Annual Progress Report 2011-12

Programme Support Unit (PSU)

Odisha Tribal Empowerment & Livelihoods Programme

(ST & SC Development Department)

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CONTENTS

1. Introduction

The Odisha Tribal Empowerment and Livelihoods Programme (OTELP) is being implemented by the Scheduled Tribe & Scheduled Caste Development Department of Govt. of Odisha with financial aid from the DFID, IFAD and WFP. The programme aims *"**to ensure that livelihoods and food security of poor tribal household are sustainably improved through promoting a more efficient equitable self managed and sustainable exploitation of the Natural Resources at their disposal and through off farm/non-farm enterprise development**".*

The objectives to achieve the Programme goal are to;

- Build the capacity of marginalized groups as individual and grass root institution.
- Enhance the access of poor tribal people to land, water and forest and increase the productivity of these resources in environmentally sustainable and socially equitable ways;
- Encourage and facilitate off-farm enterprise development focused on the needs of poor tribal households;
- Monitor the basic food entitlements of tribal households and ensure their access to public food supplies;
- Strengthen the institutional capacity of government agencies, Panchayati Raj Institutions, NGOs and civil society to work effectively on a participatory mode for poverty reduction with tribal communities;
- Encourage the development of a pro-tribal enabling environment through ensuring that legislation governing control of and access to, development resources by poor tribal households is implemented effectively and recommending other policy improvements; and
- Build on the indigenous knowledge and values of tribal and blend these with technological innovations to ensure a speedier pace of development

The programme is being implemented in 3 phases. The Phase I of the programme was completed in 2007. The Phase II implementation was started from 2008 based on the recommendations of the Phase I Mid Term Review Mission conducted during September, 2006. Hon'ble Chief Minister of Odisha Sri Naveen Pattnaik

Phase	Duration	Closing Date
Phase I	Three Years	March, 2007
Phase II	Four Years	March, 2011
Phase III	Two Years	March 2013

launched the Phase-I programme on 2nd October 2004 and Phase-II programme on 27th March 2007. Phase II Mid Term Review Mission fielded by IFAD during October 2010 and recommended to move up to the Phase III of implementation from April 2011 till end of the programme (March 2013). Currently the programme is in Phase III of implementation.

The programme adopts a participatory approach taking all stakeholders for implementation of the programme. Community is considered as the primary stakeholder who is facilitated by the NGOs followed by technical support from the government.

The programme adopts an integrated micro watershed management approach covering a cluster of 10 to 12 micro watersheds preferably in contiguous patches with an approximate area of 500 ha. per micro watershed. It is also taken care during the selection of the micro watersheds that the boundary of one set of 10-12 micro watersheds is coterminous with the Gram Panchayat, as far as possible. The programme has adopted a seven year project cycle which is further divided into three distinct phases. The initial two years being the probation phase; next three years are the main implementation phase and the last two years of the programme is the consolidation phase/ withdrawal phase.

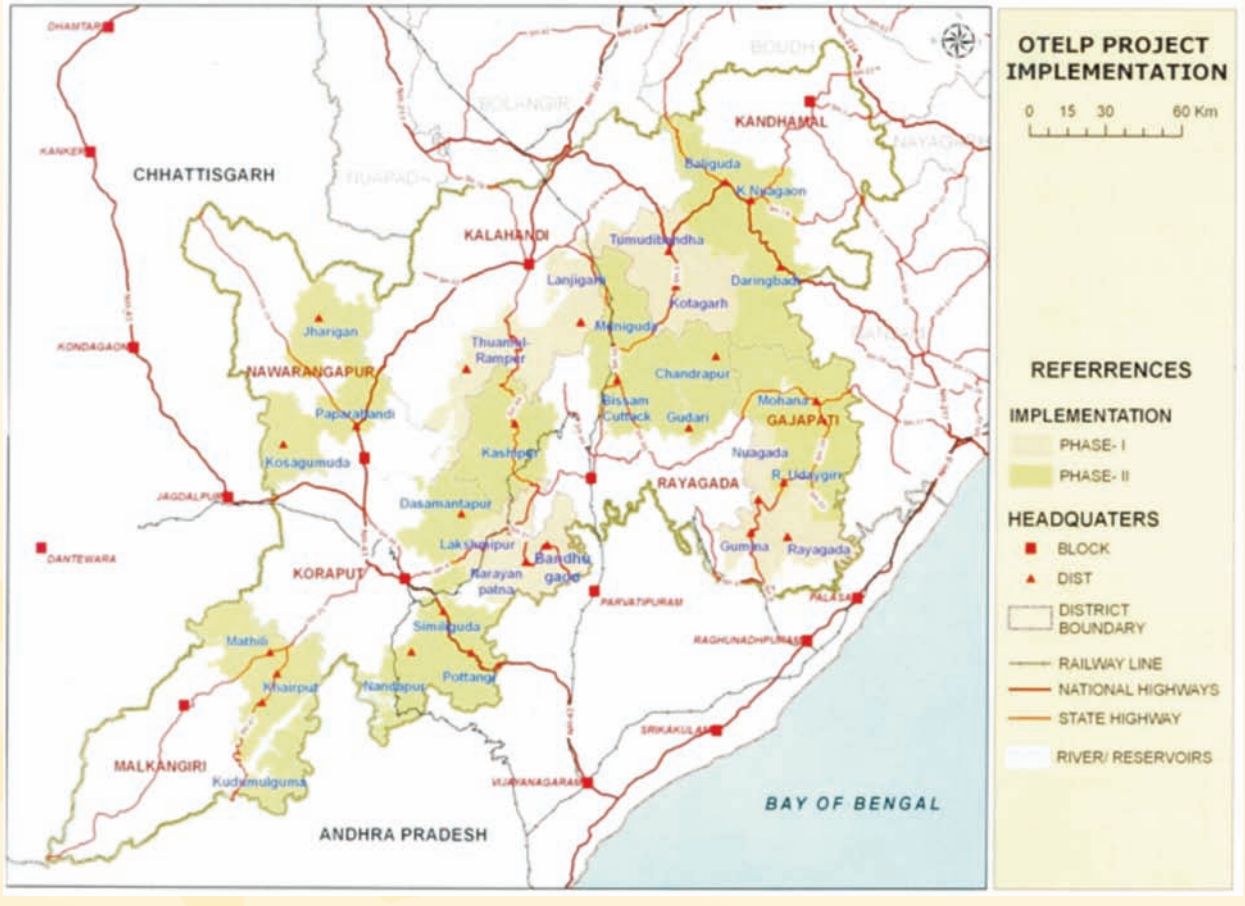
Initial Two Years (Probation Phase)	Middle Three years (Implementation Phase)	Last Two Years (Withdrawal Phase)
• Social mobilization • Institution Building and establishment of systems in participatory approach. • Participatory approach in planning and executing the programme. • Building capacity of the various stakeholders.	• Planning and Execution of the village development plan • To focus on Natural Resource Management and Livelihoods Interventions • Skill Up-gradation Training • Demonstrations, Exposures • Credit Linkage, Micro Enterprise	• Institutionalizing the process. • Gradual Withdrawal of project • Implementation of Sustainability Strategy • Capacity Building for management of community assets • Management of village development fund • Convergence

The programme thrusts upon the development of livelihoods of the poor tribal households based on their natural resource and skill base. The livelihood profile of the poor communities in the programme areas primarily depend upon wage employment, Agriculture, Sale of Forest Produces, Migration and very low level of enterprise based on traditional skills/ practice. Within the community, even the intensity of dependence on the above activities differs based on the family's economic status. However the programme constantly tries to improve each elements of the livelihood option of the poor by creating maximum opportunities for wage employment for the poor people, where the people get direct cash and grain income and vis-à-vis created community assets for conservation and development of Natural Resources

which subsequently used productively for generation of income. Efforts are made for improving the production system at the village level in promoting sustainable agriculture, livestock production particularly, small ruminants, aquaculture. Besides, for better quality of life community infrastructures like drinking water, storage structure, work sheds, bathrooms, toilets etc. are constructed. Most deprived or the poorest of the poor families are also identified and supported out of the development initiatives fund in providing livelihoods support from the programme.

1.1. PROGRAMME AREA AND COMMUNITIES

The programme is being implemented in 30 backward blocks of seven districts of south west Odisha namely Koraput, Kalahandi, Gajapati, Kandhamal, Malkanagiri, Nawrangpur and Rayagada. This implementation programme has been made in a phased manner. 10 blocks in 4 districts have been taken up in Phase I, covering 19481 households in 390 villages in Koraput, Kalahandi, Gajapati and Kandhamal districts. From January 2008, Phase II operations have started in additional 9 blocks of the above districts along with additional micro watershed in the Phase I blocks of Kalahandi district. Implementation in Phase I villages are completed and villages under Phase II are now ongoing.



Map of South-West Odisha with programme locations

The total coverage in Phase-II areas of above districts are 9 Blocks covering 15129 Households living in 328 villages. The Phase-II operation in new districts namely Nawrangpur, Malkanagiri and Rayagada started from January 2009 in 11 Blocks covering 21570 Households in 316 villages. The details of the area targeted under the programme are as follows;

District	ITDA	MWS	Village	Area taken up (in Ha.)
Koraput	Koraput	70	215	35482.47
Gajapati	Paralakhemundi	60	163	31939.24
Kandhamal	Baliguda	59	172	25902.25
Kalahandi	Th. Rampur	59	168	25800
Nawrangpur	Nawrangpur	30	51	15420.64
Malkanagiri	Malkanagiri	30	83	15804
Rayagada	Gunupur	50	182	25019.68
	TOTAL	**358**	**1034**	**175368**

1.2. DEMOGRAPHIC PROFILE

The programme targets 255661 people out of which half of the populations are women. 75% of these populations are schedule tribe. The major tribes included under the programme are Soura, Lanjia Soura, Konda, Kutia Kondha, Paraja, Bonda, Bhumija and Koya. Out of the above, Lanjia Soura, Kutia Kondha and Bonda are the particularly vulnerable tribal groups (PVTG). Besides, tribal population, the programme also targets 15% of scheduled caste population and 11% of other backward class (OBC) population living in the programme areas.

District	Total Male	Total Female	ST Male (%)	ST Female (%)	SC Male (%)	SC Female (%)	Others Male (%)	Others Female (%)
Koraput	28826	29296	72	71	10	9	18	20
Gajapati	18333	18542	99	99	1	1	0	0
Kandhamal	16428	16486	64	65	28	27	8	7
Kalahandi	13864	14216	74	77	21	19	5	4
Nawrangpur	22372	22287	63	62	11	11	25	27
Malkanagiri	9123	8788	84	84	6	6	10	10
Rayagada	19033	18067	71	73	29	27	0	0
Total	**127979**	**127682**	**74**	**75**	**15**	**14**	**11**	**11**

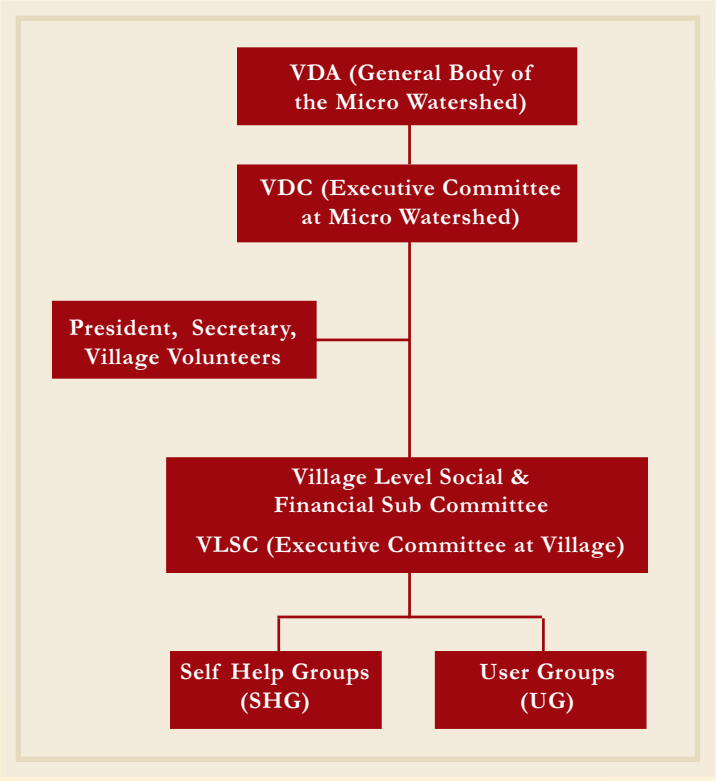
The clusters covered under the programme in selected community development blocks are poverty stricken and considered as backward. 68% of targeted families fall in BPL category as per the govt. records. 24% of households do not have land. Tribal economies are primarily based on the agriculture and forests. Agriculture land is the most essential asset for production. The following table depicts the district wise absolute landless and BPL families.

District	Total Households	Landless Households	BPL Households
Koraput	14455	3183	11267
Gajapati	6949	1620	4575
Baliguda	7064	1616	5955
Th. Rampur	6142	1506	4804
Nawrangpur	10024	2295	3916
Malkanagiri	4126	1089	2703
Rayagada	7420	2274	5259
Total	**56180**	**13583**	**38479**

1.3. INSTITUTIONAL FRAMEWORK FOR IMPLEMENTATION OF THE PROGRAMME

The programme adopts a public private and community partnership approach in implementation of the programme. In this PPCP mode, community has taken the lead role in planning, executing, monitoring and evaluating the programme where as the government provides the technical assistance and support, and the NGOs play the role of facilitator in mobilizing community and empowering them. The programme is implemented through various grass root institutions such as SHG, UG, VSS and CIG.

The programme stresses on all the families within the geographical boundary of one micro watershed. It usually consists of two to three villages. The association of all adult members within the micro watershed is the



Village development Association (VDA) and is registered under society act 1860. Village Development Committee (VDC), comprising of 15-20 members is the Executive body of VDA responsible for managing day to day activities of VDA.

Stakeholders	Roles & Responsibility
Community	Planning, implementation, monitoring & evaluation, governance, documentation.
Non-Government	Organization Facilitation for planning, technology transfer, capacity building, handholding support for implementation
Government	Technical Assistance and Support

Community Organization & Institution Building				Unit	As on 2012
Apex Federation at block level (Multi Purpose Cooperative)				Number	1
Members enrolled				Number	277
Village Development Committees (VDC) formed and Registered				Number	358
Members representation in VDC	Male	ST		Number	2864
		SC		Number	634
		OC		Number	120
		Landless		Number	1285
	Female	ST		Number	2187
		SC		Number	501
		OC		Number	60
		Landless		Number	380
VDC Meeting	No. of meetings conducted			Number	9626
	Avg. attendance in meetings	Male		Number	61.61
		Female		Number	90.7
SHG Promoted				Number	4372
No. of SHG conducted regular meetings				Number	4372
Average Attendance in the SHG meetings				Number	61.465
Village Level Sub Committees (VLSC) formed				Number	944
Members representation in VLSC	Male			Number	21.95
	Female			Number	78.06
Village Social and Financial Audit Sub Committee Formed				Number	944
User Groups	Formed			Number	912
	Taken up Activities			Number	843

(Project MIS 2011-12)

VDC selects one President and one Secretary among the member who works as office bearers. They look after the day to day activities regarding implementation of the programme, accounts keeping etc. For better implementation of the programme, the VDC selects five youths from their villages who work as village volunteers. They work as community resource person in five areas of livelihoods promotion i.e. Agriculture, Livestock, Land & Water, Book Keeping and Social Mobilization. These village volunteers are trained in their respective subject areas to provide support services to the primary stake holders. For further decentralization of the process, Village Level Sub Committee (VLSC) has been formed in each village within a micro watershed. The VLSCs are responsible for planning and implementation of programme activities in their respective villages. They work under the overall coordination of the VDC and works as a subcommittee to deliver the responsibilities of VDC in their villages. For a better governance and delivery system, the responsibilities of the social audit of the activities implemented in the programme villages are given to the Palli Sabha of the respective villages. This is a recognized village institution which undertakes social and financial audit of the programme implementation and is called the Village Level Social and Financial Audit Sub Committee. The programme promotes the monthly meeting of the Palli Sabha (VSFASC) in each village which reviews the implementation progress.

