal and Rayalaseema districts (Table 3.4). These activities are undertaken by the ITDA in convergence with other government schemes like MGNREGS.

**Table 3.4: Promotion of agricultural development activities in RoFR land**

Plantation	Areas
Coffee with Pepper	Araku, Paderu of Visakhapatnam District
Cashew	Srikakulam, Vizianagaram, East Godavari
Commercial Crops like Chilli, Paddy, Turmeric Groundnut etc.	East Godavari, West Godavari, Srisailam, Nellore, Kadapa, Prakasam, Krishna, Guntur, Ananthapur, Chittoor and Kurnool

Source: SPMU, Vijayawada

The Centre for People’s Forestry undertook a study on convergence activities in RoFR land in Andhra Pradesh. Out of total individual RoFR land, the rate of convergence was only 28.8 per cent (Das & Suryakumari, 2015). While it was 39.3 per cent in Srikakulam district, the rate was 22 per cent only in Visakhapatnam district. The convergence mainly happened with the support from MGNREGS for rejuvenation of cashew and promotion of other livelihoods activities. The land development activities were also undertaken in convergence with MGNREGS which benefited to about 23 per cent of RoFR beneficiaries. Such activities include pruning, digging pits for horticultural plantation, stone removal, trenches, stone packing, stone bunding, etc. Such activities helped a lot to the farmers by increasing farm income. Such success stories were limited to locations where people had adequate awareness and got handholding support from NGOs at the grassroots levels. Such stories could not replicate in other habitations due to absence of such handholding support.

Promotion of RoFR land requires adequate irrigation facilities and handholding support to undertake various agricultural development activities. The farmers who got handholding support from NGOs and KVKs could be able to adopt better farming practices. Such innovative practices were also missing in most of the villages. Farmers, on their own, were trying to improve crop productivity by adopting traditional farming practices. These efforts not proved successful and rest with a meagre farm income.

Farmers require loans for agricultural activities. But no bank is willing to sanction loan against RoFR title as collateral as RoFR land, though transferable to the next kin, is not alienable. Among the title holders, only one per cent could able to take loan from the bank. These were sanctioned loans as they possess more agriculture land with revenue patta and have the capacity to repay the loan. The study had suggested to scale up the financial inclusion process for greater outreach of beneficiaries and to provide credit facility to RoFR beneficiaries. The RoFR land title can be treated as safe collateral and loan can be sanctioned on the basis of such titles.

Another study in Vizianagaram, Chittoor, and Kurnool districts shows that, nearly 8.67% of the sample RoFR respondents were covered under different convergence initiatives (SCSTRTI, 2013). Most of the claimants are covered under land development activities like stone bunding and bush clearance followed by Indira Awas Yojana. The convergence was more prominent in Kurnool and Vizainagaram districts, while it was absent in Chitoor district.

One study in Bhadrachalam ITDA, Telangana region of erstwhile Andhra Pradesh shows that horticultural plantations were promoted in RoFR land in convergence with MGNREGS (Reddeppa, n.d.). Micro-irrigation also promoted in some habitations. Mango and cashew were the two principal horticultural crops that drew the attention of most of the farmers. Assistance made for horticulture programme in convergence with MGNREGS was meant for meeting the labour cost for digging pits, plantation and refilling of soil and staking; weeding and trench cutting around the plant; fencing; digging compost pits, etc. The Department of Horticulture had supplied seed, seedlings or grafts, and fertilisers and pesticides and monetary payments to meet the cost of fencing and watering charges (if irrigation was not provided).

Budgetary provisions made under Andhra Pradesh Micro Irrigation Project (APMIP) for digging bore well with drip irrigation and power connection in irrigated possibility areas. For unirrigated areas, Budget provision was made from ITDA for pot watering in unirrigated areas for three months at Rs. 1200 per acre per month. There were 20-25 tasks for funding as per the guidelines of the State and Horticulture Mission for the implementation of horticulture scheme. But the ITDAs could able to support up to 12-15 tasks. Further, the budget provisions to meet the financial and material component of the project was much less than the budget actually allocated. As such the distribution was not adequate. In some habitations, bore wells under Andhra Pradesh Micro-Irrigation Project (APMIP) was not provided to farmers by the ITDA, even if the groundwater feasibility was available in some of the habitations. Wherever bore wells were dug were not functional due to lack of power supply. It shows that there was no

proper assessment by the concerned Departments with regard to the provision of irrigation. Due to inadequate irrigation and delay in distribution of seed/seedlings, the survival rate of plants in many habitations was less than 50 per cent. Poor survival also attributable to heavy flash floods, lack of proper assessment of soil quality and non-provision of budget for manual water supply in the month of January.

Creating awareness among the tribals about the expected benefits of horticultural promotion activities through convergence of all schemes is most essential for motivating people to demand their entitlements. It is also necessary for smooth functioning of the delivery mechanism with utmost care and efficiency. But the awareness levels with regard to the provisions of the scheme like cash for plough, inter-crop cultivation, watering, weeding, trenching, cutting around the tree, digging compost pits, preparation of natural fertilizers, etc. were seems to be very poor. Even if they had awareness, they were not sure that they will get all the entitlements. It implies that the Horticulture Department could not put sincere efforts or handholding support for the promotion of horticulture. There was coordination problem among the Departments of Horticulture, Soil Conservation, Agriculture, and Irrigation with regard to the delegation of powers at the gross-root level, delivery of inputs and disbursement of wage component under MNREGS through the mandal level officials and also Mandal Parishad Development Officers (MPDOs). For an effective convergence model, these problems need to be addressed.

### **3.4. Promotion of Horticulture Crops in the Sample Villages**

#### **3.4.1. Levels of Awareness**

Most of the sample households were aware that ITDA is promoting horticulture crops in RoFR land to uplift tribals from the poverty trap. Horticultural activities are taken in land that was under low profitable crops. As such it proved highly successful in improving household income. Thus, more households in these days are interested for horticultural plantation. But many households are still not aware of the procedure of claiming horticulture plantation or not eligible to avail the benefit due to lack of land title. About 46 per cent of households got information from their fellow farmers of the same village or the nearest villages. They observed that ITDA is supporting for promotion of horticultural plantation that generates handsome amount of income for them. The land, which was either barren or used for cultivation of millets and pulses with a meager of output, now becomes more productive with more income. A higher income of fellow farmers inspired the other farmers to opt for horticultural plantation. Table 3.5 shows that a higher proportion of RoFR beneficiary households who got convergence

benefits (54.4 per cent), in comparison to their counterpart RoFR-without convergence households (35.2 per cent), got information from their fellow farmers. Also, more number of PVTG households than their counterpart non-PVTG households got information from their fellow farmers.

About 22 per cent of households mentioned that horticultural liaison workers spread information about promotion of horticultural plants in RoFR land (Table 3.5). These are appointed at GP level to spread information and technical knowhow on horticultural plantation. It played a key role in spreading information about the scheme and the procedure of making the claim. They distributed claim form and helped in arranging necessary documents. They also helped in solving the problems against acceptance of their claims. They extended their cooperation to both PVTG and non-PVTG households. It can also be seen that in comparison to RoFR beneficiary (with convergence) households, more number of RoFR beneficiary (without convergence) households of both PVTG and non-PVTG categories got information from the liaison workers.

**Table 3.5: Main source of information to the RoFR beneficiaries about the Convergence Benefits (%)**

	PVTG			non-PVTG			Total		
	RoFR beneficiary			RoFR beneficiary			RoFR beneficiary		
	With Convergence	Without Convergence	Total	With Convergence	Without Convergence	Total	With Convergence	Without Convergence	Total
Fellow Farmer	74.3	22.2	51.6	46.7	40.6	44.2	54.4	35.2	46.3
FRC member/ Gram Sabha	0.0	0.0	0.0	15.6	3.1	10.4	11.2	2.2	7.4
PRI	8.6	14.8	11.3	8.9	9.4	9.1	8.8	11.0	9.7
Liaison worker	17.1	37.0	25.8	15.6	28.1	20.8	16.0	30.8	22.2
Horticulture Officer	0.0	25.9	11.3	5.6	17.2	10.4	4.0	19.8	10.6
Others	0.0	0.0	0.0	7.7	1.6	5.2	5.6	1.1	3.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Field Study, 2019 and 2020

The third largest source of informant was horticulture officers (10.6 per cent). They informed to about 4 per cent of RoFR beneficiaries (with convergence) households, about 20 per cent of RoFR beneficiaries (without convergence) households, 11.3 per cent of PVTG and 17.2 per

cent of non-PVTG households. Although these officers are mainly responsible for spreading horticultural plantation in both plain and interior areas, and also facilitate households to make the claim, they did not perform their responsibilities as per the direction. They preferred to spread information in the plain areas and areas approachable by well weather road. They did not visit to the interior areas where more number of poor tribal resides. They also gave more preference to affluent persons and near relatives. Only politically and socially strong households could able to fight for their demand could able to make the claim.

The PRI official played a crucial informant for the 10 per cent of sample households, including about 9 per cent of RoFR beneficiaries (with convergence) households and about 11 per cent of RoFR beneficiaries (without convergence) households. They were more supportive to PVTG households than the PVTG households. The Gram Sabha informed to the 7.4 per cent of households. It was the key informant to the RoFR beneficiaries (with convergence) than the RoFR beneficiaries (without convergence). Also, it is key informant to non-PVTG households. It implies those got information from Gram Sabha could able get convergence benefit at the latter stage.

### **3.4.2. Claim Process**

Households used to fill the application form and enclosed necessary documents to get the benefits. In most cases the RoFR beneficiaries, particularly among the non-PVTGs themselves took the initiative for making a claim. Another fact can be noticed that who took efforts on its own could able to get the benefit at the later stage. In most cases (21.6 per cent) the horticultural liaison workers helped households while making the claim (Table 3.6). Their cooperation was more to the non-PVTG RoFR beneficiary households. It implies that the liaison workers were more sensitive to the non-PVTG households than the PVTG households. Although they played an important role in spreading information in interior PVTG habitation in earlier days were also not interested to visit interior areas in the later stage and help the households while making the claim. Since sanction of horticultural plantation is demand-driven and target oriented, emphasis was given to more approachable areas particularly regions close to the mandal headquarter.

