



SOLAR ENERGY CORPORATION OF INDIA LIMITED (SECI)



**Final Draft Resettlement Action Plan-
Hybrid Park
September 2018**



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1 EXECUTIVE SUMMARY

1.1 Introduction

The Solar Energy Corporation of India (SECI) is a PSU under the administrative control of the Ministry of New and Renewable Energy (MNRE), Government of India, intends to develop a Wind-Solar Hybrid Power project. This project will have a total capacity of 160 MW energy generation with energy storage facility at Ramagiri and Muthuvakuntla Village in Anantpur District of Andhra Pradesh.

The solar-wind hybrid park is supported by a special loan from the World Bank, as part of its 'Innovation in Solar Power and Hybrid Technologies' (ISPHT) project. Ownership of the project lies with SECI and energy generated through the project will be sold by SECI to Andhra Pradesh DISCOMs by way of a long term power purchase agreement with prior consent from Andhra Pradesh Electricity Regulatory Commission.

1.2 Project description

The proposed Solar-Wind Hybrid power Project includes establishment of a Solar PV farm with 120 MW capacity, a Wind farm of 40 MW capacity, a Battery storage facility and a transmission line from Ramagiri Pooling station to Hindupur Grid covering a length of about 45 Km. The proposed Solar-Wind Hybrid Park falls in the village Ramagiri (Mandal - Ramagiri) and Mutavakuntla (Mandal - Kanaganapalle) of Anantpur District of Andhra Pradesh State. The Geographical location of the identified site is 14°21' 29.7" N latitude and 77°31' 18.9" E Longitude.

1.3 Methodology

The action plan is based on the review of several primary and secondary data sources. Primary data was collected through intensive surveys to understand the broad baseline status and socio-economic profile of the local community, and to identify the legal entitlements of the Project Affected Families (PAFs) and Project Affected Persons (PAPs)/. Secondary data/information was collected from various agencies to ascertain/verify the ground realities, the socio-economic characteristics, physical features, and cultural ethos of the project area.

1.4 Land Requirement

The total land requirement for the proposed Hybrid Park is 889.93 acres. Approx. (72%) of affected land is assigned land and the balance (28%) is government land. The assigned land belongs to 216 families who are the Project Affected Families. The transfer of the remaining government lands will be carried out in accordance with existing government procedures.

1.5 Socio economic profile of the project area

According to Census of India 2011, the total population of the study area is 73,674 of which 51.43% are males and 48.57% are females. The average gender ratio of the study area is approximately 944 females per 1000 males, which is much better than the National average of 933 females per 1000 males. The total study area comes under rural settlement. The entire population of the study area has been grouped into 17,544 households and the average household size is approximately 4.12 persons/ household. Amongst the total population of the study area, 18.81% belong to Schedule Caste and Schedule Tribes. Scheduled Castes constitute 15.10% and 3.71% belongs to the Schedule Tribe community.



The average literacy rate of the study area is 53.21% (18,091) of which the male's literacy rate is 61.85% and the female literacy rate is 44.18%, with a gender gap of 17.67%. Census data on industrial classification of persons at work shows that 38.03% are cultivators, 45.70% are agricultural labourers, 1.71% are employed in household industry and 14.57% come under the category of other workers.

1.6 Minimizing adverse social impacts

In accordance with World Bank Operational Policy 4.12 on Involuntary Resettlement, efforts were made at the design stage to avoid and minimize adverse social impacts on people living in the immediate project area with regard to loss of agricultural land and livelihoods. Where this was not feasible, the social assessment has identified potential adverse impacts and mitigation measures to reduce these impacts. The project will take into account these assessments and mitigation measures to ensure that Project Affected Persons have access to project benefits, during project construction and operation.

1.7 Gender Strategy and Women's Participation

As per the census and socio-economic survey approximately 48% of the PAPs are women. Amongst this group, there are also 21 women headed households (WHHs), and women from vulnerable social groups/families (SC/ST) who will be affected by the solar hybrid park project. The gender section outlines the gender gaps and issues identified during ESIA and appropriate strategies to address these for equitable outcomes and benefits of the project for women and men.

1.8 Community Participation and Consultations

Public consultations were conducted as an integral part of the social impact assessment. During these consultations, the stakeholders were informed about the proposed project and their views and suggestions were recorded. This process helped to identify the key issues, needs and concerns of different groups within the community.