2. Capacity Building for Empowerment

Women members in a pictorial training session

The programme focus is to build the capacity of the primary stakeholders. They are primarily responsible for planning and execution of work under the programme. About 85% of total budget of the programme are allocated towards development natural resources, which are transferred to grass-root level institutes to execute the planned activities. The staff of FNGO and ITDA play a facilitative to ensure timely implementation of the programme activities directly in the communities.

The capacity building strategy of the programme is a dynamic one which takes the experiences and lessons gathered during implementation of programme across various districts and communities. This strategy underlines the strength of the CBOs and village level volunteers, who are the key factors for successful implementation of OTELP. These community level workers promoted as service providers at the local level to transfer skills to the communities.

To ensure a better and informed community, the Process Guideline of the programme stipulates dedicated phase of 2 years for Community Mobilisation during the beginning of the programme. Adequate Community Mobilisation programme / events, formation / strengthening of existing institutions are the focused interventions during the probation phase. There is a standardized Community Mobilization framework covering activities such as theme based street play, video show, sensitization workshop, health camp, animal health camp, wall writing, observation of important days, high lighting the issues of community based development etc. to increase motivation for improved community participation in implementation of programme. Several trainings on institution building, participatory development processes, leadership, conflict management, issues relating to equity and gender mainstreaming, book keeping and accounts management, convergence, collective marketing etc. are also covered in the package of Community Empowerment and Management.

2.1. COMMUNITY EMPOWERMENT & MANAGEMENT

Sensitisation Programme ongoing in a village

The inputs under Community Empowerment and Management have been identified as most significant contribution to ensure community participation in development process. The success of the OTELP entirely depends upon the knowledge, skill, abilities of the members of the communities and their ownership in effective implementation of programme. High level of motivation and commitment of the community members for effective programme implementation has been developed during the initial phases of programme implementation by organising different sensitization camps, trainings, exposure visits and through interaction with other communities, who has practiced the same earlier. Varied inputs on institution building, good governance, participatory processes, Community Property Resource Management, Tribal rights issues, Convergence etc. are also ensured during the initial years of programme implementation to ensure quality participation with assumed responsibilities by the communities.

Based upon experiences and lessons learnt during implementation of programme in past years, Community Mobilization framework was formulated to ensure inclusion of all categories of communities.

The interventions taken up under the Community Empowerment and Management are as below:

2.1.1. Community Mobilization & Empowerment

Community Mobilisation through interaction

The focus here was given is to make the community aware regarding their entitlements, which will subsequently create a demand for services. And to improve their capability in implementing the programme as well as participate in other developmental programmes of Govt. Thus, to create awareness, series of community mobilization activities were taken up on various development issues including the different schemes/ provisions of Govt. and other non govt. organizations. Villagers were oriented on the expected benefit of these mainstream programmes. Training programmes on tribal rights were organized to sensitize them on their responsibilities to avail the entitled benefits. Similarly, series of human health camps, veterinary camps etc. have been organized.

Strengthening of existing SHGs and formation of new SHGs with the left over households was prioritized with campaign mode. Community members were facilitated to draw up the village development and livelihoods plan. Training/ sensitization meetings on land right issues (OPLE, OGLS, FRA, Vasundhara etc.) have been organized for all the programme villages. Communities were also mobilized on the advantages of convergence with the PRIs to ensure continued support from different schemes. Need based exposure visits have been organized at different places for comprehensive understanding?

Similarly, to increase their capability to manage the implementation of the programme various community institutions created such as SHG, VDC, VLSC, VSS etc. were also trained on the areas of leadership, group dynamics, accounts, organisation management, managing convergence. The details of the training programmes and other events conducted for during the period are presented in the table.

Activities	Cumulative training/events organized		
	2010-11	2011-12	Cumulative Total upto March 2012
Community Mobilization (Health Camp/ Awareness Camp/ Animal Health Camp/ Video Shows/ Cultural Programmes/ wall writing etc.	707	430	4517
Training Programme for SHGs (Leadership, Group Dynamics, Accounts, organizational Management etc	588	531	4315
Training Programme for VDCs/ VLSC/ UG (Leadership, Accounts, organizational management, Tribal Rights, Convergence etc.)	649	770	5041
Total	**1944**	**1731**	**13873**

(Project MIS 2011-12)

2.2. BENEFICIARIES SKILL DEVELOPMENT

Livelihood of the poor is primarily dependent on their skill base. They work as labour particularly in primary sector like agriculture for food production and employment. Besides, they work as unskilled labour in other construction works. The programme has adopted the strategy for adding new skill and upgrading the existing skill of primary stake holders so as to meet demand employment demand in the local areas. Capacity buildings inputs under this sub-component include trainings, exposures, demonstration etc. to upgrade the skills of beneficiaries (primary stakeholders) for execution of different activities under the production enhancement components (L&W, Agri, Horti, Pisci-culture, PFM, CIF etc.) and income generating activities (RFS) etc. Skill based trainings, exposures, demonstrations etc. are being designed based on the activity plan proposed by the communities under Annual Work Plan and Budget. Capacity Building inputs under this component will be mostly covered during implementation phase (3-5 yrs) of

programme cycle. Different resource institutes/ organizations and resource persons have been contracted / tied up to take up capacity building activities under different thematic areas as identified jointly by the staff from ITDA and FNGOs. The Resource Centers like Soil Conservation Training Institute, Govt. of Orissa, Central Soil and Water Conservation Research and Training Institute, ICAR, Semiliguda, Regional Research Technology Transfer Station, (RRTTS), OUAT, Semiliguda, Koraput, Krushi Vigyan Kendras, OUAT, Community Level Resource Centers (OWDM) and other private owned training institutes were tied up with OTELP programme districts. Besides, Resource Persons from local NGOs and line department has been augmented regularly. The various training programme conducted during 2011-12 are presented in the following table.

Training to SHG members on assembling of Solar Led Lanterns and Torches

Activities	Cumulative training/Exposure organized		
	2010-11	2011-12	Cumulative Total up to March 2012
Training and exposure under Land & Water Management	252	370	1291
Training and exposure on improved practices of Agri / Horti, PFM	379	593	1971
Training and exposure on improved rearing practices for Livestock & Aquaculture Development	189	185	976
Training and exposure on preparation of business plan and implementation of Non Farm Activities	194	315	1393
Vocational Training to Youth	128	41	174
Total	**1142**	**1504**	**5805**

(Project MIS 2011-12)

2.2.1. Skill Development Training for Rural and Landless Youth in OTELP, Odisha, India

About 40% of the targeted population under the programme is youth (age group between 18 to 35 years). They are either employed in the agriculture during the season or works as casual labour in the unorganized sector in local suburban locations. Non availability of skill and relevant information on employment makes this productive age group unemployed or underemployed. With subsistence income from agriculture from their degraded land and marginal farming, produces from forest and occasional income from wage

Unemployed youth are undergoing Fitter Training

engagement are the means of living for most of these families. As much as 28% of these families don't own a piece of land, either for homestead or for agriculture. The government defines landless as a family without having one standard acre of agriculture land. In recent years, some of these families have been settled in forest land (which they were cultivating) under the Forest Rights Act 2006.

Thus, under the sub component of skill up-gradation of the primary stakeholders the programme has targeted the youth (18-35 years) to create human resource for the future. Advance agricultural as well as vocational trainings are provided in order to attract the youth be self employed. This was adopted to reduce the incidence of migration during lean seasons. The basic purpose to upgrade the skills of tribal youths in various short/ long term vocational courses depending upon their educational qualification, present economic trends and the market potential. This will enable them to gain suitable employment or to become self employed. Keeping in view of the emerging need to address the unemployment issue and help the youths to tune up their skill, it was planned to train all the unemployed youth in OTELP areas to in vocational training in phased manner. The strategy has been further concentrated for the youths from the landless families to provide them skill development trainings on various trades like Masonry, Gardener, Grafting, Beekeeping, Mushroom production, Mother Chick Unit & Backyard Poultry, Pisciculture, Housekeeping, Hotel Management, Tractor & Power tiller and 4 wheeler driving, Mobile repair, Computer Training, Welding, Lathe, Tailoring , Plumbing, Welding, Carpentry, Weaving etc. Many of these youths are now gainfully self-employed locally and in some nearby townships. During the year 8630 tribal youths from the programme areas were identified to be trained in various trades. All these skilful training programmes are conducted in OTELP districts through convergence with the Odisha SC & ST Finance Development Corporation (OSFDC) through their empanelled ITI/ ITC. Besides association of Khadi Village Industries Commission, and Odisha State Employment Mission through various employable vocational training, these candidates are trained in a phased manner at various institutions. In the year 2011-12, 600 candidates were trained in various institutions and trades. The details are in following table. Currently 180 candidates are undergoing training in different institutions in Odisha.

Trainees undergoing Sewing Training in SEAM,Hinjilikatu

Name of the Trade	No. of Persons Trained (2011-12)
Data entry Operator	87
Fitter & Industrial Helper	14
Electrician	1
Welder	43
Driving	156
Mobile Repairing	79
Domestic BPO	63
Laptop & Desktop Maintenance	27
Security Guard	89
Tailoring	8
House Wiring	18
Electrical & Electronic Home Appliances	15
Total	**600**

2.3. CAPACITY BUILDING OF SUPPORT AGENCIES

FNGO, ITDA and local Govt. institutions plays key role in facilitating the process of programme implementation with the community. Regular updation of skill, information and knowledge is essential for these staffs in their respective subjects for ensuring better facilitation by them. Besides, regular orientation and training on programme perspective, participatory development etc. are essential to make these staffs understand the concept of the programme, its implementation processes, objectives and expected outcomes. The PSU has organized number of exposure visit for staff of ITDA and FNGO to WOTR, MYRADA, WASSAN, BAIF, NM Sadguru Foundation, JRLPS, BRLP and other Grassroots Institutes for different thematic aspects of programme components. Exposure to the old programme villages were organized to ensure proper understanding of the modalities of community driven implementation of the programme.

FNGO representatives during an exposure to Bihar Rural Livelihoods Project,Gaya

	2011-12	Cumulative Total up to March 2012
No. of Trainings for FNGO staff	66	285
No. of training on Community Mobilization and Institution Building for FNGO Staff	80	249
Training for line Dept. Staff / Support Organizations	51	114
Total	**197**	**648**

Training programme on various cross cutting subjects such as Communication, Micro Level Planning, Gender Mainstreaming, Knowledge Management etc for the staff of ITDAs and FNGOs were also organized by the PSU in regular intervals. The details of training organized during last one year of time period to various facilitating agencies are given in the table.

The PSU has also organized training programmes on various technical subjects, policy issues as well has also facilitated the district team to organise similar training programmes. Training on FRA to the staff of FNGO and other village volunteers were imparted by PA, ITDA/ Sub Collectors in their respective block headquarter. The trainees, in turn took up sensitization training on FRA act at the community level with the facilitation support of FNGOs associated in implementation of OTELP.

Further, the support of Technical Expert has been rendered to the ITDAs with the financial assistance from ICRISAT to provide day to day hand holding support on agricultural development. PSU has developed different module and manuals on Book Keeping for SHGs, Gender, Communication, MLP, Land & Water Management etc with the support of PST.

Specialized training programmes for programme staff, FNGOs, ITDAs and Community level Volunteers were organized on various aspects of improved agriculture as follows:

- Improved Agro Techniques on Tuber crops at Regional Centre, CTCRI (ICAR), Bhubaneswar.
- Improved Agro techniques in cultivation of Maize, Raagi, Lesser Millets, Turmeric, Ginger, Off Season Tomato, Bean, Cashew crop at OUAT, Bhubaneswar.
- Production Technology in SRI & Improved Agriculture Techniques of Rice in Rainfed Situation at CRRI (ICAR), Cuttack.
- Improved Agro techniques in cultivation of Mango, Banana & Papeya and production of quality planting materials at Central Horticulture Experiment Station (ICAR), Bhubaneswar.
- Training Programme on Land & Water Management in Micro Watersheds at Water & Land Management Institute, Dept. of Water Resources, Cuttack
- Training Programme on Soil and Water Conservation, Agro-forestry and Watershed Management for Improving Tribal Livelihood and Food Security at Central Soil & Water Conservation Research and Training Institute(ICAR), Koraput.

3. Livelihoods Enhancement

The programme focuses on empowering the tribals and enabling them to enhance their food security, increase their incomes and improve their overall quality of life through more efficient natural resource management, based on the principles of improved watershed management, more productive environmentally sound agricultural practices, and through off-farm/non-farm enterprise development. The funds under this component will be directly invested within the micro watershed for development of the natural resources as well as for the livelihoods support of the communities.

The livelihoods enhancement component of the programme addresses issues on poverty reduction and provides alternative livelihoods options as the tribal people are mostly depends on the available natural resource bases. Understanding how and why rural people change their income generating activities is the key to developing effective strategies to support the targeted beneficiaries. However, the strategies adopted are understood by the beneficiaries and they assist the process with the objective of ensuring sustainability. The factors to be taken care of are too complex, ranging from the relative low productivity of the local area, to levels of risk, security and education, as well as the nature of local production, markets and demand. Systematic approaches to identify and promote alternative incomes were initiated by the programme for sustainable improvement of degraded natural resources. It is important that these approaches recognize that change in rural livelihoods is not so much a periodic phenomenon but an ongoing process. It is clear that both general development programmes and targeted support for the poor can pave the way for the poor to help themselves get out of poverty.

3.1 LAND & WATER MANAGEMENT

The livelihood basket of the poor is partly filled in by wage income, subsistence agriculture and forest. Thus effort has been made during the year to invest upon these resources which not only provide immediate wage employment but also improve these resources to productive assets resulting in improved income in the long run along with ecological balance. With a food security of about 4 to 6 months per year, it is an ongoing effort to provide income in terms of cash and food grain resulting in improved availability of food and purchasing power.

This sub-component covers all activities on mechanical structures and agronomic practices for conservation of soil and water resources such as creation of small water harvesting and recharging structures (check-dam, Farm pond, WHS etc.), development of the agricultural lands (contour bunding, terracing etc.),

treatment of the nalas, soil conservation measures (gully control, contour trench, staggered trench, contour plantation etc.), conservation tillage, DCP, promotion of improved agronomic practices of horticulture and agriculture in highly degraded lands to restore top soil and soil moisture.

Highest investment has been made in this sub-component for development of land & water resources within the micro watershed. This sub-component aims to increase rainwater use efficiency, reduce run off and soil loss and increase water availability through improved surface and ground water development & management.

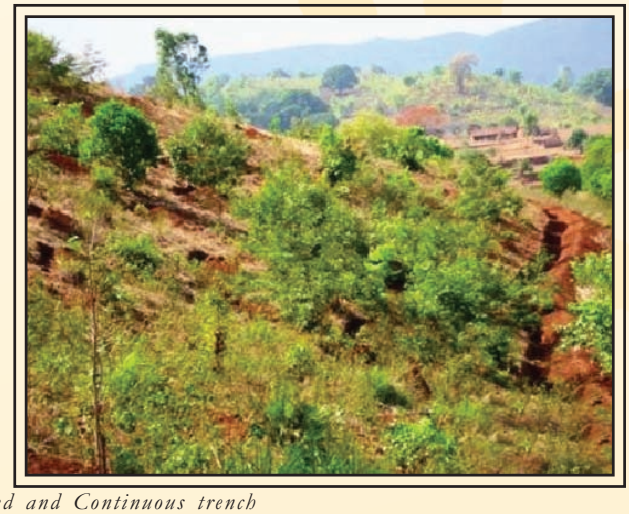
3.1.1 Conservation of shifting cultivation patch

Shifting cultivation, a primitive system of agriculture, the first step in transition from food gathering and hunting to food production; is an age old practice in many countries including tribal regions of Orissa. In Orissa, it is known as *podu* cultivation.

