Convergence of Schemes for Livelihood Promotion in FRA Lands: A Case Study of ITDA, Bhadrachalam in the Erstwhile Andhra Pradesh

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Abstract

Horticulture was taken up in the lands of Forest Rights Act (FRA) with convergence of schemes of MGNREGP, micro-irrigation, and land development for livelihood improvement in Tribal Sub-Plan (TSP) areas of erstwhile Andhra Pradesh. The study is an attempt to understand the process of convergence and identify the issues faced in accomplishing the same. The results based on primary data indicate that the convergence of schemes in delivery of inputs is not working well as per the guidelines. This has a bearing on productive use of land under FRA. Coordinated effort from all the departments is required to build the awareness level on scheme provisions in order to benefit from the convergence of the schemes. This can be better achieved through additional and special budget provisions according to the local conditions.

Introduction

Tribal livelihoods in fifth schedule areas are inseparable from the forests. Tribal people are well-versed with the different plant species that naturally occur in the forests. However, due to implementation of forest conservation laws, and over-exploitation of resources by the state, their livelihood base is now under threat. Implementation of the Forest Rights Act (FRA), 2006, is significant step in conferring patta rights for the land possessed by the tribals over years. The recent data show that the individual titles distributed to tribals in the country were 16.73 lakh out of 43.0 lakh claims received to the government (MoTA, 2016).Received patta rights now for the lands possessed for generations indicate that tribal farmers have been deprived of institutional credit and other benefits of government over years. Such cases conferred with patta rights were 1.67 lakh tribals and the land for claims was 4.77 lakh acres in the erstwhile Andhra Pradesh (CGG, 2014).

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Apart from the ownership right to land, they need much investment for land development, irrigation, institutional credit, and input supplies on subsidy prices for productive use of land. The FRA lands have potential for horticulture growth in TSP areas and scope to achieve multiple objectives in terms of employment promotion, reduction in crop failures, and diversification of tribals with alternative sources of income, and food and livelihood security. Some of the horticulture crops would also grow even in the degraded lands, if soil conservation and land development is taken up. However, the tribals are not affordable to take up horticulture due to lack of these little investments and also knowledge. In view of this, horticulture has been taken up in TSP areas of erstwhile Andhra Pradesh with innovative strategies through convergence of schemes like MGNREGP, irrigation, and land development.

Achievement of success under any welfare scheme depends on the level of awareness about the scheme entitlements, motivation for participation and confidence building among tribes. Apart from these, inputs supply and budget releases as per the provisions are critical for plant survival and growth under horticulture. Past experiences in horticulture promotion in ITDAs under the International Fund for Agriculture Development (IFAD) programme in erstwhile Andhra Pradesh in two phases– one in the five North Coastal districts (between 1990 and 1995) and the second in other districts of the ITDAs (between 1995 and 2000) indicate that the plant survival was not up to the mark in some of the ITDAs (Sastry, 1993; Reddeppa, 2003). In view of this, how the convergence of schemes could help in promotion horticulture in FRA lands is a moot point.

The present study is an attempt to understand effectiveness of convergence of schemes in horticulture promotion for livelihood of tribals in ITDA, Bhadrachalam of erstwhile Andhra Pradesh.

The objectives of the present Study are:

(a) To understand the delivery mechanisms of horticulture through convergence of schemes, and utilisation of the scheme provisions by the tribals;

(b) To analyse the level of convergence of various schemes; and

(c) To suggest policy measures to overcome the challenges in achieving convergence in implementation of horticulture and other livelihood schemes.

Methodology

The study is mainly based on the primary data collected from the ITDA, Bhadrachalam where the horticulture was promoted first time with convergence of schemes. The study Mandals are now located in the states of Telangana and Andhra Pradesh. The primary data was collected from all the farmers (census survey) who received assistance for horticulture. Apart from these, focus group discussions were conducted in the study villages to understand the issues of convergence based on the provision of wage component under MGNREGP, irrigation; and delivery of inputs – both cash and kind; and the time schedule followed in the distribution of inputs, etc., besides physical verification to assess plant growth and survival of the plants. In all, data were collected from all the 342 tribal farmers in 33 habitations spread over six mandals on census basis in February and March, 2011.