1.9 Applicable policies and R&R framework

The Right to Fair Compensation and Transparency in Land Acquisition and Rehabilitation and Resettlement (RFCTLARR) Act, 2013, Government of India, and World Bank policies on Social Safeguards, require social impact assessments to be carried out during the design stage to avoid, reduce and mitigate potential adverse impacts of project action, and enhance positive impacts, sustainability and development benefits.

Additionally, an ESMF has been developed for the proposed project which includes RPFs for all components of the project based on the RFCTLARR Act 2013; other national and state government legislations; and World Bank's Operation Policies OP 4.12 on Involuntary Resettlement. As part of the RPF, an Entitlement Matrix has been developed based on the provisions of the RFCTLARR Act, 2013 and World Bank's OP 4.12. Mitigation measures to reduce adverse social impacts have also been included in the RAP.

1.10 Project Affected Persons (PAPs)

A total number of 216 families will be affected due to the Hybrid Park. Out of which the survey has been conducted for 135 nos. of affected families for Ramagiri Village and 60 nos. of affected families for Muthuvakuntla village. Remaining 21 affected families were absent (7 families in Ramagiri village and 14 affected families in Muthivukuntla) during the survey. Distribution of



PAFs and PAPs are given in **Table 1.1** The average family size of affected persons based on primary survey is 3.99; which is less than the district average of 4.16.

Table 1-1: Project Affected Families and Persons

Affected Villages	No. of affected families	No. of affected persons
Ramagiri	142	559
Muthuvakuntala	74	303
Total	216	862

1.11 Institutional arrangement and implementation plan

The Resettlement Action Plan (RAP) provides details of appropriate institutional arrangements and mechanisms for implementation of the plan. The SECI will have an Environment & Social/Gender Officer at the corporate office, who will be supported by a Field Officer and a representative of the project developer. The field officer of SECI will be the first level of contact for any kind of grievances that may come up during the implementation of the project. It is envisaged that the land acquisition and the compensation activities will be completed within 15 months of commencement of the project.

1.12 Grievance Redressal Mechanism

A three-tier grievance redressal mechanism will be established to ensure speedy resolution of disputes. An integrated system will be established with adequate manpower at state and project level, as well as in SECI. Grievances if any, may be submitted either in person, in written form to a noted address/e-mail, or through direct calls to SECI.

1.13 Implementation Schedule

A detailed implementation schedule of the various activities to be undertaken has been included in the RAP, with the resettlement implementation schedule clearly linked to the civil works implementation schedule. The acquisition of land and related assets shall take place only after compensation has been paid and, where applicable, resettlement sites and displacement allowances have been provided to PAPs. The implementing agency will ensure appointment/deployment of adequate and experienced staff for the smooth implementation of RAP in accordance with the approved schedule.

1.14 Training, skill up gradation and income restoration

One of the key objectives of the RAP is to restore the livelihood conditions of the PAPs to the pre-project level status. Under the project the main focus of restoration and enhancement of livelihoods will be to ensure that PAPs are, at least, able to "regain their previous living standards". To this end, some training and income generation opportunities have been identified.

1.15 Monitoring and Evaluation

The RAP establishes the provisions for Monitoring and Evaluation (M&E). SECI will be responsible for internal monitoring of RAP implementation. An external agency will be appointed for the

evaluation of RAP implementation and compliance.

1.16 Costs and Budget

The budget is indicative in nature and consists of outlays for the different expenditure categories that have been calculated at the prevailing prices. The costs are based on the information collected through socio-economic surveys and census/revenue department data, and current market prices. The total budgetary provisions suggested for R&R activities from land acquisition to implementation and evaluation is approximately INR 23 Crores. The estimated budget for RAP implementation is presented below in **Table 1.2**.

Table 1-2: Estimated Costs for Resettlement Action Plan (RAP) as per Entitlement of Provisions of ESMF under SECI

Sl. No.	Items	Unit	Quantity	Unit Rate (in INR)	Amount (in INR)
1	Assigned land	Acre	643.85	3,25,000*	20,92,51,250
2	Assistance for Vulnerable Families (as per EM)	Nos.	216	50,000	1,08,00,000
3	Training Assistance to PAPs (as per EM)	No. of families.	216	10,000	21,60,000
4	Hiring of agency for M & E of RAP and GAP implementation	-	-	Lumpsum	15,00,000
5	GRC	-	-	Lumpsum	2,00,000
6	Awareness Generation and continued consultation			Lumpsum	2,00,000
7	Livelihood and Capacity Building trainings			Lumpsum	22,50,000
8	External Monitoring and Evaluation			Lumpsum	10,00,000
9	RAP Implementation Agency			Lumpsum	15,00,000
	Sub-Total				22,88,61,250
10	Contingency @ 2 % of Total Cost				45,77,225
	G.Total				23,34,38,475

