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XAVIER INSTITUTE OF MANAGEMENT
BHUBNAESWAR

Volume I

REPORT ON THE

SOCIO-ECONOMIC, SOCIO-CULTURAL, RESOURCE MAPPING AND INFRASTRUCTURAL SURVEY

In Respect of
M/S OTPCL, DHENKANAL, ODISHA

Conducted by:
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PREFACE

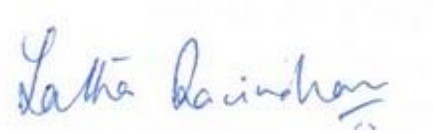
Odisha Thermal Power Corporation Ltd. (OTPCL) proposes to set up a coal-based thermal power plant of 2,400 (3x800) MW capacity at Kamakhyanagar Tehsil in Dhenkanal district of the State. The proposed plant necessitates acquisition of lands and other immovable assets in the areas where the plant is to be set up.

The Odisha R&R Policy (2006) has laid down guidelines for proper resettlement and rehabilitation of families who are affected or displaced due to acquisition of their lands. Planning for resettlement and rehabilitation necessitates information about the socio-economic status of the affected population, details about the affected area/ villages, social, cultural and other milieu within which such affected populace live. Such details are captured through a comprehensive socio-economic survey.

Xavier Institute of Management was assigned the task by the Government of Odisha to conduct a socio-economic survey, covering ten villages to be affected by this project. The villages are: Aluajharan, Annapurnapur, Bhagirathipur Sasan Bijadihi, Dhobabahali, Kantapal, Kateni, Kusumajodi, Mahulapal and Anlaberini in Kamakhyanagar Tehsil of Dhenkanal district.

Accordingly, the survey was conducted covering 89 families to be displaced (DPs) and 1598 families to be affected-not-displaced (APs), from all the ten villages. A draft report of the socio-economic survey was submitted to OTPCL on 7th September 2013. Subsequently, on 11th March 2014, a presentation of findings of the survey was presented to OTPCL, who has accepted this report as final.

Meanwhile, The Company has decided not to acquire any lands in certain areas from villages such as, Aluajharan, Bhagirathipur Sasan, Bijadihi, Kateni and Mahulapal. As per the revised plan the quantum of land to be acquired by the Company has undergone a reduction from 1969.785 acres to 1589.587 acres (excluding the railway corridor). Due to this revision, private lands from as many as 471 families will not be acquired. A summary of the no. of families covered in the survey as per the original plan of acquisition vis-à-vis those according to the revised plan are presented in the overleaf, for easy reference. However, it is to be noted that this report covers the socio-economic status of 89 DPs and 1598 APs from ten villages, as was the original mandate.



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Summary of No. of DPs and APs Covered
(Original plan of acquisition vis-à-vis Modified plan of acquisition)

Village	Original No.		Deleted No.		Modified No.	
	DP	AP	DP	AP	DP	AP
Annapurnapur	89	244	0	0	89	244
Aluajharan	0	105	0	105	0	0
Bhagirathipur Sasan	0	36	0	36	0	0
Bijadihi	0	85	0	85	0	0
Dhobabahali	0	147	0	0	0	147
Kantapal	0	295	0	0	0	295
Kateni	0	186	0	120	0	66
Kusumajodi	0	226	0	0	0	226
Mahulapal	0	125	0	125	0	0
Anlaberini	0	149	0	0	0	149
TOTAL	89	1598	0	471	89	1127

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Findings at a Glance

Displaced and Affected Families as per Odisha R&R Policy 2006	
Total number of DP families (original) identified:	89
Total number of DP families (extended) identified:	44
Total number of AP families (original) identified:	1598
Total number of AP families (extended) identified:	1496

Key Indicators		Displaced	Affected
No. of original families		89	1598
No. of extended families		133	3094
Number of DP / AP Men		118(88.7%)	2694(87.0 %)
Number of DP / AP Women		15 (11.3%)	400 (13.0%)
Caste of affected families: SC (%)		12.4	15.6
Caste of affected families: ST (%)		0.0	4.1
Caste of affected families: OBC (%)		86.5	75.7
Caste of affected families: GC (%)		1.1	4.6
Modal class (%) for size of family (3 to 5 members)		66.3	67.2
Total population in the affected families	Men:	169	3682
	Women:	145	3270
	Total:	314	6952
Average size of family literacy status and family (Modal class)	Men:	Below Pre-Primary	Middle (8th) Completed
		Middle (8th) Completed	High School Completed
	Women:	Middle (8th) Completed	Middle (8th) Completed
		Below Pre-Primary	Illiterate
Modal class for primary occupation of family members		Private Job	Private Job
		Cultivation	Cultivation, Non-farm wage labour
Number of dependents		194/314	4327/6952
Total no. of DP/AP Families identified (as per Odisha R&R Policy)			
Major sons		118 (88.7%)	2675(86.4%)
Unmarried Daughter / Sister (>30yrs)		0 (0.0%)	41 (1.3%)
Widow / Woman Divorce / Destitute		12 (9.0%)	276 (8.9%)
Physically Handicapped		2 (1.5%)	68 (2.4 %)
Minor Orphan		0 (0.0%)	2 (0.06%)
Others		1 (0.8%)	32 (1.0%)
House tenurial status (own house)		100%	100%

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Key Indicators		Displaced	Affected
Average area and homestead owned (in decimal)		13	8
Families having patta for homestead (%)		85 (95.5%)	1502 (93.9%)
Modal class for type of house		Brick with CementWalls, Concrete Roofs, CementFloors, With Electricity	Brick with CementWalls, ThatchedRoofs, Earthen Floors, WithElectricity
Average Agricultural land Holding (in acre)			
Individual		0.94	1.64
Joint		1.17	1.49
Leased-in		2.07	1.73
Leased-out		0.99	1.59
Mortgaged-in		-	0.4
Mortgaged Out		-	-
Encroachment (Revenue)		1.78	0.76
Encroachment (Forest)			0.75
Modal class for purpose of land use		Agriculture	Agriculture
Major crops cultivated:	Kharif	Paddy	Paddy
	Rabi	Pulses, Vegetables	Pulses, Vegetables
	Summer	Nil	Nil
Average area under cultivation (in acres)	Kharif	2.3	1.99
	Rabi	1.07	1.17
	Summer	Nil	Nil
Average annual net income from crops per family (Rs.)		25,909/-	20,267/-
Farmers' consumption of own produce (%)			
Insufficient for consumption		50.0%	57.5%
Sufficient for consumption		27.0%	27.2%
Having marketable surplus		23.0%	15.3%
Average annual income from wages (in Rs.)	Farm:	6,258/-	6,225/-
	Non-farm:	26,565/-	26,519/-
Modal class for nature of business		Trading, Service provider	Trading, Service provider
Average annual net income from business (in Rs.)		3,57,933/-	215,313/-
Major livestock owned		Goats, Cows, Bullocks, Calves, Chickens	Cows, Calves, Bullocks, Goats, Chickens
Major productive assets owned		Plough, Bullock Cart, Pump set, Sprayer	Plough, Bullock Cart, Pump set, Sewing Machine, Sprayer
Major types of trees owned		Bamboo, Cashew, Palm, Teak, Sal, Mango, Banana	Bamboo, Palm, Cashew, Sal, Teak, Mango, Banana,

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Key Indicators		Displaced	Affected
			Mahula, Papaya
Average annual income per family from all sources (in Rs.)		1,33,467/-	1,20,019/-
Number of beneficiaries of various welfare programs (mainly by Govt.)		43	1040
Number of families who have availed loan		22	289
Average indebtedness (in Rs.)			
Loan availed		67,54,000/-	19,127,500/-
Loan outstanding		36,98,000/-	16,478,100/-
% loan outstanding		54.8%	86.1%
Number of families, whose agricultural lands mortgaged		20	273
Resettlement Preferences:			
Free Transport		13 (9.8%)	
Cash in lieu of free Transport		120 (90.2%)	
Temporary Shed		29(21.8%)	
Self-relocation		41(30.8%)	
Homestead land in Colony		92 (69.2%)	
House building Assistance		97(72.9%)	
Preference on Types of Rehabilitation assistance (%)			
Job		22 (24.7%)	286(17.9%)
Cash in lieu of job		12 (13.5%)	93 (5.8%)
Job for nom. Memb. of family		55 (61.8%)	1219 (76.3%)
Shops/service units		--	-
Convertible pref. share		--	-
Undecided about rehabilitation preference		--	--
Not given preference (absent)		--	--
Preference to training (%)			
Training for self		57 (42.9%)	284(17.8%)
Training for nom. Memb.		66 (49.6%)	1221 (76.4%)
Undecided about training		10 (7.5%)	93(5.8%)
Not interested for Training		-	--
Maintenance Allowance		100%	

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CHAPTER - I

1. Introduction

1.1 Background

The Odisha Economy is witnessing unprecedented investment, both domestic and foreign and the State holds the promise of becoming one of India's major manufacturing hubs in the near future. A whopping US$50 billions is expected to be invested in the state for building and establishing power plants, steel and aluminum industries, ports, and other infrastructure. If things go as planned in Odisha, the state could emerge as one of the most significant FDI destinations in the world, rivaling Shenzhen in China. Vast deposits of minerals particularly coal in the State coupled with an industry friendly policy environment offered by the State have resulted in the recent influx of corporate investments into establishing thermal based power plants in Odisha.

Through an industry friendly policy support to corporate houses, the Government of Odisha aims to leverage-out large scale employments and revenue that are generated as a result of various power, mining and industrial projects for the development of people in the State. In addition, the State has put in place the Odisha R&R Policy (2006) for proper and effective resettlement and rehabilitation of those families who get displaced and affected as a result of acquisition of their lands. The Policy is widely acclaimed to be the most liberal one in the country. Despite these factors, mounting resistance from people against dispossession of lands owned by them; in addition, scores of people are dependent on Govt. land for their lives and livelihood. Due to stiff resistance from locals, setting-up such development projects remains to be one of the key challenges before the administration, and as some projects involving large investments are stalled, uncertainties are looming large.

1.2 OTPCL Project

In order to augment the power generation capacity, Odisha Thermal Power Corporation Ltd (OTPCL), a joint venture company of the Government of Odisha between Odisha Hydro Power Corporation (OHPC) and Orissa Mining Corporation (OMC) is setting up of a coal-based thermal power plant of 2,400 MW (3x800) MW capacity with super critical boiler capacity at Kamakhyanagar Tehsil in Dhenkanal district of the State. With regard to coal feed for the proposed power plant, Odisha Hydro Power Corporation (OHPC) and Odisha Mining Corporation (OMC) have pledged to provide 200 million tonnes and 300 million tonnes of coal respectively from the Mandakini-B coal block allotted to them. Entire power generated from the proposed power plant will be procured by Grid Corporation of Orissa Ltd (Gridco) as per the tariff determined through the bidding process.

This project needs 1,969.78 acres of land, which includes 987.77 acres of government land and 83.94 acres forestland and 982.01 acres in private possession. Private lands spread in 10 villages viz.

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Aluajharan, Annapurnapur, Bhagirathipur Sasan Bijadihi, Dhobabahali, Kantapal, Kateni, Kusumajodi, Mahulapal and Anlaberiniin Kamakhyanagar Tehsil will be acquired for setting up of this power project by OTPCLwhich will result families either displaced or affecteddue to acquisition of land (the number of families given in the subsequent chapters of the report). Notification for land acquisition under Section 4 (1) of Land Acquisition Act has been issued.

1.3 Need & Relevance of the Survey

The Odisha R&R Policy (2006) has laid down guidelines for proper resettlement and rehabilitation of families who are affected or displaced due to their land acquisition. Planning for resettlement and rehabilitation necessitates information about the socio-economic status of the affected population, details about the affected area/ villages, social, cultural and other milieu within which such affected populace live. Such details are captured through a comprehensive socio-economic survey. Thus, the Odisha R&R Policy (2006) has made it mandatory that for every project, socio-economic, socio-cultural, resource mapping and infrastructural survey should be conducted in the affected areas within two months after the issue of notification under section 4 (1) of Land Acquisition Act. In order to ensure neutrality, expertise in the field, and previous experience in conducting similar studies, it is essential that such a survey is conducted by an independent agency approved by appropriate authorities in the district administration. Accordingly, Xavier Institute of Management was identified and assigned the task by the Government of Odisha to conduct this socio-economic survey in the affected areas.

The purpose of the survey is to gather adequate and relevant information about the socio-economic status of affected families and their place of inhabitation, which would provide baseline inputs for formulation of an appropriate and need-based action plan for resettlement and rehabilitation. Therefore the socio-economic survey is a crucial initial step towards the successful implementation of R&R policy. The survey encompasses collection of data from individual households to be displaced and / or affected by the project, as well as information pertaining to the affected village such as, its geographical features, life supporting natural resources, manmade infrastructures, resource base and occupations of families, their customs, traditions, caste systems, festivals, social power structures, etc. Apart from identification of displaced and affected families based on the criteria set under Odisha R&R Policy, 2006, the baseline data of the project displaced and affected families would be in particularly helpful in designing an appropriate resettlement and rehabilitation action plan so that:

a) The resettlement and rehabilitation action plan incorporates the preferences revealed by the displaced and affected families for their resettlement and / or rehabilitation.

b) The displaced families can be properly relocated, resettled and rehabilitated in such manner that their socio-economic status can at least be restored;

c) Proper monitoring and evaluation mechanisms are developed and made operational during the entire R&R project life-cycle;

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d) Ensure proper utilization of compensation and rehabilitation assistance that are provided to people in lieu of their land acquisition and displacement;

e) Pave the way for any counseling, or redressal of grievances; and

f) The formulation and implementation of R&R plan becomes need-based and participatory one.

g) The R&R plan considers all the aspects that affect people's lives, namely, the social, economic, cultural and environmental and so on.

1.4 Objectives

a) To ascertain precisely the total population displaced and affected by the project;

b) To classify different categories of displaced and affected families on the basis of demographic data such as Sex, Age, Gender, Occupation, Education, Income, Religion, Caste, Language, Marital Status and so on;

c) To ascertain varieties of loss suffered by each displaced and affected family and based on such loss, fit them according to the R&R Policy for varying benefits under the Project entitlement matrix;

d) To provide baseline data for monitoring and evaluation of R&R programs; and

e) To ensure that no displaced and affected family is left out and to highlight the need for inclusion of those in the vulnerable group for R&R assistance; and to ascertain choices of affected families in respect of various options available to them for their resettlement and rehabilitation in accordance with the State's Policy.

1.5 Scope of Work

1.5.1 Thematic Scope of Work

a) Village profile of the displaced and affected families

b) Family profile of the displaced and affected families

- Identification of families as per the 'separate family norm' of Odisha R&R policy 2006
- Demographic and social profile of the family members (caste, community, religion, gender, age, marital status, literacy status, occupational status, migration, etc.)

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- Economic status of the families (Housing pattern, ownership of household assets, ownership of productive assets, ownership of trees, ownership of livestock, income from various occupations, etc.)
- Rating of the social infrastructure in the village

c) Details on the land holdings, house ownership and acquisition

- Details on quantum of Land holdings versus acquisition
- Type of ownership or tenurial status of agricultural land, house and homestead land
- Distribution of families depending on the intensity of loss as per the Odisha R&R policy 2006

d) Preferences of displaced and affected families relating to their resettlement and rehabilitation

1.5.2 Geographic and Family Coverage

The survey covered a total of 1687familiesout of which 89 are displaced and 1598 affected due to acquisition of land by the project in 10 villages viz. Aluajharan, Annapurnapur, Bhagirathipur Sasan Bijadihi, Dhobabahali, Kantapal, Kateni, Kusumajodi, Mahulapal and Anlaberini in Kamakhyanagar Tehsil.

1.6 Contour of the Survey Report

Chapter – I gives an overview of the background, need & relevance, objectives and scope of works for the socio-economic survey.

Chapter – II brings out the methodology adopted for undertaking the survey. It includes sources of data collection, tools & techniques of data collection, IT enabling of data, etc.

Chapter – III presents profile of the majorly affected village under the project

Chapter – IV presents the socio-economic baselines status of the displaced and affected families under the project and their choices or preferences with regard to their resettlement and rehabilitation

Chapter – V summarizes the findings of the baseline survey with recommendations and concluding remarks.

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CHAPTER - II

2. Survey Methodology

The survey employed both quantitative and qualitative research methods for collection, analysis and reporting of data. Information pertaining to the habitation; demographic features; caste system; occupations; income; resettlement and rehabilitation preferences; and issues, grievances and demands of displaced and affected families were collected and are presented in this report.

2.1 Collection of Secondary Data

The secondary data that were collected and reported include:

- Data on Records of Rights data from the website, namely, Bhulekh
- Data on the area of land acquired from each family from the office of OTPCL
- List of Houses
- Voters' List
- Census data

2.2 Collection of Primary Data

2.2.1 Survey Design Work

A combination of both 'exploratory' and 'participatory' research design was adopted in the survey. The idea behind such design was to understand the existing social and economic status of the displaced families and their choices with regard to resettlement and rehabilitation through a participatory mode where in the families themselves play an important role in sharing their own socio-economic status and preferences relating to their resettlement and rehabilitation.

2.2.2 Tools and Techniques of Data Collection

Various conventional and participatory research techniques and tools were used for collection of primary data. A brief overview of the data collection techniques and tools used in the study is presented in the following Table

Tools and Techniques used for collecting primary data		
Data Collection Methods	Data Collection Techniques	Data Collection Tools
▸ Conventional Method	▸ Family Interview	▸ Separate Structured Interview Schedule for Socio-economic survey and R&R preference survey

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Tools and Techniques used for collecting primary data		
Data Collection Methods	Data Collection Techniques	Data Collection Tools
		with the provision of signature by the displaced family.
	▸ Focus Group Discussion (FGD) with men and women separately	▸ Checklist for conducting FGD with men and women.
	▸ Village Meeting	▸ Village Profile for capturing data & information from village meeting.
▸ Participatory Methods	▸ Participatory Rural Appraisal (PRA) Techniques • Social Mapping • Resource Mapping • Chapati Diagram	▸ Use of PRA guidelines

Details about the PRA techniques used in the survey are as follows:

a) Social & Resource Mapping: Through this technique, the researcher collects and analyse the spatial data of the community by drawing maps or diagrams. The researcher facilitates the community in such way that they themselves draw their own community map and also sketch various social and economic indicators in the same. Usually two types of maps are drawn viz. 'Social Map' and 'Physical & Resource Map'. Sometimes they are drawn either separately or jointly in one map. Legends or symbols are used to show various social and economic indicators in the map. The indicators that are sketched in the map include the place in the village where people live and how many people live, house type, caste structure, agriculture land, soil type, vegetation, road, school, drinking water, water facility for other uses, electricity, burial ground, other social infrastructures, etc. present in an area.

b) Seasonality Calendar: The seasonal calendar attempts to establish regular cycles or patterns of activities and occurrences within a community over 12 months. It maps community activities month by month, across sectoral boundaries. These yearly cycles are important in determining e.g. cropping pattern, availability of forest produces, availability of labour or wage employment, etc.

c) Chapati Diagram: This technique helps to identify the institutions both within and outside the community on which people depend for availing various services. A circle is drawn for each institution and their distance from the community is mapped. This diagram triggers discussion with the community about the advantages or problems they face in availing different services.

2.2.3 IT Enabling of Data

The analysis of field data collected through different tools was analyzed using computer software. The steps used particularly for undertaking the quantitative analysis are presented in the box.

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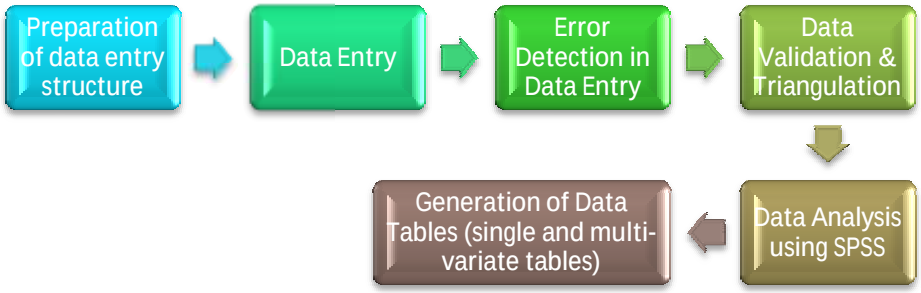

Particularly package like MS Excel was used for data computerization and cleaning; and the SPSS package was applied for analysis and generation of data tables. Data outputs for each variable were presented in the report in charts and tabular forms with frequencies, percentages and averages. Besides, multi-vitiate tables were also generated and presented in the report based on the study requirements. Unlike quantitative analysis, the qualitative analysis of information was also carried out and presented in the form of qualitative data tables/matrixes.

2.3 Survey Strategies

- Several rounds of meeting with the officials of OTPCL
- Support of the Land Acquisition Officer, Dhenkanal
- OTPCL's intervention by meeting the villagers to explain the objectives of socio-economic survey and to seek their cooperation
- Meetings with the affected and displaced families, both individually and in groups
- Clarification provided to villagers by the survey team on provisions/entitlements in the R&R policy
- Contact with key and influential persons and Panchyati Raj representatives
- Lot of motivation and persuasion by the survey team to convince the families for extending their support and cooperation in undertaking the survey

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CHAPTER - III

3. Village Profile

In this chapter, a detailed report is presented on the profile of Annapurnapurvillage where families will be displaced due to acquisition of land by OTPCL. The report is based on the information / data presented in the village profile were captured during a series of village / hamlet level meetings, PRA exercises and focus group discussions carried out with the villagers. In addition, views of some opinion leaders belonging to the village are also considered. Thus, it is important to bear in mind that the figures shared by villagers are based on their approximation and eye estimation which may not be scientifically accurate and precise, which in fact being one of the limitations of PRA technique. Therefore, it is suggested to refer to the family profile to get more accurate statistics and figures on the socio-economic status of displaced and affected people, which were collected during the survey by administering pre-tested family profile schedule.

3.1 Annapurnapur Village

3.1.1 Location of the Village

The village Annapurnapur (also known as Annapurnapur Khamar-ii)comes underKusumjodi Panchayat in the Kamakhyanagar Block of Dhenkanal district. The village is located at a distance of about 24kms from Dhenkanal district headquarter and 12kms from Kamakhyanagar Block Headquarter. In order to reach at Annapurnapur, one needs to move towards south of Bhalumunda square which is located around 25kms on the western side of the district headquarter. The village consists of two hamlets viz. i) Marichakan and ii) Nuangabila. In view of the establishment of thermal power plant by OTPCL, a notification under section 4(1) under the Land Acquisition Act of 1894, was issued on April 05, 2012, for acquisition of 1969.78 acres of lands.

3.1.2 Historical Background of the Village

The Annapurnapur village was established at around 150 to 200 years ago. The king of that time, Shri Surpratap Singhdeo, father of Sankar Pratap Singdeo named this place Annapurnapur according to the name of her beloved wife 'Annapurna'. For the purpose of facilitating agriculture over here and to collect tools from the farmers, he appointed a clerk at this place. In view of theagricultural suitability of the soil in this area, few families from the nearby village 'Kusumjodi' came and started living here with the consent of the king.

As mentioned earlier, the village consists of twohamlets. Each hamlet has its own historical background of establishment.

Marichakan: People from this hamlet cultivate chilies (locally known as 'Maricha') in large numbers. Hence the hamlet is named as 'Marichakana'

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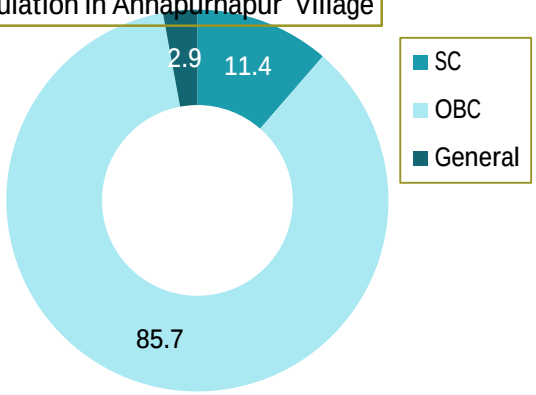
Nuangabila: Some people from the nearby 'Kusumajodi' village came here and built new homes in their farms to settle down permanently. As these people became new residents (locally called as 'Nua') and since, they built their homes in the farms (locally known as 'Bila'), the hamlet was named as 'Nuangabila'.