The paper is broadly divided into five sections: Section 1 deals with the status of lands distributed under FRA, 2006 in erstwhile Andhra Pradesh and ITDA districts; Section 2 explains the convergence of schemes in promotion of horticulture in ITDA Bhadrachalam; Section 3 analyses the facts on plant survival and growth which are important to assess the effectiveness of convergence; Section 4 issues of convergence; and Section 5 presents conclusions and recommendations.

Section -I

Implementation of FRA, 2006 in Erstwhile Andhra Pradesh

According to the FRA, individual claims, conferred patta rights with titles deeds for 1.67 lakh tribal families with an area of 4.77 lakh acres. The individual claims achieved with patta rights as percentage in total was 42 per cent. It means 58% of the total claims were rejected and it was rejected mostly (80%) at the level of Gram Sabha and these were not recommended for Sub–District Level Committee (SDLC) and the other 20 per cent were rejected at SLDC and district level. In the case of community rights, it was conferred rights for 9.79 lakh acres of land in 2000 habitations where the claims were submitted in state (table1). The achievement of community rights out of claims submitted government were only 18.2 per cent, but land distributed was significantly high (80 percent) out of the total of the total land for

which claims were submitted. The average size of land distributed was 2.85 acres in individual cases and 465 acres for the community. It shows that the size of land distributed to individuals is sufficient for a family livelihood, if it is really cultivable and has irrigation facility.

Table 1: Action taken for implementation of FRA,2006 in erstwhile Andhra Pradesh

S.No	Action taken for implementation of FRA, 2006	Individual (in Lakhs)		Community(in Lakhs)	
		No. of claims	Extend of land in Acres	No. of claims	Extend of land in Acres
1.	Total claims Received	4.00 (100.0)	11.95(100)	0.11(100)	12.56(100)
2.	Claims Reco. by GS to SDLC	2.41(60.3)	6.29(52.6)	0.03(27.3)	10.07(80.2)
3.	Claims Reco. by SDLC to DLC	1.93(48.3)	5.35(44.8)	0.02(18.2)	9.80(78.0)
4.	Claims DLC approved	1.75(43.8)	5.00(41.8)	0.02(18.2)	9.79(79.9)
5.	Claims distributed	1.67(41.8)	4.77(39.9)	0.02(18.2)	9.79(79.9)

Source: Center for Good Governance, Hyderabad (As on 30-10-2013)

The forest dwelling communities are living mostly in the 10 ITDA areas of the State, of which two ITDAS, one is in Srisailam and the other is in Nellore are working for the development of chenchu and Yanadi tribe respectively living in 4 to 5 districts each. The other eight ITDAs are operational for one of the districts of the state each. According to the data, the individual claim applications received from the 8 ITDA districts were 80.8 per cent in the total and their area of claim was 92 .2 per cent of the total in the state. The claims rejected are much less in the 8 ITDA districts when compared to the other 14 districts. For details, see Table 2.

Table 2: Proportion Claims in 8 ITDA districts Out of Total of the State

S.No.	Action taken for implementation of FRA,2006	8 (ITDA) Districts	
		No. of claims	Extent of land
1.	Total claims Received out of Total (%)	80.8	92.0
2.	Claims approved out of Total (%)	89.1	96.2
3.	Claims distributed out of Total (%)	90.6	96.6

Source: TCR & TI, Government of erstwhile Andhra Pradesh, 2013

Section- 2

Convergence of Horticulture with Other Schemes in ITDA Bhadrachalam

Horticulture scheme was implemented with convergence of MGNREGP and micro-irrigation in 33 habitations spread over in 6 mandals for the programme year 2010-11. Type of plantations taken up were Cashew in 4 Mandals ─ Bhadrachalam, Burgampahad, V.R. Puram, and Chintoor, and Mango in 3 mandals ─ Yallandu, Pinapaka and Burgampahad. The only mandal where both cashew and mango plantation has been taken up was Burgampahad. The total area under plantation was 529.50 acres in all the six mandals, of which 63 per cent was under cashew and the rest 37 percent was under Mango. The total beneficiaries are 342 households ─ 25 per cent under Mango and 75 per cent under cashew. The sub-castes within tribe indicate that majority (81 per cent) are Koyas as they are predominant in the area. The other beneficiaries are Konda Reddy (15 per cent) and Lambada (4 per cent).