*Based on Govt Rate

2 INTRODUCTION

2.1 Project Background

The use of renewable energy is the demand of today's time. India is set on a path of development where the demand for energy is rising exponentially and the current energy produced by thermal and hydro power plants does not meet this growing demand. India has taken several steps in promoting power generation through clean and green energy technologies to meet this growing demand for energy.

SECI (Solar Energy Corporation of India Limited) is a PSU under the administrative control of



the Ministry of New and Renewable Energy (MNRE), set up on 20th Sept, 2011 to facilitate the implementation of Jawaharlal Nehru National Solar Mission (JNNSM) dedicated to solar energy. However over the years, the mandate of SECI has also been broadened to cover the entire renewable energy domain. Wind and solar energy are becoming popular owing to abundance, availability and ease of harnessing for electrical power generation. Power generation from renewable sources is on the rise in India, with the share of renewable energy in the country's total energy mix rising from 7.8% in the year 2008 to 20% in 2018. Currently the total installed capacity of renewable energy in India is 69.022 GW. Wind energy accounts for about 49.3% of the total renewable energy installed capacity, with 34.046 GW of installed capacity, making India the world's fourth-largest wind energy producer. The contribution of solar energy is 31.4 percent of total installed capacity with 21.651 GW which makes India the 6th largest solar energy producer.

India has set an ambitious target of achieving 175 GW of renewable power generation by the year 2022. With this ambitious target, India will become one of the largest Green Energy producers in the world, surpassing several developed countries. India plans to achieve 40% cumulative Electric power capacity from non-fossil fuel based energy resources by 2030 with the help of transfer of technology and low cost International Finance including from the Green Climate Fund. As a step towards achieving this target, SECI has intended to develop this Wind-Solar Hybrid project having a total capacity of 160 MW energy generation with an energy storage facility at Ramagiri and Muthuvakuntla Village in Anantpur District of Andhra Pradesh.

The Project is supported by a special loan from World Bank, as part of its 'Innovation in Solar Power and Hybrid Technologies' (ISPHT) project. ISPHT's first sub-project is the 160 megawatt (MW) solar-wind hybrid power plant with a battery energy storage solution (BESS) in Ramagiri and Muthavakuntla, Ananthapuramu District, Andhra Pradesh (Ramagiri sub-project). Out of the total capacity of 160 MW, the wind farm will have 40 MW of capacity and the Solar PV Park will have 120 MW (AC) Capacity. The project also includes an energy storage and power evacuation system.

The power generated from the park will be evacuated through 400/220 KV Substation at Hindupuramu, which is under construction, at 220 KV level and a pooling station of 220/33KV would be constructed close to the site. A 220KV double circuit transmission line would be constructed to connect the 220/33KV PSS and 400/220KV substation at Hindupuramu for 45Km. Ownership of the project lies with SECI and energy generated through the project will be sold by SECI to Andhra Pradesh DISCOMs by way of long term power purchase agreement with prior consent from Andhra Pradesh Electricity Regulatory Commission. The project is proposed to be commissioned by March 2019 and completed in eleven months.

2.2 Area of study

The proposed project is located in Anantapur district in the Rayalaseema region of Andhra Pradesh. The district headquarters is located in Anantapur city. The district has five divisions namely Anantapur, Dharmavaram, Kadiri, Kalyandurga and Penukonda divisions. These revenue divisions are further classified into 63 mandals. Anantapur district ranks 1st in terms of area with 19,130 Sq. Kms., and ranks 7th in terms of population with 40,81,148 persons in the State. The project district ranks 7th in terms of urban area with 376.89 Sq. Kms., and ranks 9th in terms of urban population with 11,45,711 persons in the State. The district ranks 1st in terms of rural area with 18,753.11 Sq. Kms., and ranks 6th in terms of rural population with 29,35,437 persons in the State. The Ramagiri solar/wind farm site is located approximately 80 km to the Southwest of Anantapur District Headquarters. The entire hybrid park is being set up on revenue lands of Muthavakuntla village of Kanaganapalli Mandal and Ramagiri village of Ramagiri Mandal in Anantapur district.