3.1.3 Social Profile of the Village

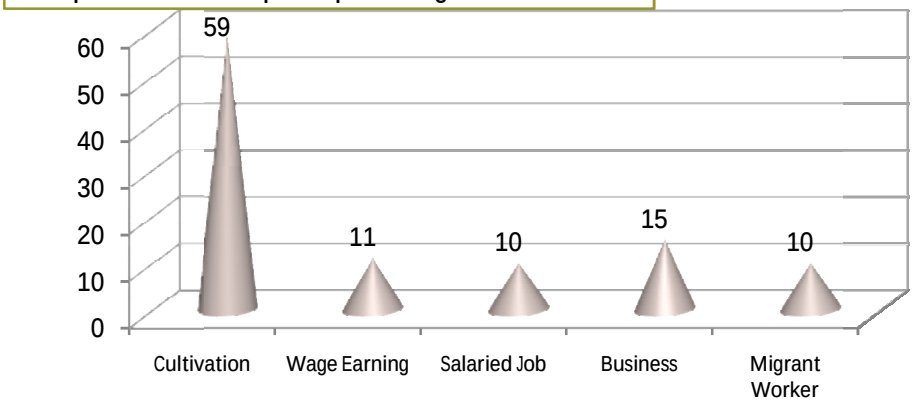
Chart 3.1.3 Caste wise break-up of Population in Annapurnapur Village



The village is currently inhabited by 105 households and has a total population of approximately 500. As mentioned above, the village is mainly inhabited by the Other Backward Castes (OBC), Scheduled Castes and General caste people. The sub-castes found in the village aremostly the Chasa, Gauda, Gudia, Pana, etc. Out of the 105 households residing in the village, approximately i.e. 90 (85.7%) are from Other Backward Castes (OBCs) followed by 12 (11.4%) belong to Schedule Castes (SC) and the rest 3 (2.9%) belong to general caste communities.

3.1.4 Economic Profile of the Village

Chart 3.1.4 Number of Families Engaged in Different Occupations in Annapurnapur village



Out of 105 families in the village, 59 are engaged in cultivation, 15 are doing business,11 do wage earning, 10 are migrant workers, 6 are engaged in Government salaried jobs, and 4 are doing private jobs. The gender wise occupational status reveals that the men are mostly engaged in labor intensive works like agriculture, non-farm wage, service, business, salaried jobs, collection of timber, etc. whereas women in the families provide support in agriculture and do farm based wage, non-farm wage, collection of Non-Timber Forest Produces (NTFPs), livestock rearing, etc. apart from managing their daily domestic chores like fetching drinking water, cooking, cleaning of cloths and utensils, taking care of children, etc.

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SOCIAL MAP OF
ANNAPURNAPUR VILLAGE

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Out of 105 families residing in the village, 5 families are completely landless. Among the rest of families, highest i.e. 88 are marginal farmers owning land below 2.51 acres, 250 are small farmers possessing land between 2.5 to 5 acres and 2 are medium farmers owning land between 5.1 to 10 acres of land. None of the families belong to large farmer category possessing above 10 acres of land.

The quality and productivity of agriculture lands in the village have substantially reduced over the period of time. There were times when the agricultural productivity used to be very high even without application of fertilizers, catered not only to the consumption needs of the farmers households, but also generated marketable surplus. Now due to meager per capita land holding and degradation of lands, the families depending on agriculture find difficulties to meet the annual food grain requirements of their family members. Farmers are mostly dependent on rain for cultivation. Moreover, people are applying organic fertilizers to increase their agricultural production, which is adversely impacting on the land quality. The practice of organic farming is hardly evident which could be due to substantial decrease in the livestock population. Season wise distribution of crops cultivated is presented in the table below.

Agriculture Seasons	Crops Cultivated
Kharif (June - October)	Paddy, Biri, Mung, Groundnut, Rasi and Maize
Rabi (November –January)	Wheat, Kolatha, Sunflower and Vegetables - Potato, Tomato, Brinjal, Onion (cultivated by very few families)
Summer (February – May)	No cultivation due to lack of irrigation

Season wise occupational break-up between men and women of the Annapurnapur village are presented below:

Months		Occupations	Gender Distribution of Occupations	
Oriya	English		Male	Female
Pousa-Magha	December-January	Paddy Harvesting and vegetable cultivation	ü	ü
Falguna-Chaitra	February-March	Collection of NTFPs like Mahula, Kendu, Chara, Kendu leaves) and vegetable cultivation	ü	ü
Baisakha-Jestha	April-May	Collection of Tola and Non-farm wage earning (earthen work and road construction)	ü	ü
Ashadha-Srabana	June-July	Land preparation for agriculture, sowing of seeds, farm and non-farm based wage (within and outside village)	ü	ü

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Months		Occupations	Gender Distribution of Occupations	
Oriya	English		Male	Female
Bhadraba-Aswina	August-September	Plucking of wild grass from agriculture land and collection of Kanda, Mushroom and Kardi from forest	ü	ü
Kartika-Margasira	October-November	Vegetable cultivation and non-farm wage earning	ü	ü

3.1.5 Resource Base and Social Infrastructures

Forest:The village forest is located at a distance of one to two kilometers. The trees/plants mostly found in the village forest are Sal, Patas, Bamboo, Mahula, Arjuna, Saguan, Korei, Harida, Bahada, etc. Over the years, there has been continuous decline in the forest coverage due to massive denudation by the people in and around the village. As reported during the village meeting, a significant number of families has encroached the village forestland for cultivation and for construction of their house. Earlier, around 30 years before, the forest was found to be thickly covered with trees and located in adjacent to the village. Now, people have to walk down at least one to two kilometers to access the forest.

In spite of decline in the forest coverage, it enormously benefits the people of Annapurnapurvillage, especiallyit fulfills the fuel wood and timber requirements of the families from'Gudia' and 'Pana' community residing in the village. Timber collected from the forest is mainly used for construction of their houses. Apart from these produces, people especially women from Scheduled Tribe and Scheduled Caste communities collect NTFPs like Kendu, Kendu leaf, Mahula, Tola, Khajuri, Chara, Kanda, Mushroom, Karadi, Harida, Bahada, etc. which are used by them for self consumption as well as for selling in the local market. Earlier the forest produces were plentily available which have considerably declined now.

Animals and birds are also hardly seen in the forest now. Around 30 years before, tiger, elephant, bear, deer, rabbit, wild boar, jackal, wolf, peacock, vulture, kite, pigeon, parrot, etc. were found in the forest. Now, only rabbit, wolves, elephant, jackals, peacock, pigeon, parrot, etc. are seen in the village forest.

House & Electricity: Most of the houses in the village stay in thatched houses constructed with brickand mud-plaster. Few families have access to full Pucca houses to stay. The village has got electricity connection and except a few families, most of the houses have electricity in their houses.

Drinking Water: The village has various water sources or facilities to cater to the daily requirements of people and the needs of livestock owned by people. The families in the village have at least 16private wells and one private tube well used for drinking and washing purposes. One of the16 private wells is not in usable condition. Apart from these water sources, the village has 2community wells, 2community

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tube wells / hand pumps, 5 ponds and 1 creek facility. The water of community wells and tube wells are mainly used for drinking and washing purposes whereas the ponds, river and creek in the village are used for the use of cattle. Except river, creek and pond, rest of the water sources give water to people in the village throughout the year. Availability of water during summer season is not a problem to people residing in the village.

Irrigation: Lack of irrigation is a major problem faced by farmers in the community. Government has taken no initiativesto facilitate irrigation for the village people in this area. There is a *'Bandha'* in the upper part of the village, which is used by the village people for irrigating their lands during rainy days. Thus the village farmers are largely dependent on the rainfall for irrigation purpose. Apart from this, there are 4 dug-wells available in the farms to irrigate the lands.

Education: The village has hardly any facility for education excepta single Primary School where children are educated upto 5th standard. For high school education, children here normally depend on the high schools in 'Kusumjodi' or 'Aluahjarana' village. For higher and technical education, the students here go for the nearby colleges present in Pandua, Kamakhyanagar or Dhenkanal.

Health: The Government has established oneAnganwadi Centre and has provided anASHA worker in Annapurnapur to cater the health and nutrition requirements of people in the village. The AWCs provide pre-school education, growth monitoring and supplementary nutrition to pregnant, lactating women and children below five years. The ASHA takes the patients to nearest sub-center or PHC located at Anlaberini and does the Antenatal and Post-natal check-ups, Immunization and also distributes medicinesthere for some common illnesses. For treatment of their minor & major illnesses and delivery of pregnant women, people prefer to go to CHC located in the Block Head Quarter and DHH at Dhenkanal. Some people also prefer to get treatment from the private hospitals of Kamakhyanagar and Dhenkanalfor certain health issues.

Road and Transportation: Currently there are no difficulties in road communication / transportation to Annapurnapur village. The village has Pucca road connection from both the Block Head Quarter and the District head quarter. But the villagers have to travel 1km distance to catch the bus as the bus stoppage is located at Aluajharan village (1km from Annapurnapur). Apart from bus, other facilities like Auto, own scooter/motor bike and cycle are used by people for transportation. The whole village has pucca road connectionsall over it. So there is no problem faced with regard to the road and transportation by people in the village.

Burial Ground: For the purpose of burial or cremation, there are sites earmarked, differentiated on the basis of castes. Water facility is available near the burial ground for performing the rituals. Some families bury the dead bodies at river and canal side.

Drainage Facility: The village has no drainage facility, which leads to water logging during rainy season. As a result, people find problem to move inside the village particularly during the rainy season.

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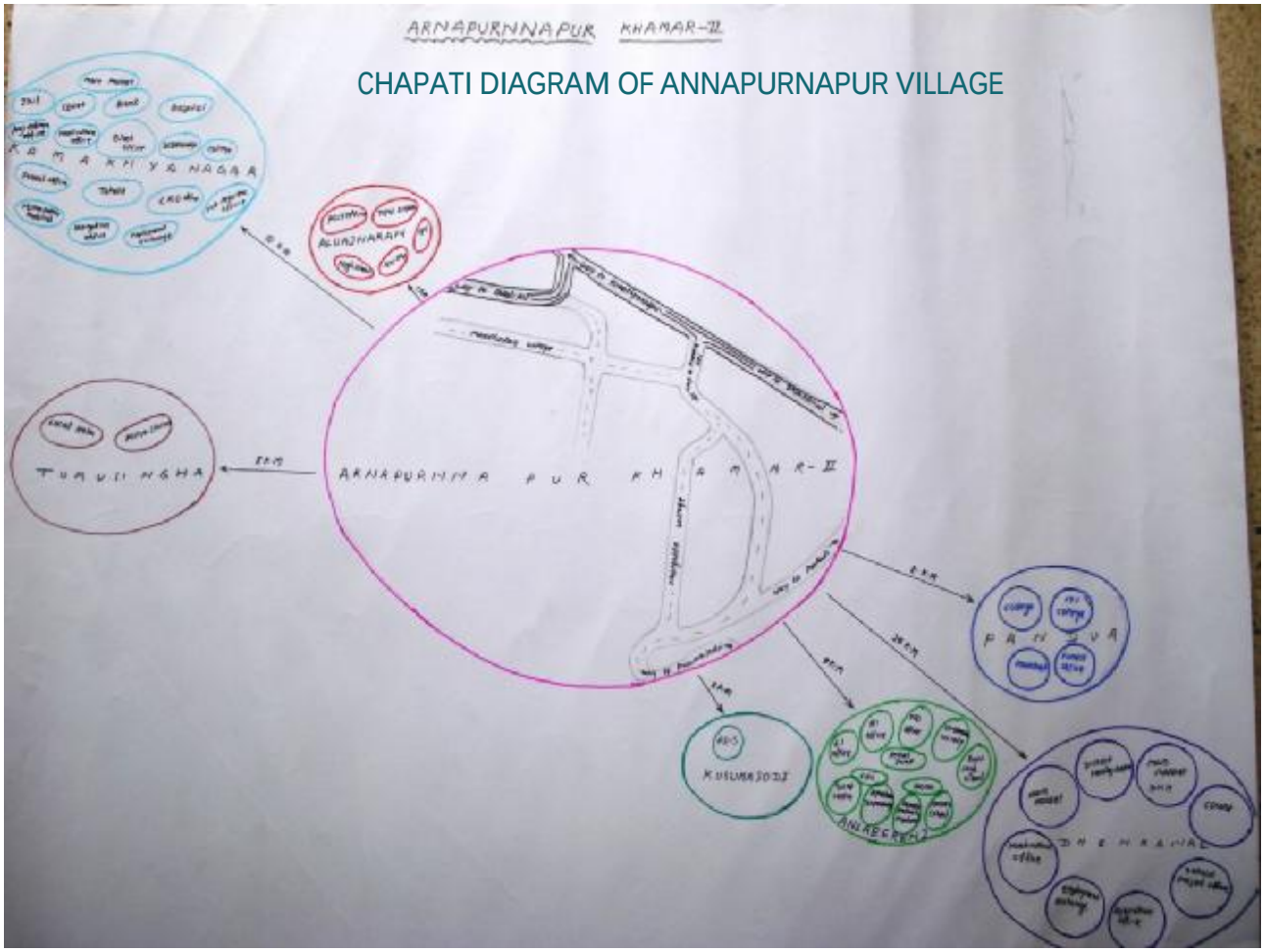
Market Facility: Weekly market takes place at Anlaberini located at 5km distance from Annapurnapur. Many merchants come from far away to the weekly market for selling of their materials. People normally depend on village market for purchasing vegetables, food grains and other daily consumption needs. People also depend on the other traders in the village for shopping the daily requirements of the family.

Public Distribution System (PDS): On behalf of Government, the villagers get PDS items like rice, wheat, sugar, etc. at a subsidized rate at the Gram Panchayat office located at Kusumjodi village (3km distant). In total 6families are provided BPL rice. There are also 1familiy each provided with rations under Antodaya and Annapurna Yozana respectively. All these govt. services including various pension



schemes like oldage pension (9 households), widow pension (10 households), disability pension etc. are availed from the Gram Panchayat office at Kusumjodi.

Extension Services and Facilities: The extension services provided by Government for agriculture and horticulture are made available from the Agriculture / Horticulture office located at Anlaberini (5kms distant to Annapurnapur). Revenue Inspector office is also located at Anlaberini and the tehsil office is located at the block Head Quarter Kamakhyanagar, where the villagers go to avail land related

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services.Nearest police station to Annapurnapur is located at Tumusinga (7kms from Annapurnapur) and postal services are availed at nearest post office at Aluajharan village (2kms from Annapurnapur).

More details about the places visited and distances covered by the people of Annapurnapurvillage for accessing various public and private institutions are presented in the Chapati Diagram.

3.1.6 Religious Places in the village and Festivals / Functions observed by villagers

All the families in the village profess Hinduism. As many as two religious places exist within the village namely Maa Mangala temple and Bhagabat Gadi, where the villagers gather every evening to listen to the holy Odiya book 'Bhagabata'.

The major festivals observed by villagers are as follows:

Sl. No.	Festival/Function	Observed Day	Purpose
1	Dola Parba	February	Wellbeing of people
2	Agni Utsab	February	Better Agricultural Production
3	Raja Parba	June	
4	Makara Parba	April	
5	Gajalaxmi Puja	October	Matrupuja

3.1.7 Support Services received from Government

The various support services availed by individuals / households are presented in the table below:

Sl. No.	Program	No. of Households
1	Annapurna (PDS)	1
2	Antodaya (PDS)	1
3	BPL Rice	6
4	IAY	2
5	Old Age Pension	9
6	Widow Pension	10

3.1.8 Needs and Problems of the Community

- Provision of proper drinking water facilities in the village
- Provision of irrigation facility
- Provision for health facility
- Provision for qualitytechnical education
- Allotment of Patta for encroached land

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- At least one job provision for each affected family
- Payment of Rs. 30 lakh per acre as compensation for acquisition of agriculture land
- Electricity provision to each family
- Providing all the entitlements to the displaced families as per the norm
- Vocational and income generating training to women for making them self-dependent
- Provision for Higher education on behalf of OTPCL
- Free of charge service in electricity, drinking water and medical services to R&R colony
- Infrastructural facilities like playground, club house and separate community house for females
- Separate pension service for old-age people
- Lands should be provided in exchange of lands
- Proper value settlement for the families who have acquired government land and the trees inside it

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CHAPTER - IV

4. Socio-Economic Status of Displaced and Affected Familiesand their Resettlement & Rehabilitation Preferences

The socio-economic survey of the displaced and affected families was carried out keeping into account the Odisha Resettlement and Rehabilitation Policy, 2006. Since the Policy specifically necessitates survey and identification of Displaced and Affected Families, the socio-economic status and R&R preferences of these two categories of families are presented hereunder in separate sections.

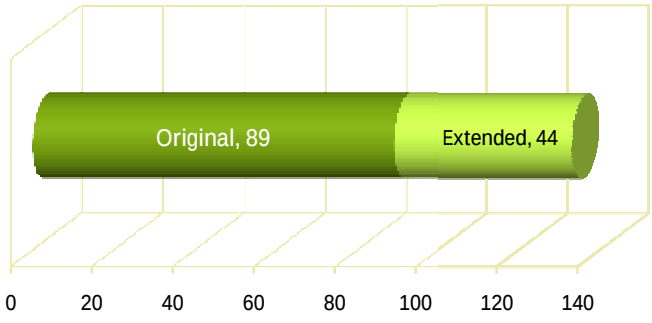
But, looking at the operational aspects of the OTPCL project into account, the survey has prepared another two volumes of this report viz. Volume II and Volume III. Volume II presents entitlement matrixes and land loss intensity separately for displaced and affected families as per Odisha R&R Policy. Volume III of this report presents all the data tables generated for analyzing socio-economic status of displaced and affected families.

4.1 Socio-Economic Status of Displaced Families

4.1.1 Families Displaced by the Project

The survey has identified that OTPCLproject in DhenkanalDistrict of Odisha will be displacing a total of 89Original families from one village namely Annapurnapur.

Chart 4.1.1 Number of Displaced Extended (Original + New) Families



*As per the classification of separate family outlined in the Odisha R&R policy (2006), such as major sons regardless of marital status, unmarried daughters / sisters above 30 years of age, widows and woman divorcee, etc., 133Separate families have emerged from 89original DP families identified under the survey. These 133 Separate families include 89 Original Families and 44 Extended Families.*In all, (the original and new families added together), 133 separate (original + extended) families will be displaced from Annapurnapurvillage under OTPCLproject.

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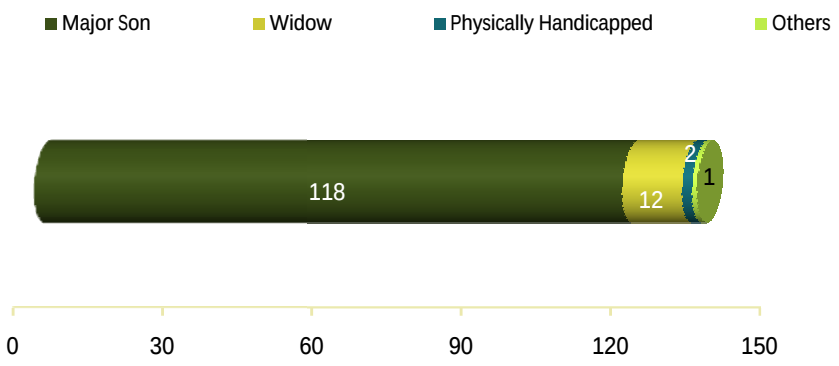
4.1.2 Classification of Displaced Families as per 'Separate Family' norm of Odisha R&R Policy 2006

The 133separate families identified in the survey comprise of 118 (88.7%) Major Sons, 12 (9.0%) Widows and2(1.5%) Physically/Mentally challenged families.The other single family is amarried daughter having RoR.Detailed category wise list of separate displaced families is presented in the Volume II of this report.

Chart 4.1.2 Category Wise No. of Displaced Separate Families



The twoseparate families, exclusively identified as physically/mentally challenged personshave disability certificate with more than 40% disability.

4.1.3 Demographic Profile of Displaced Families

4.1.3.1 Gender wise distribution of Displaced Persons and Respondents

Out of the 133separate displaced persons identified under the project, majority i.e. 118(88.7%) are men and only 15(11.3%) are women. *The distribution is highly skewed in favour of men.*

Chart 4.1.3.1.a Gender of Displaced Persons

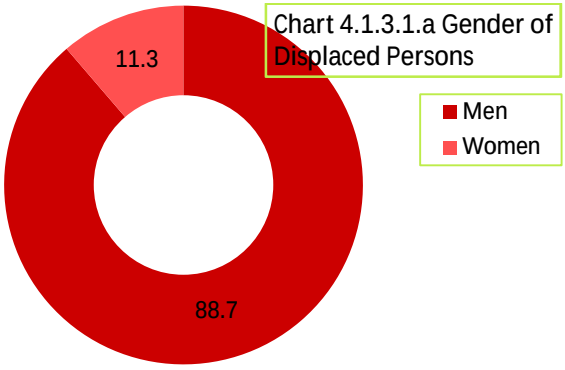
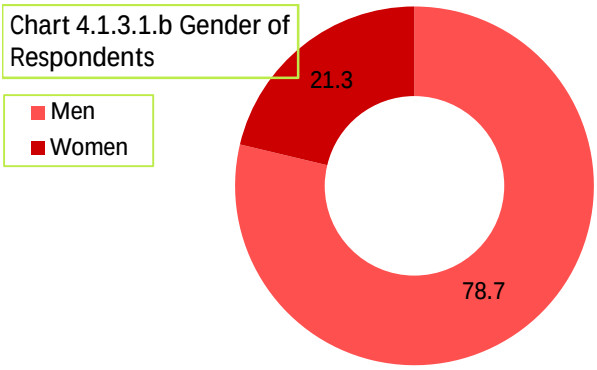


Chart 4.1.3.1.b Gender of Respondents



The gender wise break up of respondents of 89original families shows, highest i.e. 70(78.7 %) are males and the rest 19 (21.3 %) are females.

4.1.3.2 Family Type of Displaced Original Families

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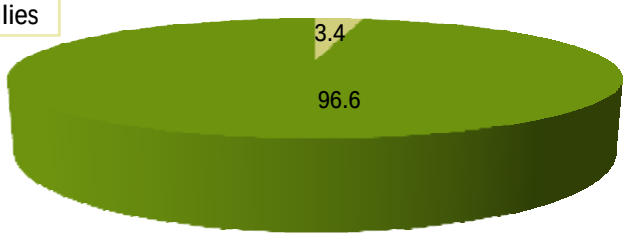
Majority i.e. 86(96.6%) are nuclear families and the rest 3 (3.4%) are joint families. The traditional joint family system is less prevalent among the families in all villages in the project area.

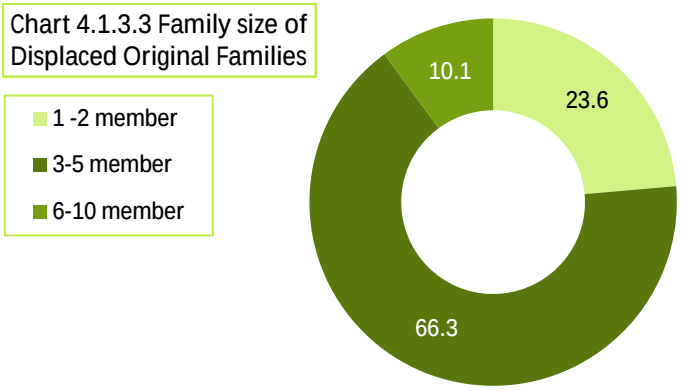
Chart 4.1.3.2 Family Type of Displaced Original Families



4.1.3.3 Family Size of Displaced Original Families

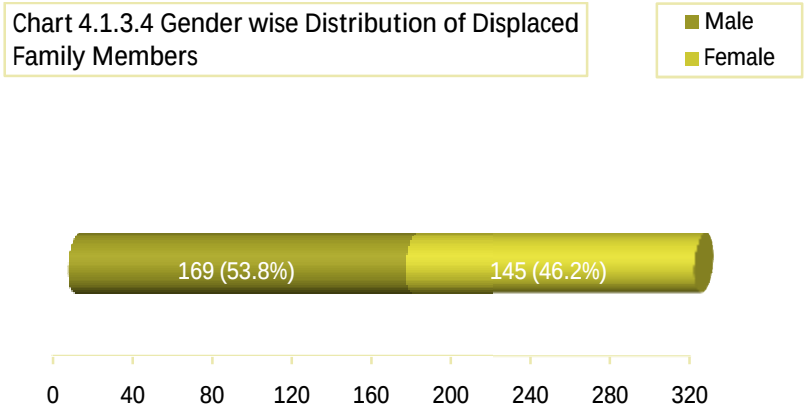
The 89original families identified under the survey have a total of 314family members, @ 3.52 members per family. *The family size is relatively smaller than is normally observed in an agrarian society; large no. of families being nuclear perhaps is the primary reason behind it.*Majority i.e. 59(66.3%) of Original families have family size of three to five members. Only 21 (23.6 %) families have 1 to 2 members and 9 (10.1%) have six to ten members.

Chart 4.1.3.3 Family size of Displaced Original Families



4.1.3.4 Gender-wise Distribution of Displaced Family Members

Chart 4.1.3.4 Gender wise Distribution of Displaced Family Members



The gender-wise break-up of family members shows that 53.8% i.e. 169 out of 314 members are males. The rest 46.2% i.e. 145 family members are females. *The male to female ratio is 1000:858which is much lower in the district (1000:947) as compared to the corresponding figure for the State of Odisha (1000:978).*It indicates greater gender disparity against women in the displaced families in the project.