It is important to note that mango plantation was taken up only by lambada tribe, Cashew by Konda Reddys and it was both mango and cashew by the Koyas. The type of plantation taken by the farmers depends on the availability of irrigation, suitability of the soil, and farmers' choice supported by horticulture department. The Konda Reddys mostly live in the hilltops. where the lands are mostly suitable for cashew plantation and their choice too. The details with regard to habitation wise beneficiaries planted mango and cashew are shown in Annexure 1.

Assistance available under horticulture programme is for meeting the labour cost ─ digging pits, plantation and refilling of soil and staking; weeding and trench cutting around the plant; fencing; digging compost pits, etc. under convergence of MGNREGP. The kind components like supply of the seed, seedlings or grafts, and fertilisers and pesticides; and cash component for fencing, watering (if irrigation is not provided) charges, etc are provided by the by Department of Horticulture, which functions under the administrative control of ITDA. With regard to irrigation, budget provision is 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. If irrigation is not feasible, at least manual pot watering with regular interval is essential for mango plantation. For this,

budget provision is available from ITDA for pot watering for each acre @ Rs 1200 per month for 3 months as per the enhanced budget.

In the implementation of horticulture scheme, there are 20 to 25 tasks for funding as per the guidelines of the State and Horticulture Mission. But the proposed level or support under the ITDA was only 12 to 15 tasks for plantation of mango under the convergence of MNREGP which is less than 40% of the project as prescribed in the administrative sanction. There is adequate budget provision for preparation of natural and chemical fertilizers, and pesticides for about Rs. 1,000 per acre. The total budget available – cash and kind in money terms as proposed was about Rs.12,000 per acre for mango and about Rs. 8,000 for cashew plantation. But the project cost varies (more or less) from Rs 500 to Rs. 1000 among the Mandals where the Mango plantation was taken up.

The total budget released in the three study mandals in money terms including kind component for an acre of mango plantation was Rs. 4048 as against the total budget of about Rs. 12000 which excludes watering. It shows that the budget provision availed is just less than half of the eligible or sanctioned. Even the provision for digging pits was not accessible to the farmer and it was distributed to the wage labour who participated under MGNREGP. The farmer actually received in kind and cash worth less than Rs.680 per acre (which excludes wage component of MGNREP) in all the three mandals. It is only one beneficiary of Lambada tribe which has received Rs.6,536 per acre due to digging of compost pit and ploughing cost for inter crop cultivation with regular follow up of the officials for release of the money. The others were not received the provisions of plouging and inter crop cultivation and other components. For details of budget provision per acre of mango plantation and the actual delivery of cash kind (indicated in money terms) for each tasks, see Table 3

.**Table 3 : Assistance sanctioned and Utilised for Mango Plantation (Rupees Per-Acre)**

Sl. No.	Convergence of department	Description of Item / Task	Sanctioned	Amount Received
1.	Agriculture	Collection of soil sample and testing and technical guidance	340	-
2.	ITDA**	Cost of ploughing and inter crop cultivation	1100	-
3.	MGNREGP	Engaging labour for excavating pits	3368	3368
		Digging of compost pits of size 5.2, 2 m, 1m	1000	
4.	Horticulture	Bio fencing seed cost (AVISA, SEEMA, CHINTA) and Engaging labour for thorny fencing with plantation of susbenia seeds	490	-
6.	Horticulture	Recurring cost of making compost for first year	750	-
7	ITDA	Cost of mango plants includes transport	336	336
10.	ITDA through MPDO	Micro-nutrients supply, Mixing manures, fertilizers with soil earth and filling the pits for mango	400	176
11.	ITDA	Planting, staking and initial watering for mango	168	168
14.	APMIP	30 % cost for installation of drip irrigation with 16 mm laterals for mango with 9,9 Mt spacing and Trench cutting for laying the mains and sub-mains	3980	-
		Total (without irrigation)	11932	4048*
	MGNREGP	Manual watering (Rs. 1200 for 3 Months)	3600	-

*. One Lambada tribe has received Rs.1728 for Compost pit and Plughing cost which is over and
above Rs.4048 in Burgampahad.
** Department of Horticulture is part of ITDA, hence ITDA is shown in the table.