This system involves the cultivation of crops on a patch of cleaned forest area vicinity to their settlement. Trees and bushes are cut during November-January, allowed to dry and burnt by fire. Before the onset of

Stone bunds in series in shifting cultivation patches

Stone bund in hill slope protecting low lying paddy field



Combination of Staggered and Continuous trench

monsoon seeds are sown or dibbled. Different crops grown are millets, cereals, pulses and oilseeds mixed or rarely separated. In one patch, this process continues for 2-3 years till the fertility declines. Then, the patch is abandoned and a new site is selected for the purpose. The abandoned patch regenerates, become fertile. The tribals came back to this patch after 20-30 years. This period is called a podu cycle. Gradually the cycle reduced to 3-4 years due to population pressure which results in massive soil erosion, siltation of reservoir, drying of springs, reduced fertility, heavy flood, water scarcity and deforestation.

Since shifting cultivation can not be avoided completely, alternate substitute for this practice are advocated by the programme through various ways which includes physical, agronomic and socio-economic measures.

During the programme intervention, various mechanical measures like Stone Bunds, staggered trenches, continuous trenches and water absorption trench are constructed to reduce the run off velocity and soil loss from those patches and to conserve and improve the productivity. The details of the above activities during 2011-12 and since inception of programme are presented in the table below.

Activity details	Unit	During 2011-12	Cumulative upto 2011-12
Mechanical Filter Strip/ Stone Bund	ha.	565	2477
Trench (CCT/ SCT)	ha.	728	3767
Water Absorbtion Trench	ha.	61	222

(Project MIS 2011-12)

3.1.2 Drainage line treatment

The topography of the programme villages is hilly and undulating. Instant runoff during rain passes through numerous first and second order streams causing severe erosion of the stream beds. These erode sand, stone, pebbles etc., damaging low laying fields. Hectares of paddy cultivated during kharif (Rainy) season are affected due to sand casting caused by flash floods. This not only damages the crop for the season but also the farmer losses his/ her family labour to reclaim the land, where women from the family suffers most. These low lands over the stream bed are about 10-12% of the total cultivable land, which are most productive in nature. The tribal families mainly depend upon this land to grow paddy for meeting their food requirement.

Gully control Mechanism

The programme adopted interventions to treat these first and second order streams through various activities like Retaining Wall/ Guard Wall, Gully Control Structures, Brush Wood Check Dam etc. in

series to minimise the crop damage at the lower patches. These treatments across the streams retain sand, stone, pebbles, silts etc. flowing from the podu areas and deposit in the gully beds. This effort stabilises gullies, increase the base flow and flow duration. At the same time, new lands are created across the stream bed and sustain vegetative growth. The paddy crops cultivated in the lower patches are saved and also get water during moisture stress conditions during rainy season. The major activities undertaken are presented in the table below.

Activity details	Unit	During 2011-12	Cumulative upto 2011-12
Gully Control Structure (EGP / LBS / LBCD/ BWCD)	nos.	14670	76762
Masonry Gully Plug/ Gabions	nos.	18	18
Masonry Drop Structure	nos.	1	697
Nalla Bank Stabilisation/Steram Bank Erosion Control	nos.	0	1
Retaining wall/ Guard wall(Masonry)	nos.	37	113
Retaining Wall/ Guard Wall (Dry)	nos.	71	172

(Project MIS 2011-12)

3.1.3 Land development intervention

As per the statistics, about 65% of the cultivable lands in the programme area are high land and 20% are medium land. These lands contribute major sources of income for tribals as they cultivate Paddy, Niger, Millets, Maize and Mustard etc. The productivity of these lands is poor as most of these lands are unbunded. The farmers cultivate in these lands with a high risk due to erratic rainfall, soil loss, nutrient deficiencies, lack of irrigation etc., resulting in poor crop husbandry by them. The farmers get about 25-30% of their income from these lands, which are more than 85% of the total cultivated land in OTELP villages. Besides, crops grown in these patches are cash crops and also content nutritional values, it is important to treat these lands to increase its productivity.

Earthen Bunds with 30 × 40 model

Terraced paddy field with pineapple plants in bund slope

Figure On going 30 x 40 model of land development

5 % Model for supplemental irrigation during dry spell

The programme has facilitated the farmers to construct bunds and 30 x 40 models, terraces, leveling of these lands to retain fertile top soil and moisture. The farmers are also facilitated to grow some crops over the bund to stabilize these and in return get some income. Now farmers are also facilitated to produce compost and use it as fertilizer in these lands to increase productivity. The major interventions made for development of these lands are given in the table below.

Activity details	Unit	During 2011-12	Cumulative upto 2011-12
Contour Bund/ Field Bund/ Earthen Bund	ha.	3498	7522
30x40 Model	ha.	245	457
5% Model	nos.	3912	5557
Terracing	ha.	0	18
Land Levelling	ha.	303	783

(Project MIS 2011-12)

3.2 WATER RESOURCES DEVELOPMENT

Rainfed agriculture is predominant in programme areas as most of the medium and high lands are non-irrigated. Though there are number of perennial streams available in these locations and annual rainfall usually exceeds 1400 mm., due to erratic nature of rainfall and poor rain water conservation techniques results in uncertainty of crop production and yield. To mitigate the situation, rain water conservation and utilisation of water from perennial streams during stress period and prolonged dry spell in kharif has been adopted as a strategy by the programme. As part of this strategy, various types of water bodies are created along with irrigation structures. Water bodies are meant to provide protective irrigation during kharif. The irrigations structures such as diversion weirs, check dam, canal etc. are constructed/ renovated to ensure protective irrigation during kharif and also support post rain crops cultivated by farmers during rabi season. These interventions are

resulted in increase in cropping intensity and volume of production. There are evidences of crop diversification and improved cropping practices due to additional irrigation facility.

Farm Pond excavation is in Progress

Farm pond used for various purposes

Contour canal irrigating paddy fields

Check dam

Besides, water is tapped from perennial springs with filtration arrangement and provided to household through buried pipes. This not only mitigates the household needs, but also the surplus water is used for irrigating the backyards for growing vegetables meeting the family nutritional requirements. This also provides additional income to the tribal families and saves lot of time which was otherwise lost in fetching water from distant sources.

Hydram projects were also piloted in OTELP areas to provide small scale upland irrigation and meeting the domestic needs of households. The hydram is a simple, motor less device for pumping water at low flow rates. It requires no external power, uses only the energy of flowing water to lift water when the source of water is at a much lower elevation than the habitation or the land to be irrigated.

Backyard garden utilising surplus water of Spring based Gravity flow water supply system

Drinking water supplied through gravity flow water supply

Hydram project for upland irrigation and domestic use

The major interventions made for development of water resources are given in the table

Activity details	Unit	During 2011-12	Cumulative upto 2011-12
Checkdam (New)	nos.	52	320
Checkdam (Renovation)	nos.	1	7
Diversion Weir (New)	nos.	27	113
Diversion Weir (Renovation)	nos.	2	22
Diversion based irrigation structure (piped)	nos.	3	21
Lift Irrigation projects (river/ open source/ borewell/ dugwell)	nos.	43	45
Piped water supply project for domestic use & irrigation (gravity fed)	nos.	72	157
Piped water supply project for domestic use & irrigation (sanitary well/ borewell)	nos.	2	3
Field Canal / Earthen Canal (New)	rmt.	64992	119442
Field Canal / Earthen Canal (Renovation)	rmt.	14052	36348
Masonry canal (new)	rmt.	4081	34075
Masonry canal (renovation)	rmt.	10	466
Water Harvesting Structure/ Irrigation tank (New)	nos.	231	438
Water Harvesting Structure/ Irrigation tank (Renovation)	nos.	13	52
Farm Pond	nos.	760	992
Percolation tank/ sunken pond	nos.	99	103
Irrigation well/ chuan (open)	nos.	151	373
Hydram project for upland irrigation & domestic use	nos.	5	5
Renovation of Open well dug well	nos.	124	181

(Project MIS 2011-12)

3.3 BIOLOGICAL MEASURES

Each mechanical structure created through land & water management component are supported with biological measures during the initial year of creation to ensure structure stability and sustainability. This also increases the effectiveness of the mechanical measures along with additional income to the farmers.

Yam cultivation

Mango plantation with staggered trench

The major activities undertaken are presented in the following table.

Activity details	Unit	During 2011-12	Cumulative upto 2011-12
Forestry/ Mixed tree species plantation	ha.	231	2492
Horticultural plantation	ha.	4	1875
Wadi model plantation	ha.	754	1232
Backyard Plantation	HH	144	6794
Bund / Contour Plantation	rmt.	500	637510
Avenue plantation	km.	0	90

(Project MIS 2011-12)

3.4 OUTCOMES AND IMPACTS: LAND & WATER MANAGEMENT

a. **Conversion of non-arable land to arable land:** since the inception of the programme to till now 9591 hectares of land are developed for cultivation purposes covering 37706 families. These families are cultivating paddy, maize, niger etc and have increased their income.

Particulars	2010-11	2011-12	Cumulative up to 2011-12
Non Arable to Arable (in Ha)	575	4837	9591
Households Benefited	1571	30233	37706

(Project MIS 2011-12)

b. Additional irrigation support: Water resources development helped in providing irrigation facilities to the non-irrigated land as a result of which additional land was covered under irrigation and cropping intensity was also increased.

Year	Cum. Area Irrigated(in Ha.)	Cum. Additional Area cultivated (in Ha.)	
		Kharif	Rabi
2005-06	464	25	2
2006-07	2126	768	272
2007-08	6308	1639	1350
2008-09	9746	3306	2621
2009-10	11425	4592	3826
2010-11	12058	8862	5419
2011-12	1916	14197	6756

(Project MIS 2011-12)

The below table indicates about 3641 families got benefit during 2011-12 by saving their crops in dry spell during kharif season and took second crop in rabi season.

Particulars	2010-11	2011-12	Cumulative up to March 2012
Additional Area Irrigated (in Ha.)	633	1916	13974
Households benefited due to additional irrigation	1248	3641	18146

(Project MIS 2011-12)

4. Production System Enhancement

4.1 AGRICULTURE AND HORTICULTURE DEVELOPMENT

Agriculture is the major source of livelihood of the tribal of OTELP areas as they get more than half of their income from settled agriculture and shifting (podu) cultivation. Scientific practices, which address environmental quality have been introduced for sustainable production and income. High input technologies have been discouraged and the approach has been to introduce the technology, which must be both affordable and geared with the needs of poor and under nourished tribal farmers.

Key activities through programme initiation:

4.1.1 Cropping Strategy:

a. Diversification of Cropping (DCP) -

About 70 % of the cultivable areas of OTELP are high lands. Substitution of paddy with non paddy crops like Ragi, Arhar, Black gram, Maize, Ground nut, Vegetables, Ginger, Turmeric, Tuber crops etc have been promoted in these areas under non irrigated condition as these crops require less water and performs better in drought situation as compared to paddy. Based on the demonstration programme of previous years of DCP, so far 1090 ha upland paddy has been diverted to non paddy crops by 3880 farmers during rainy season, 2012.

Off season vegetables under diversification of cropping

b. Inter Cropping system -

Upland paddy is subjected to partial or complete failure in rain fed areas during drought years. Pigeon pea + Rice (2:5) intercropping system has been promoted in the non irrigated highlands for

partial substitution of paddy wherever farmers insists for rice. Besides other inter cropping systems like Pigeon pea + ragi (2:4), Maize + cowpea (2:2), Yam + maize (1:2) and Maize + runner bean (2:2) have been promoted for giving higher income in aberrant weather. in the non irrigated highlands instead of mixing 4-5 crops and going for mixed cropping by the farmers traditionally. Based on the demonstration programme of previous years, so far 487 ha in upland covering 1219 farmers have been up scaled during rainy season, 2012.

Intercropping of Maize and Chilly

c. Sequential cropping under rain-fed eco system -

Field pea /black gram / mustard / Chickpea is promoted after paddy in medium and lowlands instead of keeping fallow of the lands after harvest of Kharif paddy for increase of income at household level. Besides mustard/ black gram/ kulthi is also grown after harvest of Kharif maize. The 2nd crop is harvested successfully availing residual moisture and few showers of rain in the post rainy season and farmers get additional income from these crops. Based on the demonstration programme of previous years, 2507 farmers have taken up 2nd crop in an area of 1089 ha in the rain-fed eco system during post rainy season 2011-12

Chick pea under rain fed eco system

d. Sequential cropping under irrigated eco system -

Irrigation facilities have been developed in most of the villages through interventions under land and water management component. The popular 2 crop patterns in the programme areas are Rice – mustard/black gram/vegetables/chick pea, Monsoon potato-winter vegetables, Kharif tomato/ cauliflower./cabbage/radish-winter/ vegetables, maize- /vegetables/mustard. Besides three crop patterns like Rice – vegetable – vegetable and Vegetable – vegetable – vegetable are also done in Koraput and other areas. Based on the demonstration programme of previous years, 2541 farmers have taken up 2 crop / 3 crop pattern in an area of 832 ha (Koraput 220 + Balliguda 64 + Nawarangpur 20 + Paralakhemundi 128 + Th. Rampur 400) in the irrigated eco system during post rainy season 2011-12.

Potato cultivation under irrigated eco-system

e. Introduction of new crops and varieties -

Ginger cultivation

New crops and improved varieties of Paddy (Khandagiri, Lalat, Naveen, Swarn, Jajati, MTU 1010, Surendra), Maize (Navjot), Ragi (Bhairabi) Pigeon pea (Asha), Chick pea (JG 11(desi), JG 14 (desi), ICCC37 (desi), JGK 2(kabuli) & KAK 2 (kabuli)), Black gram (PU94-2), Ground nut (Devi), Niger (GA-10), Turmeric (Lakadong), Ginger (Suprava), Yam (Orissa Elite), Elephant foot yam (Gajendra), Pineapple (Queen), Orange flesh sweet potato, Brinjal (Blue star), Off season cauliflower (Pusa early, Pusa deepali), Off season cabbage (Konark, Deepa), Runner bean (Pottangi local, Udayagiri local, Radish (Pusa Chetki), Tomato (Utkal Pallavi, Utkal Dipit), Okra (Utkal Gourav), Chill (Utkal Abha), have been promoted in the programme areas. Under upscaling programme in RKVY, 28 hectors covering 2850 households in Koraput district under Ginger (Var Suprava) cultivation, 52 hectors covering 2650 households in Kandhamal district under Turmeric (Lakadong) cultivation, 60 hectors covering 2100 households in Koraput district under Yam (Orissa elite) have been grown during rainy season 2012. Monsoon potato (Var Chandramukhi) has been taken up in 10 ha covering 55 farmers during rainy season, 2012. Improved variety of Black gram has been grown in an area of 41 hectors covering 124 farmers in ITDAs Gunupur & Nawarangpur under convergence programme during rainy season, 2012.

4.1.2 Informal seed production and linkage with village seed banks-

Seed bank managed by SHG members

Farmers have realized that productivity of different crops increase significantly due to use of quality seeds. Basing on the learning experience in the previous years, a systematic programme has been drawn up for informal seed production during Kharif, 2011 and linking the same to village seed bank. The idea of operationalisation of the concept of 'village seed bank', (VSB) is to make village self-sufficiency in production and distribution of quality seeds. Accordingly, 83 village level seed banks were established during 2011-12. 1433 qtls of paddy seeds was procured by women SHGs of village level seed banks from the seed growers & sold to 4723 farmers after processing, bagging and stitching of the bags. New 30 kg bags were used for the purpose. Besides 6 qtls of Ragi, 1 qtl of Pigeon pea, 2.8 qtils of chick pea, 3.5 qtls of Black gram, 1 qtl of Green gram, 6 qtils of groundnut & 80 kg of Niger were also produced through Informal seed production programme at the village level seed banks during 2011-12. Informal seed production programme has also been taken up during rainy season 2012 for production of 3000 qtls of paddy, 98 qtls of Ragi, 90 qtls of Koda, 12 qtls of Suan, 8 qtls of Niger, 416 qtls of pigeon pea, 30 qtls of black gram, 165 qtls of ground nut & 78 qtls of Dhanicha through 120 village level seed banks.