4.1.3.5 Age-wise Distribution of Displaced Family Members

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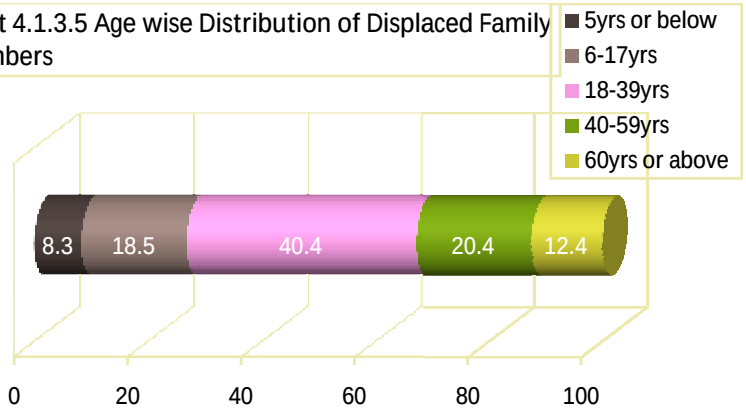
Highest i.e. 127(40.4%) out of 314family members were in the most productive age group of 18 to 39 years. About 50.4% of family members belonging to this age group are males and 49.6% are females. *That around half of the displaced women belong to the economically productive age group is an indication for incorporating appropriate livelihood initiatives in R&R action plan.* Next highest i.e. 64 (20.4%) were in the age group of 40 to 59 years followed by 58 (18.5%) were within 6 to 17 years. Only 39 i.e. 12.4% of the displaced family members were aged or above 60 years of age and 26 i.e. 8.3% are children below 5 years.

The percentage of old - age population of displaced family members in the project area, who are above 60 years of age, is more than twice of those for the State of Odisha, where it is 5.26%. From this one can infer that the people residing in the project areas relatively enjoy better life expectancy than the total population of the State. *So roughly one in eightmen and women live beyond 60 years of age is an indication that while planning for R&R specific attention must be paid to this elderly, and vulnerable category of community.*

Chart 4.1.3.5 Age wise Distribution of Displaced Family Members

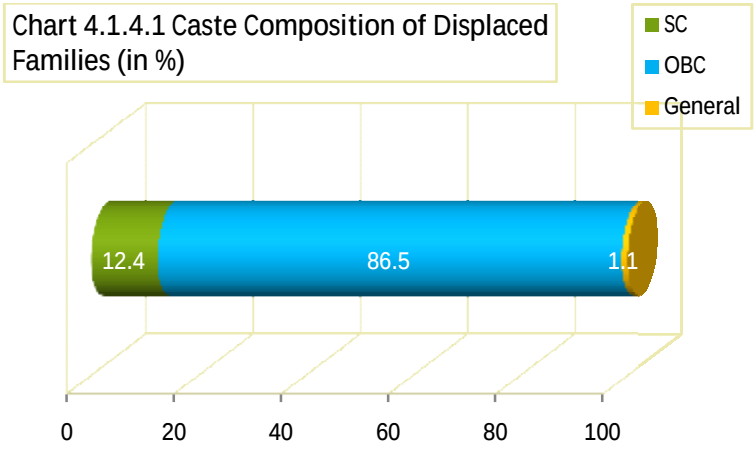


4.1.4 Social Profile of Displaced Families

4.1.4.1 Caste Composition of Displaced Families

More than three fourth i.e. 77(86.5%) out of 89 Original displaced families belong to Other Backward Castes (OBC);11 (12.4%) are from Scheduled Caste (SC)Communities and the remaining singlefamily (1.1%) belongs to General Caste (SC). Interestingly none of the displaced families belong to Scheduled Tribe (ST) communities.

Chart 4.1.4.1 Caste Composition of Displaced Families (in %)



4.1.4.2 Religion of Displaced Families

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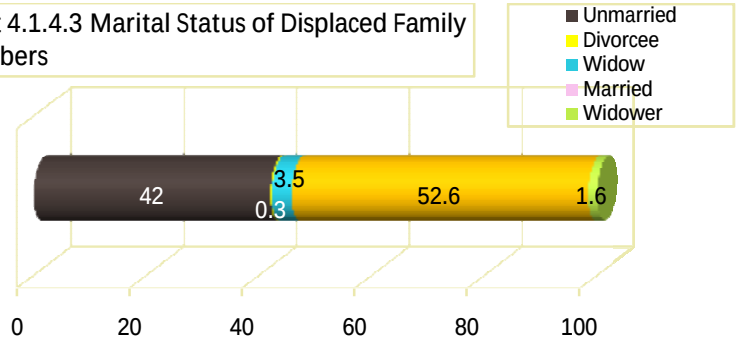
All the89original displaced families practice Hindu religion. None of the displaced families is found from other religions like Christian, Muslim, etc.

4.1.4.3 Marital Status of Displaced Family Members

Chart 4.1.4.3 Marital Status of Displaced Family Members

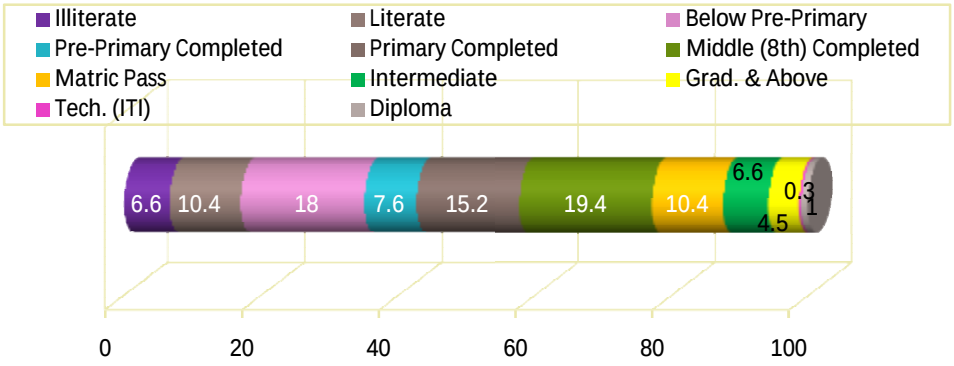


More thanhalf of the displaced family members 165 (52.6%) are married of them 82 (49.7%) are males and 83 (50.3%) are females. Slightly lesser i.e. 132(42.0%) members are unmarried of them 62.1% (n=82) are male and 37.9% (n=50) are female.Widows account to be 3.5% (11 out of 314 members) and Widowers account to be 1.6% (5 members) of the total family members. The remaining family member (n=1, 0.3%) is a divorcee. Among all the family members*the widows and divorcee are considered to be extremely vulnerable due to their dispossession from homestead land, house and other assets who require utmost care and sensitivity on part of R&R team to extend all possible support starting from the provision of homestead land, house, livelihood support, etc.*

4.1.4.4 Educational Status of Displaced Family Members

Out of the total population of 314covered in the study, 25are children who are not going to the school. Out of the remaining 289 displaced family members, 19 (6.6%) are illiterate and 30 (10.4%) are just literates who can only put their signature. As against 15.8% of illiterate males, much higher percentage i.e. 84.2% of femalesare illiterates. It shows, *nearly one-sixthof the displaced personsare pretty much vulnerable due to lack or absence of any formal education. This kind of vulnerability is much worse among women than men.*

Chart 4.1.4.4 Educational Level of Displaced Family Members



The educated family members comprise of highest i.e. 56(19.4%) family members have completed 8th standard, 52 (18.0%) have education below pre-primary (3rd standard) level, 44 (15.2%) completed primary education and30 (10.4%) completed Matriculation / High School (10th Standard).Next highest i.e. 22 (7.6%) have completed pre-primary, 19 (6.6%) completed + 2

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(Intermediate) and 13 (4.5%) are Graduates. Regarding technical qualifications, only 3 (1.0%) persons haveDiploma qualification with them whereas only a single person (0.3%) has completed ITI. Including these 4, the survey enumerated 25 persons among the educated family members who have technical qualifications: 11 ITI, 5 driving, and 1 CT, Computer, Welder and Typist each.

Majority those who have qualification above Matriculation are boys. *That means, greater percentage of boys belonging to displaced families have higher qualifications than girls.*

4.1.5 Asset Holding Status of Displaced Families

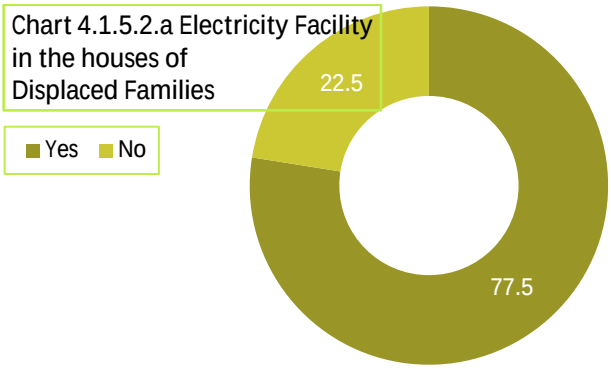
4.1.5.1 Ownership status: Homestead Land

The 89 Original displaced families have a total of 11.2834 acres of homestead land ranging from a maximum of 1.2875 acres to a minimum of 0.0028 acres possessed by a displaced family. *On an average, each original displaced family possesses 0.126 acres or approximately 13 decimal of homestead land.*Regarding the ownership type of homestead land, only 4 (4.5%) out of 89 Original displaced families are either RoR holder of their own land or legal heir of the land. But highest i.e. 81 (91.0%) are joint record holder for their homestead land. 4 (4.5%) families have encroached forest land and 13 (14.6%) have encroached revenue land whereas 18 (20.2%) have occupied other's land for homestead purpose which necessitates further verification by the government to ascertain their eligibility under Odisha R&R Policy, 2006. It is important to note here that some families have multiple types of land ownerships e.g. individual and joint; individual and encroached; joint and encroached; etc.But the survey findings show that 3 have homestead lands in both individual and joint names.

4.1.5.2 Ownership status: House

All the 89Original displaced families stay in their own houses. None of them is found to be having more than one house and staying in rented house. Most of them have single storied houses. All the89families use own houses for living purpose only.

Chart 4.1.5.2.a Electricity Facility in the houses of Displaced Families



The walls of 25(28.1%) out of 89 houses only are made up of bamboo and mud whereas majority i.e. 60 (67.4%) houses are made up of brick and cement. Only the walls of rest 4 (4.5%) houses are constructed in mud only. Majority i.e. 49.4% (44 out of 89 houses) of houses haveconcrete roofs and 64.0% (57 houses) have cement floors. 30 (33.7%) havethatched roof, 13 (14.6%) houses have asbestos roofs, 2 (2.2%) have Khapara roof and 32 (36.0%) have cement floorings.

77.5% (69 out of 89) houses in Annapurnapur village have electricity connection and the rest 20 (22.5%) don't have electricity in their houses.

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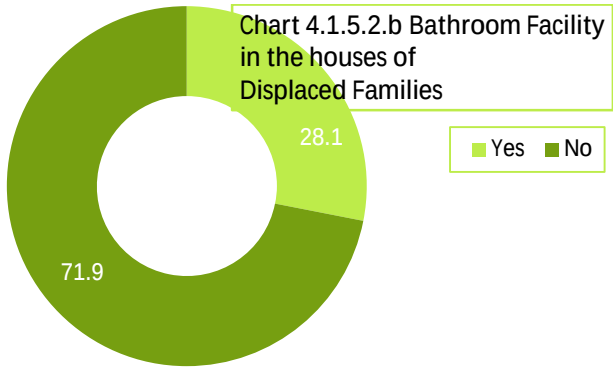
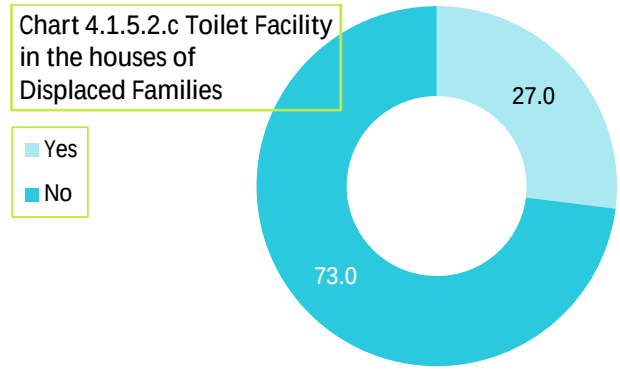
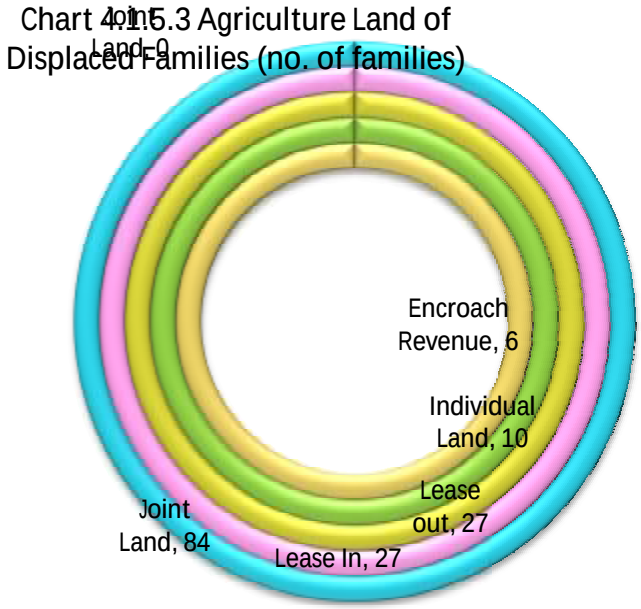




The survey findings also bring out the fact that only 24(27.0%) houses have toilet facility, 25 (28.1%) have bathing facility and only 21 (23.6%) houses have washing place within the house. *Lack of awareness, traditional habits to defecate in open space, etc. could be the reasons behind why people do not prefer to have toilet, bathroom and washing facility in their rooms. During the village meeting, people also informed about lack of piped water supply as the reason behind not constructing toilets and bathrooms in their houses. Therefore, it is important that the houses constructed in the resettlement colony must have water connection so that people are motivated to use toilets and bathrooms rather defecating in open space or bathing in polluted pond water which would help to prevent people from scabies, other skin and water borne diseases and help in keeping the resettlement colony more clean and hygienic.*

4.1.5.3 Ownership status: Agricultural Land



Firstly, it is important to note here that none of the families own irrigated lands. During the village meeting, lack of irrigation source was reported in Annapurnapuras one of their key problems which has significant bearing on agriculture production and their economic status.

Regardless of individual or joint or encroached land, a total of 201.72 acres of agriculture land possessed by the 89 displaced families which come to 2.26 acres per family. Only 10 (11.2%) out of 89Original displaced families are individual record holders for their agriculture land having a total of 9.415 acres of lands in their own names. On an average each family has 0.94 acres of individual land holdings. Majority i.e. 84 (94.3%) have recorded joint land holdings of 98.8

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acres of agriculture land which comes to 1.17 acres of land per family i.e. tenand half times more than the land owned in individual names. *Large quantum of joint land holding is indicative of the traditional land holding pattern of displaced families which has been transferred from one generation to another. A large tract of land being un-irrigated/rain-fed shows the low and absence of any irrigation source in the villages. Both these findings have bearing on the economic viability of farming practices in the affected villages.*

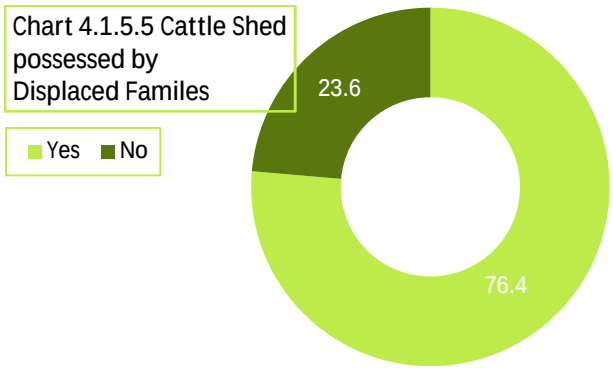
The maximum quantumof land owned in individual names is 4.56 acres whereas the joint land holding is5.51 acres in comparison to 0.94 and 1.17 acres respectively which means *there is a wide disparity in the quantum of agricultural holdings owned by the displaced families*.

The data also reveals that 27(30.3%) families have leased-in 56.0 acres of agriculture land and same number of families i.e. 27 (30.3%) have leased out a total of 26.8 acres of land. The average lands taken and given on lease works out to be2.07 acres and 0.99 acres respectively. More significantly, as many as 6 (6.7%) families have encroached 10.7 acres (1.78 acres per family) of revenue land. *It is clear from the above that quite a good number of displaced families due to marginal and small land holdings have resorted to taking land on lease /encroachment for cultivation.All of these are perhaps an indication that people have tried to take care of food insecurity by cultivating more lands.*

4.1.5.4 Livestock

Bullocks, milch-cows and calves are commonly owned by displaced families of Annapurnapurvillage. Highest i.e. 45(50.5%) out of 89 families own milch-cows followed by 42 (47.2%) families have bullocks, 37 (41.5%) families have calves and 11 (12.3%) families own goats. *On an average, the livestock owned families have 14 goats, 3 cows and 2 bullocks and calves each.* Only a negligible number of families own she-buffaloes and he-buffaloes (1 family each). Apart from these animals, 7 (7.8%) families also own chicken / hens.

In an agrarian society, rearing of livestock by families is a common practice, which helps them in cultivation and also provides them direct income by selling milk and other products. Therefore, business relating animal husbandry can be one of the viable options for economic rehabilitation of families displaced under the project.



4.1.5.5 Cattle Shed

As high as,68(76.4%) of families have cattle shed. *Due to displacement, whether these families would continue to own these livestock is a matter of concern, as reported by ample literature. In case they do, resettlement efforts must consider having facilities to accommodate and maintain this large*

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volume of livestock. The rest 21 (23.6%) of displaced families do not have cattle shed, which could be because they do not have any livestock.

During the visit of survey team to the village, *it was observed that the cowsheds are located within or in-adjacent to the houses which cause breeding of mosquitoes, etc. Livestock rearing is part and parcel of rural families, and hence people have expressed that separate place for animals should be provided in the resettlement site, which is little farther away from their houses.*

4.1.5.6 Trees

Most of the displaced families in Annapurnapurown trees particularly the tribal families. The trees commonly owned are Mango (79 families, 88.7%), Palm& Drumstick (69 families each, 77.5%), Citrus (68, 76.4% families), Banana (63 families, 70.7%), Papaya & Jackfruit (59 families each, 66.3%), Teak & Mahula (57 families each, 64.0%), Guava (50 families, 56.1%), Cashew (46 families, 51.7%), Bela (40 families, 44.9%), Neem (37 families, 41.5%), Bamboo (35 families, 39.3%), Kendu & Gambhari (32 families each, 35.9%), Sal (27 families, 30.3%), Coconut (23 families, 25.8%), Custard apple (21 families, 23.6%)etc. which not only provided them produces for household consumption but also provide them income. Date, Barkoli, Jamu, Simili, Potash, Akasia, Chakunda etc. are other important trees mostly owned by families.

Trees also have emerged as an important source to supplement not only income but also nutritional requirement of these households. In total, the displaced families own more than 30,000 trees, which clearly indicate the significance of trees in their lives. These families can either be resettled in places closer to forest areas or plantation activities can be undertaken in the resettlement site to create the greenery cover.

4.1.5.7 Productive and Domestic Assets

The displaced families in Annapurnapur mostly own productive assets like bicycle, plough, bullock carts, pump-sets, etc.54 (60.6%) families have a total of 79 ploughs. 41 (46.0%) families have bullock cart, 28 (31.4%) families have pump set,23(25.8%) families have sprayers and only 2 (2.2%) own power tillers. *Farm mechanization is hardly evident among the displaced families who depend more on traditional method of cultivation.*

Apart from farm related assets, only 27(30.3%) families have motor bike, 6 (6.7%) families each have sewing machines and 4 (4.5%) have jeep/trucks which clearly indicates that *very few persons are engaged in manufacturing or service oriented business or trading such as travel agency, TV/VCR repair, tent houses, etc., as hardly any such productive assets were owned by people.*

The domestic assets which are possessed by maximum families have bi-cycle (73families, 82.0%), clocks (64 families, 71.9%), fans (62 families, 69.6%), mobile phones (70 families, 78.6%), TV/VCD (45 families,

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50.5%), stoves (31 families, 34.8%), LPG Gas (21 families, 23.6%), refrigerators (19 families, 21.3%), cooler (12 families, 13.5%), radio (10 families, 11.2%), washing machines (5 families, 5.6%), etc.

4.1.6 Acquisition of Assets of Displaced Families

4.1.6.1 Acquisition of Homestead Land

The homestead land of 89 displaced original families, which amounts to approximately 11.2834 acres (some families could not inform the amount of homestead land acquired) out of which 9.4104 will be acquired by the project.

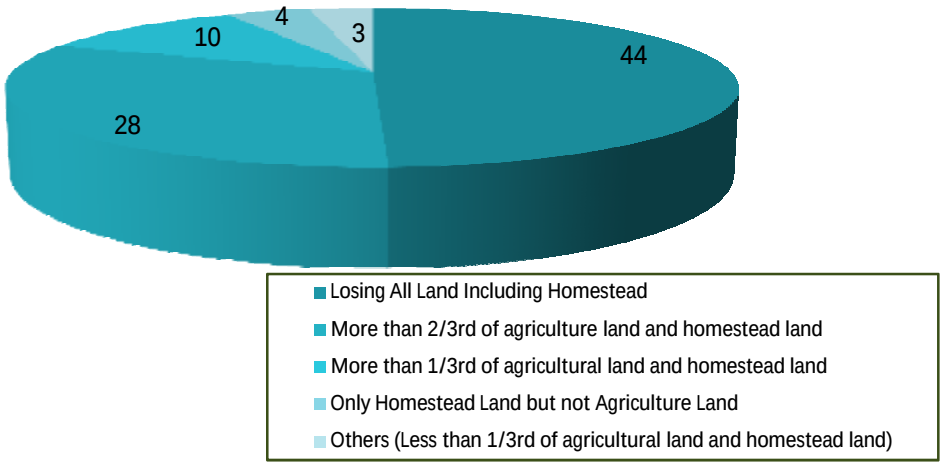
4.1.6.2 Acquisition of Agriculture Land

The total agricultural land which will be acquired works out to be 80.15 acres (including the leased out land) out of the 201.72 acres of agriculture land owned by 89 displaced families. None of the families will lose their encroached forest and revenue land due to acquisition of land under the project. On an average, the size of agriculture land acquired per family works out to be little less than 1.0 acre.

4.1.6.3 Intensity of Land Loss

The Odisha R&R Policy lays stress on the intensity of land acquisition, and links it with the preference for employment or cash in lieu of employment, in the case of industrial and mining projects. The survey finding reveals that out of the 89 displaced families, almost half of displaced families i.e. 44 (49.4%) are losing all land including the homestead land. 28 (31.5%) families lose more than 2/3rd of agriculture and homestead land; 10 (11.2%) lose more than 1/3rd of agriculture and homestead land, and homestead land and 4 (4.5%) lose only homestead land but not agriculture land. The rest 3 (3.4%) do not fall under any of the five land loss intensity categories mentioned in the Odisha R&R Policy for the industrial project who lose less than 1/3rd of agriculture land.

Chart 4.1.6.3 Land loss intensity of the displaced families



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The survey also found, there are 5 (5.6%) families in addition to losing above mentioned recorded homestead landalso lose encroached revenue land used for homestead purpose.

4.1.6.4 Acquisition of Other Assets

In addition to homestead and agriculture lands, the other assets of displaced families acquired are house (87 families, 97.8%), cattle shed (82 families, 92.1%), trees (86 families, 96.6%), open well (66 families, 74.2%) and pond (9 families, 10.1%).

4.1.7 Occupational Status of Displaced Families

Around 38.2% of displaced family members (120 out of 314 members) pursue any occupation for earning an income or livelihood for the entire family. The rest 194 (61.8%) family members do not earn any income and are dependent on the earning members of their family. These dependents are basically children / adolescents below 18 years, house wives and aged people.

Among 120 earning family members, highest i.e. 36(30.0%) are doing private jobsfollowed by 33 (27.5%) earn their major income from cultivation. Next i.e. 19 (15.8%) depend on oldage / retired pension as an income source for living. The next major source of income is non-farm based wage earning, govt. jobs (8 members, 6.7%), trading business (5.8% i.e. 7 members), service-based business (4 members, 3.4%)andfarm based wage earning (1.7% i.e. 2 members).