In the case cashew plantation, the budget provision for digging pit in an acre of land is very meagre (Rs.620) when compared to mango, which was disbursed under MGNREGP in the mandals of Bhadrachalam, Burgampahad and V.R. Puram and but not in Chintoor mandal even after a lapsing of 6 to 8 months. The provision for cashew seedlings supply as kind component worth Rs. Rs.1280 per acre was distributed in all the four mandal except V.R.Puram where the Konda Reddies have received seed (worth Rs. 60) instead of seedlings. There was no supply of grafts in the case of cashew plantation, because it needs irrigation facility. Otherwise, its

survival is difficult, particularly in dry land horticulture. But fertiliser was not distributed to the farmers in V.R. Puram Mandal. There is budget provision for preparation of natural and chemical fertilizers, and pesticides for Rs. 15000 per acre, of which the amount actually received is varying between Rs. 200 to Rs 500 per acre in all the mandals. The fertilizer supplied per –acre was 40 Kgs. of super posphate (worth below Rs. 175/-) and this is also not supplied in V.R. Puram mandal. Hence, the farmers have purchased chemical fertilizers on their own for the inter-crop grown like cotton, red gram, green gram, etc. On the whole, the actual amount released per – acre as against the eligible provision for cashew plantation including kind component was between Rs.600 to Rs. 2000, which excludes irrigation provision. The tasks wise eligible provision and budget utilized per-acre is shown in table 4.

Table 4: First Year Assistance sanctioned and utilised for Cashew (Per-Acre in Rupees)

Sl. No.	Convergence of department	Description of Item / Task	Sanctioned	Received
1.	Agriculture	Collection of soil sample and testing and technical guidance	340	-
2.	Horticulture*	Cost of ploughing and inter crop cultivation	1300	
3.	MGNREGP	Engaging labour for excavating pits	620	620
		Digging of compost pits of size 5.2, 2 m, 1m	1000	
4.	Horticulture	Bio fencing seed cost (AVISA, SEEMA, CHINTA) and Engaging labour for thorny fencing with plantation of susbenia seeds	490	
6.	Horticulture	Recurring cost of making compost for first year	750	
7	ITDA	Cost of Cashew plants includes transport	1280	1280
10.	ITDA/MPDO	Cost of manures and fertilizers, mixing with soil earth and filling the pits	1100	424
11.	Horticulture	Planting, staking and initial watering and plant protection	610	280
	MGNREGP	Manual watering Rs. 500	500	
		Total	7990	2604
Note: It is Rs,2356 in Bhadrachalam, Rs.2076 in Chintoor and Rs.1100 in V R				

Puram.

Note : ** Department of Horticulture is part of ITDA, hence ITDA is shown in the table.

Section-3

Survival, Growth and Health Conditions of Plants

Survival, growth and health condition of the plants depend on soil quality, use of natural and chemical fertilizers, irrigation facility or manual watering, etc., besides farmer's sincere efforts and timely plantation. 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 ground water feasibility is available in some of the habitations. In one or two habitations bore wells were dug, but the provision of energisation is pending for lack of power supply in the area. It shows that there was no proper assessment by the concerned departments with regard to the provision of irrigation. They should have supplied plants only after provision of bore well irrigation in all respects. At least, the ITDA has released the eligible budget provision timely to the tribals for manual watering to mango as well as to the cashew plants. The mandal wise survival and plant growth were considerably better in Burghampahad (75.39 per cent) and Yellandu (70.96 per cent). On the other hand, the survival rate is poor in Chintoor (26.61 per cent)and it is little more or less 50 percent in other mandals. For details, see table 5.

Table 5: Mandal and Habitation wise Survival of Plantation

Sl. No.	Mandal	Land size (Acres)	No. of plants	Survival	Survival Rate	Type of Plant
1.	Bhadrachalam	76	6220	3094	49.74	Cashew
2.	Burgampahad	84	5965	4497	75.39	Cashew/ Mango
3.	Yellandu	99.3	4965	3523	70.96	Mango
4.	V.R.Puram	54.5	4310	2249	52.18	Cashew
5.	Pinapaka	93.5	3578	1748	48.85	Mango
6.	Chintoor	140	10930	2909	26.61	Cashew
	Grand Total	547	35968	18020	50.10	Cashew/ Mango

Source: Field data

The poor survival is due to flash floods and heavy rains in some villages in Bhadrachalam mandal. The other reasons for poor survival in other mandals are delay and supply of poor quality seed in V R Puram. Casualty is more in the case of mango plantation in Pinapaka mandal for lack of proper assessment of soil quality, non-provision of budget for manual water supply in the month of January.