4.1.3 Vermi composting (Recycling wastes into valuable organic fertilizers) –

It has been planned to establish 182 units (Koraput 55 + Malkangiri 80 + Paralakhemundi 26 + Balliguda 20 + Th. Rampur 1) during Kharif, 2012. Preliminary Work has already started in all the districts.

A lady in front of her vermicompost unit

4.1.4 Promotion of farm mechanization (Power Tillers)

As per the recommendation of JRM during 2011-12 for promoting power tillers in the programme areas, ST and SC development Department has already made provision of funds from SCA to TSP for giving assistance to 22 tribal farmers / SHGs for purchase of power tillers including case wheel @ Rs 72,000/ per beneficiary. Besides these beneficiaries will also avail subsidy @ Rs 60,000/- per beneficiary under Farm Mechanization from Agriculture Department. So far 1 power tiller has been supplied to a tribal farmer in ITDA, Balliguda. Besides 12 farmers (Gunupur 1+ Koraput 4 + Nabangpur 4+ Paralakhemundi 1 + Malkangiri 2) have already been identified and processing of documents in progress during 2012-13.

Power tiller in practice as part of Farm Mechanization initiative

4.1.5 Practice of low monetary system

Off season tillage / summer ploughing (ploughing during May), timely land preparation before the onset of monsoon, early sowing (sowing of seeds on the onset of monsoon), growing of high yielding varieties with shorter duration in different crops (paddy, ragi, black gram, pigeon pea, ground nut, sunflower etc), maintaining optimum plant population per unit area (demonstrating in the inter cropping systems), application of organic manure (cow urine + cow dung + jiggery + chopped leaves of neem, arakha and karanja)for providing nitrogen and repelling action against insects and micro organisms to the crops are low cost technologies and have no environmental hazard, thus accepted by the farmers.

Low cost monetary input (Dhanicha for green manuring)

So far 2660 farmers have made seed replacement by growing certified / quality seeds in an area of 981 ha of different crops (Paddy 757 + Ragi 15 + Maize 40 + Turmeric 169). Besides, line transplantation of paddy in an area of 744 ha under convergence programme, use of bio fertilizer in an area of 2371 ha, use of bio pesticide in an area of 525 ha, green manuring by dhanicha to increase soil fertility in an area of 173 ha, Micro nutrient used in an area of 100 ha, seed treatment in an area of 564 ha, application of gypsum in an area of 70 ha groundnut have been done during rainy season, 2012.

4.1.6 Millet Development

Ragi is a popular crop in the tribal areas. It is highly nutritious. In the programme areas of Kalahandi, Koraput, Gajapati districts many tribal consume at least once or twice Ragi daily. Bhairabi variety of Ragi developed and released from State Agriculture University gives 50% higher yield than the traditional varieties. As per the previous year experience, so far Bhairabi variety of Ragi has been grown in an area of 471 hector (Koraput 64 + Gunupur 274 + Paralakhemundi 12 + Th. Rampur 16) covering 1055 farmers under convergence programme during rainy season, 2012. Besides, Minor millets in an area of 16 ha covering 80 farmers have been taken up under convergence in Th. Rampur ITDA areas.

4.1.7 Cultivation of Hybrid Maize

Sowing of hybrid maize in an area of 562 hectors (Paralakhemundi 300 + Koraput 60 + Balliguda 40 + Gunupur 156 + Th. Rampur) covering 1288 farmers has been done under convergence programme during rainy season, 2012.

Hybrid Maize in practice by a farmer

4.1.8 System of Rice Intensification (SRI)

Many farmers have felt that there is increase of root system in both volume and weight and increase of tillers resulting increase of productivity by average 20 % compared to traditional practice of paddy cultivation. Scientists of CRRI and OUAT have trained our SMSs and emphasized that SRI prevents submergence of water and creating aerobic condition and reduces greenhouse gas emission. So far SRI has been covered in 267 hectors (Koraput 25 + Gunupur 144 + Nawarangpur 45 + Paralakhemundi 36 + Th. Rampur) covering 930 farmers during rainy season 2012.

Paddy cultivation through SRI

4.1.9 Growing of Orange flesh sweet potato

Sweet potato is an important crop for food, feed and raw materials for industries. Vines can be used

as fodder for cattle during off season. Malnutrition is a serious threat to health & productivity of people in most of the tribal areas. Vitamin A deficiency increases the risk of night blindness. One possible solution for addressing vitamin A deficiency is through a food based approach using orange-fleshed sweet potato as an inexpensive source of beta-carotene (the pre-cursor to vitamin A). Access to planting materials for orange-fleshed sweet potato is a challenge for growers. There is a need for rapid multiplication method and the establishment of community nurseries to meet the demand of the community. 2,23,600 cuttings of improved varieties of Orange flesh seeds were procured through the support of Regional Center, CT CRI, Bhubaneswar (ICAR) and multiplied in an area of 2.7 hector covering 91 farmers in Gajapati, Kandhamal, Koraput & Kalahandi districts during 2011-12. The programme will be upscaled to 5 hectors during September, 2012.

Orange flesh sweet potato

4.1.10 Promotion of nutritional gardens in the back yards:

Improved vegetables are cultivated in 5406 households (Koraput 400 + Malkangiri 900 + Balliguda 2300 + Nawarangpur 650 + Paralakhemundi 400 + Th. Rampur 756) during rainy season, 2012. Besides, Mango, Banana, Lime, Drumstick & Papaya seedlings have been supplied to 4076 households in ITDA Gunupur areas for backyard plantation under convergence programme during rainy season, 2012.

4.1.11 Special programme for Bonda hills in Malkangiri

Improved variety of sweet potato in an area of 2 ha covering 10 farmers, Monsoon potato in 12 ha covering 25 farmers & Pineapple in an area of 2 ha covering 10 farmers are being covered under convergence after discussion with the community during Rainy season, 2012.

4.1.12 Farmers Field School (FFS)

720 farmers are being trained on improved crop management practices in SRI paddy, Ragi, groundnut, potato in the field at regular intervals in 36 farmers field schools in Gajapati & Koraput districts during rainy season, 2012. Each farmers field school carters the needs of the farmer in a particular crop.

Farmers Field School in Paddy

4.1.13. Raising of quality vegetable seedlings in the poly nurseries and cultivation of vegetables in the raised beds

15 poly nurseries (Paralakhemundi 4+Balliguda 4+ Koraput 4+ Th Rampur 3) each 96 square meters area have been constructed by the women SHGs during 2011-12 under convergence. Programme staff facilitates

Poly House Nursery

SHG Members in work inside poly house nursery

SHGs for procurement of quality seeds for raising seedlings in the poly houses and supply to the farmers. Each time one poly house can cater the need of seedlings for 4 acres. These poly nurseries have already been linked initially for vegetable cultivation by 145 farmers (Th Rampur 79+Koraput 32+Paralakhemundi 25+Balliguda 9) who have installed drip kits in their fields through convergence.

4.2 SPECIALIZED INTERVENTIONS UNDER AGRICULTURE & HORTICULTURE PROMOTION

4.2.1 IFAD 954 ICRISAT Project

a. Progress during 2011-12 Post Rainy season:

The total Groundnut (var Devi) seeds produced from an area of 17.5.ha by 59 farmers in 13 villages under informal seed production programme is 19,272 kg, out of which 13,467 kg seeds have been consumed/sold by the farmers and rest 5805 kg have been kept for the use during 2012 Rainy Season.

Besides, total chickpea (vars ICCC37 & KAK 2) seeds produced from an area of 7.8 ha by 158 farmers in 47 villages under informal seed production programme is 4017 kg, out of which 2882 kg seeds have been consumed/sold by the farmers and rest 1135 kg have been kept for the use during 2012-13 post rainy season.

Inter cropping of Asha (ICPL 87119) var of pigeon pea with Ragi / Maize in an area of 4.0 ha (Pigeon pea + Ragi in 2.0 ha & Pigeon pea+ Maize in 2.0 ha) & Kamica (ICP 7035) var of pigeon pea with maize in an area 2.0 ha have been taken up by 123 farmers in 47 villages of four programme districts (Koraput, Gajapati, Kandhamal and Kalahandi) during 2011 rainy season.The inter cropping system is covered under informal seed production programme, following the concept of one variety in one village with 500 m of isolation. The pigeon pea crop has been harvested during January and February 2012. The average yield of 418 kg pigeon pea (var Asha) & 740 kg ragi per ha was obtained in Pigeon pea (var asha) +Ragi inter cropping system Similarly the average yield of 390 kg pigeon pea (var kamica) & 715 kg ragi per ha was recorded in Pigeon pea (var kamica) +Ragi inter cropping system. Besides, the average yield of 388

kg pigeon pea (var asha) & 1750 kg maize per ha was received in Pigeon pea (var asha) +maize inter cropping system. The yield of pigeon pea was affected due to prolonged dry spell from September till harvest of the crop as crops were grown under rain-fed condition.

Five varieties of chickpea namely JG 11(desi) , JG 14 (desi), ICCC37 (desi), JGK 2(kabuli) & KAK 2 (kabuli) were tested in 18 villages covering 38 farmers in 18 blocks in four programme districts under Farmers Participatory Variety Selection (FPVS) trials . The yield per ha in case of JG 11 var ranged from 320-750 kg (average 503 kg) , JG 14 var ranged from 320-868 kg (average 569 kg), 295-968 kg (ave 593 kg) in case of ICCC37 var, 405-1037 kg (ave 735 kg) in case of JGK 2 var and 380-1170 kg (average 807 kg) in case of KAK 2 var. The highest yield of 1170 kg per ha in case of KAK 2 (Kabuli) in Kalahandi district & 968 kg per ha in case of ICCC 37 (desi) were obtained in Kandhamal district.

12 numbers of farmers training programme covering 370 beneficiaries (male 250 + female 120) in IPM, seed production and post harvest technology in legumes were organized in Gajapati, Kalahandi and Kandhamal programme areas. Similarly, 17 field days covering 473 farmers and farm women were conducted at the podding stage of the crops in Koraput, Kalahandi and Kandhamal districts.

140 farm women from 46 SHGs of Gajapati, Kalahandi, Koraput and Kandhamal districts availed Rs. 1,28,000/- as credit for purchase of inputs required for informal seed production of groundnut and chickpea

The Agriculture Officer, two WDT Agriculture and five farmers of Kalahandi district visited ICRISAT on Exposure visit from 20-22 Mach, 2012.

b. Project completion Report of IFAD 954 ICRISAT Project:

i. Executive Summary:

IFAD Grant No. 954 ICRISAT Project started operating in the programme areas of Odisha Tribal Empowerment and Livelihoods programme (OTELP) since 2007-08 post rainy season and completed by end of June, 2012.

Improved varieties of Groundnut, Pigeon pea and Chickpea were compared with the local varieties in the Farmers Participatory Variety Selection(FPVS) trials for 3 seasons and the farmers preferred ICGV91114 (Devi) variety of Groundnut, Asha variety of Pigeon pea and KAK2 and ICCC37 varieties of Chickpea due to their higher productivity compared to local varieties. The farmers have linked the above preferred varieties of Groundnut, Pigeon pea & Chickpea to the informal seed production and village level seed bank for meeting the local requirement of the farmers. Besides tribal farmers have also produced 10 qtls of breeder seed of Devi variety of Groundnut and supplied to Odisha State Seed Corporation (OSSC) Ltd. for multiplication of foundation and certified seeds during 2009-10. Presently, OSSC could produce 1200 qtls of Devi variety of seed for supply to the farmers of the state.

ii. Impact:

The findings of Impact Assessment study is as follows:

Groundnut:

a. Study in association with ICRISAT during 2009-10:

ICGV91114 was preferred over ICGS76, ICGS44 & local improved variety. Average yield of ICGV91114 is 1.3 t per hac (28% higher than local variety). Other ICRISAT varieties were not preferred due to their instability. But co-efficient of variation in yield of ICGV91114 is 12 to 18% less than other varieties. Cost of production of ICGV91114 is 10% higher than local variety, but net return 56% more than local variety because of premium price of bold size grain. 11% farmers used own seeds. OTELP is the main source of ICGV91114.

b. Study in association with Resource organization, Overseas Projects & Services Ltd. (OPSL), Bhubaneswar:

The average yield of ICGV91114 during Post Rainy season, 2010-11 is 1.68 t per ha which is 17.48% higher than the local variety. This has resulted increase of farm income by 30%.

Presently ICGV91114 Groundnut is sown as pure crop / intercropping with rice / pigeon pea in OTELP areas (Koraput & Gajapati district) in an area of 180 hac.

Pigeon pea:

Varieties Asha, Kamika and Laxmi were promoted under FPVS trials. Yield of preferred variety, Asha (1 t per hac.) is 20% more over local variety and net return is 1.5 – 1.6 times more compare to local variety. Asha variety is preferred by the farmers due to higher return, less attack of blister beetle, red colour grain and less breakage during dhal preparation as compared to Kamika.

Asha Variety of pigeon pea in hill slopes under IFAD-954 ICRISAT Project

Presently, Asha variety of Pigeon pea is covered in an area of 1300 hac in OTELP programme areas in hill slope (average 20%) & plain land.

Chickpea:

Improved Chickpea varieties are becoming popular in rice fallows in programme districts because of their better performance compared to traditional varieties. The most preferred varieties of Chick pea are ICCC37 & KAK2 as per the result of FPVS trials. The average yield of these varieties is 1.1 to per hac. as against 0.98 t per hac. of the locally grown variety. Variety ICCC37 has yield advantage of 13% over the local variety and its net returns are about 33% more over the local variety. Being Kabuli type ,KAK2 fetched a premium price. There was no significant difference in the cost of production, but because of price premium the net return from KAK2 is almost 1.5 times then that of local variety and 17% more compared to ICCC37.

iii. Performance and achievements:

Presently ICGV91114 Groundnut is sown as pure crop / intercropping with rice / pigeon pea in OTELP areas (Koraput & Gajapati district) in an area of 180 hac. Besides Asha variety of Pigeon pea is covered in an area of 1300 hac in OTELP programme areas in hill slope (average 20%) & plain land. Improved Chickpea varieties are becoming popular in rice fallows in programme districts because of their better performance compared to traditional varieties.

iv. List of validated technologies :

These are explained briefly below:

a. Groundnut –

i. Selection of sound matured kernel without wrinkle.

ii. Application of Gypsum @ 2.5 quintals per hac at 20 days of the crop before flowering

iii. Maintaining plant population – 35 per M^2

iv. Weed Management – inter culture operation at 20 days crop stage.

b. Pigeon pea:

i. Weed management – inter culture operation at 20 days and 45 days crop stage.

ii. Management of pod borer – Application of neem seed extract solution (1 kg powder in 5 ltrs water) reduces pest load.

c. Chick pea:

Management of pod borer – Application of neem seed extract solution (1 kg powder in 5 ltrs water) reduces pest load.

v. Sustainability:

Tribal farmers are increasing the area under informal seed production of preferred varieties area of legumes year after year and linking to village level seed banks to meet their demand. It has also become clear that sustainability is closely linked to the participation of the communities . This requires sustained effort in two important areas: (i) to inform and educate the rural community, demonstrate to them the benefits and that the activities can be planned and implemented by the rural community with expert help from government and non-government sources, and (ii) to critically analyze the various institutional and policy aspects in relation to FPVS(Farmers Participatory Variety selection) and informal seed production Since the first phase is going to be shortly closed, a sound exit policy need to be framed and put in place for continuance of all the good practices.

vi. Gender implications of improved technologies:

Use of groundnut decorticators for shelling the pods have reduced the drudgery of the women.