Gender wise desegregation of main occupations pursued by displaced family members show greater involvement of male members in comparison to females in occupations such as cultivation and non-farmwage labour (100.0% are males). In contrast, the farm wage-workers are females (100.0% females). *The displaced family members in Annapurnapurvillage have clear division of labour / occupations between men (cultivation and non-farm labour) and women (farm wage labour). This reveals clearly that a traditional society, which is predominantly tribal, distinguishes gender role in various productive activities.*

Although 38.2% of the family members pursue different occupations, about 72.5% of them do not have any subsidiary occupation. In other words, these 72.5% depend only on single income source. The others, i.e., 27.5% are engaged in various subsidiary occupations to supplement the household livelihood. Agriculture (15.0% i.e. 18 family members) followed by non-farm based wage labour (5.8% i.e. 7 family members) and farm based wage labour (3.3% i.e. 4 family members) are pursued as subsidiary occupations by highest number of family members. As against 10.8% of displaced family members do wage earning as main occupation, almost half i.e. 9.1% do the same as subsidiary occupations. *Subsistence agriculture and lower income from NTFP selling could be the reasons as to why as many as 86.5% of displaced family members have to do daily wage earning (farm and non-farm based wage) as main or subsidiary occupations to take care of their livelihood.*

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4.1.8 Income Earned by Displaced Families from different Occupations

4.1.8.1 Agriculture Production and Income

Agriculture is one of the key occupations pursued by almost all the displaced families of Annapurnapurvillage. While 27.5% of family members get major income from agriculture, the survey findings show that except 15 (16.9%) families the rest 74 (83.1%) out of 89 Original displaced families were engaged in agriculture during last year preceding the survey. Again out of the 74 families engaged in agriculture, 27 (36.5%) families shared / leased out their lands to others for cultivation during the preceding year. The rest 47 (63.5%) displaced families themselves cultivated lands of their own and / or taken on lease / share / mortgage.

Land Areas brought under Cultivation: The 47 displaced families cultivated a total land area of 108.80 acres during Kharif season of last year. On an average, each family cultivated 2.31 acres of agriculture land during the Kharif season. Less than half i.e. 48.05 acres of land was cultivated by a total of 45 (95.7%) familiesin Rabi season which comes to 1.07 acres per family respectively.Only one family cultivated 1.40 acres of plantation land in Annapurnapur.But, none of the displaced families cultivated during summer season. *Lack of irrigation was attributed by people as the reason behind not cultivating during the summer season.*

Season wise crops cultivated: Being the staple diet of families in rural Odisha, paddy was grown as the principal crop by the displaced families i.e. 47 (100%) families of Annapurnapur village during Kharif season. As many as 3 families (6.4%) cultivated maize and a single family (2.1%) cultivated sugarcane during Kharif season.

Most of those 45 families who cultivated during Rabi season went forgreen garm (32 families, 71.1%), Potato (24 families, 53.3%), Brinjal (22 families, 48.9%), Tomato (15 families, 33.3%), Black gram (10 families, 22.2%), etc. Paddy which requires lot of water was not grown by families during Rabi season.

Gross value of agriculture production: Including the production received from leased out / shared out lands, the average annual gross value of production was Rs. 54,988/- per family only with a maximum income earned by a family ranges from Rs. 1,82,500/- to a minimum gross value of Rs.8,000/- only.

Cost incurred on agriculture: The average annual cost incurred towards cultivation works out to be Rs.16,987/- per family which only includes all the explicit costs incurred on agriculture like purchase of seeds, fertilizers, transportation costs and payment to hiring of labourers, etc. The average highest cost i.e. Rs.7,548/- was incurred by 27 (57.4%) families on taking land on lease / share / mortgage. Next major cost was on hiring of labours (Rs.5,167/-) followed by cost on interest on loans (Rs.4,000/-),fertilizers (Rs.3,453/-), Sale / Marketing cost (Rs.2,500/-), purchase of seeds (Rs.1,807/-),

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transportation cost (Rs.1,369/-), water (Rs.1,117), tool/equipment (Rs.769/-) and pesticides cost (Rs.704/-), etc.

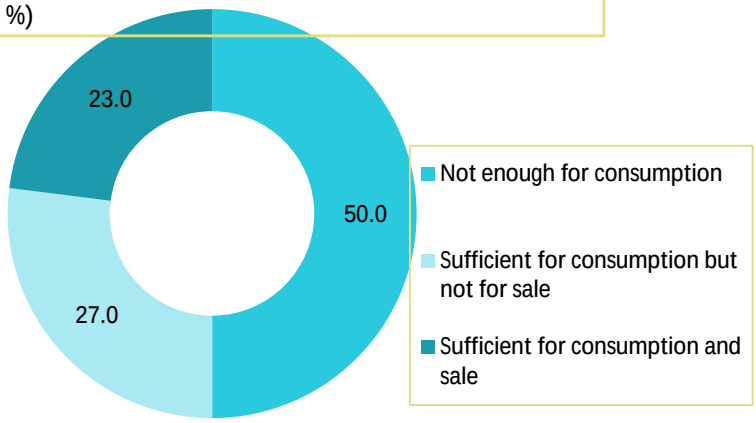
However, it is important to mention that the above cost break-up does not include the implicit costs e.g. use of own labour by members of displaced families. During the interaction with families it was clear that both male and female members including children of the family are engaged in various agricultural activities. Agriculture being the most labour intensive occupation, the entire displaced family members have to be engaged in the agriculture field and give their labour. Thus, the average cost of Rs.16,987/- per family spent on agriculture would escalate to a great extent if the implicit costs are included in the same. Therefore the actual income from agriculture would be much lesser if both explicit and implicit costs on agriculture are deducted from the gross value of agriculture production.

Net Value/Income from Agriculture Production: The net value of agriculture production / income works out to be only Rs.25,909/- after deducting the explicit cost of Rs.16,987/- from the gross value of Rs.54,988/-.

If the total land area brought under cultivation is kept into account, the net value of agriculture production received is found to be low. Factors such as lack of irrigation, low productivity of lands, decline in soil quality due to increased use of fertilizers, lack of use of modern technologies and hybrid seeds, less importance to cash crop cultivation, etc. are some of the reasons that lead to low agriculture production. If the implicit costs are deducted from the gross value of agriculture production, one can understand how agriculture is un-remunerative for the displaced families of Annapurnapur village.

Adequacy of Agriculture Production to meet the Household Consumption Need: The survey attempted to know whether the food grains produced from agriculture are sufficient to meet their annual household consumption need. *Exactly50.0% i.e. 37 out of 74 families informed that quantum of food grains produced does not meet their annual consumption need of the entire family which leads to food insecurity experienced by these families. Due to which people look for wage earning and other income earning opportunities to fulfill their family needs.*20 families (27.0%) reported about sufficiency of food grains to meet annual consumption requirement, however, these families do not get any surplus to sell in the market. Although these families get sufficient food grains, during emergencies and for purchasing other daily household requirement

Chart 4.1.8.1 Adequacy of Agriculture Production to meet HH Consumption Need of Displaced Families (in %)



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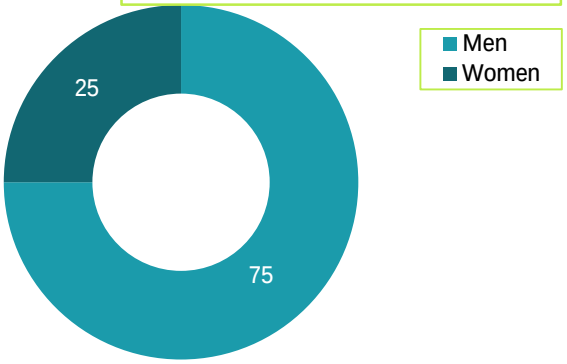
the same are sold out. Only the rest 17 (23.0%) families are not only able to fulfill their consumption requirements but also get surplus produces to sell in the local market.

4.1.8.2 Wage Earning

Farm based wage earning: Wage earning in agriculture is not considered as a major source of income in Annapurnapur, which is reflected from the data collected in the study. Only 8 members from 6 families (6.7%) depend on farm-based wage earning for livelihood in Annapurnapur, out of which 6 (75.0%) are males and the rest 2 (25.0%) are females.*Particularly women labourers are preferred for agriculture activities like sowing, planting, plucking grass, harvesting, etc. which are less labour intensive in comparison to other activities like ploughing, land preparation, etc. for which men are more preferred.*

Chart 4.1.8.2.a Gender break-up of Displaced Family members engaged in agriculture wage



On an average, each person was engaged for only 62days in agriculture wage in last year, which is because of seasonal nature of agriculture done in the village. All the 6 families were engaged in agriculture wage labour for a period of52 days within the village. Only 1 (16.7%) family had to go outside the village for the same, which on an average gave 60 days of engagement. Irrespective of agriculture wage within and outside the village the average income earned by each family works out to be only Rs. 6,258/- in a year.

Non-Farm Wage Earning: In comparison to agriculture wage (6 families, 6.7%), more number of families (13 families, 14.6%) were engaged in non-farm wages like road construction, house construction, etc. The number of family members engaged in non-farm wage labour (20 members i.e. 19 males, 95.0% and 1 female, 0.5%) is found to be more than twice of the farm based wage labour (8 members i.e. 6 males, 75.0% and 2 females, 25.0%). It clearly shows that irrespective

Chart 4.1.8.2.b Gender break-up of Displaced Family members engaged in Non-Agriculture Wage

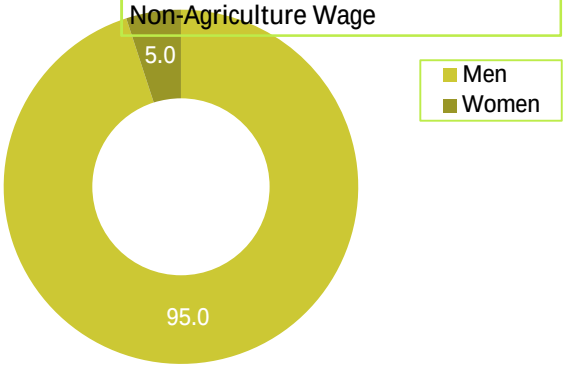
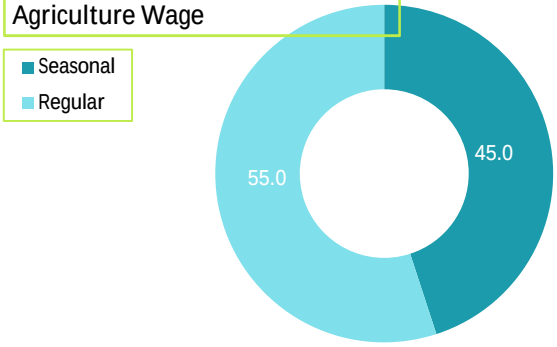


Chart 4.1.8.2.c Availability of Non-Agriculture Wage



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of farm or non-farm based wage earnings,engagement of women in wage earning is found to be quite negligible in the village.

55.0% of family members(11members) reported regular availability of non-agriculture wage whereas the rest 45.0% (9 members) indicated seasonal availability of the same. Of late, with the introduction of National Rural Employment Guarantee Scheme (NREGS), the non-farm wage earning opportunities has sprung up for which there is regular availability of wage employment in the area.

Displaced families got more days of non-farm wage outside the village (163 days) than within the village (59 days). *The total average days of engagement in non-farm wage comes to 169 days in a year which is twoand half times higher than the agriculture wage (62 days). Accordingly, the average income earned from non-farm wage (Rs.26,565/- per family) works out to be at least 4 times higher than the agriculture wage (Rs.6,258/- per family). The survey team also found that the non-farm wage rate is almost double the wage received for agriculture labour per day.*

4.1.8.3 Business (Manufacturing / Production, Service and Trading)

Only 12 (13.5%) displaced families are engaged in different business activities in Annapurnapur. While business is a very profitable venture, engagement of few families in the same indicates about their lack of knowledge and idea on undertaking business activities. Out of 12 families, 50% i.e. 6 families are engaged in trading related business whereas4 families do service related business. 2 families do production/manufacturing based business for livelihood. Trading business undertaken by families includes Grocery shop, betel shop, variety store, cloth store, medicine store, etc. (1 family each). Transport (2 families), digging wells and garage (1 family each) are the service sector businesses undertaken by the displaced families. Production / Manufacturing related business undertaken by families include poultry.11 (91.7%) out of 12 families do the business throughout the year.

Chart 4.1.8.3.a Displaced Families Engaged in Business (in %)

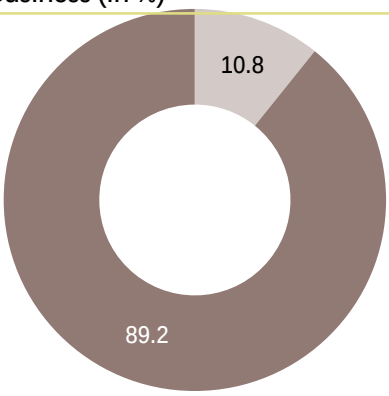
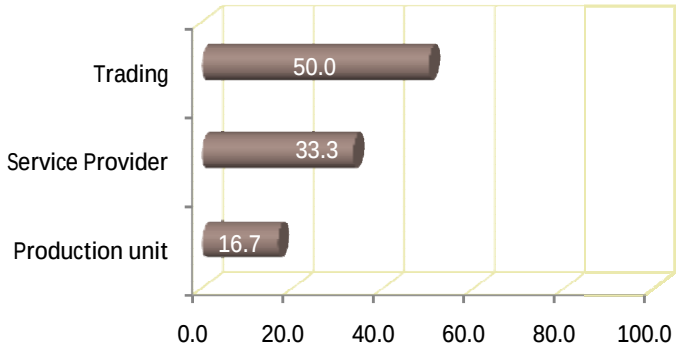


Chart 4.1.8.3.b Nature of Business undertaken by Displaced Families (in %)



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The average amount of money invested in business comes to Rs.4,93,517/- per family. Apart from initial investment, the average annual cost incurred on procurement of raw materials comes to as high as Rs.1,793,917/-. In return, each family doing business received an average gross income of Rs.2,151,850/- per family during last year. That means the net income earned by families from business comes to Rs.3,57,933/- after deduction of cost incurred on business from the gross income.

In comparison to the initial amount invested and annual cost incurred for procurement of raw materials, the net return of Rs.3,57,933/- received by families seems to be quite less. Nonetheless, it is important to mention that business has provided at least 13times higher income than both agriculture and non-farm wage labour. Thus, it would be prudent to promote business among the displaced families for their economic rehabilitation. However, the major challenge would be to develop an entrepreneurial culture or business acumen among the displaced families so that more and more families show interest in taking up various production, trading and service sector businesses.

4.1.8.4 Income from Animal Husbandry

Although a vast majority of households were found to be owning livestock, relatively lower number of families considered them as income generating assets. Out of 89 displaced families, only 10 (11.2%) earned any income from rearing livestock. Highest i.e. 5 families earned income by selling goats.3 displaced families earned income by selling cow milk and 2 families by giving bullocks on rent. Only a single family earned income by selling chicken/hens. The average annual earning per family from animal husbandry works out to be Rs.14,360/-.However, income wise selling of goats gave the families highest average income of Rs.22,280/-per family during last year. Giving bullocks on rent fetched them the next highest average income i.e. Rs.8,300/- followed by income from dairy business / selling milk i.e. Rs.5,000/- and hen/poultry selling i.e. Rs.600/-during last year preceding the survey.*This is yet another important finding which must be taken into consideration for economic rehabilitation of displaced families. Particularly, promotion of dairy and goatery can be undertaken among the displaced families as lucrative self-employment ventures. Livestock promotion would not only help in earning an income but also provide support in undertaking agriculture.*

4.1.8.5 Income from Selling of Forest Produces

Very few families (4 families, 4.5%) are found to be engaged in NTFP collection in Annapurnapurfor their livelihood. Generally these families collect NTFPs from the forest and sell in the local market. The average annual earning of these families from selling forest produces comes to Rs. 6,525/- per family. The forest produces collected are Mahula, Tola, Mango, and Kendu leaf.

None of the families in Annapurnapur process the forest produces to produce any value added product. Hence they don't get any further income from the forest produces apart from collecting these from the forest and selling in the market.

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4.1.8.6 Income from Own Trees

Major sources of livelihood such as agriculture and wage earning do not provide adequate income to the families; hence they try other means to supplement their family income, and one such source is the trees. In one of the sections reported earlier, various types of trees and no. of each type of trees were enumerated. In this section, the income earned by the displaced families from trees is discussed.

Trees provide supplementary income to majority of the displaced families. As many as 51 (57.3%) out of 89 displaced families earned an income from the trees possessed by them. The average annual income earned from own trees was Rs.12,751/- per family. *In addition to adequate compensation for the own trees acquired in the project area, replenishing the type of trees in and near resettlement sites can be considered as a suitable measure, in order to bring benefits to the resettlers in the long run.*

4.1.8.7 Income from Productive Assets

Only 4 (4.5%) of the displaced families could manage to earn direct income from the productive assets owned by them although a large number of displaced families own different type of productive assets. Yet the average annual income from productive assets stands at Rs.37,500/- per family which is higher than both agricultural income (Rs.25,909/- per family) and non-farm wage earning (Rs.26,565/- per family).

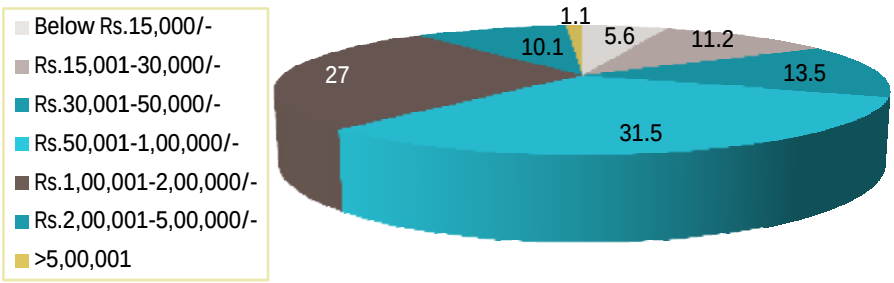
4.1.8.8 Income from Other Sources

Apart from families earning income from different sources mentioned above, there are some other sources like salaried job, pension, etc. which fetch a good income to 47(52.8%) families. The average income earned from other sources works out to be Rs.89,511/- per family. Highest i.e. 35(74.4%) out of these 47 families do salaried job who earned an average annual income of Rs.1,16,257/- per family during one year preceding the survey.

4.1.8.9 Net Annual Income of Displaced Families

The 89original displaced families have 314 persons out of them 120 earnedan income during one year prior the survey. That means, an average of 1.3 persons per family earnedan income. Since there are more number of earning members in the family, the average net annual income from all sources works out to be little higher i.e.

Chart 4.1.8.9.a Income Range of Displaced Original Families



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Rs.1,33,467/- per original family. However, *the average annual net income per earning member in the family works out to be only Rs.98,988/-.*

The maximum and minimum income earned by original families ranges between Rs.2,874,000/- and Rs.3,600/-. The modal range of income earned is within Rs.50,001/- to Rs.1,00,000/- by 28 (31.5%) displaced families for which the average income of displaced families stands within the same range of income. Next highest i.e. 24 (27.0%) families earned an income ranging from Rs.1,00,001/- to Rs.2,00,000/- followed by 12 (13.5%) families earned within Rs.30,001/- to Rs.50,000/-, 10 (11.2%) earned Rs.15,001/- to Rs.30,000/- and 9 (10.1%) earned Rs.2,00,001/- to Rs.5,00,000/-. The survey results also show that there are 5 (5.6%) families earned less than Rs.15,000/- per annum and a single family earned more than Rs.5,00,000/- per annum.

While the annual average income of original displaced families stands at Rs.1,33,467/-, as many as 60% i.e. 96 out of 89 displaced original families are found to be BPL card holder. Enumeration of BPL families was done around 13 years (i.e. in the year 1997) prior to this survey. This could be one of the reasons for the paradox. Since 13 years time is long period, there is every possibility that the income of families has gone up during the same time. But the higher income earned by them is not getting translated in improving their economic status as a sizable portion of their income is spent by them on feasts and consumption of country liquor. Thus, counseling and awareness generation programs among the displaced families are essential for judicious utilization of income which is hard-earned by them.

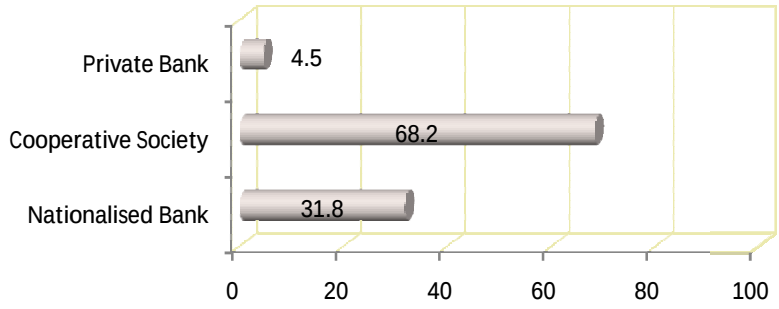
4.1.9 Support Services Received by Displaced Families

The survey also attempted to know whether the displaced families have received any kind of financial or non-financial support from various public and private sector agencies. The idea behind this is to not only assess the service availability but also service accessibility of displaced families.

4.1.9.1 Credit / Loan support to the Displaced Families

As far as loan/credit support is concerned, the survey findings reveal that 22 (24.7%) out of 89 families have taken loan from different sources. Among them, majority i.e. 15 (68.2%) have taken loan from the Cooperative Society followed by 7 (31.8%) have taken from Nationalized Banks and 1 (4.5%) has taken loan from a Private bank. Most (20 families, 90.9%) of the displaced families taken loanhaveopted to keep their land

Chart 4.1.9.1 Displaced Families availed credit from different sources (in %)



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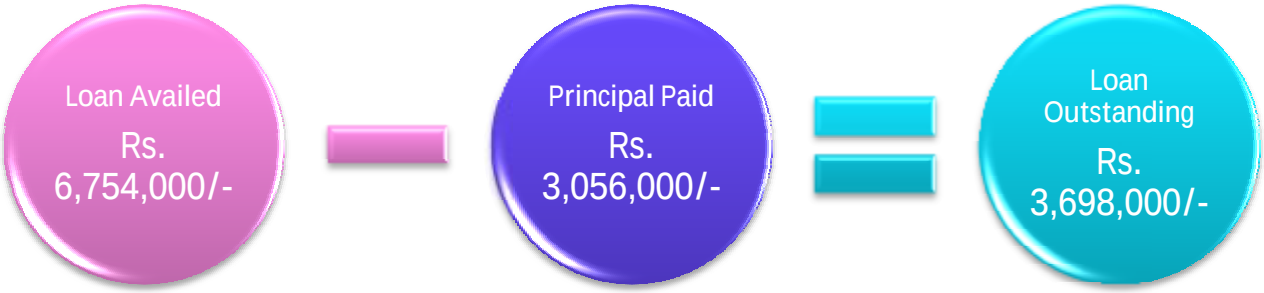
on mortgage to get the loan. Majority i.e. 17 (77.3%) have taken loan for investing in agriculture followed by 4 (18.2%) have taken loan for business and the rest 2 (9.1%) have taken loan for the purpose of marriage. It is important to find here that only fourpersons have taken loan for business purpose which could be either people do not have business skills or do not have access to formal financial institutions for getting any business loans.



A total of Rs.6,754,000/- has been taken by them as loan which comes to an average loan amount of Rs.3,07,000/- per family. So far (till the time of survey), Rs.3,056,000/-i.e. 45.2% has been repaid by only 8 (36.4%) out of 22 families. The loan outstanding is Rs.3,698,000/- which is 54.8% of the total loan amount to be repaid. On an average, the loan outstanding per family works out to be Rs.1,68,091/-.

4.1.9.2 Support Services Received from Government and Other Agencies

Among the various schemes run by the Government, the highest number of families i.e. 43 (48.3%) out of 89 is provided BPL rice @ of Rs.2/- per kg. Same number of families (43 families, 48.3%)is also provided rations and rice under Antodaya and Annapurna scheme each. There are various social security schemes of the Government under which 85 persons are provided monetary support on monthly basis. Out of them, 36 are given old age pension, 30are provided widowpension and 19 persons are given handicapped pension. Also35 families have been given housing support under Indira Awas Yozana (IAY). Under National Rural Employment Guarantee Scheme (NREGS), 28 families are provided job cards to get at least 100 days of wage employment. Apart from them, very negligible number of families has received support under other different schemes of Government.

However, it is important that as far as possible, necessary and appropriate, to maintain the continuity in provision of benefits under various schemes. Various schemes implemented by Government can be explored in order to dovetail them for the benefit of displaced families. The schemes could be PDS, NREGA, ICDS, pension for old aged, widows, physically challenged, and the like.