**Table 3.6: Stakeholders supported to the RoFR beneficiaries while claiming for horticultural plantation (%)**

	PVTG	non-PVTG	Total
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	RoFR Beneficiary			RoFR Beneficiary			RoFR Beneficiary		
	With Convergence	Without Convergence	Sub-total	With Convergence	Without Convergence	Sub-total	With Convergence	Without Convergence	Total
Fellow farmer	45.6	17.2	33.8	60.0	7.4	37.1	49.6	14.3	34.7
FRC member/ Gram Sabha	8.9	4.7	7.1	0.0	0.0	0.0	6.4	3.3	5.1
PRI	13.3	26.6	18.8	0.0	29.6	12.9	9.6	27.5	17.1
Liaison worker	16.7	21.9	18.8	25.7	29.6	27.4	19.2	24.2	21.3
Horticulture officer	7.8	26.6	15.6	14.3	33.3	22.6	9.6	28.6	17.6
APO-horticulture	1.1	0.0	0.6	0.0	0.0	0.0	0.8	0.0	0.5
Other ITDA officers	5.6	0.0	3.2	0.0	0.0	0.0	4.0	0.0	2.3
Others	1.1	3.1	1.9	0.0	0.0	0.0	0.8	2.2	1.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Field Study 2019 and 2020

The horticultural officer helped to 17.6 per cent of households while making the claim. Their cooperation was also more to the non-PVTG households. Since liaison workers were more active, these officials were not interested of visit to these areas and help the households while making the claim. Due to the hierarchical administration system, they got relaxed by transferring their duty to the liaison workers. However, lower salary and temporary appointment was one of the main reasons for their discouragement. The PRI officials supported to 17.1 per cent of households while making the claim. Their cooperation was more to the PVTG households and nil for the non-PVTG RoFR beneficiary with convergence households. The cooperation of other stakeholders was negligible.

Table 3.7 shows difficulties faced by the RoFR beneficiaries while claiming for horticultural plantation. Problems mainly occurred due to inability to follow the claim process (26.9 per cent), lack of adequate documentary proof (20.4 per cent), obstructions from the influential fellow farmers (19.0 per cent), lack of support from the concerned officers (9.3 per cent). Households were not informed about the detailed process although they had some information about the scheme. Digitisation of the entire claim process create more problem than the traditional claim process. Claim process was also not discussed in the Gram Sabha conducted in these villages.



Many households, particularly those who separated recently from their original family, felt it difficult to arrange documentary evidences. Lack of adequate proof was a critical problem to the PVTG RoFR beneficiaries than that of non-PVTG non-beneficiaries. Lack of adequate support from the facilitating officers was created more problems to the RoFR beneficiaries who got convergence benefit at the later stage. Many households due to varied reasons lack documentary evidences. They do not know the process of getting such documents and how to approach the concerned persons to issue such documents.

**Table 3.7: Difficulties faced by the RoFR beneficiaries while making the claim for the convergence benefits (%)**

Group	RoFR Beneficiary	D-0	D-1	D-2	D-3	D-4	Total
PVTG	With Convergence	34.3	8.6	14.3	22.9	20.0	100.0
	Without Convergence	25.9	40.7	3.7	3.7	25.9	100.0
	Sub-total	30.6	22.6	9.7	14.5	22.6	100.0
non-PVTG	With Convergence	23.3	11.1	11.1	44.4	10.0	100.0
	Without Convergence	20.3	31.3	6.3	14.1	28.1	100.0
	Sub-total	22.1	19.5	9.1	31.8	17.5	100.0
Total	With Convergence	26.4	10.4	12.0	38.4	12.8	100.0
	Without Convergence	22.0	34.1	5.5	11.0	27.5	100.0
	Sub-total	24.5	20.4	9.3	26.9	19.0	100.0

Note:

D-0: No difficulty

D-1: Lack of adequate proof

D-2: Lack of support from the facilitating officers

D-3: Unable to follow the procedure

D-4: Obstructed by the influential personals

Source: Field Study, 2019 and 2020

There was a conflict among the households while making the claim. Knowing limitations of the scheme, influential persons tried to grab the opportunities by fighting with other farmers. Such conflict was comparatively more among the PVTG households. Among these, some are better off in the society having adequate knowledge about the government schemes. They know administrative procedures and lacunae in the implementation process. They are opportunists,

tried to grab all benefits provided by the state government from time to time. As such, they always tried to dominate while such process starts in the village.

On average, 24.5 per cent of household did not face any problem. The claim process was undertaken collectively by all the fellow farmers. They got adequate cooperation from others while filling form and arranging necessary documents. Also, many households had high aspiration from the programme, so they ignored problems occurred while making the claim.

While 70 per cent of RoFR beneficiaries claimed for the new plantation the remaining 30 per cent claimed for rejuvenation. The new claims are for coffee in Visakhapatnam, mango, pineapple and other horticulture crops in other districts. The rejuvenation is mainly in the case of cashew plantation. All claims for new plantation or rejuvenation of old plantation were accepted. The average area claimed for horticultural plantation was 1.34 acres with an average of 1.37 acres for the non-PVTG households and 1.29 acres for the PVTG households. In principle, land size didn't govern for the acceptance of claims.

### **3.5. Activities undertaken by ITDA**

Activities undertaken by the ITDA includes: land preparation/land leveling, bush clearing, removing stones from the field, fencing, digging pit, renovation of irrigation canal and water storage tank, provision of seed/seedlings, provision of mixed plants, planting seedlings (coffee, cashew and mango), provision of farm implements, weeding, fertilizer and pesticide spray, removing shaded trees for adequate light, etc. While most of these activities are undertaken during the initial year, few activities are continued to the 2-4 years of the maintenance period.

#### **3.5.1. Provision of physical inputs**

Emphasis was given for promotion of specific crops in specific areas. Coffee is promoted in Visakhapatnam district while cashew and mango in East Godavari and Srikakulam districts. Peeper, pineapple, rajma, and pulses are grown as inter-crop. The ITDA had distributed these seedlings to the beneficiary households. Households reported that few seedlings were distributed. Very few households were fortunate to get adequate seedlings. The horticulture officers and liaison workers supplied more seedlings to households who could able to manage them. They deprived the other households by stating that very few seedlings were provided by the ITDA that need to be equally distributed to large number of beneficiaries. It was further complained that these officers, without distributing seedlings, were sold to some influential

persons. The VSS members, even though not claimed for plantation, could able to get seedlings from the horticulture officers.

Among these seedlings, some were died in the same year of plantation. The survival rate was about 87 per cent for the silver oak plants, about 81 per cent for coffee, 90 per cent for the pepper plants, 92 per cent for mango and 89 per cent for cashew. The survival rate was high for the non-PVTG households than the PVTG households. However, the reason for it is not very clear. In the first year of plantation, some additional seedlings were provided for for gap filling. The non-PVTG households got more seedlings than the PVTG households. Some households were managed to get more seedlings for gap filling. The officials blamed to the households for the higher mortality rate in the seedlings distributed in the initial period and no seedlings were distributed thereafter for gap filling. Although seedlings were died due to plantation in wrong season, households were blamed for that. But there was a shortage in supply of seedling by the ITDA. Perhaps there was a problem in estimation of actual number of seedlings required for gap filling. It implies that irregularities on the part of officers involved in the distribution process mostly responsible for shortage of seedlings in distribution.

### **3.5.2. Labour support through MGNREGS**

Labour support through MGNREGS is crucial component of the post-developmental activities. Most of these activities require huge and timely supply of labour which cannot be affordable by the poor households. Activities during the first year include land preparation, digging pits, plantation of seedlings, etc. Maintenance activities during the 2<sup>nd</sup>-4<sup>th</sup> years of gestation period include activities such as terracing, fire path making, fencing, etc.

Households need to be informed in advance that such activities are carried out by ITDA though MGNREGS free of cost. About 48.6 per cent of PVTG RoFR beneficiary households and 36.8 per cent of non-PVTG RoFR beneficiary households got information from the fellow farmers (Table 3.8). These fellow farmers were mostly from their own village and have knowledge about maintenance activities carried out by MGNREGS.

**Table 3.8: Source of information to RoFR beneficiaries about maintenance activities need to be undertaken through MGNREGS (%)**

Person	PVTG	non-PVTG	Total
No body	2.7	25.5	19.6
Fellow farmer	48.6	36.8	39.9
Liaison worker	35.1	19.8	23.8
Horticulture officer	8.1	11.3	10.5
Community member	2.7	6.6	5.6
MGNREGS coordinator	2.7	0.0	0.7
Total	100.0	100.0	100.0

Source: Field Study, 2019 and 2020

The liaison worker informed to about 24 per cent of RoFR beneficiaries about maintenance activities through MGNREGS. They were more supportive to PVTG households. The horticultural officers spread information to 10.5 per cent RoFR beneficiaries. It is to be noted that GS is regularly conducted in some sample villages and the PESA president and other members resides in these villages. But neither PESA president/members nor households had discussed in GS about the nature of maintenance activities need to be undertaken under MGNREGS.

Table 3.9 shows average number of labour days used to undertake maintenance activities during the gestation period. On average, 52 male labour and 37 female labour were used under MGNREGS in the 1<sup>st</sup> year of plantation (detail is shown in Annexure 3) to undertake activities such as land preparation, digging pit for plantation of seedlings and gap filling, plantation of seedlings, weeding, gap filling and fencing. The non-PVTG RoFR beneficiaries could able to receive more number of labour days than their counterpart PVTG RoFR beneficiaries. Another fact can be noticed that households reported provision of equivalent number of labour days for each activity. It is so because, all MGNREGS workers along with family members undertook maintenance activities simultaneously in all beneficiaries' land in the village. As such, it was very difficult for a household to recall exactly how many labour days used for each activity. The average number of labour days used during 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> years of plantation was 67, 52 and 40 respectively (Table 3.9). In these scenarios also, the non-PVTG households could able to receive more number of labour days than the PVTG households. Detailed tables about the labour days provided by MGNREGS and labour used by the household are shown in Annexure 3.