4.2.2 IFAD- EC- ICRISAT- Project (CECG 44) -Improving Farmers lively hoods and food security through enhanced legume productivity

a. Progress Report-during 2011-12 Rainy season:

Seed production crop of pigeon pea (farmers preferred var Asha) in an area of 25 ha by 110 farmers in 16 villages covering 3 blocks of Kandhamal district was harvested during February- March, 2012. Similarly seed production crop of groundnut (farmers preferred var var devi) in an area of 10 ha by 25 farmers in 3 villages covering 2 blocks of Koraput district was harvested during October ,2011. The average

productivity of groundnut was 450 kg per hac and 480 kg pigeon pea per ha incase of pigeon pea .The total production is 12,000 kg pigeon pea and 4500 kg of groundnut. Farmers have sold/ consumed 70 % of their produce. Rest 30 % seeds are kept for use during rainy season 2012. Similarly 30 % of the total produce of groundnut seeds have been used by the farmers in the field during post Rainy season 2-11-12. The following management practices have been adopted in the field.

Pigeon pea cultivation under IFAD- EC programme

Crop	Technology	Village	No. of farmers	Area (ha)
Pigeon pea	Spraying neem seed powder extract for pest management	Digamila, Dangarpadar, Jidingpanga, Jurukupuda, Ushaballi, Kutilarigaon villages of Kandhamal district	12	2.0
	Use of Pheromone trap (Helicoverpa Lure)	Dangarpadar, Sibaarjunpur, Digamilla, Jidingpanga villages of Kandhamal district	20	2.5
	Protecting spray against pests by using foot sprayer	Mundamaha, Kutilarigaon, Jidingpanga, Digamilla villages of Kandhamal district	60	15.0
Ground nut	a.Post harvest technologies for safe storage b. Groundnut decorticator used for shelling as seeds are fried and sold in the market by woman SHGs.	Chalanput, Kangra, Bugaguda villages of Koraput district	25	10

b. Programme during 2012-13 Rainy season:

Groundnut (farmers preferred var Devi) seed production in an area of 20 ha by 50 farmers in Koraput district and Pigeon pea (farmers preferred var Asha) in an area of 50 ha by 200 farmers in Kandhamal district have been taken up during current Kharif season. 3000 kg of breeder seeds of groundnut and 1000 kg of certified seeds of pigeon pea have been supplied under the programme. The expected production will be 15,000 kg of groundnut seeds and 40,000 kg of pigeon pea seeds. Besides 300 farmers will be trained on seed production programme including ICM, IPM and post harvest technologies by the resource persons of scientists of Agriculture University and senior officials of Agriculture department.

4.2.3 IFAD Root & Tuber Crops for Food Security (RTCS – FS):

Planning Meeting at Bhubaneswar

This is a 3 years project from 2011 – 2014. International Potato Center (CIP) is the nodal agency for implementation of the project. The local center of CIP is located in the Regional Center, Central Tuber Crop Research Institute (ICAR), Dumuduma, Bhubaneswar. The planning meeting of the project for Odisha was held from 12 to 14 October, 2011at Bhubaneswar. Chief Secretary, Odisha and other dignitaries of the State Govt., attended the planning meeting. Besides, SMSs from OTELP and FNGO Representatives from Koraput & Gajapati district also attended the planning meeting. On the basis of the scoping study in Odisha, the project will be implemented in Koraput, Ganjam and Dhenkhanal. In Koraput district, the project will be implemented with the partnership of OTELP and Regional Center, Central Tuber Crop Research Institute. The Scientist of CIP at Regional Center, Central Tuber Crop Research Institute, Bhubaneswar is the coordinator for implementation of the project in Odisha.

The components of the project are Reviews on RTCs, status, General assessment study in each focus site / district, thematic analysis within focus site or outside district, capacity building and learning in the country and outside country and pilot action research (interventions) within districts and neighboring districts.

The general assessment study is being done from November, 2011 to May, 2012 for characterize food system, validate potential innovations / actions, establish base line data and seek multi stakeholder's view. In this assessment, our Agriculture Officers and WDT Agriculture of FNGOs of Koraput & Paralakhemundi ITDAs have been trained at Regional Center, Central Tuber Crop Research Institute, Bhubaneswar from 4 – 6 December, 2012. Subsequently, OTELP officials supported during PRI exercises in Koraput & Gajapati districts done through Xavier Institute of Management from 9 – 16 December, 2011. Besides, OTELP provided secondary data & village map of the selected villages and facilitated the collection nutrition data from local Anganwadi worker / CDPO office during PRI exercise by the resource persons of Xavier institute, Bhubaneswar. The collected data have not yet been presented and discussed for preparation of work plan on implementation of various interventions.

4.2.4 Innovations under SCAMPIS (Scaling up Micro Irrigation System) India Project:

SCAMPIS India project started since 1st April ,2009 in two pilot districts namely Koraput and Gajapati under Orissa Tribal Empowerment Programme(OTELP) areas and continued till 30th June,2012. International Development Enterprise, India (IDEI) having field experience of 20 years with farmers of Odisha on MIS is the project executing agency. and OTELP provided co-operation for implementation by IDEI . The project focuses to improve water availability with Micro Irrigation System (MIS) and

Durm Kit -Micro Irrigation System

application of liquid organic fertilizer (LOF) for increase of productivity of agricultural crops in 265 villages covering 10,000households of two pilot districts during three years of project period. Agriculture is one of the major sources of livelihood in these areas as they get more than half of their income from settled and shifting (podu) cultivation. Climatic condition of the hilly reason put high demands on farm water management. Water is the most limiting factor for agriculture production and erratic distribution of rainfall is often stated as one of the major reasons for food insecurity. Most of the tribal farmers do not apply chemical fertilisers and pesticides and rely on organic farming. Under such situation, use of low cost water lifting equipments/ machineries along with liquid organic fertilisers are very effective for small land holding farmers .

a. Major Interventions:

Awareness campaign and capacity building of thousands of farmers and farm women have been done through village meeting, farmers training, weekly hat demonstration, village demonstration, farmers exposure, meeting of community based organisations, and mela.

Output:

11905 households have been covered under the above technologies against the target of 10,000. 469 villages (Koraput 244 + Gajapati 225) have been covered against the target of 265 under the project.

b. Micro-irrigation systems (MIS):

These MISs allow small-scale localized irrigation; they operate under low water head (1 to 3 meters) and deliver low discharges on small plots (e.g. "backyard gardening", from as small as 20 m^2 to 100 m^2). Consequently, MIS do not demand motorized pressurization and allow taking advantage of limited water availability. They offer significant water and energy savings, hence a location-specific response to water and cash scarcity that characterizes so many small-holding families in rural environments.

Bucket kits, drum kits and surface treadle pumps have been covered under MIS. 20 litre capacity bucket kit with 44 micro tubes emitters are irrigating successfully to 44 vegetable plants in an area of 20 square meter area. Small land holding farmers and even landless farmers in their backyards have done kitchen garden/nutritional garden installing the bucket kits. 200 liter capacity drum kit having 5-10 rows of lateral pipes of 10-20 meter long is irrigating to vegetable plants in 100 meter square area. Foot operated surface treadle pump can pump water from a depth up to 8 meters and having water discharge of 4000 liters per hour is irrigating more than one-acre area of vegetable. Less water is used through these machineries.

Output:

15107 water lifting equipments (bucket kit 7500 + drum kit 3003 + surface treadle pump 4604) have been supplied to farmers at 90% subsidy from the project by end of June, 2012 against target of 14,000(bucket kit 7500+ drum kit 2500 + surface treadle pump 4000) during 3 years project period. The district wise achievements are as follows:

Water lifting equipment	Achievement in Koraput	Achievement in Gajapati	Total Achievement
Surface treadle pump	2333	2271	4604
Drum kit	1620	1383	3003
Bucket kit	3863	3637	7500
Total	7816	7291	15107

In addiction to the data reflected above, SCAMPIS India and OTELP are working in 20 tribal schools where Drum Kits have been installed. School dependents have been trained to be responsible to irrigate kitchen gardens.

c. Liquid Organic Fertilisers (LOF):

Pot Manure- Liquid fertilizer

LOF includes vermin wash, pot manure and magic tonic. Products are ready for use in the crop field within 10-15 days after installation of these units. Vermi wash is a liquid plant growth regulator that contains high amount of micronutrients, enzymes, vitamins and hormones and is used towards boosting farm productivity without incurring additional expenses on chemical fertilizers/pesticides. It is prepared at farmer field from the extraction of earthworms in 30 days. Cow dung and urine are used in developing organics like pot manure and magic tonic . The ingredients are cow dung, coarse red sand, kitchen waste, two earthen pot & 300-400 earth worms(*Eisenia foetida).* The Vermi wash is diluted with water before use. Cow dung and urine is used in developing organics like cow pit pat , pot manure ,magic tonic and bio hormone.Potmanure is prepared after fermenting cow dung, cow urine, neem, karanj and arakh leaves and jaggery for 7-8 days and then sprayed to the vegetable crops after diluting in water and filtration. Pot manure provides nitrogen and repels insects and micro organisms. The crops become greenish and not attacked by pests and diseases. Magic tonic, made from cow dung, cow urine, jiggery, curd etc and gets ready in a month. Then it is diluted and sprayed on the crops. Magic tonic prevents plants pest attack and ensures vegetative growth of the leaves, there by increases crop yield.

Output:

3113 Liquid Organic Fertilisers (LOF) units (Koraput 1705 + Gajapati 1408) have been established at farmers level by end of June, 2012 against the target of 5000 in the 3 years project period. LOF includes vermin wash, pot manure and magic tonic.

d. Impact:

a. Mostly MIS is used in vegetable crops. Vegetable area has been increased by 10 -15% after use of this technology which were earlier kept fallow. Besides new crops like zinger, capsicum and spine gourd have been introduced in the areas where MIS is operating.

b. Cropping season is increased due to water efficiency by using MIS resulting increase of fruiting time of the vegetables and yield increased on an average by 10 %.

c. Quality of vegetables are increased and fetches higher rate in the market.

d. Small land holding farmers / landless in their backyards have grown vegetables in their kitchen garden/nutritional garden installing the bucket kits and have got income of Rs 20/- to Rs 50/-per week (on an average Rs 150/- per month) by selling vegetables in the nearby weekly markets after meeting their own requirement. They purchase their grocery items from the weekly market out of above income. Consumption of vegetable for these landless was a difficult proposition before introduction of above technology.

e. There is positive impact on the health due to consumption of fresh vegetables by the tribal. But specific studies have not been done in this aspect.

e. Constraints :

1. Drip irrigation round pipes are LLDP (Liquid low density poly ethylene) having inline dripper unlike lay flat pipe with micro tube in case of SCAMIS micro irrigation system. Drip irrigation pipes can withstand variable pressure unlike SCAMIS MIS and are more durable. Commercial vegetable cultivation can not be done by using MISs unlike pressure/ gravity based Drip irrigation system.
2. There is provision of 80 % subsidy in Drip kits under NMMI. But there is no subsidy in drum kit nor bucket kit in post SCAMPIS Project period.

f. Scaling up strategy:

Implementation areas of micro-irrigation will be introduced in 7 districts.

a. The OTELP programme will add another MIS technology installation low pressure/ gravity based Drip irrigation for vegetable cultivation on raised beds in 500-1000square meter area and linking to poly nursery to augment yield and income in programme districts.

b. Good institutional support as well as an articulated body of technicians already existent in place, enable OTELP Plus to implement promotion and technical support at village level independently

c. Considering the dimension of the Scaling-up strategy, OTELP is inclined to hire persons already engaged in this program for the implementation of field activities & supervision.

d. Revolving funds (Rural Financial Services) placed at Village level could be introduced as a loan component which the farmer will be able to recover in one/two seasons.

4.2.5 Livelihood improvement of tribals through production and value addition of tuber crops, pine apple and organic spices Under RKVY.

a. Progress during 2011-12:

The project on 'Livelihood improvement of tribals through production and value addition of tuber crops, pine apple and organic spices at a cost of 139.18 lakh rupees was approved for execution in the programme areas of OTELP under RKVY during 2011-12. 6387 households (spices 2700 + tuber crops 3400 + pineapple 287) in an area of 81.74 hector covered under the programme during 2011-12.

Paula Bhuya, Pineapple -Queen Variety, Konkoroda

Impact :

50 kg yam was supplied to each household. The productivity from this 50 kg was 290 to 412 kg (average 326 kg). The highest yield of 385 kg was receive by Iswar Gadaba in Puki village of Dasmantpur block under Koraput district.

50 kg Elephant foot yam was supplied to each household. The productivity from this 50 kg was 180 to 295 kg (average 229 kg). The highest yield of 295 kg was receive by Samati Malinga in Biriguda village of Laxmipur block under Koraput district.

18 kg Ginger was supplied to each household. The productivity from this 18 kg was 165 to 214 kg (average 186 kg). The highest yield of 214 kg was receive by Ghenu Kanya in Gugaguda village of Pottangi block under Koraput district.

35 kg Turmeric was supplied to each household. The productivity of raw turmeric from 35 kg was 180 to 420 kg (average 312 kg). 312 kg raw turmeric is dried to 78 kg. The highest yield of 420 kg was receive by Ruba Mallick in Gadgabali village of Balliguda block under Kandhamal district.

Each household has got net profit of Rs. 500/- to Rs. 700/- from the above crops.

The Pineapple and cassava crops have not yet been harvested.

b. Progress during 2012-13 Rainy season:

Out of the spillover amount under RKVY, 5800 households (Ginger 3000 + Yam 2800) have been covered in an area of 100 hectors during 2012-13 Rainy season. Each household has been supplied with 50 kg yam (var Odisha elite) to cover 250 M^2 area and 18 kg Ginger (Var suprava) to cover 100 M^2 area. Other agro inputs will be supplied by the beneficiaries. The block wise and crop wise programme is indicated below:

A. YAM

Sl. No. Block	FNGO	No. of households
Kandhamal		
1 Kotagada	JAGRUTI	400
2 Balliguda	PRADAN	400
Koraput		
3 Pottangi	LAVS	200
Nawrangpur		
4 Pappadahundi	IRDMS	400
5 Kosagummada	RCDC	400
Rayagada		
6 Muniguda	FAAR	400
7 Gudari	BISWA	400
8 Kasipur	SHAKTI	200
Total		**2800**

B. GINGER

Sl. No. Block	FNGO	No. of households
Gunupur		
1 Kasipur	SHAKTI	400
2 Muniguda	FAAR	200
3 Bisam Katak	AKSSUS	200
4 Gudari	BISWA	200
Koraput		
5 Dasmantpur	CYSD	400
Balliguda		
6 Balliguda	PRADAN	400
7 K. Nuagaon	PRADAN	400
Paralakhemundi		
8 R. Udaygiri	SWWS	400
Th. Rampur		
9 Th. Rampur	GramVikas II	400
Total 9	**8**	**3000**

510 Farmers (30 farmers per block) have been trained for integrated crop management of Yam / Ginger.

4.2.6 Promotion of WADI Model of Orchard

a. New plantation during 2012-13:

The Hill Agro climatic reason of the programme areas of OTELP has undulating topography, generally classified uplands, medium uplands and lowlands. 70 to 80% cultivable area in the programme

ITDA	WADI Plantation area in Programme areas of OTELP (Acre)	Source of funding
Th. Rampur	300	Beneficiary contribution + SCA to TSP + OTELP
Koraput	268	Beneficiary contribution + SCA to TSP + OTELP
Nawarangpur	239	Beneficiary contribution + SCA to TSP + OTELP
Paralakhemundi	155	Beneficiary contribution + SCA to TSP + OTELP
Gunupur	160	Beneficiary contribution + SCA to TSP + NHM
Balliguda	50	Beneficiary contribution + SCA to TSP + NHM
	125 (through ADH, Balliguda)	Beneficiary contribution + NREGS
	125 (through OTELP)	Beneficiary contribution + NREGS
Total	1422	

villages are upland and medium uplands. Owing to the characteristic topography most of the rain water lost through surface run-off. Fruit based agro forestry system is very much suitable for these type of uplands and medium uplands. This system comprise of a combination of perennial an annual plant species. The climatic condition in the programme areas of OTELP is very much conducive for fruit based agro forestry system for uplands. WADI plantation programme in an area of 1422 acres (Mango + Litchi 405 acres, + Mango + Cashew 617 acres, + pure mango 400 acres) is being done during rainy season, 2012 as per the details shown before.