4.1.10 Institutional Membership of Displaced Families

Out of 230adult and aged displaced family members, majority i.e. 40(17.4%) are members of Cooperative Society followed by 30 (13.0%) are members in Self Help Groups (SHGs); 2 (0.9%) are

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members of the Gram Panchayat; and 1 (0.4%) is a member in Gram kalian Samiti (GKS).*There is need to maintain a continuity in these institutional memberships, after the relocation. This calls for consultation with the community in general and concerned members in particular.*

4.1.11 Resettlement & Rehabilitation Preferences of Displaced Families

Besides knowing the socio-economic status of displaced families, one of the key outputs expected from the survey is to know the preferences of displaced families with regard to various entitlements outlined in Odisha R&R Policy, 2006. Accordingly, an attempt was made during the survey to know the preferences or choices of all the displaced separate (extended) families with regard to their resettlement and rehabilitation. The idea behind the same was to make R&R process more participatory and people oriented. Each and every displaced (original) family was contacted to give their preferences for the same. *But it is important to keep in mind that the respondents, during the survey, have been asked to make an on-the-spot choice on the resettlement and rehabilitation package they would opt for, which cannot be taken as their final choice. The resettlement and rehabilitation options given by them indicate the broad trends or direction. Given the long term implication of the R&R choices, it may further be discussed and finalized.*

The details about the preferences given by 133displaced separate (extended) families on their resettlement and rehabilitation are presented hereunder.

4.1.11.1 Preferences for Resettlement of Displaced Families

Table 4.1.11.1 Resettlement Preferences of Displaced Families

	Major Son	Un-married Daughter / Sister above 30yrs	Widow	Physically Handicapped	Minor Orphan	Married Women RoR Holder	Total
Resettlement Preferences							
Free Transport	12	-	1	-	-	-	13
Cash in lieu of free Transport	106	-	11	2	-	1	120
Temporary Shed	26	-	3	-	-	-	29
Self-relocation	35	-	4	2	-	-	41
Homestead land in Colony	83	-	8	-	-	1	92
House by Company	29	-	7	-	-	-	36
House building assistance	89	-	5	2	-	1	97
Total Separate Displaced Families	118	-	12	2	-	1	133

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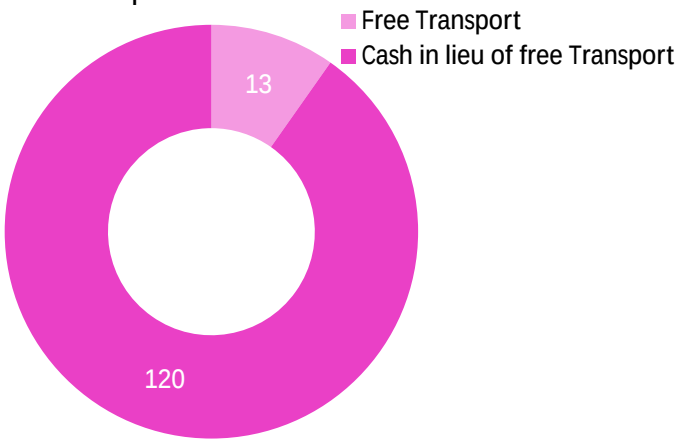
Free Transportation or Cash in Lieu of Free Transportation for Evacuation

Out of 133 displaced separate families, maximum i.e. 120 (90.2%) have opted for cash in lieu of free transportation to be provided by the project proponent for evacuation of them 106 are major sons, 11widows,2disables and 1 is themarried woman with RoR.

Chart 4.1.11.1.a Free Transportaion or Cash in lieu of Free Transportation for Evacuation



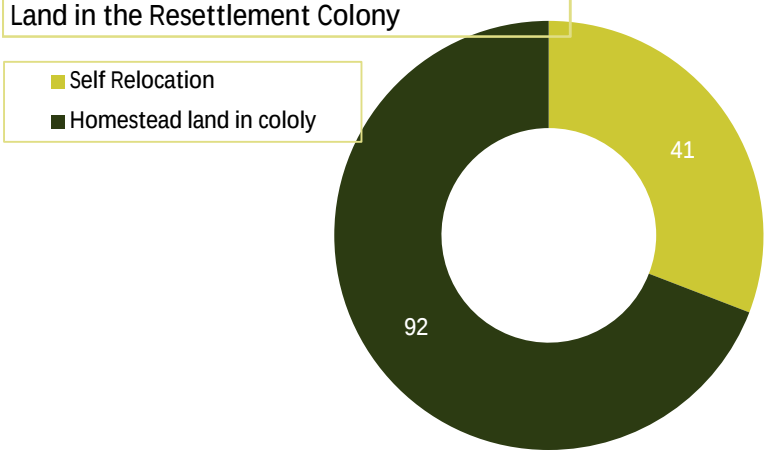
The rest 13(9.8%) out of 133 displaced separate families want free transportation to be arranged by the project proponent. These 13 families include 12 major sons and 1 widow.

Temporary Shed before evacuating to the Resettlement Colony

Only 29(21.8%) out of 133 displaced separate families have opted to take temporary shed before evacuating to the resettlement colony. These 29 families opted for temporary sheds include 26 are major sons and rest 3 are widows.

House Site in the Resettlement Colony

Chart 4.1.11.1.b Self Relocation or Homestead Land in the Resettlement Colony



Majority i.e. 92(69.2%) displaced separate families have opted for homestead land or house site in the resettlement colony to be built by the project proponent. Only 41(30.8%) separate familieswant to be self-relocated.

The 92 separate families opted for resettlement colony include83 major sons, 8 widows and 1is woman with RoR.

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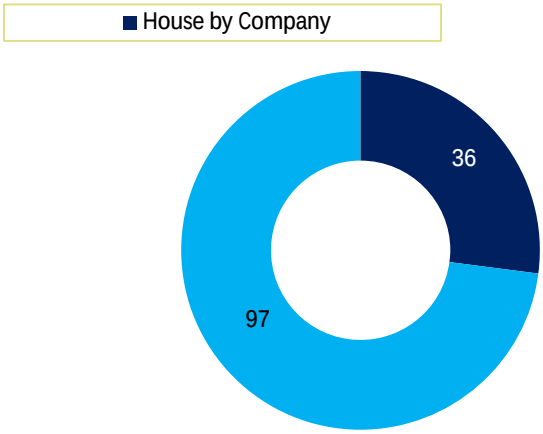
Cash in lieu of Homestead Land or House or House Building Assistance

Chart 4.1.11.1.c House or House Building Assiatnce Opted by the displaced families



Almost two third i.e. 97 (72.9%) displaced separate families who want a house site in the resettlement colony have opted the project proponent to provide House Building Assistance to construct their own houses in the resettlement colony.These 97 separate families include89 major sons, 5 widows, 2 physically challenged and 1 married woman RoR holder.

The rest i.e. 36 (27.1%) displaced separate families want their houses to be constructed by the company in the resettlement colony or site which include 29 major sons and 7 are widows.

4.1.11.2 Preferences for Rehabilitation

The Odisha R&R policy 2006 has laid down some important guidelines for providing rehabilitation assistance. As per the guideline, different rehabilitation provisions have been outlined for different types of project e.g. industrial, mining, irrigation, etc. Here, in case of this project by OPTPCL, the guideline for industrial project under Odisha R&R policy 2006 is taken into account for knowing the preferences of families on their rehabilitation assistance as its comes under the industrial project category. According to the guideline, only one displaced person from each original family is eligible for the rehabilitation assistance whereas one person from each displaced separate (extended) family is eligible for training and maintenance allowance.

Table 4.1.11.2 Rehabilitation Preferences of Displaced Families

	Major Son	Un-married Daughter / Sister above 30yrs	Widow	Physically Handicapped	Minor Orphan	Married Woman RoR holder	Total
Rehabilitation Preferences							
Job for Self	22	-	-	-	-	-	22
Job for nominated family member	49	-	5	-	-	1	55
Cash in lieu of job	7	-	5		-	-	12
Shop and service units	-	-	-	-	-	-	-

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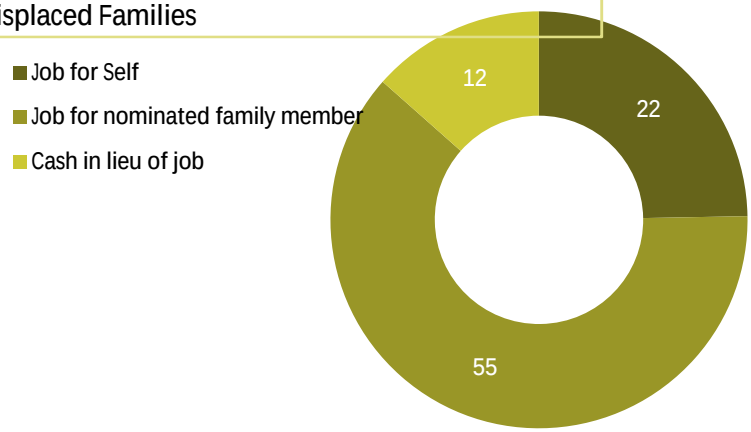
Table 4.1.11.2 Rehabilitation Preferences of Displaced Families

	Major Son	Un-married Daughter / Sister above 30yrs	Widow	Physically Handicapped	Minor Orphan	Married Woman RoR holder	Total
Preference share	-	-	-	-	-	-	-
				-			
Training for self	56	-	-	1	-	-	57
Training for nominated family member	56	-	8	1	-	1	66
No training (for either of case)	6	-	4	-	-	-	10
Not Decided	-	-	-	-	-	-	-
Maintenance allowance	118	-	12	2	-	1	133

Preferences for Job or Cash in lieu of Job or shops/service units or job for nominated family members or preference share

The preference on rehabilitation collected during the survey shows that 22(24.7%) displaced original families want job / employment for self in OTPCL followed by 55 (61.8%) want job / employment for their nominated family members and the rest 12 (13.5%) want cash in lieu of job out of the 89 displaced original families.

Chart 4.1.12 Rehabilitation Assistance Opted by the Displaced Families



All the 22 original families who want job for himself/herselfare major sons. The 55 original families who want job for their nominated family members, 49 are major sons, 24 are widows and 1 married woman RoR holder. The remaining 12 original families who want cash in lieu of job include7major sons and5 widows.

It is clear from the above that the choice is heavily inclined towards either employment for self or employment for a nominated member of the family. Hardly few have opted for cash in lieu of job. In fact, none of them has opted for preference share and shops & service units. This clearly indicates the kind of expectation that people have for their rehabilitation. But according to the Odisha R&R policy, for industrial projects, one person from an original family is eligible for employment for self or any

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nominated member of the family. This requires lot of discussion, consultation and counseling to be carried out by the project authorities to convince the families.

Training Preferences

Out of 133 displaced separate families, 57 (42.9%) want training for self, whereas 66 (49.6%) want training for nominated family member. The rest 10 (7.5%) displaced separate families do not want any training either for self or for nominated family member.

Maintenance Allowance

All the 133(100%) displaced separate families want maintenance allowance to be provided to them by the project proponent for a period of one year from the date of their evacuation.

The break-up of these 133extended families are as follows: 118 major sons, 12 widows, 2 physically challenged and 1 married woman with RoR.

4.1.12 Perceptions of the Displaced Families about the Project

Apart from knowing the socio-economic status and R&R preferences of people, the survey also attempted to know the perceptions of displaced families about the project. At the time of survey, all the 89 families informed that they know the project will start and the work in the project will commence soon. Except 4 (4.5%), the rest 85 (95.5%) perceive that the project will be beneficial for them. All these 85 families feel that the project will provide them employment and business opportunities and will help them to get some other direct or indirect benefits from the project. Majority of the families perceive that the project will not only benefit at individual level but also benefit the entire villagers. 85 (95.5%) felt that the project would provide employment to the youths in the village, 80 (94.1%) each thought that the educational system and socio-economic status of people in the area would be improved.

Out of those 4 families who perceive adverse consequences of project, 3 informed that it would cause environmental pollution, 2 each felt that their socio-cultural and agriculture will be affected and 1 felt that they may face problem in managing livestock. All the 89 families informed that they would lose their income earning assets and source of livelihood, among them cent percent families informed that they will lose homestead land and homes, 71 (79.8%) said that their agriculture will be affected due to loss of land, 12 (13.5%) feel that they will loose forest and 6 (6.7%) said that they will lose their trees.

The survey also attempted to know from the displaced families thatdo they have a choice of a place to resettle, if land is acquired from them. In response to this, all of them said that they would choose to resettle nearer to the project area and their agriculture land.

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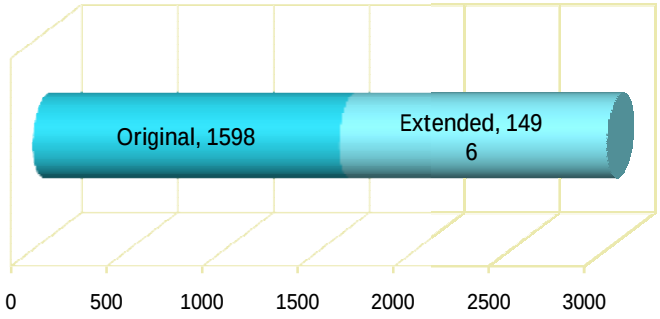
4.2 Socio-Economic Status of Affected Families

Excluding the 89 original displaced families, the survey has covered 1598original affected families as per the Odisha R&R Policy 2006.The socio-economic status of the affected families is presented here.

4.2.1 Affected Families as per Odisha R&R Policy 2006

Affected families are identified on the basis of those who lose their land mostly agriculture land. Keeping this definition into account, 1598 families have been identified as 'Original Affected Family', each having a common kitchen, those who will be disposed from their agriculture land. The agriculture land location of these original families is spread over ten villages namely Aluajharan (105 families), Annapurnapur (244 families), Bhagirathipur Sasan (36 families), Bijadihi (85 families), Dhobabahali (147 families), Kantapal (295 families), Kateni (186 families), Kusumjodi (226 families), Muhulaphal (125 families), and Anlaberini (149 families)

Chart 4.2.1 Number of Affected Separate (Original + Extended) Families



If the separate family norm such as major sons irrespective of marital status, unmarried daughters / sisters above 30 years of age, widows and woman divorcee, etc. enshrined in the Odisha R&R policy 2006 is applied, 1496extended families have emerged out of the 1598 Original affected families identified in the survey. The total separate families, adding together the Original and Extended families comes to 3,094 whose agriculture lands are acquired under the project.

4.2.2 Classification of Affected Families as per 'Separate Family' norm of Odisha R&R Policy 2006

Although it is not clear from the Odisha R&R Policy whether separate family categories are applicable to affected families also, an attempt has been made in this survey to apply the same principles for identifying separate families, as has been done for the displaced families. The 3094separate affected families identified in the survey consist of 2675 (86.4%) Major Sons, 41 (1.3%) Unmarried Daughters above 30 years of age, 276 (8.9%) Widows / Divorcees / Destitutes, 68 (2.2%) Physically/Mentally challenged, 2 (0.06%) orphans and 32 (1.0%) other families who does not fall under any of the separate family category mentioned in clauses (i) to (vi) of Para 2 (f) under II Type A(IndustrialProject). The eligibility of other separate families is subjected to further verification.

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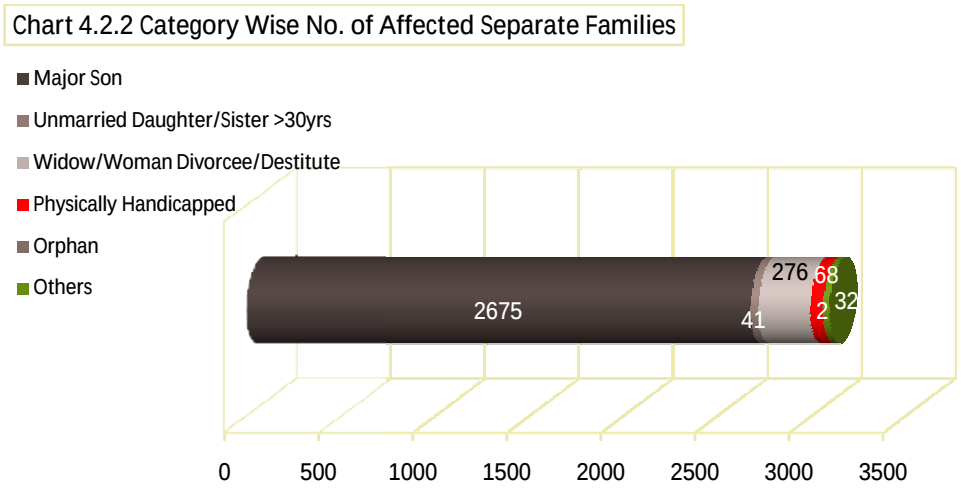
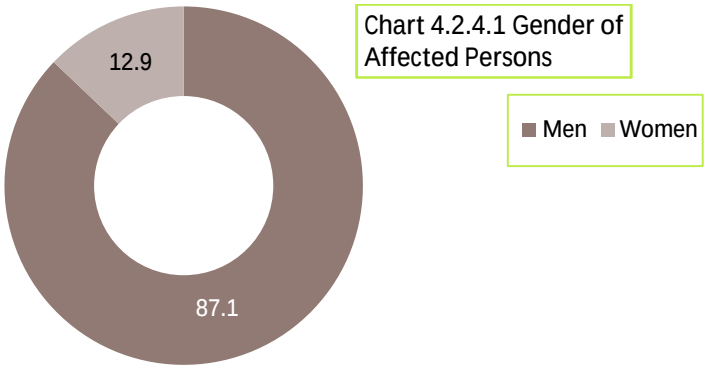


Out of the 68 separate families exclusively identified under physically handicapped, 44 have disability certificate having 40% or above disability. One person has certificate having less than 40% disability. The rest 23 do not have the certificate, in those cases the project proponent needs to verify their percentage of disability.

4.2.3 Demographic Profile of the Affected Families

4.2.3.1 Gender wise distribution of Affected Persons



Similar to displaced persons, *majority i.e. 2694(87.1%) out of 3094 affected persons are males and the rest 400 (12.9%) are females.*

4.2.3.2 Gender wise distribution of Head of the Households and Respondents

Out of 1598original Affected Families,only 16.0% i.e. 255 families are headed by femalesin comparison to the rest 84.0% i.e. 1343families are headed by males. *Although, 16.0% of families are headed by females,more than twice,i.e. 33.6% (537 families) preferred to respond to the questions asked under the socio-economic survey. This is clear from the fact that in majority i.e. 66.4% of cases (1061 families) the male respondents from the family furnished the information to the survey team.*

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Chart 4.2.3.2.a Gender of HoH of Affected Families

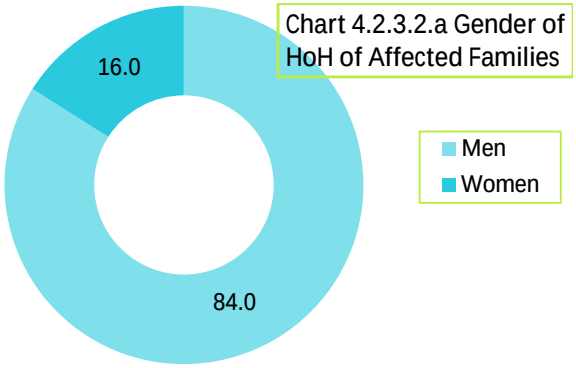
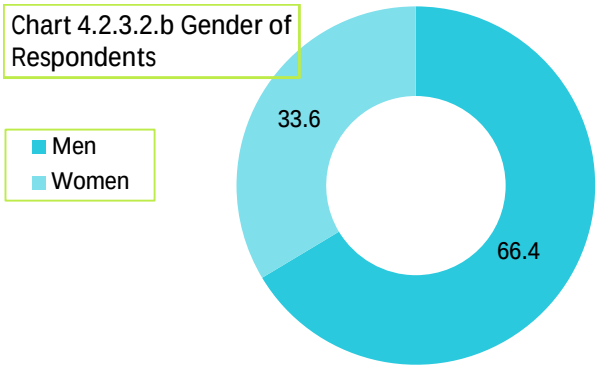
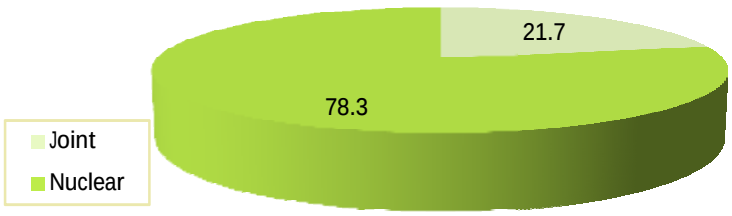


Chart 4.2.3.2.b Gender of Respondents



4.2.3.3 Family Type of Affected Families

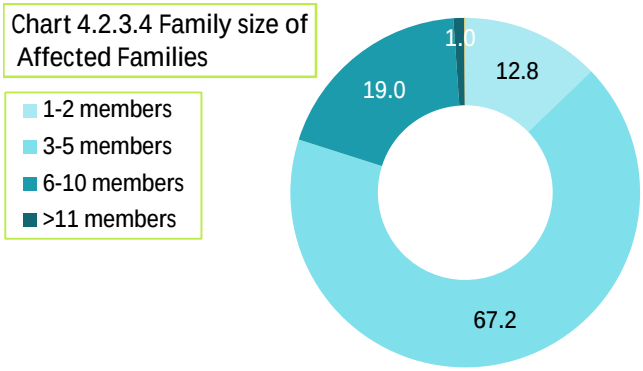
Chart 4.2.3.3 Family Type of Affected Families



Only 21.7% i.e. 347out of 1598PAFs stay in joint family that includes husband, wife, parents, siblings, married or unmarried children and others. *More thantwo third of PAFs i.e. 78.3% (1251 out of 1598) are Nuclear families having husband, wife and unmarried children only. It is widely observed that the modernization process has lot of bearing on joint families breaking down into smaller nuclear families.*

4.2.3.4 Family Size of Affected Families

Chart 4.2.3.4 Family size of Affected Families



The 1598Original affected families identified in the survey consist of a total of 6952members having on an average 4 members per family. The family size ranges from a maximum of 20 to a minimum of 1 member among the affected family.

The modal family range is three to five members i.e. found in 67.2% of affected families (1074 out of 1598 AFs). Next highest i.e. 19.0% (304 families) have six to ten members followed by 12.8% (204 families) have one to two members and the rest 1.0% (16 families) have more than 11 members. Smaller family size of an average of 4 members per family is a clear indication of most families being nuclear.

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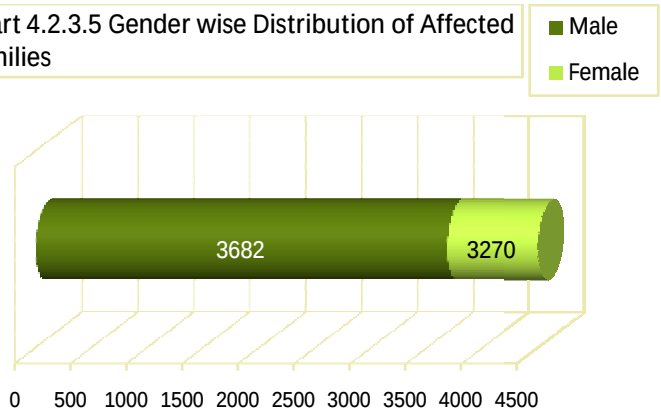
4.2.3.5 Gender-wise Distribution of Affected Family Members

The 6952family members comprise of 3682(53.0%) males and 3270 (47.0%) females that means there are only 888females against every 1000 male family members of affected families.

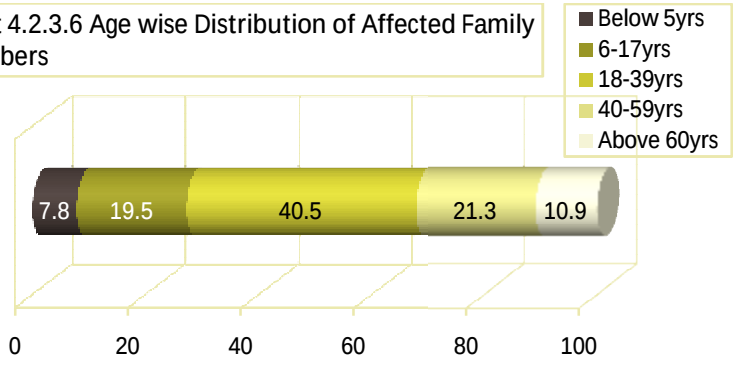
Relatively the male to female sex ratio in affected families is slightly better than the displaced families

Chart 4.2.3.5 Gender wise Distribution of Affected Families



4.2.3.6 Age-wise Distribution of Affected Family Members

Chart 4.2.3.6 Age wise Distribution of Affected Family Members



Highest number of affected family members i.e. 40.5% (2817 out of 6952) is in the adult age group of 18 to 39 years followed by 21.3% (1484) are in adulthood or in the age group of 40 to 59 years, 19.5% (1354) are in the age group of 6 to 17 years, 10.9% (758) are aged or above 60 years of age and the rest 7.8% (539) are children below 5yrs. *The aged people among the PAFs (10.9%) is found to be much higher than the aged people recorded in the whole of Odisha State (5.26%) during the 2001 Census survey which is an indication of much better life expectancy is enjoyed by affected family members. Since one in every nine affected family members is found to be an elderly person, greater sensitivity, care and attention are required from the project authorities for their rehabilitation.*

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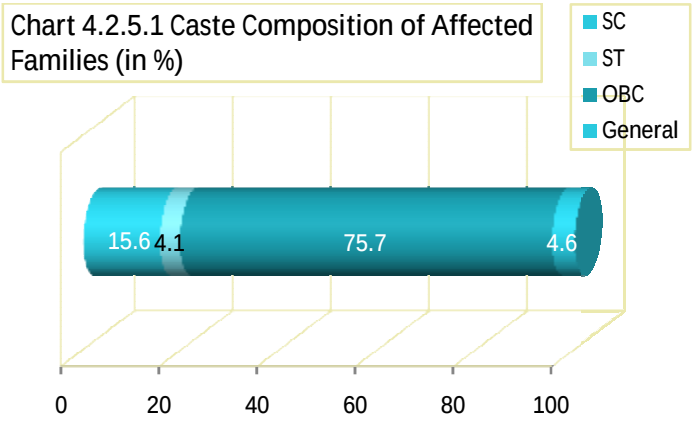
4.2.4 Social Profile of Affected Families

4.2.4.1 Caste Composition of Affected Families

The caste wise break-up of affected family members show that three fourth,i.e. 75.7% (1209 out of 1598) of affected families belong to Other Backward Caste (OBC) Communities followed by 250 (15.6%) are from Scheduled Caste communities (SC), 73 (4.6%) are from General Castes and 66 (4.1%) families from Scheduled Tribes (STs).