The main reasons for better survival in two mandals are:

- Plants were supplied without any delay and plantation was done at appropriate time;
- Farmers are more aware of the scheme entitlements, though not received all inputs; and
- Timely distribution of wage component for some of the tasks under MGNREGP and Pesticides for white ant control as per eligibility.

Beneficiary Wise and Sub- Caste Wise Survival of Plants

The level of survival of plants in the case of individual farms indicates that the plant survival was nil (100%) and less than 20% in the case of 17.3% of the total farmers who have taken up plantation. It is loss of own investment and also opportunity cost of their labor. The survival was very poor (less than 40%) in 32.2 % of the farmers and it is poor (41% to 60%) in 15.5 % of the farmers. Anything more than 80% survival or 20% causality of 20% is acceptable limit. Such farmers are 19.3% in the total. The survival of 60% to 80% is also seems to be good for tribal areas. Such farmers are 31.3 percent in the farmers. The sub-caste wise survival rate of plants indicates that it is substantially high among lambada tribe (75.20). This shows that their dynamism in utilising the benefits productively. It is also relatively poor among Koya (47.87) and Kondareddy (47.56). For details with regard to survival of plants to the farmers of cashew and mango, see table 6.

Table 6: Beneficiary wise Plant wise Survival rate

Sl. No	Survival rate (%)	Cashew		Mango		Total	
		Number	%	Number	%	Number	%
1.	Nil	23	9.3	5	5.3	28	8.2
2.	Up to 20	27	10.9	4	4.2	31	9.1
3.	21-40	46	18.6	11	11.6	57	16.7
4.	41-60	42	17.0	11	11.6	53	15.5
5.	61-80	75	30.4	32	33.7	107	31.3
6	81+	34	13.8	32	33.7	66	19.3
	Total	247	100	95	100	342	100

On the whole, the survival rate is considerably high (65.87 per cent) in the case of mango and poor in the case of cashew (44.72 per cent). It is also found that the survival is considerably better in the case of plants supplied in the months of July and August. The height of the mango grafts supplied to the farmers was mostly 1 to 1.5 feet at the time of plantation. It is observed in the field that the plant growth is good where irrigation is available prior to the supply of mango grafts (see Photo).

Good growth of Mango Plant along with inter-crop cotton in Krishna Sagar village of Burgampahad

Moderate growth of mango plant in YallanduMandal

The plant growth is poor in salty and clay soil where the water was not supplied in the dry season in Pinapaka. The plant survival itself is very poor and find only stems of the plants without any leaves and the survival is doubtful (see photo).

Mango Plant with stem without any growth and the soil was not melted even after plantation for lack of rains in Choppali of inapakaMandal

Mango plant with grass in a clay soil in Gollagudem of Pinapaka

In the case of cashew seedlings, the height at the time of the supply from the nursery was mostly one feet. It is observed from the fields in Burgampahad that the cashew seedlings have been in the height of 1.5 feet to 2 feet and these are in very healthy condition and branches were also developed. Majority of the farmers have cultivated cotton, red gram and green gram as inter crop. However, some of the plants have not grown much after plantation. Such plants are 10 to 20 per cent for an acre of land out of plants survived. It all depends on the soil quality. See the photos side by side with regard to the difference of growth within a distance of 30 to 60 feet in a small piece of agriculture land.

Good growth of Cashew (seedling) along with inter crop – cotton and red gram in Burgampahad

Moderate growth of cashew plant in the same land in Burgampahad

In the case of cashew seed and seedlings were distributed in the end of September and first week of October in the mandals of K.R. Puram, Chintoor and V.R. Puram. The farmers were unhappy that the seed quality is poor and the supply was delayed. They opined that they would have chosen better seed from their fields, if they have informed in the months of June / July. The seedlings given to Kondareddy's have prepared plant protection guards with bamboo mats with their own labour without any assistance from MGNREGP or ITDA. But the tribe Koya has not prepared plant

protection guards in most of the villages in the mandals of Chintoor and K.R. Puram. But, they have to get water from long distance, if the lands are located away from the streams and other sources of irrigation. They can protect plants, if the ITDA would release the enhanced water charges timely on regular basis.