A WADI benefeciary

Out of the above plantation programme, 210 acres will be covered through convergence under NHM and SCA to TSP in the programme areas of Balliguda & Gunupur ITDAs. Besides 250 acres will be covered under NREGS in Balliguda ITDA. Rest 962 acres will be covered through convergence from SCA to TSP in the programme areas of Koraput, TH Rampur, Paralakhemundi and Nawarangpur ITDAs. The requirement of funds for the above plantation programme from different sources are as follows:

Source of funding	Total requirement (Rs in lakh)	Requirement for 2012-13 (Rs in lakh)
SCA to TSP	256.25	105.82
NHM	15.17	9.09
OTELP	71.89	43.13

b. 2nd year crop of WADI(Plantation during 2011-12):

1080 acres (Mango + cashew 739, + Mango + Litchi 275, + Mango + Orange 53, + Mango pure crop 13 acres) were planted during 2011-12 through convergence from NHM. The 2nd year crop is now maintained in the field. The details of coverage ITDA wise is given below:

ITDA	Area in Acre
Gunupur	137
Koraput	642
Th. Rampur	48
Paralakhemundi	253
Total	1080

4.2.7 Enhancing livelihood of tribal through Gravity based drip irrigation for vegetable cultivation on raised beds.

The programme areas of OTELP have conducive environment for vegetable cultivation including off season vegetables. Vegetables are low in fat but content good amounts of vitamins and minerals. Besides vegetables are home for many anti-oxidants which help to protect body from stress and diseases and develop immunity. The tribal farmers of the programme areas mostly do not take required quantities of vegetables. Many tribal farmers consume only carbohydrates for which there is acute mal nutrition. Emphasis has been given for production of vegetables. Productivity & profitability from vegetable cultivation increase by use of low pressure drip irrigation system as compared to traditional flood irrigation. Poly house is very suitable to provide favorable climate for germination of seeds and protection of seedlings from adverse weather conditions and quality seedlings are raised.

Gravity based drip irrigation

Considering the above facts and exposure visit of the officials of OTELP to the Govt of Jharkhand and UNDP supported livelihood promotion project, Ranchi, this project is implemented under convergence from NMMI & SCA to TSP during 2012-13. The total project cost is Rs. 899.04 lakhs which includes funding of Rs. 513.00 lakhs from SCA to TSP and Rs. 187.06 lakhs from NMMI. Under the programme 1626 farmers from Koraput, Nawarangpur, Gunupur, Balliguda, Paralakhemundi & Th. Rampur ITDAs will be covered. Out of above 1626 farmers, 1500 farmers from Nawarangpur, Koraput, Gunupur & Balliguda ITDAs will be linked to vegetable cooperatives under the overall guidance of RNGO, Harsha Trust. Each farmer will grow vegetables round the year in an area of 1000 M^2 with assured irrigation and installation of low pressure drip irrigation system. Poly houses will be constructed for raising of quality seedlings. Each poly house will carter the need of seedlings for 25 farmers. The cooperatives will supply agro inputs to the farmers at door step, facilitate capacity building of farmers on scientific cultivation of vegetables and marketing of produce collectively after sorting and grading. The overall objective of the project is to increase firm productivity of participating farmers and earn an incremental income of Rs. 15,000/- to Rs. 18,000/- per year for 1000 M^2 cultivation area.

Inception workshop for the stakeholders was conducted at Koraput on 19th June 2012. Subsequently planning meeting was done at Bhubaneswar on 7th July 2012, where FNGO representatives, Subject Matters Specialists from ITDAs & PSU, Representative of Director Horticulture and representatives of few reputed manufacturer of drip irrigation kit attended. The operational guidelines for installation of Poly house and drip irrigation & fund flow to cooperative have been finalized after discussion with stakeholders. Installation of poly houses and drip irrigation in the farmers field by the notified manufacturers / authorized dealers are continuing. VDCs are placing orders and will make necessary payment.

4.2.8 Construction of Onion Storage House

More than 1000 qtls of onion is produced in 5 villages of the programme areas of Kosagumuda block (Nawarangpur) during Rabi season, out of which 600 qtls produced only from Saralabhanua village. Onion is mostly purchased by the traders of Jagadalpur town of Chhatishgarh state. The rate of onion per kg during harvest becomes Rs. 2/- to Rs. 4/- as per the statement of the farmers. Therefore, OTELP facilitated and established 5 onion storage houses (capacity of each house 2 MT) in Saralabhanua village under NHM during 2011-12. The total cost of each storage house is Rs. 16000/- out of which subsidy of Rs. 8000/- availed under NHM. Onion can be stored safely for 6 months in the storage house and farmers will get better price in the market. 2 more onion storage houses are being constructed in Kodabata village of Kosagumuda block (Nawarangpur district) during 2012-13.

4.3 LIVESTOCK AND AQUACULTURE PRODUCTION

The tribal areas of Odisha are marked by abject poverty and are in habited mostly by landless, small or marginal farmers. Out of the total households in OTELP areas, 80% households constitute ST and 15% SC. About 75% of the households are below poverty line and have only 3 to 6 months of food sufficiency. The families are thus forced to sustain their livelihoods from non-timber forest products (NTFP) collection, small livestock rearing like goats, pigs, battle, backyard poultry bird etc. in a traditional way. They are yet to recognize the potential of production and return from present improved livestock with the management practices. The scientific developments and improved technologies have not reached them yet.

Individual Broiler Farming

The climatic conditions are unpredictable, land holding becoming smaller and smaller with each generation and seasonal agriculture (rainfed) are unable to provide full employment to the working class. For the poorest of the poor and the landless, the major issues are food security and risk spreading through subsidiary income. Therefore there is a dependency on non-farm activities like goatery and poultry for supplementary income.

Livestock population in the programme areas have been going down significantly since last two decades due to lack of proper disease management as per the feedback received from the community during preparation of micro plan. For the management of the village level disease control system, 341 village veterinary volunteers have been promoted through training on vaccination procedure, handling of drugs and treatment of common diseases etc. One village volunteer from each micro watershed have been promoted as Livestock Para Workers and equipped with veterinary kits to extend support to the poor farmers in saving their domestic animals. The programme has tried to give focused interventions on

village based livestock disease control system and animal production system improvement. This has done by ensuring immunization of the animal by conducting series of animal health camps.

The programme focuses especially on improved goat rearing, poultry farming and pisci culture in an improved and modern manner for sustainable livelihood of the tribal farmers in OTELP blocks of tribal districts of the state. Each of these programme is elaborated below:

4.3.1 OTELP Intervention under Backyard Poultry & Improved Broiler Farming

Backyard Poultry is one of the important livelihoods in most of the tribal families. Almost 60% of rural and 100% of Tribal of ST & SC household are rearing backyard poultry in the state. The newly developed low input technology birds namely Vanaraja, Giriraj, Krishibro & Kuroiler etc. are reared under scavenging conditions. They are dual purpose multi-purpose birds with high egg link capacity like exotic layers and high weight gain like those of broiler birds. OTELP made the viable Poultry interventions under backyard poultry farming amongst the rural poor & tribal families in 7 OTELP covered ITDAs under Special Central Assistance to Tribal Sub Plan. During 2011-12, 49 nos. of day old chick rearing units (mother units) have been established which have catered 28 days old chicks to the 1288 nos. of poor tribal families for rearing under backyard poultry farming. The SHGs managing the mother unit have generated an average net profit of Rs.10,000 per cycle of 28 days and the tribal families rearing the birds under backyard poultry farming have generated income ranging from Rs.2500/- to Rs.3000/- within a period of 60 to 70 days. Thus an SHG shall generate an additional income of Rs.60,000/- per year by making 6 rotations in a year and the tribal family can generate additional income Rs.10,000/- to Rs.12,000/- by rearing 30 nos. of chicks in 6 cycles in a year. Efforts are also being made to build the capacity of the tribal famers in improved broiler poultry farming by establishing 400 units of individual broiler units each of 400 chicks capacity through Swornajyoti Women Poultry Cooperative Federation Ltd. by establishing poultry cooperatives in each of these tribal districts of ITDA, Koraput, and Nawarangpur & Gunupur.

Mother Chick Unit (MCU) managed by SHG

Backyard Poultry Unit

ITDA, Koraput has also been chosen as the nodal agency for development of a Vanaraja parent stock layer farm with a capacity of rearing 16,000 Vanaraja layers in Koraput district to meet the demand of day

old chicks. The promotion of poultry activities as an important livelihood intervention not only increased the per capita income of the tribal families but also provided nutritional supplement to the poor tribal households. With the sanction of grant by the ST & SC Dev. Deptt, under SCA to TSP during 2011-12, OTELP has made the following poultry interventions broadly in 4 areas as mentioned below:

a) Establishment of day old chick rearing units (mother units) by the women SHGs.

b) Backyard poultry farming by the individual tribal families

c) Improved broiler farming by the individual tribal families

d) Kuroiler farming by the individual tribal families .

The details of poultry intervention with the assistance under SCA to TSP during 2011-12 were as follows:

i) A sum of Rs.190.01 lakhs has been sanctioned by ST & SC Dev. Deptt. as grants-in-aid general for backyard poultry farming for 6 of the OTELP covered ITDAs namely Koraput, Gunupur, Nawarangapur, Malkangiri, Balliguda & Paralakhemundi for establishing 47 Mother units & benefit 1735 tribal families under backyard poultry farming. In addition to this assistance for additional 7 no's of mother units along with night shelters for undertaking backyard poultry farming has been sanctioned from OTELP own resources for ITDA,Balliguda & Th.Rampur.

Backyard poultry farming by individuals

ii) A sum of Rs.107.16 lakhs has been sanctioned by ST & SC Dev. Deptt. as grants-in-aid for establishing 24 no. of mother units with night shelters for 1908 tribal families and benefit 2196 tribal families under backyard poultry farming under ITDA Koraput, Paralakhemundi, Nawarangapur, Gunupur, Malkangiri & Balliguda.

iii) A sum of Rs.127.28 lakhs has been sanctioned by ST & SC Dev. Deptt. as 1st year grants-in-aid for establishing Improved Broiler poultry farming at household level with formation of poultry co-operatives by SwornaJyoti Women Co-operative Poultry federation Ltd.(SWPCFL) with the association of HarshaTrust under OTELP covered ITDAs namely Koraput, Gunupur& Nawarangapur out of the total approved project cost of Rs.462.50 lakhs under SCA to TSP to be implemented within 3 years from 2011-12 to 2013-14.

iv) Looking into the scarcity of day old chicks in the State, a sum of Rs.238.38 lakhs was sanctioned by the ST & SC Dev.Deptt.as incentive grant for creation of capital assets for development of a Vanaraja Parent stock layer farm with a capacity of rearing 16,000 Vanaraja layers under ITDA, Koraput and thereby produce annually 18 Lakh day old chicks to meet the requirement of mother units.

v) A sum of Rs.556.23 lakhs has been sanctioned as incentive grant (grant-in-aid) for establishing mother units and backyard poultry farming in 9 ITDAs namely Kuchinda, Bonei, Koraput, Jeypore, Rayagada, Gunupur, Nawarangpur, and Balliguda & Phulbani. This will enable to establish 87 mother

units and night shelters for 2871 tribal families and extend benefit to 3915 tribal families under backyard poultry farming.

Statement showing the physical & financial progress under sca to tsp during 2011-12

A. BACKYARD POULTRY FARMING

Sl. No.	OTELP/ITDA	Amount (Rs. in Lakhs) 2011-12 under SCA to TSP 30220/SSD Dtd.17.09.2011	No. of Mother Units (1000 Chicks capacity) established	Nos. of Night shelter established	Total No. of Tribal families benefitted	Amount released by ITDA (Rs. in lakhs)	Avg. net profit made by the SHG per cycle of 28 days (Rs.)
1	Koraput	44.47	11	355	439	39.62	10525.00
2	Paralakhemundi	40.43	10	206	290	40.4	10628.00
3	Gunupur	36.38	9	224	332	35.84	11530.00
4	Nawarangpur	40.43	9	256	364	40.43	11389.00
5	Malkangiri	12.13	3	62	74	12.13	15000.00
6	Balliguda	16.17	4	132	180	16.17	10290.00
	Sub Total	190.01	46	1235	1679	184.59	11560.00
7	Balliguda (OTELP own fund CIF/DIF)	7.63	2	20	44	3.81	11300.00
8	Th. Rampur (OTELP own fund CIF/DIF)	18.95	1	33	45	3.79	16300.00
	G. Total	216.59	49	1288	1768	192.19	12120.00

B. IMPROVED BROILER POULTRY FARMING

Sl. No.	OTELP/ITDA	Amount (Rs. in Lakhs) 2011-12 under SCA to TSP 30220/SSD Dtd.17.09.2011	No. of Broiler Units (400 Chicks capacity) established	Nos. of individual Vanaraja mother units (600 chicks capacity) established	Total No. of Tribal families benefitted	Amount released by ITDA as on June, 2012 (Rs. in lakhs)	Average net Profit made by the member per cycle of 35 to 40 days (Rs.)
1	Koraput	50.46	30	3	33	19.74	4000.00 to 5000.00
3	Gunupur	26.37	8	1	9	10.22	
4	Nawarangpur	50.45	25	0	25	30.80	
	Total	127.28	63	4	67	60.76	

4.3.2 OTELP Intervention under Goatery

Scientific Goat Rearing has high acceptance in tribal areas. With the unmet demand for goat meat in Rural and Urban Center, there is a potential for covering more poorest of poor families under improved goat rearing at household level so as to take these tribal families out of povertyline. Two nos. of goatery projects were sanctioned by the ST & SC Development Department under SCA to TSP during 2011-12 to enhance the livelihoods of the poorest of the poor under ITDA, Balliguda and Gunupur in tribal dominated Rayagada & Kandhamal Districts. Each tribal familly will be supplied eight nos. of mother

A tribal family with her goats

Goat Shed

goats with goat shed, one no. Buck per 2 families with provision of vaccination, pasture development and capacity building etc. The details of sanction are mentioned below :

a) To enhance the livelihood of 500 poorest of poor families in Bisamcuttack and Muniguda Blocks under OTELP in Rayagada district through Improved goat rearing at projected cost of Rs.176.99 lakhs being implemented from 2011-12 and shall continue upto 2013-14.

b) To enhance the livelihood of 400 poorest of poor families in Balliguda and K. Nuagaon Blocks under OTELP in Kandhamal district through Improved goat rearing at projected cost of Rs.160.51 lakhs being implemented from 2011-12 and shall continue upto 2013-14.

4.3.3 OTELP Intervention under Pisci culture

As a livelihood option for tribal people, developing in land pisci-culture in commons with the tribal community participation is the measure focus. The fishery activities depend upon water avaialble duration, depth of water body, waterspread area, water quality & fish seeds availability etc. In view of this a feasibility study to cover all these criteria under ITDA, Koraput has been entrusted by OTELP to DHAN Vayalagam (Tank) Foundation, Madurai. Pending receipt of the feasibility study,

Fishery at Bearmaha village

the tank renovation and piciculture activities have been going on under ITDA, Koraput, Nawarangpur, Gunupur & Malkangiri. The table below gives the details of pisci-culture activities under OTELP.