Chart 4.2.5.1 Caste Composition of Affected Families (in %)



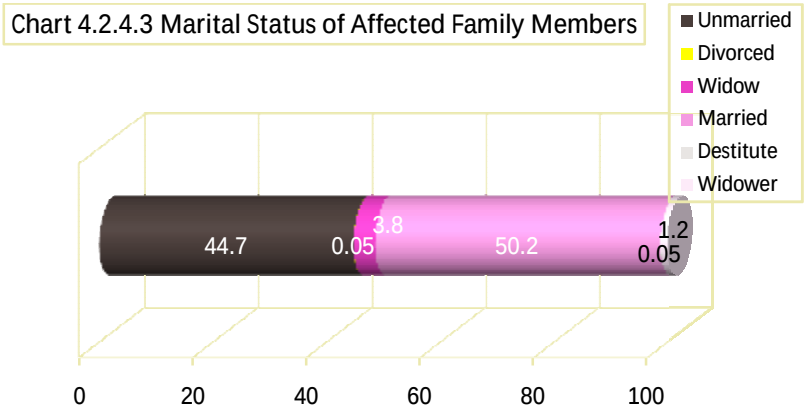
4.2.4.2 Religion of Affected Families

All the 1598PAFs practice Hinduism. None of the families is from other religions e.g. Christianity, Muslim, etc.

4.2.4.3 Marital Status of Affected Family members

The married family members account to be almost half i.e. 50.2% (3491 out of 6952) of the total members. Only 3.8% (264members) of the total affected family members are widows followed by 1.2% (81 members) widowers, 0.05% each (4 members) are divorcees and destitute. The rest 44.7% (3108 out of 6952) are unmarried. Among these family members, *the most vulnerable groups are widows, divorcees and destitute. Hence, they require greater attention for their economic rehabilitation by the project authorities.*

Chart 4.2.4.3 Marital Status of Affected Family Members



4.2.4.4 Educational Status of Affected Family members

Like the displaced family members, the affected family members also have similareducational status. It is important to mention here that the SCs and STs across Odisha have much lower level of literacy than the OBCs and General Castes.

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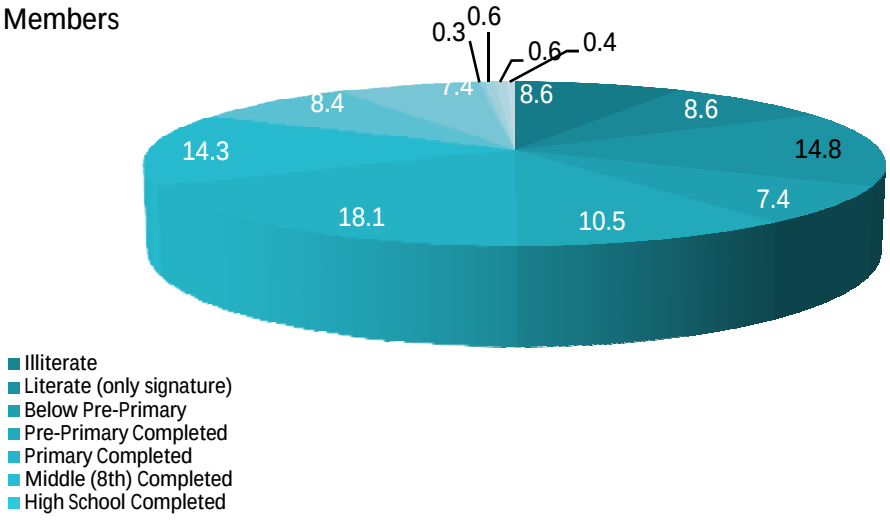
Chart 4.2.4.4 Educational Status of Affected Family Members



8.6% (554 out of 6466) are illiterates among the affected family members (excluding those who are not going to school) who can neither read nor write anything. Especially the percentage of illiterates among females (78.9%) is more thanthree and half times higher than the males (21.1%). Also almost same number of families i.e. 558 (8.6%) family members are just literates who can only put their signature but they cannot be considered as functionally literates. Adding together the percentage of illiterates and just literates, interestingly the result is almost same as in case of displaced families i.e. *17.2% affected family members (17.0% in case of displaced families) are educationally backwardwhich is much worse among females than male family members.*

Excluding those family members who are not going to school, only 923(14.3%) have completed high school education and 541 (8.4%) have completed +2 / Intermediate. In total 474 (7.4%) affected family members are graduates and above. Technical-Diploma, Technical (Degree Engineering), Technical (Management) and Technical-ITIwere done by 0.6% (41 members), 0.6% (40 members), 0.4% (26 members) and 0.3% (19 members) respectively. That means, *around only 30% have high school or above education and below 2% have any Technical qualification.*

In comparison to the above, maximum of the affected family members have below high school level education. As many as 1173 (18.1%) out of 6466 have completed middle (8th standard) level education followed by 957 (14.8%) are in below pre-primary level of education; 680 (10.5%) have completed primary (5th standard) education; 480 (7.4%) have completed pre-primary (3rd standard) level of education.

Out of the total affected family members, 445(6.9%) have undergone any training or are currently undergoing any training. In comparison to 374 (84.0%) males, only less than one fifth i.e. 71 (16.0%) females have undergone any training. The trainings attended by the affected family members are ITI/Electrician (160 members, 36.0%), Driving (73 members, 16.4%), Computer (50 members, 11.2%), Diploma training (39 members, 8.8%), CT (24 members, 5.4%), LHV/ANM (17 members, 3.8%), B.Ed(13 members, 2.9%), MBA(12 members, 2.7%), and LLB (11 member each, 2.5%). In total people have undergone training in 25 different streams.

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Since only less female affected family members have undergone any formal education or any training, the project proponent apart from focusing on male members' needs to focus on female for imparting self employment trainings so that they can be absorbed in various self-employment ventures.

4.2.5 Asset Holding Status of Affected Families

4.2.5.1 Ownership status: Homestead Land

The 1598affected families have a total of 122.93 acres of homestead land.*On an average, each family possesses 0.07 acres or 7 decimal of homestead land.*

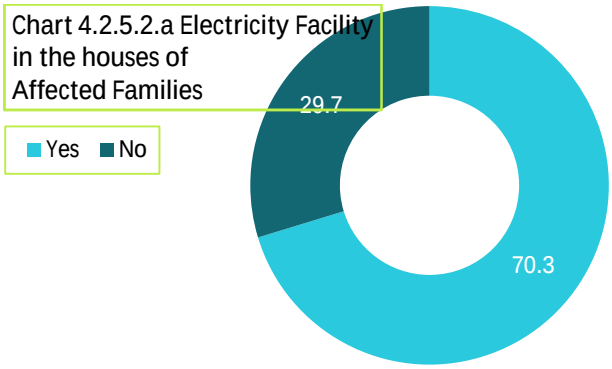
As far as ownership type of homestead land is concerned, only 85 (5.3%) out of 1598 Original affected families are either RoR holder of their own land or legal heir of the land. But highest i.e. 1417 (88.7%) are joint record holder for their homestead land. 25 (1.5%) families have occupied recorded land of other people,149 (9.3%) families have encroached revenue (government) land and 63 (3.9%) have encroached forest land for homestead purpose. There are 46(2.9%) families have homestead lands in both individual and joint names and 15(0.9%) have homestead lands both in joint and others name whereas 69 (4.3%) have hometead land both in joint and also encroached revenue land for homestead purpose.

4.2.5.2 Ownership status: House

All the 1598(100.0%) affected families stay in their own house. None of them stays in rented house.

*On an average, each house of the affected families has an average of 2 rooms per house owned by the affected families.*The walls of highest i.e. 824 (51.6%) out of 1598 houses are made up of brick and cement whereas 331(20.7%) of houses are made up of only mud. Walls of 420 (26.3%) houses are made up of bamboo and mud plaster and the walls of rest 23 (1.4%) houses are constructed in brick and mud which clearly indicates that half of the affected families do not have the affording capacity to construct walls in cement and bricks. Poor economic condition could be also attributed as the reason why majority i.e. 49.1% (784 out of 1598 houses) of houses has thatched roofs and 50.8% (812 houses) have earthen floors. Only the 630(39.4%) have concrete roofs and786 (49.2%) houses have cemented floorings.

Chart 4.2.5.2.a Electricity Facility in the houses of Affected Families



Out of 1598 houses owned by the affected families, 29.7% (474houses) do not have electricity connection which is another key development indicator showing low affording capacity of a significant percentage of the affected families.

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Chart 4.2.5.2.b Bathroom Facility in the houses of Affected Families

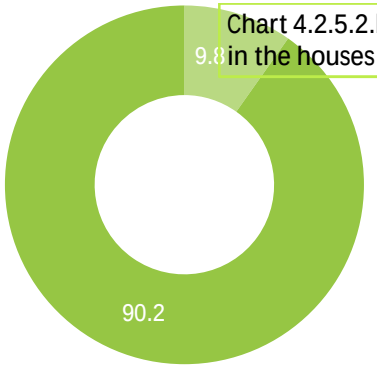
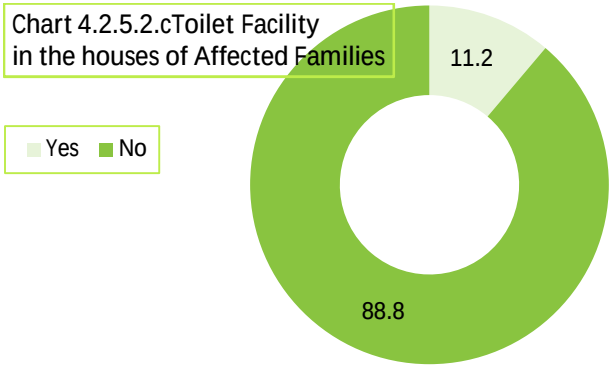


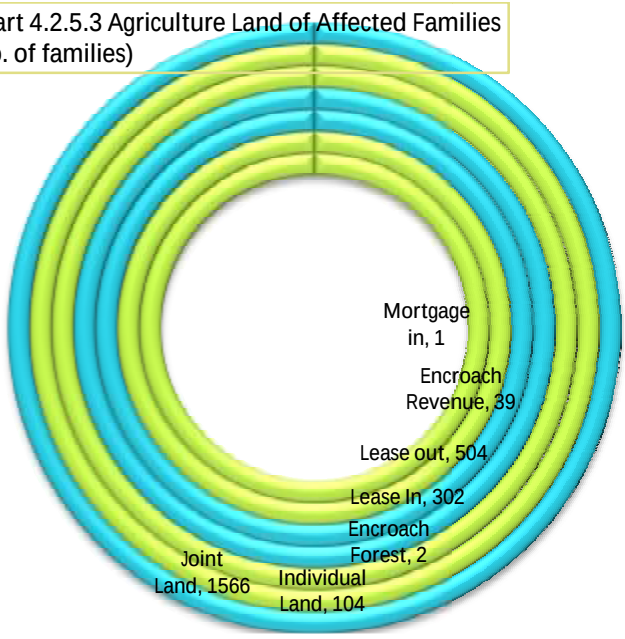
Chart 4.2.5.2.cToilet Facility in the houses of Affected Families



The survey findings also bring out the fact that only 179(11.2%) houses have toilet facility, 156 (9.8%) have bathing facility and only 124(7.8%) houses have washing place within their houses. *Lack of awareness, traditional habits to defecate in open space, etc. could be the reasons behind why majority of people do not prefer to have toilet, bathroom and washing facility in their rooms. During the village meeting, people also informed about water scarcity as the reason behind not constructing toilets and bathrooms in their houses. Thus, apart from economic rehabilitation of affected families, they are motivated to construct and use toilets and bathrooms rather defecating in open space or bathing in polluted pond water which would help to prevent people from scabies, other skin and water borne diseases and help in keeping their place of living more clean and hygienic.*

4.2.5.3 Ownership status: Agriculture Lands

Chart 4.2.5.3 Agriculture Land of Affected Families (no. of families)



104 (6.5%) out of 1598 affected families are the individual record holders for their agriculture land having a total of 171.44 acres of agriculture land in their own names. On an average each family has 1.64 acres of land holdings. Majority i.e. 1566(97.99%) have recorded joint land holdings of 2339.98 acres of agriculture land which comes to 1.49 acres of land per family which is lower than the land owned in individual names. *Large quantum of joint land holding is indicative about the prevalence of traditional land holding pattern of the affected families in the project area, which has been transferred from one*

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generation to another. The quantum of land owned in individual names ranges from 0.04 acres to 17.01 acres whereas the joint land holding ranges from 0.003 acres to 162.12 acres, which means *there is a wide gap in the amount of land owned by the affected families*.

It is also interesting to find that 504(31.5%) families shared / leased out a total of 802.55 acres of their lands.

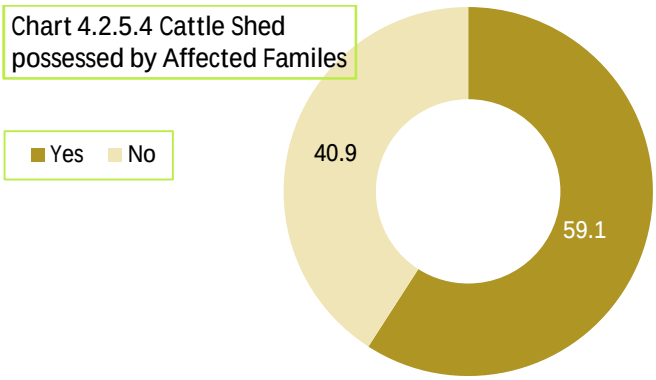
According to the survey findings, 302 (18.9%) families took 523.70 acres of agriculture land on lease/share and 1 (0.06%) family took 0.4 acres of agriculture land on mortgage for cultivation during one year prior survey due to their inadequate land holdings. The average lands taken on lease/share isfound to be 1.73acres. It is more important to find that as high as 39 (2.4%) families have encroached 29.71 acres (0.76 acres per family) of revenue land and 2(0.1%) encroached 1.5 acres of forest land (0.75 acres per family). *It is clear from the above that quite a good number of affected families due to marginal and small land holdings have no other option to take land on lease / share / mortgage and even encroached forest and revenue land for cultivation.*

More important to mention here, the entire 3869.28 acres of agriculture land occupied by the affected families are un-irrigated lands. Lack of irrigation source was reported in the affected villages as one of their key problems which have significant bearing on agriculture production and their economic status.

4.2.5.4 Livestock

Similar to displaced families, bullocks, milch-cows, calves and goats are commonly owned by the affected families. Highest i.e. 829 (51.9%) out of 1598 families own milch-cows followed by 717 (44.8%) families have calves,663 (41.5%) families have bullocks and 172 (10.8%) families own goats. *On an average, the family having livestock owns 2 bullocks and cows and 6 goats each.* Only a negligible number of families own she-buffaloes(15 families), sheep (9 families), he-buffaloes (4 families) and pigs (1 family). Apart from these animals, 118 (7.4%) families also own chicken / hens. *In an agrarian society, rearing of livestock by families is a common practice, which helps them in cultivation and also provides them direct income by selling milk and other products. Therefore, business relating animal husbandry can be one of the viable options for economic rehabilitation of families affected under the project.*

Chart 4.2.5.4 Cattle Shed possessed by Affected Familes



4.2.5.5 Cattle Shed

59.1% of houses owned by the affected families (944 out of 1598 houses) have separate place for animals or cow sheds in their houses. During the visit of survey team to the villages of affected

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families, *it was observed that the cowsheds are located within or inadjacent to the houses, which help in breeding mosquitoes, etc. that in turn affects the health of the affected families.*

4.2.5.6 Trees

Majority of the affected families own trees. The trees commonly owned are Mango(1303 families, 81.5%), Drumstick (1234 families, 77.2%), Palm (1004families, 62.8%), Papaya (815 families, 51.0%), Teak (666 families, 41.7%), Citrus (656 families, 41.0%),Mahula (577 families, 36.1%), Jackfruit (527 families, 32.9%), Guava (518 families, 32.4%), Cashew (467 families, 29.2%), Gambhari (456 families, 28.5%), Bela (451 families, 28.2%), etc. which not only provided them produces for household consumption but also provide them income. Coconut, Neem, Custard Apple, Bamboo, etc. are other important trees mostly owned by families. *The total trees owned by the affected families come to about 1,09,628 trees which clearly indicate the significance of trees in their lives.*

4.2.5.7 Productive and Domestic Assets

Relatively better percentage of affected families owns any productive assets than the displaced families. Highest number of families own bicycle 1472 (92.1%) out of 1598 affected families followed by 735 (45.9%) possess wooden ploughs, 486 (30.4%) have bullock carts, 393 (24.6%) have bikes, 145 (9.0%) have pump sets,111 (6.9%) families have sprayers, 11(0.7%) have jeeps / trucks, 9 (0.6%) have tractors and 8 (0.5%) have power tillers. *Only few families have modern agriculture implements, which mean majority of affected families is still depending on traditional method of cultivation.*

Apart from the above assets, 111 (6.9%) families have sewing machines, 64 (4.0%) have sound systems, etc. which means hardly few families own assets for production and service oriented business.

The domestic assets possessed by maximum of families are mobile phones (1393 families, 87.2%), clocks (1315 families, 82.3%), fans (1074 families, 67.2%), TV/VCD (950 families, 59.4%), stoves (267 families, 16.7%), refrigerators (162 families, 16.4%), LPG gas (187 families, 11.7%), coolers (185 families, 11.6%), radio (66 families, 4.13%), land phone & washing machine (23 families each, 1.4%), etc.

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4.2.6 Acquisition of Assets of Affected Families

4.2.6.1 Acquisition of Homestead Land

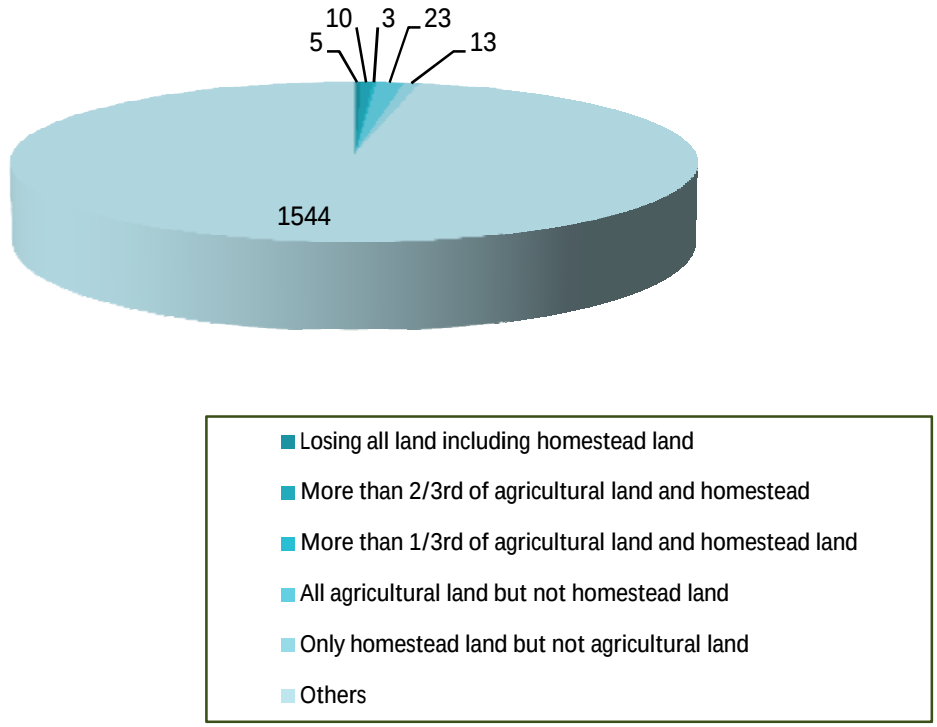
Out of a total of 122.93 acres of homestead land possessed, only 4.45 acres of 43 (2.7%) affected families (an average of 0.05 acres or 5 decimals per family) are acquired. Although these 43 families losing land, they are not considered as displaced families on the grounds of either not residing in the house constructed on the acquired homestead land or they do not have house on the homestead land. This is done as per the family definition of Odisha R&R Policy 2006.

4.2.6.2 Acquisition of Agriculture Land

The total agricultural land of affected families acquired comes to 617.12 acres out of the 3869.28 acres of agriculture land possessed by 1598affected families. The average agriculture land size acquired is 0.4 acres per family.

4.2.6.3 Intensity of Land Loss

Chart 4.2.6.3 Land loss intensity of the Affected families



As per Odisha R&R Policy 2006, the survey has made an attempt to calculate the land loss intensity of the 1598affected families. The survey finding reveals that out of the 1598 affected families, only 5 (0.3%) losing all land including homestead land, 10 (0.6%) losing more than 2/3rd of agriculture and homestead land,3 (0.2%) affected families losing more than 1/3rd of agriculture and homestead land, 13 (0.8%) families losing only homestead land and 23 (1.4%) losing all agricultural land but not homestead land. But maximum i.e. 1544(96.6%) families do not fall in any of

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the five land loss categories mentioned in the policy because of losing agriculture land in part but not homestead land or losing less than 1/3rd of agriculture and homestead land or encroached agriculture land.

4.2.6.4 Acquisition of Other Assets

In addition to homestead and agriculture lands, the other assets of affected families acquired are house (12 families, 0.75%), cattle shed (6 family, 0.4%), trees (1567 families, 98.0%), pond (39 families, 2.5%) and open well (36 families, 2.3%).

4.2.7 Occupational Status of Affected Families

Out of 6952affected family members, 4327(62.2%) are dependent on rest of the family members and do not earn any income. Majority of them are children / adolescents below 18 years, house wives and aged people. The rest 2625(37.7%) of affected family members pursue any occupation for earning an income or livelihood for the entire family.

Unlike displaced families, highest i.e. 726(27.6%) out of 2625 family members are major income earner. Non-farm wage labour is the main source of occupation for 21.5% i.e. 564 affected family members. Interestingly, agriculture is also found to be the major source of income for same number of family numbers (564, 21.5%).Next highest i.e. 443(16.9%) get major income from pensions followed by 165(6.3%) do government jobs. 89(3.4%) do trading business and 43(1.6%) earn their major income from agricultural wage.Other major sources of income include service basedbusiness (0.9% i.e. 22 members), manufacturing based business& cow-farm (0.1% i.e. 3 members each), contractry (0.07%, 2 members), NTFP collection (0.03%, 1 member), etc.

The gender wise break-up of main occupations pursued by affected family members show greater involvement of male members in comparison to females in occupations such as cultivation (97.3% males as against 2.7% females), non-farm wage labour (95.9% males as against 4.1% females) and trading business (98.9% males as against 1.1% females). In contrast, large percentage of females does farm based wage earning (86.0% females in comparison to only 14.0% males). *It is clearly evident from the same that the male affected family members are primarily engaged in more labour intensive work than female family members.*

Around 73.7% i.e. 1935 out of 2625 earning members do not pursue any subsidiary occupation. In other words, these 73.7% depend only on single source of income. The rest 26.3% (690 members) are engaged in various subsidiary occupations to supplement the household livelihood. Agriculture (9.1% i.e. 240 family members) followed by non-farm based wage labour (7.8% i.e. 206 family members), farm based wage labour (5.1% i.e. 133 family members) and old/retired pension (3.6% i.e. 94 family members) are pursued as subsidiary occupations by highest number of family members. Near about 36% had to depend on wage earning either as main or subsidiary occupation. *Subsistence agriculture and lower*

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income from NTFP selling could be the reasons why half of affected family members have to do daily wage earning (irrespective of farm or non-farm based wage) to eke out a living for their families.