**Table 3.9: Number of person days used under MGNREGS to undertake maintenance activities during the first four years of maintenance period (no./acre)**

s.no	Activity	PVTG		non-PVTG		Total	
		Male	Female	Male	Female	Male	Female
<b>1<sup>st</sup> year</b>							
1	Land preparation	2	3	2	6	4	9
2	Digging pit	3	3	9	2	12	5
3	Plantation	2	2	3	3	5	5
4	Irrigation development	3	2	3	1	6	3
5	Weeding	4	3	6	1	10	4
6	Gap filling	3	3	2	1	5	4
7	Fencing	2	3	8	4	10	7
	Total	19	19	33	18	52	37
<b>2<sup>nd</sup> year</b>							
1	Terracing	6	4	6	4	12	8
2	Weeding	4	3	5	2	9	5
3	Fire path making	4	1	5	4	9	5
4	Fencing	3	5	5	6	8	11
	Total	17	13	21	16	38	29
<b>3<sup>rd</sup> year</b>							
1	Terracing	4	2	4	4	8	6
2	Weeding	2	3	5	6	7	9
3	Fire path making	3	2	5	2	8	4
4	Fencing	5	0	4	1	9	1
	Total	14	7	18	13	32	20
<b>4<sup>th</sup> year</b>							
1	Terracing	3	2	4	3	7	5
2	Weeding	3	0	4	2	7	2
3	Fire path making	2	4	1	3	3	7
4	Fencing	3	1	5	0	8	1
	Total	11	7	14	8	25	15

Note: the total figures may differ from the sum of activities due to roundup of the figures. Source: Field Study, 2019 and 2020.

### ***Challenges in the provision made by ITDA***

Households agreed the fact that maintenance activities were not conducted properly under MGNREGS. The main problem highlighted by households are stated in Table 3.10. About 36 per cent of RoFR beneficiaries reported that maintenance activities were not carried out at satisfaction level and 32 per cent were blamed about involvements of fewer labourers. Thus, households undertook remaining activities by themselves. Households didn't agree with the fact that labour shortage was one of the main reasons for provision of fewer labour days under MGNREGS. They claimed that only influential persons and persons close to the

sarpanch/political leader and work mate were involved in the work. Many people were requested to include them for the work. But the field assistant/ work mate expressed their inability to do so. As such despite of labour availability, maintenance activities were not conducted properly. However, in some places, households mentioned that provision of labour under MGNREGS was as per the norm, though not adequate. About 32 per cent of households mentioned that muster roll was not maintained by the field assistant. Attendance of labourers was never taken properly in the muster roll or attendance registrar. Many households, particularly PVTG households could not remember whether they had signed in the muster roll.

Although MGNREGS provides equal opportunities for the male and female workers, 31 per cent of RoFR beneficiaries claimed that few female workers were employed for the work. In principle, for any work, male workers of the family come forward for the work and female member comes only if a male member is absence or more employment is required. In other words, female workers mainly come from the poorer households. Thus, by ignoring female workers not only undermined rights of the female workers but also excluded poor families from the development process. However, Annexure 3 does not show any stronger evidence of exclusion of female workers during the maintenance activities.

About 30 per cent of RoFR beneficiaries claimed of no inspection by the superior authorities during the work and 28 per cent mentioned that field assistant was not cooperative (Table 3.10). Non-cooperation of field assistant was more to PVTG households than the non-PVTG households. The behaviour of field assistant was rude. There were instances of heat discussions between the workers and the field assistant. The field assistant blamed the households for not doing the work properly. However, households were of the opinion that heat discussions were mainly due to the rude behaviour of the field assistant. The field assistant was trying to complete the work as soon as possible without giving adequate time to finish the activities. Households requested to undertake maintenance activities properly which ultimately ended with less work and quarrel with the field assistant.

Such irregularities caused many problems, particularly involvement of influential/known persons in work (27.2 per cent). Households were forced to use family labour after completion of the work under MGNREGS which was quite higher than the number of labour days used under MGNREGS (Annexure 3). Survival of healthy seedlings is crucial for higher productivity, which in turn depends on proper maintenance activities during the gestation

period. Thus, households were forced to use family labour/labour in exchange immediately after completion of maintenance activities under MGNREGS.

**Table 3.10: Problems reported by RoFR beneficiary households at the time of maintenance activities undertaken by MGNREGS (%)**

Problem	PVTG	non-PVTG	Total
Maintenance works were not carried out in prescribed norm	31.6	36.9	35.9
Few labours were engaged	36.8	31.0	32.0
Muster roll had not been properly maintained	31.6	32.1	32.0
Female labourer were not involved	15.8	34.5	31.1
No inspection by the superior authorities	42.1	27.4	30.1
MGNREGS field assistants were not cooperative	42.1	25.0	28.2
Only known/influence people were engaged in work	57.9	20.2	27.2
Wrong entry in the job card	36.8	21.4	24.3
Gram Sabha recommendations not executed	26.3	14.1	16.3

Source: Field Study, 2019 and 2020

About 24 per cent of households reported wrong entry of number of days in the job card. They worked more number of days than that stated in the job card (Table 3.10). Perhaps, family labour used for the maintenance activities were ignored. They convinced to households by stating that government is providing huge benefits which will enhance their well-being for a longer period. As such it is their moral duty to contribute some labour voluntarily. About 16 per cent of households mentioned that GS decision was undermined while executing the work (Table 3.10). The field assistant took the lead while undertaking the maintenance activities. They never consulted GS while executing the work. In fact, they did not like the interference of GS members while undertaking maintenance activities. It is also true that GS was not effective in taking various developmental decisions in the village. The influential persons, for their own interest, controlled the GS activities. As such, GS was weak in many villages.

Despite all such problems, all households believe that involvement of MGNREGS for maintenance activities is necessary. It is so because, maintenance activities require adequate and timely availability of labour, which they cannot afford in terms of wage payment. The output generated from lands before horticultural plantation was subsistence oriented and meant

for self-consumption. A little income left over self-consumption which they can't invest for horticultural plantation.

### **3.6. Conclusion**

The discussion clearly stated that Andhra Pradesh is one of the leading states in terms of recognition of individual rights of tribal over the forest land under cultivation. The state also took initiatives to enhance income from the RoFR recognised land. The land development, distribution of farm inputs, labour support under MGNREGS, arrangement of irrigation facilities, etc. started in convergence with other government depts. However, there are ground level leakages while executing the schemes. These leakages need to be addressed to maximise benefits from the scheme.



### Annexure to Chapter 3

**Table 3A: Average number of person days used for maintenance activities during the first year of horticultural plantation (no. of days/acre)**

Households: PVTG

Sl. No.	Activity	Family labour		MGNREGS Labour			
		Male	Female	Family labour		Other labour	
				Male	Female	Male	Female
<b>1st Year</b>							
1	Land preparation	2	8	1	2	1	1
2	Digging pit	6	2	2	2	1	1
3	Plantation	2	4	2	0	0	2
4	Irrigation development	2	3	2	1	1	1
5	Weeding	3	7	2	1	2	2
6	Gap filling	3	5	1	1	2	2
7	Fencing	6	1	1	2	1	1
	<b>Total</b>	<b>24</b>	<b>30</b>	<b>11</b>	<b>9</b>	<b>8</b>	<b>10</b>
<b>2nd Year</b>							
1	Terracing	4	7	3	1	3	3
2	Weeding	3	3	2	1	2	2
3	Fire path making	1	6	2	1	2	0
4	Fencing	6	1	3	2	0	3
	<b>Total</b>	<b>14</b>	<b>17</b>	<b>10</b>	<b>5</b>	<b>7</b>	<b>8</b>
<b>3rd Year</b>							
1	Terracing	4	2	2	0	2	2
2	Weeding	3	7	1	1	1	2
3	Fire path making	4	3	2	0	1	2
4	Fencing	5	5	3	0	2	0
	<b>Total</b>	<b>16</b>	<b>17</b>	<b>8</b>	<b>1</b>	<b>6</b>	<b>6</b>
<b>4th Year</b>							
1	Terracing	1	7	2	0	1	2
2	Weeding	2	2	1	0	2	0
3	Fire path making	5	1	1	1	1	3
4	Fencing	2	7	1	1	2	0
	<b>Total</b>	<b>10</b>	<b>17</b>	<b>5</b>	<b>2</b>	<b>6</b>	<b>5</b>

Note: the total figures may differ from the sum of activities due to roundup of the figures. Source: Field Study, 2019 and 2020

**Table 3B: Average number of person days used for maintenance activities during the first year of horticultural plantation (no. of days/acre)**

Households: non-PVTG

Sl. No.	Activity	Family labour		MGNREGS Labour			
		Male	Female	Family labour		Other labour	
				Male	Female	Male	Female
1st Year							
1	Land preparation	5	1	1	2	1	4
2	Digging pit	1	4	3	1	6	1
3	Plantation	6	6	3	1	0	2
4	Irrigation development	4	7	1	0	2	1
5	Weeding	4	5	3	0	3	1
6	Gap filling	4	6	1	1	1	0
7	Fencing	5	1	6	2	2	2
	Total	29	30	18	7	15	11
2nd Year							
1	Terracing	6	2	4	1	2	3
2	Weeding	4	8	3	0	2	2
3	Fire path making	2	8	3	1	2	3
4	Fencing	4	2	3	3	2	3
	Total	16	20	13	5	8	11
3rd Year							
1	Terracing	4	1	2	0	2	4
2	Weeding	5	4	3	2	2	4
3	Fire path making	4	3	3	1	2	1
4	Fencing	5	7	1	1	3	0
	Total	18	15	9	4	9	9
4th Year							
1	Terracing	3	7	3	2	1	1
2	Weeding	1	7	3	2	1	0
3	Fire path making	3	3	1	0	0	3
4	Fencing	3	1	3	0	2	0
	Total	10	18	10	4	4	4

Note: the total figures may differ from the sum of activities due to roundup of the figures. Source: Field Study, 2019 and 2020

**Table 3C: Average number of person days used for maintenance activities during the first year of horticultural plantation (no. of days/acre)**