Cashew seedlings supplied in ChintoorMandal along with the stems of till after cutting the crop

Plant plantation guard prepared with Bamboo for cashew seedlings by Kondareddies in ChintoorMandal

Seed dibbling protected by Kondareddy with toddy sticks, VR Mandal

Seed dibbling without protection by Koyas in
VR PuramMandal

Section- 4

Issues of Convergence of schemes and departments

Creating awareness among tribals about the eligible benefits through convergence of all schemes for promotion horticulture is most essential for motivating the people to demand their entitlements and for the functioning of the delivery mechanism with utmost care and efficiency under any welfare scheme. The awareness level created and the guidelines followed by the ITDA are the reflection of the accountability and transparency achieved in the implementation of the scheme. It is crucial for the tribals' point of view whether to avail the schemes or not. The perceptions from the people based focus group meetings that 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. are seems to be very poor. Even if they have awareness on the budget provisions of the scheme for a few in some villages they are not sure that they will get all the entitlements. It shows that the horticulture department showed project cost for funds mobilization, but failed to put in sincere efforts or hand holding activity for promotion horticulture.

Confidence building among the tribes is more important for achievement of directed change in their livelihood and betterment of living conditions. The confidence level created by the officials of the horticulture and MGNREGP in tribal areas is very poor. This can be observed even from the fact that they have not provided even pitting charges under MGNEGP in Chintoor Mandal. Provision of pitting charges is the first task to be completed successfully for confidence building among the tribals. However, it was provided in all other mandals, but they also end up the confidence building by not providing the cash provision for inter-crop cultivation. These two tasks are very important for confidence building and these have to be completed at least by the end of the September 2010. In practice, it was not done even in the first week of February 2011. This shows the commitment and the status of convergence as given in the guidelines of the schemes.

It is important to note that each beneficiary is eligible for Rs. 800 as ploughing cost which is essential for inter-crop cultivation. This amount received only one beneficiary

in Krishna Sagar village of Burgampahad mandal. He could get this amount mainly due to regular persuasion of officials to get his entitlement under the scheme. Being a lambada tribe and progressive farmer, he succeeded in getting ploughing cost for inter-crop cultivation. Others in any of the mandals could not receive this meager amount.

Timing of plantation in a year is one of the deciding factors for plant survival. Generally, July and August are the ideal months for any type of plantation, particularly in the case of ITDA Bharachalam where the area receiving good rains during the months. This is essential that the land would become cool after monsoons and it would be better for seed germination. It is observed from the study that the plantation was done in July and August in two mandals which are adjacent to ITDA, Bhadrachalam. The plantation was done in September and October in other mandals. The farmers have done plantation in the end of September and first week of October in Chintoor mandal (Annexure-II). The supply of cashew seedlings was also delayed for the reasons of delay in purchase and problems in transportation and distribution to farmers.

The plantation in October is too late even for mango plantation for those not having any irrigation facility. Even after reaching to the destination, the mango plants were kept idle for more than a month in a village called Gollagudam for pending supply of fertilisers from Mandal Parishad Development Officer (MPDO) at the time of plantation as reported by the farmers. In this time, about 400 plants were withered away for various reasons like transfer plants to other vehicles when the lorry was struck up on the way to village and shacking of plant material in packs, breaching of package material due to heavy rains, etc., It shows that there was no co-ordination between ITDA and MPDO office in timely supply of fertilizers for mango plantation. The resultant effect is that many plants were withered away prior to and also after plantation in the field due to delay in plantation. The photo gives the illustrious picture of the remains of plant material bags still remain in the storage place of the village prior to the plantation.


Photo Description: Remains of plant material with plastic bags left in Golladudam of Pinapaka Mandal.

Salty soils are not good for mango plantation. But the farmers have chosen the land for lack of knowledge or lack of alternative land to avail the subsidy. There is a budget provision of Rs. 100 per acre for soil testing by the agriculture department, which is essential for mango plantation, but it was not done in any of the study mandals. The result was the poor survival of plants in some of the soils. It is also important to note that there is provision of Rs. 240 per acre for technical assistants for guidance to promote horticulture. Thus, the soil experts and horticulture extension officers have not guided the farmers properly.

The budget provision for fencing and watering is very limited. As movement of cattle and goats is a common phenomenon, it is difficult to protect the plants from them, unless the farmers are provided with adequate safety measures.The budget provided for tasks of horticulture as per administrative sanction reports indicate that these are stereo-type and not reflective of the felt needs of farmers for promotion of horticulture; further, these are prepared just for wage employment generation under MNREGP, and not for the benefit of the farmer.