4.2.8 Income Earned by Affected Families from different Occupations

4.2.8.1 Agriculture Production and Income

The survey findings show that except 353(22.1%) families the rest 1245 (77.9%) out of 1598 affected families were engaged in agriculture during last year preceding the survey. Again out of the 1245 families engaged in agriculture, 504 (40.5%) families shared / leased out their lands to others for cultivation. In total,752(60.4%) families themselves cultivated the lands which includes own land and other lands taken on lease / share / mortgage / encroached. There are 11(0.9%) families who cultivated their own lands as well as the shared out / mortgaged out a part of their land to others for cultivation.

Land Areas brought under Cultivation:Out of the 752 families who cultivated, 751 (60.3% out of 1245 families) families cultivated a total land area of 1496.05 acres during Kharif season of last year. On an average, each affected family cultivated 1.99 acres of agriculture land during the Kharif season. Almost half of lands (i.e. 701.74 acres) was cultivated in the Rabi season in comparison to the Kharif season. 601 (48.3%) families cultivated an average of 1.17 acres of land area in the Rabi season. Apart from them, only 2 (0.2%) families were engaged in plantation crop.*Lack of irrigation was attributed by the families during the survey as the key factor behind none of the affected families went for summer cultivation.*

Season wise crops cultivated: It was found in the survey that only Paddy was grown as the principal crop by all the 751 families who cultivated during the Kharif season. None of the families cultivated any other crops during Kharif season.

During Rabi season, maximum359(59.7%) cultivated green gramsfollowed by 277 (46.1%) cultivated potatoes, 190 (31.6%) cultivated tomato, 177 (29.4) did black gram, 137 (22.8%) families did groundnut, 132 (21.9) families farmed brinjal and 102 (16.9%) families cultivated Black Gram. The other crops / vegetables cultivated are chillies, Bhendi, curly flower,onion, chana, sun flower, cucumber, garlic, saru, etc. by very few number of families. Paddy, which requires lot of water was hardly grown by families during Rabi season. *Thus, the affected families only preferred to grow vegetables and pulses during the Rabi season. Due to lack of irrigation facilities the agriculture in the project area is subjected to only vagaries of Monsoon and people predominantly do Kharif cultivation. The practices of mixed cropping, cash and plantation crops are hardly evident.*

Two families did mango and cashew cultivation as plantation crop. Except these two families, the practice of plantation crop is almost absent in the project area.

Gross value of agriculture production: Including the production received from leased out / shared out lands (Rs.6408/-), the average annual gross value of production was Rs.26,678/- per family only with a

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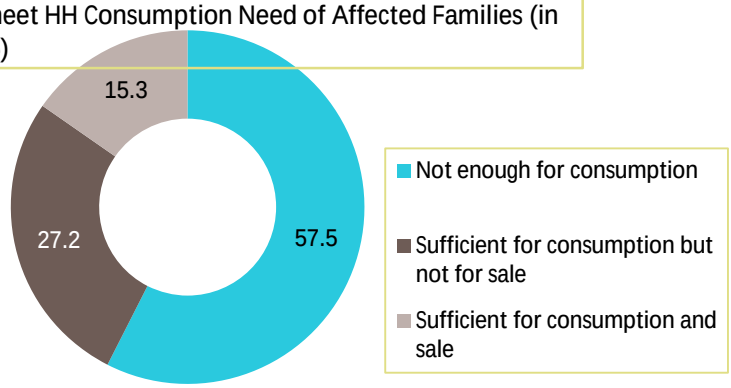
maximum income earned by a family ranges from Rs.3,16,000/- to a minimum gross value of Rs.300/- only. The average gross value of agriculture production by affected families was at least ten thousand rupees lowerthan the displaced families.

Cost incurred on agriculture: The average annual cost incurred towards cultivation works out to be Rs.10,613/- per family, which only includes all the explicit costs incurred on agriculture like purchase of seeds, fertilizers, transportation costs and payment to hiring of labourers, etc. The average highest cost i.e. Rs.6,022/- was incurred by 302 (40.1% of the 752 cultivating families) families on taking land on lease / share / mortgage. Next major cost was incurred on hiring of laborers (Rs.3,427/- by 715 families) followed by payment of Interest on loans undertaken (Rs.2,958/- by 12 families), other agricultural costs (Rs.2,487/- by 15 families), fertilizers cost (Rs.2,332/-by 752 families), purchase of seeds (Rs.1,769/- by 474 families), transportation (Rs.1,299/- by 352 families), etc. *However, it is important to mention that the above cost break-up does not include the implicit costs e.g. use of own labour by family members. During the interaction with families it was clear that both male and female members including children of the family are engaged in various agricultural activities. Agriculture being the most labour intensive occupation, the entire affected family members have to be engaged in the agriculture field and give their labour. Thus, the average cost of Rs.10,613/- per family spent on agriculture would escalate to a great extent if the implicit costs are included in the same. Therefore the actual income from agriculture would be much lesser if both explicit and implicit costs on agriculture are deducted from the gross value of agriculture production.*

Net Value/Income from Agriculture Production: The net value of agriculture production / income works out to be only Rs.20,267/- after deducting the average explicit cost of Rs.10,613/- from the gross average value of Rs.26,678/-. *If the total land area brought under cultivation is kept into account, the net value of agriculture production received is found to be low. Factors such as lack of irrigation, low productivity of lands, decline in soil quality due to increased use of fertilizers, lack of use of modern technologies and hybrid seeds, less importance to cash crop cultivation, etc. are some of the reasons that lead to low agriculture production. If the implicit costs are deducted from the gross value of agriculture production, one can understand how agriculture is un-remunerative for the affected families in the project area.*

Chart 4.2.8.1.a Adequacy of Agriculture Production to meet HH Consumption Need of Affected Families (in %)



Adequacy of Agriculture Production to meet the Household Consumption Need: The survey attempted to know whether the food grains produced from agriculture are sufficient to meet their annual household consumption need. *About 57.5% i.e. 716 out of 1245 families informed that quantum of food grains produced does not meet their annual*

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*consumption need of the entire family which leads to food insecurity experienced by these families. Due to which people look for wage earning opportunities to fulfill their family needs.*Less than the same i.e. 339 (27.2%) reported about sufficiency of food grains to meet annual consumption requirement, however, these families do not get any surplus to sell in the market. Although these families get sufficient food grains, during emergencies and for purchasing other daily household requirement the same are sold out. The rest 190 (15.3%) families are not only able to fulfill their consumption requirements but also get surplus produces to sell in the local market.

4.2.8.2 Wage Earning

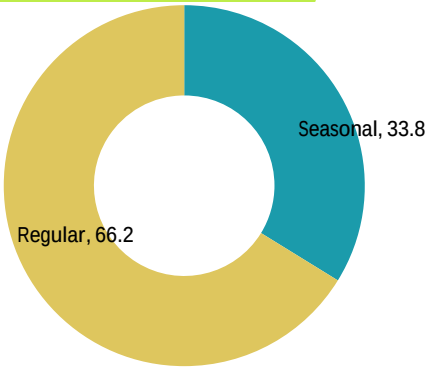
Farm based wage earning: Agriculture or farm based wage earning is a key occupation pursued by a total of 240 members of 206 families (12.9% out of 1598 affected families).

During last year, each person was engaged for an average of only 61days in agriculture wage, which is because of seasonal nature of agriculture done by in the project area. Almost all families i.e. 203 (98.5%) out of 206 were engaged in agriculture wage labour for anaverage period of 56days within the village. Only 29 (14.0%) families had to go outside the village for the same, which on an average gave them only 41 days of engagement. Irrespective of agriculture wage done within and outside village the average income earned by each family works out to be only Rs.6,225/- in a year.

Non-Farm Wage Earning: In comparison to agriculture wage (240 members from 206 families, 12.9%), more number of families (781 members from 669 families, 41.8%) were engaged in non-farm wages like road construction, house construction, etc. About 66.2% i.e. 517 out of 781 members reported regular availability of non-agriculture wage whereas the rest 33.8% reported seasonal availability of the same. Of late, with the introduction of National Rural Employment Guarantee Scheme (NREGS), the non-farm wage earning opportunities has sprung up for which there is regular availability of wage employment in the area.

More families were engaged in non-farm wage outsidethe village (453 families for an average of 149 days) thanwithin the village (487 families for an average of 106 days). *The total average days of engagement in non-farm wage comes to 178 days in a year, which is almost three times of the agriculture wage (61 days). It also indicates that more families go for wage earning due to subsistence agriculture and lack of other income sources. Accordingly, the average income earned form non-farm wage (Rs.26,519/- per family) works out to be at least 4 times higher than the agriculture wage (Rs.6,225/- per family). It clearly indicates that the non-farm wage rate in*

Chart 4.2.8.2 Availability of Non-Agriculture Wage



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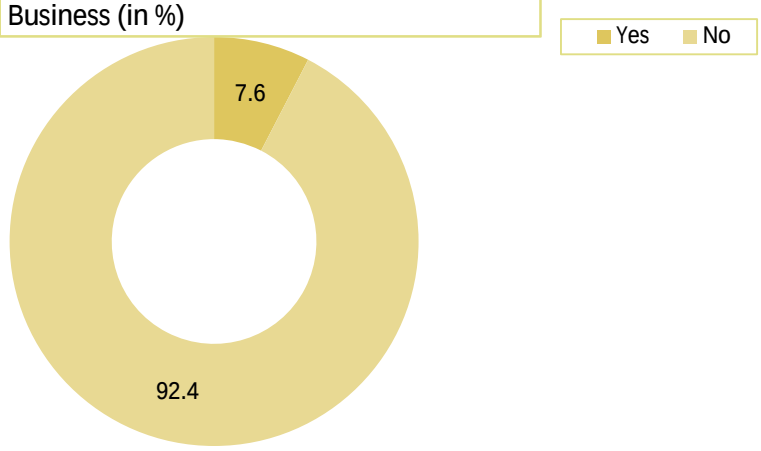
the project area is almost double the daily wage rate received for agriculture labour.

4.2.8.3 Business (Manufacturing/Production, Service and Trading)

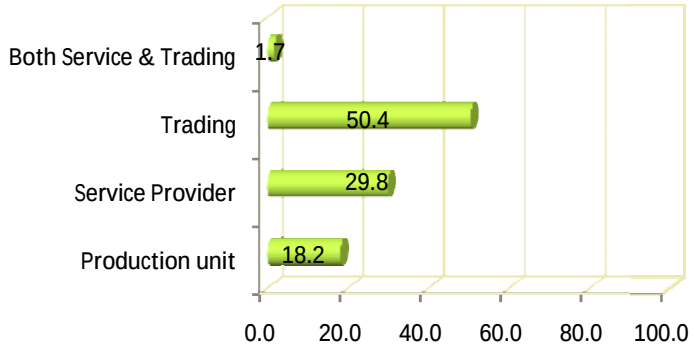
Only 7.6% (i.e. 121 out of 1598) of the affected families are engaged in different business activities. While business is a very profitable venture, engagement of few families in the same indicates about their lack of knowledge and skill for undertaking business activities. Out of these 121 families, maximum i.e. 61 (50.4%) are engaged in trading related business followed by 36 (29.8%) are in service related business, 22 (18.2%) do production based business and the rest 2 (1.7%) are engaged in both service & trading based business. The various businesses undertaken by family are annexed. Highest i.e. 20 (16.5%) have betel shop followed by 16 (13.2%) have grocery shops, 10 (8.3%) families are into hotel business, 9 (7.4%) are doing tailoring business, etc. Also the survey reveals that 117(96.7%) do the business for whole year.

Chart 4.2.8.3.a Affected Families Engaged in Business (in %)



The average investment amount (made by 120out of 121families) in business comes to Rs.2,36,426/- per family, which seem to be an astoundingly higher amount if the economic standard of affected families is taken into consideration. Apart from initial investment, the average annual cost incurred by the same 120 families comes to as high as Rs.1,429,141/-. In return, each family doing business received an average gross income of Rs.1,632,643/- per family during last year. That means the average net income earned by families from business comes to Rs. 2,15,313/- after deduction of cost incurred on business from the gross income which is at least Rs.1,40,000/- lesser than the income earned by the displaced families. *Nonetheless, it is important to mention that business has provided at least 7 to 8 times higher income than agriculture and daily wage labour. Thus, it would be prudent to promote business among the affected families for their economic rehabilitation. However, the major challenge would be to develop an entrepreneurial culture or business acumen among them so that more and more families show interest in taking up various production, trading and service sector businesses.*

Chart 4.2.8.3.b Nature of Business undertaken by Affected Families (in %)



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4.2.8.4 Income from Animal Husbandry

Although a large number of families have livestock, only 183(11.4%) out of 1598 affected families managed to earn an income from animal husbandry. On an average, each of the family earned an income of Rs.8,102/- from animal husbandry during one year prior survey. Highest number of families i.e. 80 (43.7%) out of 183 families earned an income by selling goats followed by 73 (39.9%) families earned by selling cow milk, 17 (9.3%) giving bullocks on rent, 13 (7.1%) families earned income by selling hens/poultry, etc. However, income wise the family who is selling she-buffalo milk received highest average income of Rs.20,000/- last year preceding the survey. The next highest income (Rs.15,000/-) was earned giving he-buffaloes on rent by a single family. Giving bullocks on rent fetched them the next highest average income i.e. Rs.13,394/- followed by income from cow milk i.e. Rs.9,387/-, calves (Rs.8,620), sheep (Rs.7,850), goats (Rs.5,659) and hen/poultry i.e. Rs.581/- during last year preceding the survey. *This is yet another input which must be taken into consideration for economic rehabilitation of affected families. Particularly, promotion of dairy and goatery can be undertaken among the affected families as lucrative self-employment ventures. Livestock promotion would not only help in earning an income but also provide support in undertaking agriculture.*

4.2.8.5 Income from Selling of Forest Produces

Only 16(1.0%) out of 1598 affected families were engaged in collection and selling of forest produces. The average income earned by family from NTFP comes to Rs.1,581/- per family with a maximum of Rs.4,250/- to a minimum of Rs.300/-. The forest produces collected are Mahula, Tola, Kendu leaf, etc. Only a oneof the 16 families processed some of the produces and then sold the value added NTFP products with higher prices to earn Rs.1,000/- during last year preceding the survey.

4.2.8.6 Income from Own Trees

436 (27.3%) out of 1598 families collected and marketed the produces from the trees owned by them. The average income earned by affected families from own trees was Rs.5,133/- per family during last year which adds to their overall family income and supplements their family livelihoods. *Thus, the project proponent needs to keep in mind all these different income sources from where the affected families get an income, which can be taken into consideration for their economic rehabilitation.*

4.2.8.7 Income from Productive Assets

Although quite a few families possess productive assets, only 20 (1.2%) out of 1598 affected families earned an income from the same. The average annual income from productive assets stands at Rs.48,045/- per family. The tractors and jeep/trucks owned by families give them higher income.

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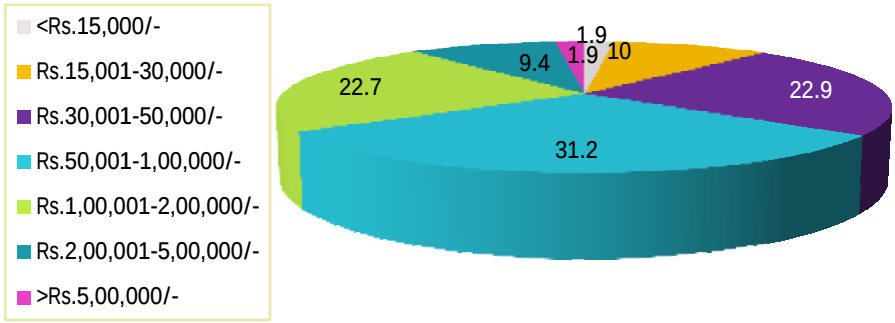
4.2.8.8 Income from Other Sources

As many as 972 (60.8%) out of 1598 affected families were found to be engaged in various other income sources like salaried job, pension, etc. which fetch a good average income of Rs.1,20,013/- per family. Majority of them i.e. 719 (73.9%) out of these 972 families do salaried job who earned an average annual income of Rs.1,49,514/- per family during one year preceding the survey.

4.2.8.9 Net Annual Income of Affected Families

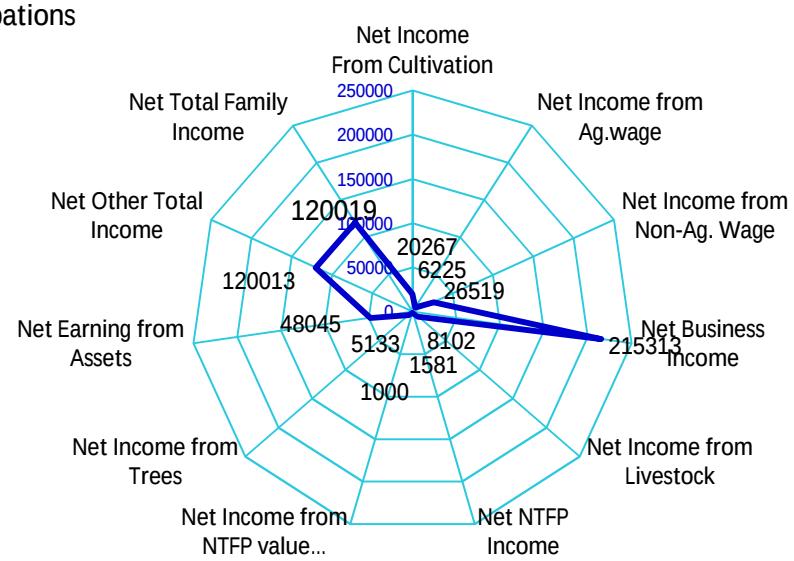
The 1592affected familieshave 6952 persons out of them 2625earn income. That means, an average of 1.5 persons per family earn income. The average net annual income earned by family members from all sources works out to be little higher i.e. Rs.1,20,019/- per original family. However, *the average annual net income per earning member in the family works out to be Rs. 73,017/- only.*

Chart 4.2.8.9.a Income Range ofAffected Families



The survey found a single family among the 1598 affected families, which didn't have any source of incomedepend on their relatives for livelihood. Hence among the earning 1597 families, the maximum and minimum income earned by families ranges between Rs.9,114,000/- and Rs.1,500/-. The modal range of income earned is within Rs.50,001/- to Rs.1,00,000/- by 499 (31.2%) affected families. Next

Chart 4.2.8.9.b Average Annual Income (in Rs.) of Affected Families from different Occupations



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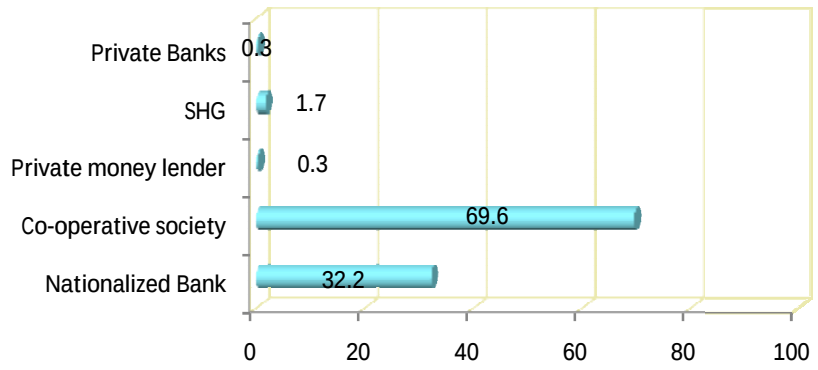
highest i.e. 366 (22.9%) families earned an income ranging from Rs.30,001/- to Rs.50,000/- followed by 363 (22.7%) earned an income between Rs.1,00,001/- to Rs.2,00,000/-. 159 (10.0%) families earned within Rs.15,001/- to Rs.30,000/- and 150 (9.4%) families earned within Rs.2,00,001/- to Rs.5,00,000/-. The survey results also show that there are 30 (1.9%) families who earned less than Rs.15,000/- and the number of families (30 families, 1.9%) earned above Rs.5,00,001/-per annum.

4.2.9 Support Services Received by the Affected Families

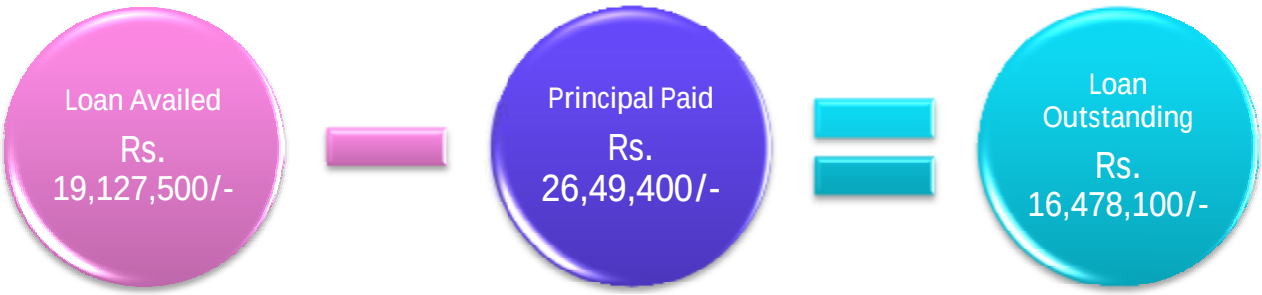
4.2.9.1 Credit / Loan support to the Affected Families

The survey findings reveal that only 289(18.1%) out of 1598 families have taken loans from different sources. Out of these 289 families, majority i.e. 201(69.6%) loans have been taken from the Cooperative Society followed by 93 (32.2%) have taken from the Nationalized Banks, 5 (1.7%) from the Self Help Group (SHG) and the rest 2 (0.6%) loans have been taken loan from Private Bank and money landers each. 276(95.5%) have taken loans by keeping mortgage e.g. land (273 families), Jewelry (3 families), etc.

Chart 4.2.9.1 Affected Families availed credit from different sources (in %)



Highest i.e. 236(81.7%) loans have been taken for investment in agriculture followed by 18 (6.2%) loans have been taken for business purpose. The rest of the loans have been taken for various consumption purposes like house construction, marriage, educational expenses, etc.



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A total of Rs.19,127,500/- has been taken by them as loan which comes to an average loan amount of Rs.66,185/- per family. So far (till the time of survey), Rs.26,49,400/-i.e. only 13.9% of loan has been repaid by only 71 (24.5%) out of 289 families. The loan outstanding is Rs.16,478,100/- which is 86.1% of the total loan amount to be repaid. On an average, the loan outstanding per family works out to be Rs.57,018/-.

4.2.9.2 Support Services Received from Government and Other Agencies

Among the various schemes run by the Government, the highest number of families i.e. 1,040(65.08%) out of 1598 each are provided rations under Antodaya,as well as provided rice under the Arnapurna scheme followed by 1,032 (64.6%) families getmonthly quota of 25kgs of BPL rice @ of Rs.2/- per kg. Next to BPL rice, 1,007 (63.0%) families are providedjob cards to get at least 100 days of wage employment under National Rural Employment Guarantee Scheme (NREGS).. The various social assistance schemes run by Government under which 2825persons are provided monetary assistance on monthly basis. Out of them, 970 are given widow pension, 949 are provided old age pension and the rest 906 persons are given handicapped pension. 962 families were given housing support under Indira Awas Yozana (IAY). Apart from them, very negligible number of families has received support under other different schemes of Government like Rural water and Sanitation, SGSY scheme, PMRY scheme, Pond, Bio-gas, Swajaldhara (836 families all) and APL scheme (835 families). *However, it is important for the project proponent to explore various schemes being implemented by Government to dovetail the same for the economic rehabilitation of the affected families.*

4.2.10 Institutional Membership of Affected Families

The family members of the affected families are members in various local and community level institutions. 13persons are Gram Panchayat members, 357 are members of the Cooperative Society, 2 are members of Religious Association, 5 are members of the political parties, 332 are SHG members, 7each are youth club,13 are education committee members, 4 are village committee members, 2 are GKS members and 1isa member of the forest protectioncommittee.

4.2.11 Rehabilitation Preferences of Affected Families

Besides knowing the socio-economic status of affected families, one of the key outputs expected from the survey is to know the preferences of affected families with regard to various rehabilitation entitlements outlined in Odisha R&R Policy, 2006. Accordingly, an attempt was made during the survey to know the preferences or choices of all the original affected families with regard to their rehabilitation.

But it is important to keep in mind that the respondents, during the survey, have been asked to make an on-the-spot choice on the rehabilitation package they would opt for, which cannot be taken as their final choice. The rehabilitation options given by them indicate the broad trends or direction. Given the long-term implication of the R&R choices, it may further be discussed and finalized.

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The details about the preferences given by 1598original affected families on their rehabilitation are presented hereunder.