Particulars	2008-09	2009-10	2010-11	2011-12
Water bodies used for Pisci-culture	113	151	162	337
Groups involved in Pisci-culture	113	111	123	252
Average income per Group	Rs.4955/-	Rs.5000/-	Rs.5500/-	Rs.13886

(Project MIS 2011-12)

The pisci-culture shall be a good intervention for sustainable livelihood in OTELP areas.

4.4 RURAL FINANCIAL SERVICES

Promotion of Self Help Groups (SHG) as a micro level village institution is has been a priority of the programme. This not only organizes these tribal women, but also provides them a plat form to share and experience improved practices and take up alternative options for income generation. Besides, the programme emphases to scale up the livelihoods interventions through these women SHGs as the women are the major economic strength in the tribal community.

SHG Meeting in Progress

Rural Financial Service (RFS) primarily aim to ensure timely availability of micro credit at the village level. Communities in these remote villages have very low/ no access to banking services due to lack of banking infrastructure. Thus, the local money lenders become the first choice of the people to access credit. At times the credits are tied with the production of the family particularly from agriculture which further marginalizes the family. Thus, not just income generation, rather this sub component tries to reduce vulnerability of the communities in order to access loan with a higher interest and informal arrangement.

To operationalise the process, the financing under this subcomponent was segregated into two categories. First is the provide seed capital support to the newly organised groups to make them stable and to start the internal lending from the beginning. Second is the revolving fund support which is provided based on specific income generating activities planned by the SHGs. Currently, the programme is supporting 4056 SHGs, covering more than 90% of the total targeted households from the programme villages. The programme promotes the SHGs through regular handholding support from facilitators and the volunteers strengthened at the community level. Regular training on Book keeping and maintenance of accounts are conducted in routine manner to ensure proper management of the records and funds by the SHGs. SHGs have started practicing rotational leadership during their monthly meetings. Currently 1303 SHGs have adopted rotational leadership. Gradation of the SHGs are made in six month intervals to ensure

proper assessment of the SHG gradation system is established to assess the strength and weakness of the SHGs and to provide need based capacity building inputs to bridge the gaps.

Ensuring financial inclusion, the programme has facilitated bank linkage of the SHGs. Adequate trainings and exposure visits have been organized to facilitate Income Generating activities among the SHG members. The repayment status to bank and other funding agencies has been improved. All SHGs have been provided with standard register for maintenance of books and accounts at their level. Focus has been made to strengthen the SHG promotional issues along with strengthening the capacities of SHG members/ SHG volunteer on record keeping and maintenance of accounts.

Particulars	Coverage
No of Groups conducting meeting regularly	**4372**
No of group following rotational leadership	**1634**
No of Groups undertaking savings regularly	4056
Cumulative Savings	Rs. **1007.024 lakhs**
Average Savings per SHG	Rs. **23033**
No. of SHGs taking Loan from RFS	**2541**
% of Members of SHGs taking loan from these groups	**58%**
Amount of Loan Taken by these groups from RFS Fund	Rs. **327.39 lac**
Per capita loan by SHGs	Rs.**12884.3**
Amount Repaid by these groups	Rs.**133.59lakh**

(Project MIS 2011-12)

4.4.1. Gradation details

Bimonthly, each of these SHGs are evaluated to access their performance and effectiveness in various indicators. These indicators are mostly assess the management practice, financial management, capability of the group to access credit and adopting income generating activities. The gradation of the SHGs provides an insight to the project in designing need based capacity building inputs for their improvement. The revolving fund support are also linked with the gradation results. The details of different grades of SHGs in the programme villages are given in the table.

Grade	No of SHG		
	2009-10	2010-11	2011-12
Grade A	1206	1988	2365
Grade B	968	1214	1238
Grade C	336	651	526
Not graded	1311	203	243
Total	3821	4056	4372

(Project MIS 2011-12)

4.4.2. Federation

SHG Members are participating in federation promotion process

SHG Members involved in village cleanness

After 3 years completion of the programme in a particular cluster, federation of the SHGs are promoted at the micro watershed level. These federations of SHGs works as secondary institutions at the VDC level to manage the Rural Financial Funds (RFS) at the VDC level. Besides, these institutions are works as pressure group at the village level for taking up various social causes like education, health and sanitation etc. The details of the federations promoted are as below:

Currently 135 federations are operating in 12 clusters of Phase I programme areas. These cluster level federations are promoted to operate efficiently; therefore, after the NRLM these federations can directly be acknowledged as cluster federation to implement NRLM activities.

4.4.3. Linkage with financial institutions

Mainstreaming these SHGs to a formal financing institution like bank is the primary objective of the programme. RFS triggers these groups in supporting micro credit to demonstrate access and management of micro finance operations. Subsequently these groups are linked with banks for higher credit linkage for taking of income generating activities. The details of the SHG bank linkage made with facilitation of the progrmme are given in the table.

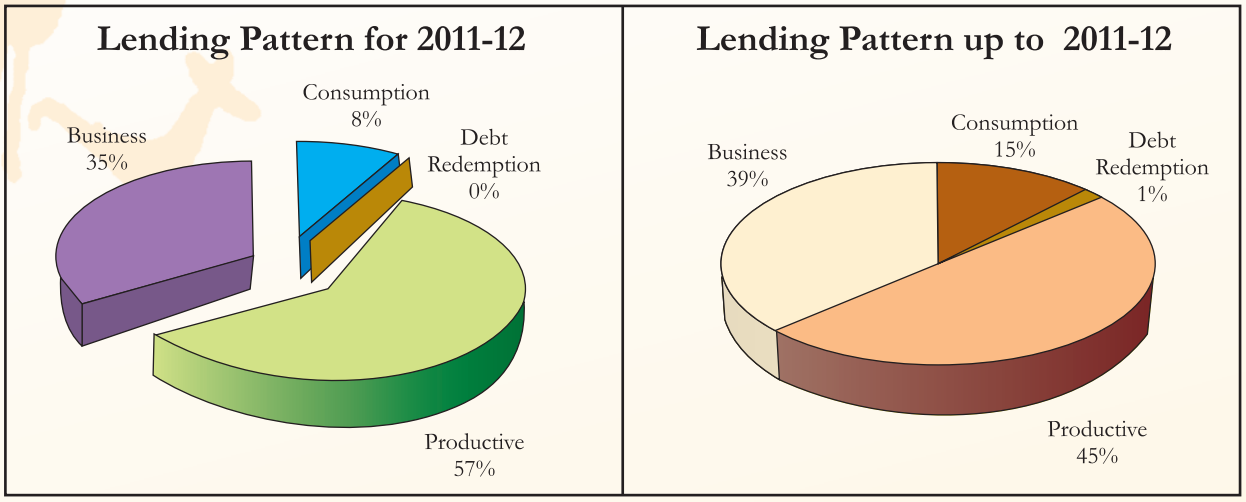
Linkage with banks	Rs. in lakh.
No. of SHG	1572
Cumulative fund mobilization	738.26
Fund mobilization during last year	222.59

(Project MIS 2011-12)

4.4.4. Credit utilization pattern

Credit is highly essential to adopt livelihoods activities promoted by the programme in the programem villages. Besides, the poor communities have many necessities which are also very important in promotion of livelihoods such as health, education etc. The programme promote both consumption and production loans through its SHGs to the women members of the family to increase financial inclusion at the family level. Besides, production loans for agriculture, livestock and other primary sectors are also promoted to

ensure increase of income. The credit utilization for 2011-12 is depicted in following chart which indicates various types of consumption and production loans taken by the members of the SHGs.



4.4.5 Micro enterprise Activities

Promotion of micro enterprise particularly through value addition of the surplus agriculture produces and NTFPs are another focus of the programme's intervention. Small but feasible enterprises which can be managed by the women SHGs are promoted by the programme. Small units for processing of food like Rice mills, Dal mills, oil expeller, turmeric grinding etc. are established by the programme to promote value addition of these products. The SHGs are also exposed to various markets to have an idea of marketing outside the village in a collective manner. Secondary institutions like cooperatives and federation of SHGs are also established higher order enterprises at clusters taking the women SHGs of their locality.

SHG Federation now owns a turmeric processing unit at Talakutinga, Laxmipur, Koraput

TDCC has supported this initiative by financing Rs.58.00 lakhs during the year 2012-13 to 10 SHGs.

5. Community Infrastructure Fund (CIF) and Development Initiatives Fund (DIF)

Under these sub-components, apart from the general watershed treatment and livelihood based approach, the programme provides additional funds and facilitates additional activities to strengthen the interventions under livelihoods support activities.

5.1 COMMUNITY INFRASTRUCTURE FUND:

This sub-component of programme primarily aims at financing community infrastructure needs identified by the communities. The objective would be to fill the critical gaps for small and remote communities which may not be covered in under other rural infrastructure development programmes. Programme adopted a strategy to access CIF through a demand driven approach with communities identifying critical infrastructure constraints. The priority area under this component are-(i) improving the linkages to market for those communities which are producing significant surplus, particularly during the monsoon season (ii) reducing the workload of women by ensuring supply of safe drinking water close to the habitations, (iii) improving the access to food supply through PDS (iv) child care (v) health care, (vi) supplementing educational infrastructure etc. Besides, activities like creating work sheds for the communities for income generating activities like NTFP processing unit, storage centers, mills etc. may also be covered. These facilities will be used by the communities and may be managed by the VDCs through the common user groups. Emphasis is given on community responsibility for maintenance of the infrastructures so developed and women are encouraged to take up this responsibility. The activities undertaken so far under this sub-component are given in the follwoing table.

Sl. No.	Activity Details	Unit	2011-12	Total as on 31st March 2012
1	Drying Yard	Nos.	103	153
2	Spring based Gravity Flow Water Supply	Nos.	105	148
3	Solar Electronic Workshop	Nos.	1	1
4	Village Road Up gradation	Mtr	6	6

Sl. No.	Activity Details	Unit	2011-12	Total as on 31st March 2012
5	ARC cum SHG Training Hall/ Knowledge Centre	Nos.	34	34
6	Grain Bank	Nos.	2	2
7	SHG Shop	Nos.	3	3
8	Market Yard	Nos.	1	1
9	Poultry Farm	Nos.	5	5
10	Solar Drier	Nos.	1	1
11	Solar Light (including workshop)	Nos.	141	141
12	Solar Street Light	Nos.	2	60
13	Toilet & Bathroom	HH	4970	6707
14	Cowshed	Nos.	2	2
15	Tamarind Deseeding/ Packaging Block	Nos.	1	7
16	Bathing Complex	Nos.	1	1
17	Storage Water Tank/ Open Well	Nos.	55	67
18	Oil Extraction Mill/ Rice Mill/ Flour/ Dal Mill	Nos.	3	3
19	Work Shade	Nos.	18	20
20	Storage Godwon	Nos.	219	424
21	Threshing Platform	Nos.	2	2
22	Village Drain	Nos.	2	2
23	River Step	Nos.	16	16
24	Retaining Wall	Nos.	16	35
25	Salon	Nos.	1	1

(Project MIS 2011-12)

5.2 DEVELOPMENT INITIATIVE FUND:

There is a provision of an additional funding to provide the flexibility to address to areas of demand as expressed by communities through the participatory processes and also to supplement those components / interventions of the programme yielding very good results. It will also enable the communities to implement activities which are not accommodated in other available components within the programme. This fund will also ensure better targeting of the households which are traditionally left outs, including landless, destitute, disables and those who are unable to be part of the SHG or other income generating activities.

The activities under DIF are broadly divided into four categories such as;

- Supplementary funding to other programme component
- Experimenting and / or up scaling innovative activities for livelihoods
- Promotion of low cost, time & labour saving technologies for reduction of drudgery
- Support to the vulnerable and destitute households living in the programme villages.

Gravity fed water supply system

Individual toilet & bathrooms

Smokeless chulla

Community managed storage godown

The activities undertaken so far under this sub-component are given in the table below:

Activities under DIF

Sl. No.	Activity	Unit	2011-12	Total as on 31st march 2012
1. Supplementary funding to other programme components				
1	Drying Yard	Nos.	54	107
2	Spring based Gravity Flow Water Supply	Nos.	14	42
3	Poultry/ Goatary Farm	Nos.	193	262

Sl. No.	Activity	Unit	2011-12	Total as on 31st march 2012
1. Supplementary funding to other programme components				
4	Storage Water Tank/ Open Well	Nos.	2	2
5	Storage Godwon	Nos.	46	46
6	Kitchen Garden	HH	3908	4983
7	Kitchen Garden (School)	Nos.	331	334
8	Yam Cultivation (Seeds)	HH	951	951
9	Backyard Plantation		1537	1537
2. Experimenting and/or up-scaling innovative activities for livelihoods				
1	ARC cum SHG Training Hall/ Knowledge Centre	Nos.	50	53
2	Grain Bank	Nos.	30	30
3	SHG Shop	Nos.	3	3
4	Cowshed	Nos.	2	2
5	Tamarind Deseeding/ Packaging Block	Nos.	13	15
6	Oil Extraction Mill	Nos.	5	13
7	Work Shed	Nos.	13	22
8	Saloon/ Tailor Shop/ Small Business	Nos.	154	154
9	Food Processing Unit (Rice/ Floor/ Pulses)	Nos.	22	22
10	Bee Keeping	Nos.	19	19
11	Cashew Processing Unit	Nos.	6	6
12	Seed Bank	Nos.	8	11
13	Drug Bank	Nos.	2	2
14	Sanitary Napkin Unit	Nos.	1	1
15	Silo Model Storage Bin	Nos.	150	2717
16	Medicinal Plant Unit	Nos.	228	228
3. Promotion of low cost, time and labour saving technologies for reduction of drudgery				
1	Toilet & Bathroom	HH	2075	2245
2	Leaf plate stitching	Nos.	173	173
3	Solar Electrification (HH)	HH	275	275
4	Smokeless Chulha	HH	442	1143
5	Water Filter	HH	347	347
6	Stretcher	Nos.	1	1
4. Support to the Vulnerable and Destitute Households living inside the village				
1	Roofing of Landless HH	HH	444	444
2	Support to the Poorest of Poor	HH	620	1313
3	Grocery Shop	Nos.	275	275
4	Tribal Music Group	Nos.	4	4
5	Sound Box and Generator Set Nos. 3		3	

(Project MIS 2011-12)

Outcomes	Cumulative up to 2011-12
Served with piped drinking water	340
Villages covered with complete sanitation (individual toilet and bathroom)	136
Households covered with Total Sanitation (individual toilet and bathroom)	6902
Vulnerable/ Destitute Household supported with livelihood activities	2681
Covered with storage facilities (community storage with drying facility)	373

(Project MIS 2011-12)

Safe Drinking Water in a OTELP village through a standpost

6. Support for Policy Initiatives

Land to landless and homestead land to homestead less households have been the major components of empowerment. With the active Support and assistance of the Revenue and Disaster Management Department, Govt. of Orissa, ITDAs in the field along with FNGOs are facilitating for providing land to landless under various existing schemes and Acts of the Govt. of Orissa such as OPLE Act, OGLS Rule, Vasundhara and Mo Jami Mo Dhia scheme. Besides, the project facilitated the communities in getting land rights under Forest Rights Act (FRA). The objective is to cover 14369 absolute landless households of the programme villages within the project period. The programme has facilitated to expedite the implementation of Forest Rights Act for settlement of forest lands by providing hand held GPS of the sub-collectors of the programme areas along with financial assistance to engage additional hands preferably retired RIs and Amins. During the period, 10122 families have received land under FRA.

Hon'ble Governor of Odisha in a Patta distribution ceremony


Patta Distribution at Sirtiguda Village

Further, with the existing provisions of Govt of Orissa, lands have been settled with 1636 families under OPLE Act and 2536 families under OGLS Rules. Under the Vasundhara Scheme, 3515 families have been provided with homestead Land and 638 families through Mo Jami Mo Dhia scheme. The scheme wise families settled with land are presented in the adjoining table.