Households: PVTG + Non-PVTG

Sl. No.	Activity	Family labour		MGNREGS Labour			
		Male	Female	Family labour		Other labour	
				Male	Female	Male	Female
<b>1st Year</b>							
1	Land preparation	7	9	2	4	2	5
2	Digging pit	7	6	5	3	7	2
3	Plantation	8	10	5	1	0	4
4	Irrigation development	6	10	3	1	3	2
5	Weeding	7	12	5	1	5	3
6	Gap filling	7	11	2	2	3	2
7	Fencing	11	2	7	4	3	3
	<b>Total</b>	<b>53</b>	<b>60</b>	<b>29</b>	<b>16</b>	<b>23</b>	<b>21</b>
<b>2nd Year</b>							
1	Terracing	10	9	7	2	5	6
2	Weeding	7	11	5	1	4	4
3	Fire path making	3	14	5	2	4	3
4	Fencing	10	3	6	5	2	6
	<b>Total</b>	<b>30</b>	<b>37</b>	<b>23</b>	<b>10</b>	<b>15</b>	<b>19</b>
<b>3rd Year</b>							
1	Terracing	8	3	4	0	4	6
2	Weeding	8	11	4	3	3	6
3	Fire path making	8	6	5	1	3	3
4	Fencing	10	12	4	1	5	0
	<b>Total</b>	<b>34</b>	<b>32</b>	<b>17</b>	<b>5</b>	<b>15</b>	<b>15</b>
<b>4th Year</b>							
1	Terracing	4	14	5	2	2	3
2	Weeding	3	9	4	2	3	0
3	Fire path making	8	4	2	1	1	6
4	Fencing	5	8	4	1	4	0
	<b>Total</b>	<b>20</b>	<b>35</b>	<b>15</b>	<b>6</b>	<b>10</b>	<b>9</b>

Note: the total figures may differ from the sum of activities due to roundup of the figures. Source: Field Study, 2019 and 2020

## **Chapter 4**

# **Livelihood Impact of Post-RoFR Developmental Activities in Andhra Pradesh**

### **4.1. Introduction**

This chapter analyses the livelihood impact of agricultural production activities undertaken in RoFR recognised land in Andhra Pradesh. The state shows good performance in recognition of individual RoFR rights. It also started land development activities and promoted horticulture plantation in RoFR land. It is thus utmost important to discuss on what extent these activities have enhanced livelihoods of tribals in the state.

### **4.2. Asset Ownership by Sample Households**

#### *Human Capital*

Tribal economy is a labour surplus economy. Tribal households have larger family size and all adult members including the younger ones do some sort of livelihoods activities. Children at a young age start assisting their parent in all types of domestic and economic activities. It is also observed that the school going children, at the time of labour needs, support their parents in various economic activities. With growing age they become professional and do various livelihood activities on their own. They also do all household chores at a younger age which helps the female members to attend livelihood activities. As such they can easily allocate labour for all sought of livelihood activities.

Availability of surplus labour is one of the main reasons for their involvement in traditional livelihood activities which do not require much investment. These activities also do not require any technical skills. Low educational attainment is also responsible for their involvement in traditional livelihood activities. About 82.5 per cent of head of the household were not formally literate. Only 18.3 per cent of household members could able to attend class 10. And, only 6.2 per cent of persons could able to qualify intermediate and above. Educated households are more advanced than the households with no educational attainment. These households actively participate in village politics and could able to grab schemes implemented by the state government. They have better knowledge about the welfare schemes and profitable livelihood activities. They show more interest on less labour intensive and high income generating activities. Thus, besides their traditional agricultural activities, they also attend to non-agricultural wage employment activities. Many of them have started petty business activities.

Entrepreneurship is quite popular in some regions. Varieties of business activities have emerged in tribal locations. There is a shift from traditional cultivation practices such as growing paddy and millets to profitable horticultural and cash crops. There is a clear visibility of transformation from the traditional indigenous society to modern society with all types of modern livelihood activities.

On the other hand, many uneducated/educated households still cultivating low valued crops and used to work in casual employment activities that generate less income. Low resources base does not allow them to adopt modern agricultural activities. They are forced to migrate outside cities and work in riskier employment activities at a lower wage.

### *Social Capital*

The tribals have good social value. Tribal habitations are homogenous in nature. Many decisions with regards to welfare of the village are taken in mutual understanding. Traditionally they have many social organisations like Kulapanchayat. In recent years, their group behaviour has been well recognised by the state government. Van Smarakshana Samities (VSS), PESA and FRCs are outcomes of such recognition. Gram Sabha has been empowered to establish self-governance system for effective management of natural resources around them, execution of welfare schemes in the village, reduce external exploitations and establish harmony with the government officials. The VSS is found three out the ten sample villages, PESA is operationalized in nine sample villages, and FRCs are constituted in all Gram Pancayats. The VSS is managing common forest resources around their village. The podu land is also being managed by them. It also became a powerful entity in executing various welfare schemes in the village. They regulate the marketing of NTFPs to GCC.

Gram Sabha meeting has been regularly conducted in sample villages as per the PESA guideline and it is a powerful entity to decide various welfare schemes in the village. The PESA president and other members are regulating various activities in the village. Their political empowerment significantly reduced corruption in the village. They also attempted in establishing effective self-governance system by reducing economic exploitations. However, it is complained by the households that they are not adequately empowered to monitor various activities in the village. The bureaucratic control is still prevalent and they are unable to reduce the supremacy of local level government officials. Though they know their power and functions according to the Act are unable to execute their power. The government officials used them as a weapon as such they are more royal to the officers than the villagers. Similarly, all FRC

members are not powerful to protect the interest of poor people. They misutilised their power by helping some households and by ignoring others. They act like bureaucrat and follow instructions of government officials. They are not empowered enough to justify claims of households. They also could not able to operationalize their duties properly.

### *Natural Capital*

All sample households possess land. They also cultivate podu land. The average area under cultivation is 3.51 acres with 3.83 acres for PVTG households and 3.33 acres for non-PVTG households. The corresponding figures for podu land are respectively 4.56, 3.77 and 5.0 acres. All households are involved in cultivation activities. Paddy, pulses and vegetable are cultivated in plain lands whereas millets and grams are grown in podu area. Podu land is also used for growing horticultural crops. The fragmentation of landholding due to division of family is increasing pressure on land. The land distributed among them is unable to meet the whole consumption demand. As such they are forced to depend on market. Many households cultivate multiple crops and vegetables so that their market dependency can be reduced. However control of fragmentation of landholding is a big challenge. As such there is a need to enhance land productivity and shift the cultivation pattern to more profitable crops to enhance household well-being.

### *Physical Capital*

Households are not fortunate in terms of possessing physical assets. Households are facing challenges with regards to access to agricultural equipment, latest technology, extension services, assured irrigation facility, agricultural inputs and marketing services. Lack of basic infrastructural services and equipment is mainly responsible for adoption of livelihoods strategies that require less physical capital. Households do prefer to cultivate crops that need less physical assets. They also prefer wage employment activities which do not required any physical capital. A few villages have access to inputs market, extension services, irrigation facilities, and suitable marketing channels such as GCC and Shandy market. Households in these villages could able to grow varieties of crops that generate more income. Better access to physical capitals is well correlated with households' possession of landholdings and road connectivity. Institutional support also plays a crucial role in creating private physical capitals. Due to remoteness of the area and poor road connectivity, technology, inputs and extension services are not reaching to the households. Some agencies are imparting technological and extension services in villages. These are also not reaching to more villages. Marketing

exploitations are quite prevalent which transfers a major share to the buyer. Hence, adequate institutional support is required to facilitate households for creating more physical assets to adopt better livelihood strategies.

### *Financial Capital*

Many households do not have adequate financial resources to adopt better livelihood strategies. The income generated from current livelihood activities is so low and not sufficient for saving and investment. Low agricultural productivity along with marketing exploitations, higher debt, lack of loan and insurance facilities, and low income from non-agricultural activities are some reasons for lack of adequate financial capital. It is a vicious cycle. With traditional cultivation system, households generate fewer outputs. Further households get low prices while selling their output to the trader/similar agents. Lower outputs coupled with marketing exploitations generate low income which is always inadequate to meet family expenses and invest for better return. Households are forced to rely on loan/credit for their various financial needs. But banks and GCC are always reluctant to provide loans as there is a higher chance of default. As such households forced to take loans from the informal sector at a higher interest rate which is repaid by selling outputs to the concerned agent at a low price. Such process generates lower income. Lower income with growing household expenses causes continued dependency on the informal sector for credit needs. Thus, adequate institutional interventions are required to break the vicious cycle, make households self-dependent for their all financial needs and their financial dependency on to informal sector can be minimised.

## **4.3. Livelihood Strategies**

Households' capital endowment couple with government interventions to create asset base mainly determines choice of a livelihood strategy. Households mainly involved livelihood strategies that require more of human and natural resources and less of physical and financial capitals. All livelihood activities adopted by the sample households can be categorised into agriculture, livestock, forestry and wage employment activities.

### **4.3.1. Agriculture**

Households grow various crops as a single crop or as inter-crop during khariff and rabi seasons. Major crops grown by households are paddy, turmeric, groundnut, coffee, cashew ragi and vegetables. Households also grow various millets, pulses and fruits. But their share in terms of area and value is less and restructured to certain areas. Major crops are grown for generate

income while the minor crops meant for self-consumption. In principle, households grow several crops to reduce excess dependency on market. All these crops are grown in both RoFR land and other lands. However, households got convergence benefits only for the horticultural plantation.

### ***Crops grown in RoFR Recognised Land***

Table 4.1 A&B shows nature of crops grown in RoFR recognised land and the situation before recognition. As rice is the staple food for the households, their first preference is cultivation of paddy. Paddy is mainly cultivated during Kharif although it is also cultivated during Rabi in some areas with rich water sources. Besides consumption, many households sold paddy. Other cereals and pulses are cultivated for home consumption. Only vegetables and cash crops are cultivated to generate income. These crops involved huge family labour and labour in exchange besides an average purchased cost of Rs. 1621. Households mainly prefer to cultivate crops which generate more income. As such cashew, coffee, fruits and turmeric are most preferred crops. It is so because these crops don't require much investment except family labour. The climate and soil condition are more suitable to these crops. Vegetables, mainly chilli and tomato are found in areas with rich water availability. There is not much change in cropping pattern after receiving land title. The cultivation of some crops continued even after receiving the land title. But the change is visible in terms of declining total area under millets and pulses whereas total area under cash crops like coffee, turmeric, fruits and vegetables has been increased. Such changes are due to the support provided by various Govt. Departments in promotion of commercial crops in the tribal areas of Andhra Pradesh.