4.2.11.1 Preferences for Rehabilitation

Table 4.2.11.1 Rehabilitation Preferences of Affected Families

	Total
Job for Self	286
Job for nominated family member	1219
Cash in lieu of job	93
Shop and service units	-
Preference share	-
Training for self	284
Training for nominated family member	1221
No training (for either of case) / Not Decided	93

Preferences for Job or Cash in lieu of Job or shops/service units or job for nominated family members or preference share

- Out of the 1598original affected families, 1219 (76.3%) want job/employment for nominated family members followed by 286 (17.9%) separate families want job / employment for self in OTPCL and the rest93 (5.8%) want cash in lieu of job.*It is clear from the above that the choice is heavily slanted towards either employment for self or employment for a nominated member of the family.*

Training Preferences

- 284 (17.8%) out of 1598original affected families want training for self whereas more than triple of it i.e. 1221 (76.4%) want training for the nominated family member. As many as 93(5.8%) separate families were undecided on training preferences at the time of survey.

4.2.12 Perceptions of the Affected Families about the Project

Similar to the displaced families, all the 1598 affected families are aware of the project coming-up in their area. However, only 111 (6.9%) think that the work in the project area will commence soon. Except 3 (0.2%), the rest 1595 (99.8%) perceive that the project will be beneficial for them. All of them feel that the project will provide them employment and business opportunities and will help them to get some other direct or indirect benefits from the project. Majority of the families perceive that the project will not only benefit at individual level but also benefit the entire villagers. 1595 (99.8%) felt that the project would provide employment to the youths in the village, 1270 (79.6%) felt that it would provide business opportunities to villagers, 955 (59.9%) thought that the socio-economic status of people in the area

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would be improved, 633 (39.7%) felt that the communication system in the area will be improved and 325 (20.4%) thought that the educational system of the area will be improved.

Out of those 3 families who perceive adverse consequences of project, all of them informed that it would cause environmental pollution, 2 felt that their agriculture will be affected and 1 felt that theirsocio-cultural life would be affected. All the 89 families informed that they would lose their income earning assets and source of livelihood, among them cent percent families informed that they will lose land, 641 (40.1%) said that their agriculture will be affected due to loss of land, 1272 (79.6%) said that they will lose their trees, 956 (59.8%) feel that they will loose forest and 317 (19.8%) said that they will lose agriculture labor.

In lieu of land, 1597 (99.9%) expect employment and only 1 family expect cash for land as the mode of compensation.

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CHAPTER - V

5. Summary, Recommendations and Conclusion

"There is need to ensure the protection of all project oustees …… and rehabilitation of a minimum of the standard of living they were enjoying prior to their displacement"

C.Z. Robless, Chief India Division
The World Bank
February 4, 1986

While industrial and such other development projects attempt to bring about overall development of the area and the people, one of the negative impacts of such projects is the acquisition of immovable properties and displacement of people. Several policies have been formulated in order to address this primary concern of development-induced displacement. All these policies mention that the projects which end up displacing people should see to it that the standard of living of the displaced as well as the other affected population is improved or at least restored. Therefore in addition to payment of compensation to those losing their assets for the project, it has been made mandatory that the displaced and other affected persons should be provided with assistance in terms of relocation, resettlement and rehabilitation.

One of the major objectives of any socio-economic survey and socio-cultural property survey is to gather empirical evidences to enable the project proponents anticipate, identify, and quantify the various impoverishment risks that Prof. Michael Cernea has enlisted in his Impoverishment Risks and Reconstruction (IRR) Model. Such an assessment would form critical inputs for planning for relocation, resettlement and rehabilitation of the affected communities. This survey attempts to gather information pertaining to various issues that affect the lives of the population to be displaced from their places of habitat, as well as affected due to acquisition of agricultural lands. The study is based on total enumeration or census of all the families, who are land losers as well as those who are to be displaced. People residing in Annapurnapurvillage are to be displaced by the project. The original families, who will be displaced are 89in number; and the survey has identified from among these original families, 133separate families (called DPs), by applying the categories specified in the Odisha R&R Policy (2006). There are families living in 10 villages, although not getting displaced but affected due to acquisition of agricultural lands.

While displacement is traumatic to the displaced people and has far-reaching consequences on their lives, project affected persons are in no way different from that consequences. In addition to the loss of lands and livelihoods, it causes environmental, social, economic, cultural damages to the people and the environment within which they have been living for generations. The proposed industrialproject of OTPCLneeds to address the problems of the affected persons of in such a manner that they are economically and socially better-off than before. Major findings from the study have been summarized below.

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5.1 Summary of Major Findings of the Study

5.1.1 Identification of DP & AP families

There was a need to carry out an enumeration, one of the key objectives of which is to estimate the no. of DPs and APs, as per the provisions enshrined in the R&R Policy of Odisha (2006). DP and AP families have to be identified by adhering to the definition of 'family' and the categories of 'separate family', given in the Policy. There are, however certain grey areas in the definition, which leave scope for varied interpretations. As Dr. Parasuraman states: "In India, even now, enumeration of all affected households and persons…. is not considered as an integral part of project appraisal. The definitional limitations left a number of households out of enumeration."

The survey team has adopted an interpretation to define family, which is by far more fair and liberal, but strictly in conformity with the definition of a 'family' in the Odisha R&R policy (2006). A total of 89 displaced (original) families have been identified, which according to 'separate' family of Odisha Policy, amounts to 133 extended families. *Among the displaced families, 100% is from theAnnapurnapur village alone.*

> *Recommendation:*
> *These families are staying in their villages for generations.Hence, their displacement can be psychologically a traumatic event. This requires lot of empathy while handling the process of shifting and relocation.*

The other original families, who will be affected due to loss of land, livelihood are 1598 in number; and the survey has identified from among 1598 original affected families, 3,094 separate families (called APs), by applying the categories specified in the Odisha R&R Policy (2006).*Heavy concentration of project affected families is found in Kantapaland Annapurnapur village*.

5.1.2 Classification of DP /AP Families

Out of the 133 displaced separate families identified in the survey, almost 88.7% i.e. 118fall under the category of 'major sons regardless of marital status'. The definition of a separate family in the Policy itself by default would create this skewness in favour of men. The Policy has rightly included certain vulnerable categories of displaced persons, and according to the survey, they are: 12 are 'widow / women divorcee', 2 are 'handicapped' and 1 is married woman with RoR holder. Thus among the DP families, a total of 15 persons are women who are eligible to receive R&R assistance. While in the DP families, 46.2% of members are women, among those who are eligible to receive R&R assistance, 11.3% are women.

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Recommendation:
The gap can to some extent be bridged by incorporating certain activities in the R&R action plan targeted at the women members of the displaced families.

Among the AP families also similar trend is observed; 2675 are major sons, 276 are 'widow / women divorcee / destitute', 41 are 'unmarried daughter / sister', 68 are 'handicapped' and the remaining 32 are others. Thus among the AP families, a total of 400 persons are women who are eligible to receive R&R assistance. While in the AP families, almost 47.0% of members are women, among those who are eligible to receive R&R assistance, only 13.0% are women.*Among the DPs, out of 169 male members in the family, 118 become eligible as DPs; whereas out of 145 women members, only 15 become eligible as DPs. In this project, out of every 100 male member displaced, 70 get R&R assistance; while only 10 out of 100 women displaced get R&R assistance as per the Policy. For land-losing AP families 73 out of 100 men and only 12 out of 100 women in the family can claim rehabilitation benefits.*

In addition, the definitional limitation of the Policy tends to eliminate married women in the category of 'separate family', even though land is acquired from married women who have legal title for such land.

5.1.3 Food insecurity, an impoverishment risk due to acquisition of lands from the DP / AP families

During the transition period, there is bound to be a drastic reduction in the economic status of the affected families, whereby those families living in the border line above the poverty level might actually get pushed down below the poverty level. Care must be taken to manage effectively this transition in order to prevent further impoverishment.

At present, in the village from where families will get displaced cultivation of crops is not remunerative due to lack of irrigation facilities, low level of adoption of improved farming practices, ineffective cropping pattern, etc. Despite this, farming is the source of livelihood for majority of families, as out of 89 families, 10 (11.2%) have individual holdings, 84 (94.4%) have joint holdings, 27 (30.3%) families each have leased-in land and leased-out land and 6 (6.7%) --families have encroached upon revenue and forest land of Govt. to cultivate crops.

Similar to the displaced families, for affected families also, farming seems the source of livelihood for majority of families, as out of 1598 families, 104 (6.5%) have individual holdings, 1566 (97.9%) have joint holdings, 172 (18.9%) cultivate in leased-in land, 504 (31.5%) have leased-out their land and get rent and 41 (2.5%) of families have encroached upon revenue and forest land of Govt. to cultivate crops. *For both DP and AP families, there is enough proof to show that people have tried to take care of their food insecurity by resorting to multiple options, including encroaching common property lands for cultivation.*

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Recommendation:
During the transition period, there is bound to be a drastic reduction in the economic status. Care must be taken to manage effectively this transition in order to prevent further impoverishment. One of the impoverishment risks due to land acquisition and displacement being increased food insecurity, adequate measures should be taken to see to it that those who possess the card have access to fair price shops, even after their relocation. In addition, dove-tailing with food-security related Govt. schemes, grain banks, etc. are some of the measures which can be considered.

This also cautions that due to acquisition of these lands, people's food insecurity would become more acute. One of the impoverishment risks due to land acquisition and displacement being increased food insecurity, adequate measures should be taken to address this impoverishment risk. *Due to dispossession of cultivable land from the AP families, the enhanced food insecurity must be viewed with the seriousness that it deserves.*

5.2 Acquisition of other assets

House:The status of house in which a displaced family lives is also an indicator of the overall economic status of the households. Walls of nearly 67.4% of them are made up of brick and cement; roof of 49.4% of them are concrete; and 64% of the houses have cement floor. About three quarters of the houses have electricity connection. A vast majority of the houses are devoid of separate bath room or toilet or washing space facilities.

It is particularly important while preparing the housing plan for resettlement of families, to have consultations with the concerned families about the type of houses they would prefer in the resettlement sites.

Among the affected families, it is found that the walls of 51.6% of them are made of brick and cement, while 26.3% of them are made of bamboo and mud plaster; roof of 49.1% of them are woven with Chhana' while 39.4% have concrete roof; and 50.8% of the houses have earthen floor, while the rest (49.2%) of houses have cement floors. Nearly 70% of the houses have electricity connection. Similar to that of the displaced families, a vast majority of the houses of affected families are also devoid of separate bath room or toilet or washing space facilities. This is indication of problem of sanitation that calls for ample attention.

These findings not only provide empirical evidence regarding disparity in the status of houses in which the displaced and affected families live, but also indicates sharp disparity in the economic status of these families.

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If families are provided with pucca houses in the resettlement colonies with electricity connections, cautious and judicious use of electricity may be a training point for the displaced families. There should also be concerted effort to promote awareness among them on sanitation.

Livestock:Land and livestock often go hand in hand. Data reveals that more no. of displaced families own cows (50.5%) than bullocks (47.1%). *Two inferences can be deduced from this finding. Firstly,ownership of bullocks is indicating the wide prevalence of cultivation, which is being carried out as one of the major sources of livelihood by the displaced and affected families. Secondly, in comparison to a non-tribal society, in a tribal society, cows are not seen as an income generating asset, where the milk production is taken up as a commercial activity. This is a vital input while planning for livelihood restoration activities in R&R.*

This is yet another vital input that can be effectively used in R&R planning. It throws up many questions for future about the availability of grazing grounds, fodder to support livestock, cultivation to engage the livestock, dairy farming, gobar gas plant, and so on.

- *How would the displaced families maintain these livestock in the resettlement colonies?*
- *With the acquisition of agricultural lands, how would the displaced families use the bullocks, which is a productive asset?*
- *What will happen to these livestock if any of the above is not feasible or possible?*

With regard to the affected families, animal husbandry is not assuming important place as a source of livelihood, only exception being the use of bullocks for agricultural purpose. It is revealed by the finding that less than one-eighth of affected families get income from livestock source.

Trees: Trees also have emerged as an important source to supplement not only income but also nutritional requirement of the displaced as well as affected households. When the land, homestead and houses are acquired for the project, a large number of the displaced families will be losing in addition to the above, a variety of trees as well.

A more judicious way to compensate for trees would be to take into consideration the possible loss of stream of income from such trees in their life span.
In many villages in the affected villages, locals have expressed time and again the negative impact the recent mining and industrial activities have had on the environment in general and on land productivity in particular. Even the land, trees and other productive resources that have not (yet) been acquired yield much less when compared to the past. The mining and industrial activities have certainly taken a toll on the quality as well as quantity of ground water, soil fertility, ecology, climate, and other natural elements necessary for production. This is a macro issue which must be addressed either individually or collectively by all the companies operating in the region as a part of their CSR initiative.

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5.3 Shifting and Relocation of the DP families

Displacement amounts to uprooting the people from their soil and the environment that belonged to them for generations, which are often associated with the memories of their ancestors, and hence which can be psychologically a traumatic event. This requires lot of patience, perseverance, empathy, compassion and sensitivity while handling the process of shifting and relocation.

The respondents, during the survey, were asked to make an on-the-spot choice on resettlement and rehabilitation, which cannot be taken as their final choice. The counter point being that, these responses can also be interpreted to be their spontaneous choice. It calls for further discussion with DFs in order to freeze their preferences, with time deadlines.This is applicable to resettlement as well as rehabilitation options.

Findings in the study provide ample evidence to prove that the displaced families would like to be consulted on several aspects, as described in detail in the previous chapter. If such consultation process is accompanied by counseling, escorting and hand-holding, it will help in trust building with the affected community.

5.4 Resettlement of the DP families

As has been the experience in several other projects, while planning for resettlement and in the allotment of house plots in houses, social caste dimensions need to be factored in, so that caste-related frictions can be avoided in the resettlement colonies.

Housing facilities is one aspect in the resettlement colonies of industrial projects, which has made significant difference to the resettlers;because nearly half of who did not have electricity connections before their displacement in such other projects possess houses that have electricity connection in the resettlement sites.

There are certain genuine gender concerns which can be incorporated in resettlement planning:

- *Layout of the houses (in consultation with women)*
- *Privacy for women*
- *Separate meeting places for women*
- *ICDS facilities for women and children*

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5.5 Education / skill enhancement / Placement for DP / AP family members

The dropout rate or discontinuance of education is found to be very high. It is 53.4% among male members and 46.6% among girls/women in displaced families. The only silver-lining is the lower rate of drop-out among girls/women than male members.

Another factor, which is a matter of concern, is the illiteracy. *Nearly one-sixth of the displaced family membersare pretty much vulnerable due to lack or absence of any formal education. This kind of vulnerability is much worse among women than men.* The overall rate of those who are illiterates, including those who can only affix their signatures is found to be 17%; among whom for women it is much higher than men.

Illiteracyenhances the vulnerability of these persons by getting disqualified for employment in the organization. Therefore, in consultation with them, there is possibility of assisting them, more so the women, in terms of upgrading their existing skills, supporting them to enhance their productivity and income levels.

Those boys and girls in the group of above 5 up to 18 years, who should be receiving education from primary to the Matriculation level, is the target group for making them beneficiaries by providing them quality education after their relocation. Similar facilities can also be extended to the corresponding category among AP families, under the umbrella of CSR initiatives. Although in this project area the level of literacy is relatively higher, there are certain pockets in the area having backwardness and illiteracy. Such regions in the peripheral area of the project can be identified for promotion of literacy as a CSR activity, and more focus may be given among the girl children.

More than one-third of the DP family members have completed high school and above or technically and vocationally skilled. It includes both men and women. 25 men and women of these families have been trained in various vocational skills such as, electrical, IT, driving, tailoring and nursing. Among AP families, about nearly half of boys and girls have completed high school and above or technically and vocationally skilled. 374 young men and 71 girls have been trained in varied vocational trades.

This is a potential group for skill building to enhance their employability in the near future. Preferences should be given to these young men and women in providing suitable employment inOTPCL. Besides, attempts can be made to explore the possibility of finding placement for them in any of the industries or ancillary units in the vicinity.
It is encouraging to find that in this part of the state, a number of girl children are receiving education on par with boys. Girls/women must be given equal opportunity in terms of training for up gradation of skills, employment and for economic rehabilitation.

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5.6 Rehabilitation assistance for the DP / AP families

The respondents, during the survey, have been asked to make an on-the-spot choice on resettlement and rehabilitation, which cannot be taken as their final choice. Because, choosing an option calls for a

More or less 40% of the people from both displaced and affected category belong to the age group of 18 to 40 years of age, which is the most economically productive age group. Attempts must be made to engage them by providing self-employment and other livelihood opportunities, in due consultation with them. It is equally important to enhance the employability of the displaced / affected personsthrough up-gradation of their skill levels.

wellinformed choice by the displaced. In the absence of any prior discussion as the R & R packages, options, etc. to choose from with very little time and without any opportunity for the respondents to discuss with other member of their family, the choice given by them can at best provide the direction and some indication and not their choice per se. And it is a choice of their life time, impacting their entire future that lies ahead; not their own future, but that of the generations to come as well.

Occupation-wise, there is heavy concentration of work force participation in cultivating agricultural lands and in wage earning from farm and non-farm sector. It has crucial implication in planning for economic rehabilitation of these families who depend on agriculture for wage-earning and livelihood. Due to displacement and land acquisition, there is going to be a major shift in the occupational pattern away from agriculture. This calls for meticulous planning in order to manage this shift, with proper and continuous escorting and hand-holding.

People have chosen as rehabilitation option, either employment for oneself or employment for a nominated member of the family or cash in lieu of employment.This clearly indicates the kind of expectation that people have for their rehabilitation. According to the R & R policy, one person from an extended family is eligible for employment for self or any nominated member of the family.

The choice of displaced families on rehabilitation assistance is heavily tilted towards job in the Company.This requires lot of discussion, consultation and counseling to convince the families regarding the benefits of other rehabilitation options.
Not a single respondent has opted for shops and service units or convertible preference shares. There is need to educate the displaced persons about various aspects of preference shares so that they can consider that option.

For those who are nearly 40 years of age, it will certainly pose lot of challenge at this stage of their life, to change gears to switch over to another type of employment. Therefore, in consultation with them, there is possibility of assisting them in terms of upgrading their existing skills, supporting them to enhance their productivity and income levels. Attempts must be made to rehabilitate them

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economically by providing employment opportunities that fit well with their skills, experience and interests.

Attempts should be made not to increase expectations and aspirations about jobs. Owing to a number of mining and industrial projects coming up in the District, the demand for direct and indirect employment is likely to get a boost. It is important to prepare persons to meet this demand. This is achieved through training on various vocational trades.
Efforts should be made to provide various levels of technical training depending on the need, qualification, ability and the willingness, so that people get more equipped to become employable.
Let people who have been enrolled in the training contribute a nominal sum as course fee, however small it may be. The seriousness on the part of the trainees to learn would increase.
The organization can take efforts to place their trainees in ancillary units and various other organizations.
Along with the technical training, training on entrepreneurship along with behavioural inputs such as achievement-motivation should be imparted to enhance self-employment opportunities.

From the data on average annual income per family from various occupations, several important findings can be deduced:

- **F** Income from agricultural wage earning being too low perhaps indicates significant contribution of family labour in cultivation. Non-farm sector provides better wage-earning opportunities to people, due to various projects being initiated in the area.

While owners of agricultural lands are entitled for compensation when their lands are acquired, those who are earning wages as agricultural labourers, yet another category of affected population is not compensated for the loss of livelihood under Odisha R&R Policy 2006. This calls for specific rehabilitation packages so that they do not suffer economic impoverishment.

- **F** It is surprising that although income from business and trading far excels that from agriculture, etc., people have not chosen provision of shops and service units as an important rehabilitation option.
- **F** It is clear from the data that almost half (45%) of the displaced families are earning an average income in the category of Rs.30,000 to Rs. 1lakh per annum. Because several among the occupations, with exceptions being certain salaried jobs and business enterprises, yield low income levels, households resort to pursuing multiple occupations to enhance their family income.
- **F** For AP families, the average net income from cultivation works out to be more than Rs. 20,267/- per annum, which is significantly higher than the average annual income from all occupations taken together.

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The analysis reveals that nearly 61.8% of the DP households and 62.2% of the AP households are dependents, not having any source of income. Among both DP and AP families, no. of women in this category is much higher than the men. *While planning for livelihood creation and restoration, it is important to identify from among these families, men and women, who can be gainfully employed or self-employed and include them as beneficiaries in various income-generating schemes.*

Organising women through formation of self-help groups is essential. Various income generating manufacturing and service oriented activities can be initiated among women, with adequate support in terms of creating a strong backward and forward linkages. As an important segment of human resources, they too need to be gainfully self- employed.
Promotion of small and micro enterprises is the key towards achieving sustainability of gainful livelihood activities. Continuous and concerted efforts are required in order to make them sustainable so that ultimately, the people from the displaced and affected communities take care of their livelihood on their own in future.

5.7 Need for focusing on the vulnerable groups –women and old aged

Quite often the R&R efforts tend to be gender-insensitive. With nearly half of the population getting displaced being young girl children and women, the R&R efforts must proportionately be targeted at them. As mentioned earlier, in this project, out of every 100 male member displaced, nearly 70 are eligible to get R&R assistance; while for every 100 women displaced, only 10 can receive R&R assistance as per the Policy. *One of the critical assessments of any R&R policy is that it excludes women to a large extent. Even in Odisha's R&R Policy, the more liberal among the state policies, such discrimination is seen. The gap can to some extent be bridged by incorporating certain activities in the R&R action plan targeted at the displaced women.*

Recommendation:
There are certain genuine gender concerns that need to be addressed:

- *Layout of the houses (in consultation with women)*
- *Privacy for women*
- *Separate meeting places for women*
- *ICDS facilities for women and children*

Experiences in other industrial projects have shown adequate evidences as to how the aged are left in the lurch to fend for themselves once the next generation receives rehabilitation assistance and hence susceptible to high vulnerability.
It is therefore recommended that for such aged persons, pension scheme can be introduced instead of other rehabilitation options specified in the Odisha R&R Policy.

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More than one-tenth of the displaced persons are above the age of 60 years.*Old persons, who are above the age of 60 years, are the ones who are almost certain to nominate another younger member of the family for employment and hence in need of social security support.*

Dove-tailing the benefits such as old age pension, widow pension, disability pension and other social welfare benefits is important to see to it that the risks and vulnerability of people belonging to very vulnerable segments of society are addressed.

5.8 Need to address the community infrastructure development

During the FGDs, the respondents expressed dissatisfaction over health and sanitation facilities including toilet and drainage, Higher Education and Technical Education, Extension Services for agriculture, animal resources and fisheries and Village Industries. Besides, there is poor connectivity to certain smaller hamlets in the big villages. Facilities for community centres and inside the community centres are also very poor. Many of the primary education institutions are poorly managed and lacking facilities. Some of the suggestions provided by the people regarding creation and maintenance of need-based social infrastructural facilities in the resettlement colonies are enlisted below.

- *Facilities for provision of safe drinking water and water for other purposes is extremely critical for all families who will be staying inside the resettlement colonies. Efforts must be made not only to create adequate water sources, but also for the maintenance and upkeep of the water sources created in the resettlement colonies.*
- *Attempts must be taken to provide better facilities for education and health care. Health care delivery through the ICDS schemes which have gained acceptance by the community. Along with it, better diagnostic and treatment facilities must be provided.*
- *Resettlement colonies efforts must be taken to provide sources for provision of fuel for cooking. If necessary and possible, attempts can be made to create community- owned and community - managed forestry programmes, near the resettlement site.*
- *Since the majority of the families to be displaced belong to traditional village communities, places of worship occupy a pivotal place in their customs and habits. It is highly imperative that their traditional practices and places of worship preserved even after their displacement.*
- *Along with the creation of infrastructure, every year funds should be allocated for maintaining them. Involving the resettled community in maintaining the infrastructure, and to prepare them for the same, will go a long way in ensuring sustainability of resettlement efforts.*

This study has provided lot of insights into the aspects or issues, which have to be factored-in while planning for the social infrastructure development process in the villages. There are village level groupism, caste- based conflicts, frictions created among the people with varied political affiliations, etc. which could hamper the spirit of CSR activities in the villages. These social, cultural and political complexities must be borne in mind before treading into any CSR intervention in the affected villages.

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To conclude, an attempt has been made in this study to identify in a holistic manner, the principal issues involved in resettlement and rehabilitation of the affected people in the project to be initiated by the OTPCL. Among other things, the study has provided empirical evidence to establish the fact that development projects such as this, tend to have adverse impacts on both displaced and project affected families, in terms of social, economic and cultural factors. Ultimate objective of the R&R policy is to provide the affected people with the means to improve or at least restore their former living standards, earning capacity and production levels.

The R&R policy of Odisha (2006) is claimed to be one of the most liberal one in its letter and spirit. But the real merit of the policy lies only in the seriousness with which the guidelines are put to implementation. The ultimate objective of any R&R policy is to restore the socio-economic status of the displaced and affected families. This can be achieved only when the policies are getting translated into practice.It is impossible for anyone to give back to the displaced and affected persons the environment, which has been taken. Yet, one can make a beginning by forming a support system - bearing in mind that true development of people can only take place if one allows it to flower through their own genius.

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