Digging bore wells is not sufficient for providing irrigation to the mango plantations. It was observed that energisation is pending for most of the beneficiaries supplied with mango plants in all the study villages and mandals, with the exception of one or two beneficiaries in very few villages. Budget provision is 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. But there was no proper coordination among the departments. Hence, mango plants are to be supplied only after ensuring full-fledged irrigation facility.

In the dry land horticulture, the farmers have to struggle more for watering, if they take up plantation after rainy season. Adequate budget is to be provided for manual watering of plants and amount has to be released after closing of monsoons period. They can provide water either through pot watering or carrying water through drums with the support of bullock cart, tractor, auto trolley, etc. The provision is necessary for five to six months instead of the present four months.

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) in timely distribution of fertilizers. Unless, these problems are not addressed, the situation could not be different from implementation of horticulture scheme for the past four decades in TSP areas.

Section- 5

Conclusions and Recommendations

Horticulture promotion was taken up inlands of Forest Rights Act (FRA), 2006 with convergence of schemes like MGNREGP, micro-irrigation, and land development in Tribal Sub-Plan (TSP) areas of erstwhile Andhra Pradesh. The results based on primary data indicate that the convergence of schemes indelivery of wage component under MGNREGS, irrigation and input supplies is not working well as per the guidelines. The farmers in majority of the study villages were not even aware of the eligible provisions in cash and kind. Irrigation or energisation was not ensured before taken up mango plantation in some villages. The cash provision for manual water supply (irrigation) was insufficient which was also not disbursed timely. There was no proper awareness, motivation, guidance and extension service from the departments of soil conservation, agriculture and officers of ITDA before and after plantation. This has a bearing on productive use of land under FRA, 2006. Thus, coordinated effort

and convergence from all the departments is required to create awareness levels and capacity building to demand their entitlement with synergy in order to achieve results in agriculture or horticulture that the FRA lands have potential for livelihood promotion in TSP areas.

Recommendations

1. Adequate awareness on scheme provisions and capacity building activity from the ITDAis essential for better participation of people to demand their entitlements.

2. Budget needs and project costs needs to be prepared according to the needs of local conditions and it needs to be provided.

3. There is need for coordination in building convergence of scheme by the Department of Horticulture and the MandalParishad Development Officers (MPDOs) at the gross-root level with regard to delivery of inputs and disbursement of wage component under MNREGS.

4. The plants supplied to the farmers were mostly less than one and a half feet in length and there were no leaves. Thus, better quality plants needs to be supplied.

5. Digging bore wells and energisation needs to be ensured before take mango plantation or at least needs to be provided adequate budget for manual watering.

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Annexure I: Mandal and Habitation Wise Area under Horticulture in ITDA, Bhadrachalam

Sl. No.	Name of the Mandal	Name of the GPs	Name of the Habitation	No. of Beneficiaries	Extent of Acres	Type of Plants
1.	Bhadrachalam	Vissapuram	4	53	76.00	Cashew
2.	Burgampahad	Pedaravigudem	4	73	84.00	Mango/ cashew
3.	V.R. Puram	Kunduluru	5	44	56.50	Cashew
4.	Chintoor	Pega, Chintoor, Edugurallapalli Palli,Thummala, Chadalawada, Kommu.and Kothapalli	9	85	139.00	Cashew
5.	Yellandu	Rompaid Challasamudram	3	37	99.00	Mango
6.	Pinapaka	SanathMothe Anatharam	8	50	75.00	Mango
	Grand Total	15	33	342	529.50	Cashew

Annexure II: Mandal wise Plantations Taken up by Farmers

Sl. No.	Mandal	No of plants	Survival	Survival Rate	Month of plantation	Type of Plant
1.	Bhadrachalam	6220	3094	49.74	July	Cashew
2.	Burgampahad	5965	4497	75.39	July/ August	Cashew/ Mango
3.	Yallandu	4965	3523	70.96	September	Mango
4.	V.R.Puram	4310	2249	52.18	October	Cashew
5.	Pinapaka	3578	1748	48.85	October	Mango
6.	Chintoor	10930	2909	26.61	October	Cashew
Grand Total		35968	18020	50.10	-	-

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