**Table 4.1A: Area under crops in RoFR Recognised land (in Acre)**

Crop	PVTG			non-PVTG			Total			Average area
	RoFR beneficiary			RoFR beneficiary			RoFR beneficiary			
	With Convergence	Without Convergence	Sub-total	With Convergence	Without Convergence	Sub-total	With Convergence	Without Convergence	Total	
Paddy	39.5	33.4	72.9	42.1	65.4	107.5	81.6	98.9	180.4	2.2
Jowar	0.0	4.1	4.1	5.0	6.1	11.1	5.0	10.2	15.2	1.2
Bajra	0.0	4.1	4.1	5.0	6.1	11.1	5.0	10.2	15.2	1.2
Ragi	21.1	19.7	40.7	40.4	73.8	114.2	61.4	93.5	154.9	1.3
Small Millets	7.8	1.6	9.4	5.9	13.4	19.3	13.6	15.1	28.7	0.5
Other cereals	0.0	0.0	0.0	0.6	0.5	1.1	0.6	0.5	1.1	0.6
Blackgram	4.8	0.0	4.8	0.0	0.7	0.7	4.8	0.7	5.5	0.5
Greengram	5.9	0.0	5.9	1.0	0.0	1.0	6.9	0.0	6.9	0.7
Bengalgram	0.0	0.0	0.0	0.0	0.5	0.5	0.0	0.5	0.5	0.5
Redgram	10.3	8.9	19.3	2.3	9.1	11.5	12.7	18.1	30.7	0.5
Groundnut	0.0	0.0	0.0	12.5	0.0	12.5	12.5	0.0	12.5	4.2
Cotton	0.5	0.0	0.5	0.2	0.0	0.2	0.6	0.0	0.6	0.2
Coffee	2.2	17.0	19.1	2.7	31.6	34.3	4.9	48.6	53.4	2.1
Mango	0.0	0.0	0.0	11.7	0.0	11.7	11.7	0.0	11.7	1.2
Cashew	23.1	2.6	25.7	66.3	2.4	68.7	89.4	5.0	94.4	1.2
Citrus	0.0	0.0	0.0	0.5	0.0	0.5	0.5	0.0	0.5	0.5
Banana	0.0	0.0	0.0	0.2	0.0	0.2	0.2	0.0	0.2	0.2
Pineapple	0.0	0.0	0.0	10.1	0.0	10.1	10.1	0.0	10.1	0.8
Other Fruits	0.0	0.0	0.0	3.4	0.0	3.4	3.4	0.0	3.4	0.6
Vegetables	0.0	0.0	0.0	4.2	0.0	4.2	4.2	0.0	4.2	0.5
Turmeric	23.8	28.6	52.3	38.8	90.4	129.2	62.5	119.0	181.5	2.2
Pepper	0.1	0.0	0.1	0.0	6.7	6.7	0.1	6.7	6.8	0.6
Others	17.5	3.2	20.6	32.1	17.9	50.0	49.6	21.1	70.6	1.0

Source: Field study (2019 & 2020)

**Table 4.2B: Crops grown in land before recognition of RoFR (in Acre)**

Crop	PVTG			non-PVTG			Total			Average
	RoFR beneficiary			RoFR beneficiary			RoFR beneficiary			
	With Convergence	Without Convergence	Sub-total	With Convergence	Without Convergence	Sub-total	With Convergence	Without Convergence	Sub-total	
Paddy	33.2	35.7	68.8	41.4	52.4	93.8	74.6	88.0	162.6	2.3
Jowar	0.0	2.2	2.2	15.6	9.1	24.7	15.6	11.3	26.9	1.2
Bajra	6.0	0.0	6.0	4.5	0.0	4.5	10.5	0.0	10.5	2.6
Maize	0.0	0.0	0.0	9.2	2.1	11.2	9.2	2.1	11.2	1.4
Ragi	24.5	34.7	59.2	51.0	88.0	139.0	75.5	122.7	198.2	1.6
Small Millets	19.0	3.0	22.0	6.4	17.5	23.9	25.4	20.5	45.9	0.8
Barley	0.0	0.0	0.0	0.2	0.0	0.2	0.2	0.0	0.2	0.2
Other cereals	0.0	0.0	0.0	1.2	0.5	1.7	1.2	0.5	1.7	0.6
Blackgram	3.5	0.0	3.5	0.0	1.5	1.5	3.5	1.5	5.0	1.7
Greengram	7.8	0.0	7.8	1.0	0.0	1.0	8.8	0.0	8.8	2.2
Bengalgram	0.0	0.0	0.0	0.0	0.5	0.5	0.0	0.5	0.5	0.5
Redgram	15.1	11.6	26.8	11.8	22.7	34.5	26.9	34.3	61.2	0.9
Groundnut	0.0	0.0	0.0	12.5	0.0	12.5	12.5	0.0	12.5	4.2
Cotton	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.1
Jute/Mesta	1.1	0.0	1.1	0.7	0.0	0.7	1.8	0.0	1.8	0.6
Mango	0.0	0.0	0.0	9.0	0.0	9.0	9.0	0.0	9.0	1.3
Cashew	16.4	2.6	19.0	35.9	2.4	38.3	52.3	5.0	57.3	1.1
Banana	0.0	0.0	0.0	0.5	0.0	0.5	0.5	0.0	0.5	0.5
Pineapple	0.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	1.3
Other Fruits	0.0	0.0	0.0	0.5	0.0	0.5	0.5	0.0	0.5	0.5
Vegetables	0.0	0.0	0.0	3.4	0.0	3.4	3.4	0.0	3.4	0.6
Turmeric	22.2	27.2	49.3	26.2	60.8	87.0	48.4	87.9	136.3	2.1
Others	2.4	4.6	7.0	19.6	47.5	67.2	22.0	52.1	74.2	2.1

Source: Field study (2019 & 2020)

### *Crops grown in non-RoFR land*

Table 4.2 shows crops grown in land other than RoFR recognised land. The cultivation practices is about the same as the crops grown in RoFR recognised land. Paddy, ragi, cashew, coffee, turmeric and vegetables are mainly cultivated in these lands. These lands located in plain areas and some have access to good water sources.

**Table 4.2: Crops grown in other than RoFR recognized land (Acre)**

Crop	RoFR beneficiary			RoFR non-beneficiary	Total	Average
	With Convergence	Without Convergence	Sub-total			
Paddy	50.0	70.4	120.4	174.9	295.2	2.0
Jowar	0.6	0.0	0.6	0.0	0.6	0.6
Maize	2.4	0.0	2.4	0.0	2.4	0.8
Ragi	1.5	0.0	1.5	70.2	71.7	1.0
Small Millets	0.0	0.0	0.0	19.8	19.9	0.7
Redgram	6.8	0.6	7.5	12.5	20.0	0.6
Other pulses	0.0	1.0	1.0	0.0	1.0	1.0
Groundnut	4.5	6.0	10.5	10.4	20.9	2.6
Cotton	0.5	0.7	1.2	0.0	1.2	0.6
Coffee	7.5	48.6	56.1	65.1	121.2	1.5
Mango	4.6	4.1	8.7	0.0	8.7	0.8
Cashew	16.8	24.8	41.6	44.3	85.9	1.4
Citrus	0.8	0.0	0.8	0.0	0.8	0.8
Pineapple	1.5	3.0	4.5	0.0	4.5	0.6
Other Fruits	0.6	0.2	0.8	0.0	0.8	0.3
Tomato	2.2	6.4	8.6	7.8	16.4	1.0
Chillies	12.7	10.4	23.1	9.7	32.8	1.1
Other vegetables	25.2	47.9	73.1	106.9	180.1	2.0
Turmeric	70.5	67.0	137.5	125.6	263.1	2.1
Pepper	0.0	21.1	21.1	34.7	55.8	1.4
Others	34.6	32.8	67.5	62.1	129.5	2.1

Source: Field study (2019 & 2020)

### *Income from agriculture*

Table 4.3 shows monthly per capita income (MPI) from RoFR recognised land, other land and total among the sample households. It shows that income generated from other lands is higher than of income generated from RoFR land. It is so because other lands are located in plain areas where households grown many profitable crops including paddy and vegetables. RoFR lands are suitable only for pulses, small millets, and horticultural lands. Smaller land size coupled

with lower area under the horticultural crops is mainly responsible for lower income from the RoFR land. The PVTG households have more income from agriculture in comparison to that of non-PVTG households. The RoFR beneficiary households generate more income than that of non-beneficiary households. Similarly, the RoFR beneficiaries who got convergence benefit have less agricultural income than that of RoFR beneficiaries who don't receive the convergence benefits. It is so because these households could not able to generate more income from the RoFR recognised land. This is equally true for both PVTG and non-PVTG households.

**Table 4.3: Monthly Per capita Income (MPI) of Sample Households and its Components (Rs.)**

Group	RoFR Beneficiary	Agriculture			Livestock	Forestry	Wage Employment	Others	Total
		RoFR land	Other land	Total					
PVTG	With Convergence	946.7	172.0	1118.6	81.0	30.9	341.6	36.2	1608.3
	Without Convergence	1259.3	1009.4	2268.6	41.7	28.8	207.3	100.4	2646.8
	Sub-total	1082.8	536.6	1619.4	63.8	30.0	283.1	64.2	2060.5
	Non-beneficiary	0.0	1452.6	1452.6	83.9	62.5	269.3	107.9	1976.2
	Total	706.7	854.8	1561.5	70.8	41.3	278.3	79.4	2031.2
non-PVTG	With Convergence	715.6	638.5	1354.2	92.6	57.9	268.8	41.5	1815.1
	Without Convergence	1079.5	556.1	1635.6	91.1	56.1	390.1	66.7	2239.5
	Sub-total	866.9	604.3	1471.1	92.0	57.2	319.2	52.0	1991.5
	Non-beneficiary	0.0	1350.1	1350.1	67.1	81.5	373.4	110.0	1982.2
	Total	648.0	792.5	1440.6	85.7	63.3	332.9	66.6	1989.2
Total	With Convergence	780.3	507.9	1288.2	89.4	50.4	289.2	40.1	1757.2
	Without Convergence	1132.9	690.6	1823.4	76.5	48.0	335.8	76.7	2360.4
	Sub-total	928.8	584.9	1513.7	83.9	49.4	308.8	55.5	2011.3
	Non-beneficiary	0.0	1389.9	1389.9	73.6	74.1	333.0	109.2	1979.9
	Total	666.5	812.2	1478.7	81.0	56.4	315.7	70.7	2002.4

Source: Field Study (2019 and 2020)

Agricultural practices in this region mainly governed by soil condition, choice towards more profitable crops, institutional support for horticultural crops, and information flow about the benefits of better crops. Thus, there is a noticeable shift from traditional crops like millets and pulses to the horticulture crops and vegetables. But such transformations are concentrated to few regions and helping to few farmers. The institutional supports are also not conducive to households that lack adequate information and resource endowments. It requires a different policy approach that can help the poor to create assets and adopt better strategies to enhance income from agriculture.