For further strengthening the initiative, the PSU had earlier signed MoU with RDI, an international NGO with registered office in India, for allocation of land to landless to ensure it as a focused intervention

under the programme which is being continued. As per the baseline conducted for the purpose, nearly 41% of the families were not having rightful ownership to the land on which they are residing. To tackle this problem, the detailed collaborative plan was prepared with association of RDI and local revenue authorities. Within the process, local youths from the villages were identified and promoted as Community Resource Person for identification of landless household and available land within the village for settlement. They are comprehensively trained and piloted various methods of land survey. After the field orientation these CRPs are attached with the local Revenue Inspector (RI) for facilitating the process. A software application is developed for analysing these data and identifying the land related issues with each individual family. Accordingly, the programme along with RDI and the local revenue officials facilitated the beneficiary families in applying for new land or settlement of existing land related issues. This collaboration has no financial implication to the project. Both the parties will use their own resources and OTELP will meet the investments meant for the capacity building of the community resource persons and specialized human resources for execution of the MoU. This process of involving local youths in the process of land settlement was highly appreciated by the Govt. and other members of the civil societies. This pilot of OTELP and RDI has been upscaled by the Govt. throughout the state for 118 Tribal Sub Plan Blocks, which will be subsequently upcaled to all the blocks of Odisha. Currently 550 CRPs are working across the programme areas of OTELP facilitating in providing land titles to 5392 families.

Sl. No.	Schemes/ Programme / Provisions	No. of Families Settled with Land
1	OGLS	2536
2	OPLE	1636
3	Vasundhara	3515
4	Mo Jami Mo Dhia	638
5	FRA	8611
6	Regulation-2	596

(Project MIS 2011-12)

Community rights under FRA were a continuing agenda under the programme. A network of national and state level NGOs supported the programme in facilitating the process in 90 villages. However, there has been a pending clarification from the Govt. of India which the State Government sought for settlement of the community rights, after which these 90 cases will be settled.

7. Food handling

Food security is the major challenges in tribal areas particularly in programme operating areas. WFP extended its support for supplementing food grains to the beneficiaries as part of their wage payment with very nominal prices. Three Kgs of rice were given to the beneficiaries with Rs 10 only. The funds generated out of this grain deposited in VDF account, meant for post project management. The details are given below.

Year	Food Grains Utilized in MT		No of Wage days created		Avg. no. of workers hired per month	
	Rice	Pulses	Male	Female	Male	Female
2005-06	73.327	5.007	17624	12123	511	372
2006-07	810.931	48.669	194623	129749	2570	1875
2007-08	2063.786	105.625	389310	354637	3062	2517
2008-09	4630.860	0	622453	594967	5274	4908
2009-10	3811.797	0	609702	569438	4240	3980
2010-11	3844.254	0	609912	569886	4243	3986
2011-12	2974.262	0	675456	638660	4807	4503

(Project MIS 2011-12)

8. Programme Management

8.1 MONITORING & EVALUATION

The programme has institutionalized methods for the monitoring of the output, outcome and impact of the programme activities. All tools have designed in a manner to ensure community participation in the local governance system. The details of the tools are explained below:

a. Simplified Record Keeping at the grass root level organizations such as SHG, VLSC & VDC:

- Standardized set of documents/ registers has been designed and provided to the village institutions for recording of the events related to the programme implementation, its processes, outputs and expenditures thereof.
- These documents primarily record the accounting of funds received and spent, inventory, minutes of the meeting, activities undertaken, benefits realized etc.
- Standardized case records are being maintained by the VLSCs to record the interim progress and decisions made by the community during the implementation of the activity. This simplifies the ease of use of documentation processes for the communities and contributes to an effective governance system.

Presentation of activities by project staffs

b. Voucher Based Monitoring System

- This is a simple tool innovated under the programme and adopted since 2007 (post Phase I MTR), to record and report the expenditures incurred in each month at each expenditure unit i.e. VLSC, VDC etc.
- Expenditures at village level are mostly in regards to purchase of material for any activity or payment of wages.

- Each payment made for purchase of material generates a voucher indicating the material purchased, from whom, amount and for which activity (related to a standardized case record maintained for each activity).
- Each payment made to labourers generates a muster roll indicating the number of labourers worked, period, no of days, work done and amount.
- The tool enables the community to make entry of all the paid vouchers and muster rolls into a simple format indicating the voucher/ muster roll no., the case record no. to which the payment belong, name of the activity, component, amount paid, date of payment, weather payment made in shape of check/ cash and whom to paid.
- All the entries are summed up in the report and the final figure along with the related documents (case record) are presented before the Village Social & Financial Audit Committee which is the Palli Sabha of the Village for approval of the expenditures made in each month from 22nd to 25th of each month.
- On approval of the same the original and duplicate copy (generated using carbon paper) sent to the VDC keeping the triplicate for record.
- The VDC receives the reports from each village within the micro watershed and consolidates the expenditures against each programme component and reports to the FNGO and ITDA.
- Accordingly the FNGO and ITDA only consolidate the information and add the expenditure incurred at their level and submit the reports.
- All these expenditure reports are being accepted as utilization certificate of the funds spent.

c. Physical Progress Reporting (Output & Outcome reporting)

- The FNGOs and ITDAs prepare Half Yearly Progress Reports against the Annual Work Plan & Budget for the year presenting the outputs achieved during the period and cumulative achievement.
- Besides, the ITDAs based on these reports, prepares Half yearly and Annual Performance Report which is an output linked outcome report presenting the change in various physical indicators for both RIMS and logframe.

JRM Members interacting with communities

d. Concurrent Evaluations

- Mid Term Review (MTR) for phase III conducted by IFAD completed during October 2010 and JRM for 2011 was also conducted during August, 2011.

8.2 WEB BASED M&E SOFTWARE

Review Meeting of Field Staff

The web based M&E Software designed and implemented in the programme have been further upgraded based on the use and information need at various level. Due to low infrastructure availability at the remote project locations, it has become difficult to update data in the software in a real time manner. Subsequently, the planning and M&E module along with the SHG module has been delinked and made standalone desktop based software where the data entry can be done offline at the FNGO level and integrated with the web based software at the ITDA/ PSU level depending upon the availability fo the internet.

Besides, a field monitoring system tool has been development and piloted to track the field movement of the staff at ITDA and FNGO level. This is SMS enabled software which can send or receive message to and from the field with a mobile handset.

Land Allocation and Management System has also developed and implemented for the effective management of the land title allocation and distribution system with the help of RDI. This system has kept the information on the landless families and follows up the steps for allocation of land titles.

Implementation of RIMS

Baseline RIMS Impact and anthropometric survey was conducted during 2008 covering 30 clusters in 20 blocks of 4 districts. The baseline survey of RIMS was conducted internally using the PO (PM&E), PO (CB) of ITDAs and WDT (Social Science) II FNGOs. Initially they were oriented on the survey methodology and questionnaire along with how to undertake anthropometric survey using the RIMS equipments received from IFAD on 9th September 2008. On completion orientation programme the respective WDT (Social Science) member of FNGO conducted the survey along with the Community Mobilizer in the sample villages. The impact survey questionnaire and anthropometric survey was administered to 1150 sample households in 23 clusters by the surveyors.

Similarly during 2011, the RIMS midterm survey was conducted by the PSU by hiring services of enumerators. This survey was conducted in 30 clusters covering 30 blocks of 7 districts. The data for both baseline and midterm was entered into the RIMS software and the report generated and submitted to IFAD.

Annual Outcome Survey

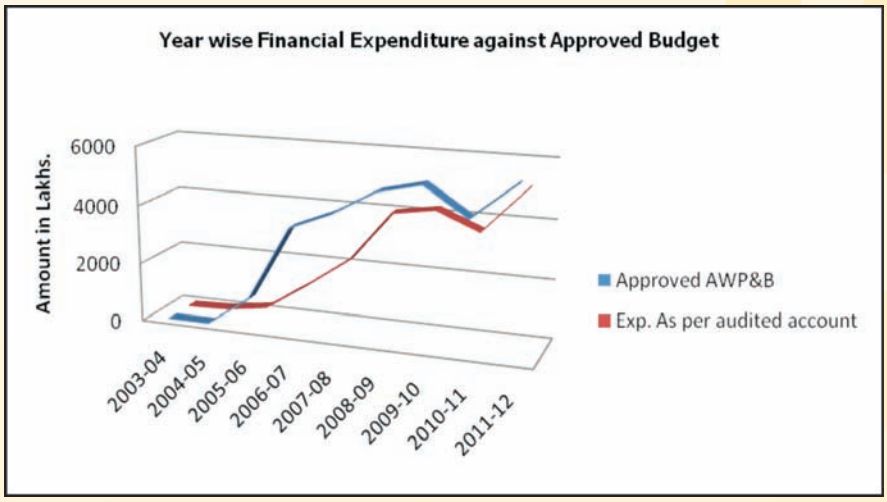
The project has conducted its annual outcome survey for the year 2011-12 during April, 2012. This survey was conducted based on a predefined questionnaire administered to a randomly selected sample households from both programme and control villages. 900 programme and 450 sample households were interviewed by a team of enumerators. Qualitative data were also collected and incorporated in the report. The final report has been published and circulated.

Financial Progress

The year wise approved annual work plan and budget from 2003-04 to 2011-12 and expenditure as details against each component is given below.

Financial Year	Approved AWP&B	Exp. As per audited account
2003-04	4.00	4.38
2004-05	4.00	57.96
2005-06	1016.97	273.07
2006-07	3588.76	1209.69
2007-08	4184.45	2231.35
2008-09	5013.16	3982.07
2009-10	5358.9	4214.42
2010-11	4400.00	3616.23
2011-12	5600.00	5129.77

(Project MIS 2011-12)



Sl. No	Programme Component	Expenditure As On 31/03/201 (Amt. in Rs. Lakh)
1	Programme Management	5,21,73,144.50
2	Capacity Building For Empowerment	5,75,21,061.00
3	Livelihood Enhancement	27,92,80,204.62
4	Participatory Forest Management	-1,25,710.00
5	Support for Policy Initiatives	29,65,553.00
6	Community Infrastructure fund	5,17,78,040.00
7	Development Initiative Fund	1,99,65,270.50
8	WFP Food Consumption	4,69,16,902.00
9	Food Handling	25,02,247.00
	TOTAL Expenditure In Rs.	**51,29,76,712.62**

(Project MIS 2011-12)

9. OTELP Plus: Adoption and Scaling up by Govt. of Odisha

Orissa Tribal Empowerment & Livelihoods Programme (OTELP) is a community managed programme directly implemented by the Community Based Organizations (CBO) with facilitation and handholding support from the local NGOs selected by Govt. ITDA at the district/ sub division level provides technical assistance to both NGOs and CBOs in implementation and facilitation of the programme.

Launching of OTELP Plus

The programme has adopted a seven year project cycle management, which is further divided into three distinct phases. The initial two years are called probation phase, next three years are called main implementation phase and the last two years of the programme is called consolidation phase/ withdrawal phase.

29-An orientation programme on OTELP plus at DNK Conference Hall, Koraput

OTELP is based on the integral development of the natural resources and livelihoods with Community Mobilisation and through peoples participation. The works are executed through Village Development Committee (VDC) and other community based organisation promoted by the programme. Programme funds are placed with the VDCs and activities are planned and implemented by them. Due to this the model has a tremendous acceptance by the tribal communities as well as with LWE.

The main advantage of the OTELP model of governance as learnt are as below:

a. It is government funded and facilitated Programme, and implemented through the NGOs and the Community- Based Organisation (CBOs)
b. It adopts a Micro-Watershed approach with the objective of holistic tribal development
c. The entire structure from State Level to the Watershed is well planned and trained with dedicated staff.
d. The community is at the core of implementation, and awareness and capacity building are given primary importance. All works are executed through the Village Development Committee.
e. It addresses the basic issues pertaining to the tribal population, especially related to livelihood and forest management.
f. Young dedicated team of professionals with relevant subject expertise and the flexibility to disengage in case of non- performance.
g. Comprehensive planning and detailed execution by the team over a period of 7yrs.
h. It is observed that the acceptance level of this model of governance is very high among the tribal population

OTELP has been perceived by the district administrations as well as state government as one programme which is not being opposed by the left wing extremists and accepted by all because of its mode of implementation. It was proposed by several district collectors to extend the model of implementation in additional areas of the districts particularly poverty stricken pockets. Based on these proposals, the government has pleased to approve the project with an estimated outlay of Rs.554.95 crores over seven years of period. The costs are to be met from the existing central and state government run programmes and from state government funding in shape of convergence. This upscaling programme will be known as **"OTELP Plus"**.

The present coverage of the programme in is as follows:

Sl. No.	District	ITDA	No. of Micro Watersheds to be taken up under OTELP Plus	Proposed Area (in Ha.) for treatment	Proposed Project Cost (in Rs. Crores)
1	Koraput	Koraput	102	51000	110.34
2	Gajapati	Paralakhemundi	80	40000	86.54
3	Kandhamal	Baliguda	51	25500	55.17
4	Kalahandi	Th. Rampur	38	19000	41.11
5	Nawrangpur	Nawrangpur	50	25000	54.09
6	Malkanagiri	Malkanagiri	149	74500	153.61
7	Rayagada	Gunupur	50	25000	54.09
	TOTAL		520	260000	554.95

The programme will partner with Non Govt. Organizations (NGO) for providing facilitation and community mobilization support for the implementation of the programme. Besides, a dedicated professional team of Subject Matter Specialists (SMS) will be positioned for providing programme implementation support to the NGOs and communities in a cluster of 50 micro watersheds. However, the programme has also a provision

for partnering with national level NGOs to manage a consortium of FNGOs facilitating 50 or more micro watersheds. In such context the management of the SMS team has been decentralized to the Lead Agency of the consortium. Like OTELP, the District Collector and Chairman, OTELP will lead the facilitatation process for implementation of the programme at the district level through the ITDA. At the state level, the Programme Support Unit under the overall guidance of the ST & SC Development Department will be responsible for implementation of the programme.

Brief progress on implementation of OTELP Plus is as follows:

Sl. No.	District	ITDA	Selection of FNGOs	Funds Flow
1	Koraput	Koraput	1 consortium facilitating 51 unit by PRADAN and 5 FNGOs selected and contracted.	Management cost from Govt. and Capacity Building Cost from BKBK released
2	Gajapati	Paralakhemundi	1 consortium facilitating 50 unit by WoTR and 3 FNGOs selected and contracted.	Management cost from Govt. Released
3	Kandhamal	Baliguda	Selection of FNGOs are under progress	
4	Kalahandi	Th. Rampur	Do	
5	Nawrangpur	Nawrangpur	1 consortium facilitating 20 unit by AVA and 2 FNGOs selected and contracted.	Management cost from Govt. released.
6	Malkanagiri	Malkanagiri	1 consortium facilitating 45 unit by WASSAN and 6 FNGOs selected and contracted.	Management cost from Govt. and Capacity Building Cost from BKBK released
7	Rayagada	Gunupur	Selection of FNGOs are under progress	

The programme will impact the lives of remotely inhabited tribal people in enhancing their access to basic entitlements, nurturing their village institutions and improves capacities to adopt innovative interventions for increase of income from agriculture and allied sectors. Basic infrastructures like irrigation, land allocation and development, storage and processing centers, drinking water and sanitation etc. will be the focused interventions under this programme. Skill development activities will be taken intensively to create employability among unemployed youths. It's expected that after the completion of the programme the socio economic development of these communities will be accelerated.

The honorable Chief Minister of Orissa has launched the OTELP Plus on 19th April, 2011 at Koraput and dedicated this programme to the tribal of 700 plus villages in Koraput and Malkanagiri. He has also advised to other tribal concentrated districts to develop similar proposals which will be subsequently included under the programme.

OTELP

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