#### **4.3.2. Wage Employment**

Wage employment activities are second largest contributor to household income (Table 4.3). All households are involved in some kinds of agricultural and non-agricultural wage employment activities located in nearby cities and in other states. Most of these activities are seasonal or for the few months of the year and highly unskilled in nature. More persons are involved in non-agricultural activities than the agricultural activities. It is so because non-agricultural activities provide more income for a longer period of time and less risky than the agricultural labour activities. The younger generation are more interested in non-farm activities. Both demand-pull and cost-push migrations are usual practices in all sample households. While demand-pull migration is more prominent among the younger generation, the poor, due to low income base, are forced to migrate to other cities and work as casual labour. All households are also involved in MGNREGS activities. The dependency on non-agricultural wage activities is comparatively less for households with more income from agriculture. Income security provides them and option to choose better livelihood activities. As such they prefer to work less risky activities.

High risks involved on the way of adopting any wage employment activity. Households due to lack of other secure livelihood activities are highly vulnerable to risks involved in the wage employment sector. But poverty and more dependents in the family are forced them to work on such vulnerable activities. There is no institutional safeguard to protect households against threats from the wage employment activities. Households are not aware of the labour laws and compensation against the risks faced while involved any wage employment activities. However, most labour activities are not coming under the purview of formal laws. As such their livelihood vulnerability continues despite of working for a longer period of time. Also,

there is no NGO or similar organisations that can provide adequate safeguards against exploitations faced by tribals at the worksite.

These years experienced increasing income from wage employment activities with a falling income from livestock rearing and forestry. As such, there is a movement from these sectors to the wage employment activities. Large numbers of individuals are now shifting to cities and involved in some kinds of non-agricultural labour activities. It is expected that dependency on wage employment activities will increase in future and livelihoods vulnerability will increase if there is no secure income from agriculture and other livelihood activities.

### **4.3.3. Livestock Rearing**

Some households depend on livestock rearing for their subsistence living. They nurture small ruminants and poultry. Small ruminants nurture for live sale whereas poultry is mainly for home consumption. A few households sell poultry. They are mostly poor and have less income from agricultural activities. A higher dependency on livestock rearing is mainly because of the availability of free grazing land. Livestock rearing also do not required any investment other than human labour. The ITDA is encouraging livestock rearing by distributing chicks and small ruminants. Households generally prefer to sale livestock in the shandy market as there is more chance of getting higher price. Some are also selling in the roadside where meat sellers used to visit to purchase small ruminants.

Households are facing two types of risks in the process of livestock production. Disease deaths are quite common due to lack of adequate veterinary services. Secondly, households are not getting remunerative price for their livestock. The buyer always offers a lower price. Disease deaths and lack of adequate grazing land couple with lower market price most of the time discourage households for livestock rearing. Though ITDA encourage households for livestock rearing, is unable to meet the demand for provision of adequate veterinary services.

Now more households are interested of livestock rearing. Increased demand for non-veg items created greater opportunities for rearing livestock. The disease deaths are significantly come down and households are now purchase feeder from the market. In order to increase income from livestock production, adequate support in terms of better access to veterinary services and provision of hybrid varieties of livestock is required from the ITDA side. Provisions should be made to the poor and needy people.

#### **4.3.4. Forestry**

Some households collect Non-timber Forest Products (NTFPs) from the forest surrounding their village. The poor and RoFR non-beneficiary households of both PVTG and non-PVTG have more income from forestry (Table 4.3). Van Smarkshana Samities (VSS) constituted in some villages have exclusive rights over certain CPRs. Non-VSS members also collect NTFPs from the forest. No sample household has claimed right over NTFPs under FRA. Households face heavy competition while collecting NTFPs. Most of the forests are degraded and the collection of NTFPs experienced a decline. Households are not getting remunerative price from selling NTFPs. Traders offer lower price. They also get lower price in the shandy market. Though there are policies/institutions (e.g. GCC) to safeguard households by procuring NTFPs at support price, households due to ignorance are not able to receive the benefits. The GCC depots are not easily accessible to households. As such NTFPs selling is not a profitable business. Income from NTFPs serves either for the subsistence living or an additional income to total household income. As such households shifted their attention from NTFP collection to non-agricultural wage employment activities.

#### **4.4. Livelihood Outcomes**

##### **4.4.1. Impact on Income and Employment**

Table 4.4 shows monthly per capita income (MPI) of sample households in the last agricultural year. It shows that the mean income difference between the PVTG and non-PVTG households is not statistically significant. The same holds true for income derived from agriculture and non-agricultural activities. Among the PVTG households, the mean income from agriculture of RoFR beneficiaries with convergence is significantly different from that of RoFR non-beneficiaries. Such a difference causes a mean difference in total income between these two groups. However, the mean income from agriculture among these two categories is not significantly different from RoFR non-beneficiary households. Among the non-PVTG households, the mean income difference among these three categories of RoFR beneficiary households is not statistically significant although the mean income from non-agriculture of RoFR beneficiary with convergence is significantly different from RoFR beneficiary without convergence and RoFR non-beneficiary. As a result, the RoFR beneficiary households without convergence could able to generate more income than the RoFR beneficiary with convergence.



**Table 4.4: Monthly Per capita Income (MPI) of sample households during last agricultural year (Rs)**

Group	RoFR Beneficiary	PVTG	non-PVTG	t#	Total
Agriculture	With Convergence	1118.6	1354.2	0.474	1288.2
	Without Convergence	2268.6	1635.6	2.604	1823.4
	Non-beneficiary	1452.6	1350.1	0.009	1389.9
	F <sup>^</sup>	4.922***	0.998		4.243**
	Total	1561.5	1440.6	1.392	1478.7
non-Agriculture	With Convergence	489.7	460.9	2.883*	469.0
	Without Convergence	378.1	603.9	2.740*	536.9
	Non-beneficiary	523.6	632.1	2.142	590.0
	F <sup>^</sup>	1.436	4.097**		2.648*
	Total	469.7	548.6	0.265	523.7
Total	With Convergence	1608.3	1815.1	0.048	1757.2
	Without Convergence	2646.8	2239.5	1.579	2360.4
	Non-beneficiary	1976.2	1982.2	0.738	1979.9
	F <sup>^</sup>	3.321**	1.583		4.294**
	Total	2031.2	1989.1	0.431	2002.4

Test of significant result (ANOVA)

Multiple Comparisons					
Income from	RoFR beneficiary	RoFR beneficiary	PVTG	Non-PVTG	Total
Agriculture	With Convergence	Without Convergence	Yes		Yes
		RoFR non-beneficiary			
	Without Convergence	With Convergence	Yes		Yes
		RoFR non-beneficiary			Yes
Non-Agriculture	With Convergence	Without Convergence		Yes	
		RoFR non-beneficiary		Yes	Yes
	Without Convergence	With Convergence		Yes	
		RoFR non-beneficiary			
Total	With Convergence	Without Convergence	Yes		Yes
		RoFR non-beneficiary			
	Without Convergence	With Convergence	Yes		Yes
		RoFR non-beneficiary			

Note: # independent sample t-test has been carried out to test significance difference in income between PVTG and non-PVTG households. ^ One way ANOVA test has been carried out to test significant mean difference between RoFR beneficiary with convergence, RoFR beneficiary without convergence and RoFR non-beneficiary households. \*\*\* significant at .01 per cent level, \*\* significant at .05 per cent level, \* significant at .10 per cent level, <sup>NS</sup> not significant. Source: Field Study, 2019.

Further a comparison of levels of income of RoFR beneficiary households with convergence before and after convergence shows that the level of income during the post-convergence period is significantly higher than the pre-convergence period for all groups of households (Table 4.5). The agricultural income remained the dominant contributor to the total income followed by the wage employment activities. The share of agriculture during these two periods remained the same and the share of wage employment has been increased whereas the share from other sources declined. Thus, this change can be attributable to increasing inflation over the years.

**Table 4.5: Monthly Per capita Income (Rs.) of RoFR beneficiary households before and after receiving the convergence benefits and share (%) of different sources of livelihoods**

	PVTG	non-PVTG	Total
MPI after Convergence	1608.3	1815.1	1757.2
% from Agriculture	69.6	74.6	73.3
% from Livestock	5.0	5.1	5.1
% from Forestry	1.9	3.2	2.9
% from Wage employment	21.2	14.8	16.5
% from Others	2.3	2.3	2.3
MPI before Convergence	947.1	1212.8	1138.4
% from Agriculture	74.3	73.9	74.0
% from Livestock	8.1	5.6	6.1
% from Forestry	6.7	4.3	4.9
% from Wage employment	9.5	13.8	12.8
% from Others	3.2	2.9	3.0
T	2.130**	3.461***	4.060***

Note: independent t-test for testing mean difference of income among the RoFR beneficiaries before and after receiving the convergence benefits. \*\*\* significant at 0.01 per cent level, \*\* significant at 0.05 per cent level. Source: Field Study, 2019 and 2020.

Table 4.6 shows main source of livelihood before and after the convergence benefits. Before horticultural plantation, main source of livelihood was agriculture for 62.3 per cent of households, wage employment for 22.7 per cent of households, forestry for 6 per cent of households and livestock rearing for the remaining 8.5 per cent of households. But after horticulture plantation, agriculture became main source of livelihood for the 51.9 per cent of households whereas the proportion of households dependent on agricultural wage and non-

agricultural wage has been increased. The involvement in self-employment activities is negligible. However, more PVTG households could able to retain in agriculture. Their dependency on agricultural wage, forestry and livestock has come down.

**Table 4.6: Main source of livelihood among the RoFR beneficiaries before and after convergence benefits (%)**

Group	RoFR beneficiary	Agriculture	Agri. Casual labour	Self-employed in services	Non-agri. casual labour	Forestry	Livestock	Total
PVTG	Before convergence	52.6	26.3	0.0	5.3	15.8	0.0	100.0
	After convergence	73.7	0.0	0.0	26.3	0.0	0.0	100.0
non-PVTG	Before convergence	64.4	11.5	3.4	5.7	4.6	10.3	100.0
	After convergence	47.1	32.2	1.1	19.5	0.0	0.0	100.0
Total	Before convergence	62.3	14.2	2.8	5.7	6.6	8.5	100.0
	After convergence	51.9	26.4	0.9	20.8	0.0	0.0	100.0

Source: Field Study, 2019

#### 4.4.2. Impact on Other Dimensions of Well-being

RoFR beneficiaries have highlighted eight welfare changes due to horticultural plantation: a) increased consumption expenditure, b) decline in distress migration, c) repayment of loans, d) meeting medical expenses, e) renovation/ building house, f) increased bargaining power, g) purchase of household durables, and h) improved social status (Table 4.7). Highest number of households (about 56 per cent) reported about increased consumption expenditure after horticultural plantation. The increase was more in the case of PVTG households. The increased consumption expenditure was mainly in terms of purchase of non-food items and protein rich food items. The consumption of small millet had been replaced by rice purchased from the market. Consumption of quality food items like vegetables, egg and meat purchased from the market also increased.

**Table 4.7: Major welfare changes among the RoFR beneficiaries after convergence benefits (%)**

Welfare change	PVTG	non-PVTG	Total
Consumption expenditure	65.5	52.9	56.4
Repayment of loans	48.5	57.6	55.1
No distress migration	53.5	44.4	46.9
Purchase of household durable	38.8	49.1	46.2
Renovation/building house	51.0	41.6	44.2
Meeting medical expenses	31.5	30.3	30.6
Improved social status	29.2	28.3	28.6
Increased bargaining power	21.8	28.3	26.5

Source: Field Study, 2019 and 2020

About 55 per cent of households mentioned that repayment of loans was one of the strongest impacts of horticultural plantation (Table 4.7). They could able to generate sufficient income after selling coffee, cashew, mango, pineapple, etc., which was used to repay loans taken from the informal sector at a higher interest rate. Another fact can also be noticed that as compared to PVTG households (57.1 per cent), a higher proportion of non-PVTG households (67.8 per cent) had repaid the loans. About 54 per cent of households mentioned that distress migration was significantly reduced after horticultural cultivation. Reduction of distress migration was more among the PVTG households.

About 54 per cent of households have informed that income generated from horticultural production was used for purchase of household durables like electronics items (Table 4.7). In comparison to PVTG households, more number of non-PVTG households had purchased household durables. A few PVTG households could able to purchase household durables. It implies that most of the PVTG households are still indigenous in nature and do not feel the necessity of purchase of household durables.

About 52 per cent of households mentioned that income generated from horticultural plantation was used for renovation/construction of house (Table 4.7). More numbers of PVTG households have started construction of new houses. Even pucca houses are now found in interior areas. Such progresses are obviously due to increasing household income, particularly from agricultural activities. About 32 per cent of households mentioned that income generated from horticultural activities was used to meet medical expenses (Table 4.7). Households could able to maintain deposits in banks in order to meet unforeseen contingencies. In comparison to non-PVTG households, more number of PVTG households mentioned about the use of income from horticultural crops for meeting health expenditure.

About 34 per cent of households had mentioned that their social status had been improved after increasing income from agricultural activities (Table 4.7). According to them, a rich person has more social value in terms of friendly relationship with more people, can take the leadership role, active participation in village level cultural and social activities, represent in politics e.g. Sarapanch, ward member, etc. Increased social status was around same between the PVTG and non-PVTG households.

About 31 per cent of households, including 33 per cent of non-PVTG and 26 per cent of PVTG households, mentioned about an improvement in bargaining power after increased income from horticultural plantation (Table 4.7). Earlier days, traders were highly exploitive while procuring agricultural and forest produce from the tribal habitations. But the phenomenon has been changed in recent years. Households had adequate bargaining power. They do not have forced dependency on to traders and have an option to choose a buyer that offers a higher price. In many villages, monopsony structure of trade relationship disappeared. Traders are now establishing friendly relationship with the households, sanctioning interest free loans and procuring agricultural produce without much problem. It was also observed that households in same villages sold their produce to traders, GCC and also Nandi Foundation. Even households sold their produce to more than one buyer. All such changes happened due to increased household income and spread of adequate knowledge system.

However, still quite large proportion of households had low bargaining power and trade related exploitation was quite prevalent. Lower bargaining power was even observed for households with more income from agricultural plantation. Although households have adequate knowledge about trade related exploitation, they were forced of being exploited due to factors such as absence of alternative trading system, lack of transportation facilities, etc.

#### **4.5. Conclusion**

Provision of inputs and labour through MGNREGS in promotion of horticultural plantation proved highly beneficial to the sample households. It has not only helped in mobilising investments (physical capital) in the early years of plantation (gestation period) but also reduced the cost of cultivation. The income levels of RoFR beneficiaries was significantly increased after horticultural plantation. It has significant impact in reducing non-monetary deprivations. But increased income is not sufficient enough to make a difference from the RoFR non-beneficiary households. Also, the increased income after receiving convergence

benefits is not significantly different from the RoFR beneficiaries not received the convergence benefit.

## **Chapter 5**

### **Conclusion and Policy Recommendations**

#### **5.1. Introduction**

The RoFR Act has been implemented in India with a noble cause that the forest dwellers will get the rights over forest land and other resources that they were enjoying since generations. But empirical evidences showed that the Act was not proved successful in improving tribal wellbeing. As such various post-RoFR developmental activities were started in convergence with other Ministries and Departments to enhance income from RoFR land. Various Indian states, including state of Andhra Pradesh, have promoted such activities in their area of jurisdiction and the results are a mixed of successes and failures. The government of Andhra Pradesh is promoting agricultural crops such as cashew, turmeric, coffee, etc. in RoFR recognised land through convergence with MGNREGS.

This study assesses the change in income levels of RoFR beneficiaries after getting the benefits of horticultural plantation in RoFR recognised land. A primary survey has been conducted in few sample villages of Visakhapatnam, East Godavari and Srikakulam areas to understand the process of promotion of horticulture crops in the tribal areas of the state. The study compares income levels of RoFR beneficiary households with convergence benefits with that of RoFR beneficiary households without the convergence benefits. It also makes a comparison of income levels of these groups with the control group RoFR non-beneficiary households. The main findings of this study are as follows:

#### **5.2. Summary of Findings**

Andhra Pradesh is one of the leading states in accepting maximum potential of individual RoFR rights. Most of the claims has been recognized with fewer rejection/pending cases. Although some irregularities were observed during the claim and recognition process, those received title are feeling more secure than before. Some post-RoFR development activities are undertaken by the villages on their own effort.

Lack of information and inadequate support from the executive officers at the village level caused lower spread of horticultural plantations undertaken by ITDA in convergence with other schemes. Many RoFR beneficiaries were deprived off from getting the convergence benefits due to lack of adequate information about the scheme and lack of supporting documents. They could not follow up the application process.

Labour support through MGNREGS proved highly beneficial in terms of supporting investments during the early years of plantation of horticultural crops. Timely labour supply not only reduced the cost of cultivation but also reduced the higher mortality among the plants. But in many villages labour supply through MGNREGS was not adequate and various mismanagement occurred while undertaking maintenance activities.

Tribal households possess adequate human, social and natural capitals but lack physical and financial capitals which are hindering to opt better livelihoods for their overall development. It created vicious cycle of poverty, lower saving and investment, low agricultural income, indebtedness and poverty. The convergence benefits undertaken in RoFR land if implemented properly has the potential to break the vicious cycle.

Households grow various crops in RoFR recognized land. Paddy, millets, cashew, coffee and fruits are major crops. There is a marginal change in gross crop area after recognition of land under RoFR Act with no change in net cropped area. There is also not much shift in cropping pattern. A shift in the cropping pattern from low remunerative millets and pulses to high remunerative horticultural plantations and vegetables happened only in fewer villages.

With commercial agriculture, income from agriculture has been increased over time whereas that from forestry and livestock sectors come down. Household's dependency on non-agricultural wage employment activities also increased over time as the present generation are more interested on it.

The mean income of RoFR beneficiaries with convergence is significantly more than that of RoFR beneficiaries without convergence. The mean difference is due to increased income from agriculture among the PVTG RoFR beneficiaries with convergence. In the case of non-PVTG households, the mean income difference between these two groups is not statistically significant. Also, the mean income of these two groups is not significantly different from the RoFR non-beneficiary households.

The mean income of RoFR beneficiaries during the post-convergence period is significantly higher than their income before the convergence period. It is true for both PVTG and non-PVTG households. However, the proportion of income from agriculture to total household income remained unchanged. As such the incremental income can be attributable to increasing inflation over the years.



The RoFR beneficiary households after increased income from horticultural plantation could be able to attend various non-monetary wellbeing. The types of such benefits are different for PVTG and non-PVTG RoFR beneficiaries. Increased consumption expenditure, reduction in distress migration, construction of new houses, etc. are the major welfare changes observed among the PVTG beneficiaries whereas the non-PVTG households could be able to repay loans, increased consumption expenditure, purchase of household durables, reduction in distress migration, etc. Such changes happened to some households only.

### **5.3. Recommendations**

#### **1. Provisions should be available to all beneficiaries**

Provision of labour through MGNREGS and supply of agricultural inputs and equipment is proving beneficial to RoFR beneficiaries in terms of enhancing net income. But such benefits are restricted to few RoFR beneficiaries only. It is thus necessary to reach the scheme to wider communities where the poor and destitute tribals who due to some reason or other way have excluded from the benefit. The digitalization of the entire scheme implementation process, which is currently being happening in Andhra Pradesh, along with extended support from the local level officials like village volunteers and Gram Sabha in terms of filling forms, submitting required documents, following process, etc. can enable an equal opportunity for the poor. Better knowledge system along with the cooperation of local administrative fonctionnaire can find out the reasons for exclusion of large number of beneficiaries.

#### **2. All the provisions should be as per the norm**

Norms decided by the administration on the basis of which provisions made available to the beneficiaries should be strictly followed. All types of provisions given to the households can be recorded with the beneficiaries' signature. There can be a periodic survey by an independent agency to assess the provisions made to the households and whether there is any deviation from the norm. Such deviations need to be rectified and gaps need to be filled within the six months of time so that farmers can be able to get the benefits at a desirable level.

#### **3. Compulsory land development activities and irrigation facility in all RoFR land**

Land development and irrigation facilities made compulsory for all RoFR land to make these lands viable for commercial crops. These activities will enable them to start some commercial crops on their own at a lower investment which can prosper at the later stage with due support from the state or their own effort. These activities require huge labour and modern farm equipments which households can't afford in terms of financial payments. As such all RoFR

lands should be developed in the state through MGNREGS. Renovation of creek dams/canals and construction of farm ponds through MGNREGS along with provision of water saving farming technologies such as mulching materials and sprinkler at a subsidized rate can serve useful. Such activities not only help the farmer for growing commercial crop but also help in creating additional days under MGNREGS.

#### **4. Provision of farm inputs and tools at subsidized rate**

Horticultural plantations require modern agricultural practices, and more use of farm inputs and machineries. But these are not reaching to the tribal habitations. There is no custom hiring center where farmers can have access to inputs and modern farm machinery. Also, farmers lack information about various crop related disease, best practices, use of balanced inputs, etc. As such they are unable to follow the better farm techniques. With expansion of the farming activities farmers are interested to make investments. Thus, provision of farm equipments at a subsidized price will help them a lot. Agricultural scientist can be appointed at the mandal level to help farmers in extension services. They can have regular visit to villages to provide information on better cultivation practices and marketing channels which can reduce spill-overs and enhance the yield rate.

#### **5. Provision of crop loan on the basis of RoFR land title**

Horticultural activities require huge investment which every farmer cannot support on their own. Most of the farmers need crop loans which is not only essential for the ongoing farming activities but also needed to reduce dependency onto the trader. Many farmers are unable to get crop loans due to varied reasons including collateral security. Banks are not accepting RoFR land title as collateral. The state has to facilitate farmers to take crop loan on the basis of RoFR title. The state government has to provide adequate information/instruction to banks to accept the RoFR title as collateral. Completion of the process of digitation of land records of all RoFR land can help them getting loans from banks. Crop loan will reduce chances of indebtedness and forced dependency onto traders.

#### **6. Protection of output price and reduce marketing exploitations**

Many farmers are complaining of not getting remunerative price for their produce. Output price is always lower than the prices prevailing in the nearby markets. They are forced to sale their output at a lower price due to their inability to sale outside, debt burden and no storage facility in the nearby market. Establishment of farmer cooperatives/producer company can solve these issues. It can provide handholding supports so that these farmers can come together by forming 'Farmer Producer Company'. It will help them to address both backward (by providing

technical and extension services) and forward linkages (by collective marketing and removing intermediaries like traders and money lenders). It can also address the constraints that farmers are facing due to lack of institutional credit and forced dependency on traders. Such a process can help them to enhance productivity and efficiency, develop adequate bargaining power, link national and international markets, and fetch good price for their produce. Such an idea emerges due to successful cooperatives such as Chicacole Coconut Farmers Producer Company Limited (CCFPCL) in Andhra Pradesh and Vegetable and Fruit Promotion Council Keralam (VFPCCK) in Kerala who supports well-being of small and marginal farmers by bringing them together into groups so that they can take collective decisions with regards to production and marketing.

### **7. Institutional reform**

The Radhakrishna Commission had proposed to establish a state-level agency called ‘Andhra Pradesh Society for Sustainable Agriculture and Farmers’ Empowerment (APSAFE)’ to provide handholding support to farmers for formation of farmer SHGs and their federations. The Commission felt that “for greater empowerment, farmers need to be organised into groups that bring them together to discuss their common problems, build confidence, make them aware of economic opportunities, learn to act together to meet the challenges they face due to ... lack of access to input delivery systems, exploitative markets and inadequate credit”(CESS 2016:218). The APSAFE will coordinate activities of the government departments involved in the implementation of various welfare programmes and strengthen the capacity of farmers, particularly of small and marginal farmers, tribal, and women farmers, to face the challenges of agriculture. The Commission further mentioned that there will be a dedicated autonomous umbrella organisation under APSAFE called Society for Sustainable Tribal Agriculture and Human Development (STAHD) to promote sustainable agriculture in the tribal areas. Its main functions will be to “prepare a programme for the development of agriculture and human resources and evolve development strategies that address the challenges for making tribal agriculture remunerative with a focus on human resources components and value addition” (ibid: 108). With the help of experts, it can facilitate formation of producer companies and assist in the formulation of project proposals and provide guidance during the incubation period and market support. It has to develop rapport with the government agencies and guide the functionaries; particularly at the village/gram panchayat levels (e.g. horticultural officers and liaison officers) for smooth execution of the agricultural programmes.

### **8. Activities need to be executed by Gram Sabha and creating pressure group at the village level**

Households need to be empowered to get scheme benefits. Due to lack coordination among themselves they are being deprived and exploited by the outsiders. Households do not have a strong hold against the denied mechanism. The recent development of local self-governance system e.g. Gram Sabha could able to reduce exploitations to some extent. But non-involvement of Gram Sabha on identification of beneficiaries, distribution of provisions, monitoring maintenance activities by MGNREGS, etc. reduces the stand for households. In presence of Gram Sabha, there could be a chance of inclusiveness in terms of proper distribution of benefits to all sections of people. The poor and women headed vulnerable households can rip the benefit.

Pressure groups need to be created at the hamlet to empower the households for effective execution of various schemes and programmes. The educated youth are very active in village politics and have stronghold against the government officers. They try to dominant government officers while executing any programme in the villages. Thus, they can be used as pressure group for better execution of the RoFR and MGNREGS. Their participation in Gram Sabha and involvement as a member of FRC can empower households while making the claim. It can help the households to justify their claims by undermining supremacy of uncooperative officers. They can challenge all types of problems created by the executing officers in the village. Thus, creation of pressure group is highly essential for effective implementation and makes the programme more inclusive.

#### **9. Adequate cooperation from Administration**

Adequate cooperation from the administration machinery is required at the village level which can reduce many problems and reach the scheme to the poorer households. Regular supervision by the higher-level officers can check irregularity and negligence attitude of the local level officials. There should be regular training programme for the local level staff and periodical check of activities undertaken by them can reduce ground level corruption and biasness. Muteness of the area and low salary some time discourage them rendering their services effectively. The higher administration should take care of it.

#### **10. Provision of more working days under MGNREGS**

The RoFR beneficiary households are entitled for additional 50 days of work over and above the stipulated 100 days of work in a year under the MGNREGS. The govt has to ensure it effectively as many workers are not getting 150 days of work in a year. It may be due to

unavailability of adequate works in the village or these households were ignored while executing any work under MGNREGS. As such ITDA has to ensure that each RoFR beneficiary household can get 150 days of work in a year under MGNREGS. The Workmate, Field Assistant and MPDO together have to identify works in the village and start the work by giving importance to all households willing to work. The MGNREGS data base can be periodically checked to understand the ground level problems and uneven provision of working days under MGNREGS.

#### **5.4. Way Forward**

The whole analysis suggests that post-RoFR developmental activities helped the RoFR beneficiaries in enhancing agricultural income. However, it requires further effective implementation. The above suggestions can be adopted in experimental basis and then can be implemented after looking their effectiveness towards solving the problems. Periodic evaluation is required to understand the ground level constraints which will help the administrative machinery for effective implementation of schemes/programmes.

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## Appendix 1

**Table A-1: Crops grown in other than RoFR recognized land (Acre)**

Crop	PVTG				RoFR non-beneficiary	Total
	RoFR beneficiary					
	With Convergence	Without Convergence	Sub-total			
Paddy	10.9	35.2	46.1	70.4	116.5	
Jowar	0.0	0.0	0.0	0.0	0.0	
Maize	0.0	0.0	0.0	0.0	0.0	
Ragi	0.0	0.0	0.0	21.3	21.4	
Small Millets	0.0	0.0	0.0	4.8	4.8	
Redgram	0.0	0.0	0.0	8.0	8.0	
Other pulses	0.0	0.0	0.0	0.0	0.0	
Groundnut	0.0	0.0	0.0	0.0	0.0	
Cotton	0.5	0.0	0.5	0.0	0.5	
Horticultural	3.2	14.8	18.0	20.4	38.4	
Mango	0.0	0.0	0.0	0.0	0.0	
Cashew	3.3	3.9	7.1	32.1	39.2	
Citrus	0.0	0.0	0.0	0.0	0.0	
Pineapple	0.0	0.0	0.0	0.0	0.0	
Other Fruits	0.0	0.0	0.0	0.0	0.0	
Tomato	1.2	3.5	4.7	2.0	6.7	
Chillies	10.8	4.5	15.3	1.0	16.3	
Other vegetables	5.8	12.5	18.3	43.9	62.2	
Turmeric	11.6	26.2	37.8	35.0	72.7	
Pepper	0.0	3.9	3.9	7.5	11.4	
Others	4.0	10.0	14.0	4.4	18.4	

Source: Field study (2019 & 2020)

**Table A-2: Crops grown in other than RoFR recognized land (Acre)**

Crop	non-PVTG				
	RoFR beneficiary			RoFR non-beneficiary	Total
	With Convergence	Without Convergence	Sub-total		
Paddy	39.1	35.2	139.6	104.4	178.7
Jowar	0.6	0.0	0.0	0.0	0.6
Maize	2.4	0.0	0.0	0.0	2.4
Ragi	1.5	0.0	48.9	48.9	50.4
Small Millets	0.0	0.0	15.1	15.1	15.1
Redgram	6.8	0.6	5.2	4.5	11.9
Other pulses	0.0	1.0	1.0	0.0	1.0
Groundnut	4.5	6.0	16.4	10.4	20.9
Cotton	0.0	0.7	0.7	0.0	0.7
Horticultural	4.3	33.8	78.4	44.7	82.8
Mango	4.6	4.1	4.1	0.0	8.7
Cashew	13.6	21.0	33.2	12.2	46.7
Citrus	0.8	0.0	0.0	0.0	0.8
Pineapple	1.5	3.0	3.0	0.0	4.5
Other Fruits	0.6	0.2	0.2	0.0	0.8
Tomato	1.0	2.9	8.7	5.8	9.7
Chillies	1.9	6.0	14.6	8.7	16.5
Other vegetables	19.4	35.4	98.5	63.0	117.9
Turmeric	58.9	40.8	131.5	90.7	190.4
Pepper	0.0	17.2	44.4	27.3	44.4
Others	30.6	22.8	80.5	57.7	111.1

Source: Field study (2019 &amp; 2020)