2.3 Approach and Methodology

This section describes the approach and methodology adopted for data collection and analysis for gaining an in-depth understanding of likely social and cultural impact of the project in the area. It also outlines the methods, tools and techniques used for screening and identification of key issues; impacts and concerns. The Resettlement Action Plan (RAP) was prepared based on this analyses and identification of key issues and concerns. Several stakeholder consultations were also carried out during the site visits. A conjunctive approach was followed with a view to comply with the applicable National and state laws and Acts and the applicable World Bank guidelines.

2.4 Methodological Framework

The project adopted an integrated approach towards planning and design. The engineering, environment and social specialist teams all worked together in a coordinated manner. The social assessment for analysis of impacts was carried out through a series of complementary processes which included the following:

2.4.1 Analysis and Finalization of Alternatives

A detailed survey based study was carried out by the Detailed Project Report (DPR) Consultants' and Social, Environmental and Engineering teams. A set of parameters were developed to help in assessing the most suitable site for the hybrid park. The parameters were: social and cultural impacts; capital cost and scope for future expansion; land acquisition/displacement requirements; user cost; environment impacts and technical suitability.

2.4.2 Preliminary Social Screening Survey

The main objective of Social Screening Survey and was to analyze and assess social impacts, to ensure that the project options are based on authentic baseline information of the project area, and are in compliance with the State, Government of India and World Bank guidelines and regulations.

The Social Assessment was the basis for development of a Resettlement Policy Framework and the Resettlement Action Plan. The mitigation measures indicated are based on the social assessments and are sustainable and contribute to social development goals. The RAP also ensures that PAPs are appropriately resettled and rehabilitated so that livelihoods and standards of living of PAPs are improved or at least restored to previous standards.

2.4.3 Collection of Land records (Khatauni) for Identification of PAPs

After the transfer of the project site map on the village land revenue maps, the relevant land records were collected for purpose of identifying the affected plots. The plot numbers identified after collation and analysis of the land/revenue records were physically verified and the owners of these plots were identified through primary surveys.

2.4.4 Data Collection

Data for the Social Impact Assessment was collected through various primary and secondary sources. The RAP has been developed on the basis of this social impact assessment.

2.4.4.1 Collection of Primary Data

Primary data was collected through an intensive survey to understand the broad baseline status and socio-economic profile of the local community and to establish the legal entitlement of the PAFs/PAPs.



A door-to-door survey was carried out covering all the Project Affected Families. Further a separate schedule was used for collection of data on existing social infrastructure and amenities, from the villages within the buffer zone. All plots of land getting affected were documented and name(s) of the owner(s), address, legal/entitlement documents (if any, towards claim of the property), tenure status, and possible project induced losses were also recorded. In addition, information was collected about PAFs; occupation (agriculture, share cropper, business and service), literacy level of male and female members; economic status, income and other socio-economic details. This helped to determine the nature and extent of vulnerability of the PAFs (for special considerations under the entitlement framework of the project). Information on project affected common/community property like religious structures, public property (offices, post office, police station etc.), and institutions was also collected and documented.

2.4.4.2 Collection of Secondary Data

Secondary data/information was collected from various agencies to ascertain/verify the ground realities, the socio-economic characteristics, physical features and cultural set-up of the project area. The secondary data sources were- documents collected from the Tehsil Offices and others agencies, Published Articles, Census Publications, District Statistical Handbook for Anantpur and Forest data.

2.4.5 Community Participation and Consultations

The preliminary consultations were carried out through Focus Group Discussions (FGDs), and meetings with the PAPs and other community members in the project villages. Stakeholder consultations were conducted at designated community centers to encourage maximum participation of people. Panchayat members were consulted and requested to inform the community of these consultations. The Team also had informal meetings with village leaders, panchayat members, patwaris, district authorities, division and sub-division officials, forest officials and the business community. The SECI and the project developer were responsible for ensuring participation of the community at sub-project level

2.4.5.1 Significance of Public Consultation

Public meetings and consultations are effective tools for people's participation in project design and implementation. They serve as a platform for bringing together different stakeholders like administrative units, implementation units, project affected people (PAPs) and civil society organizations (CSOs) in the area. These consultations provide insights into people's perceptions, beliefs, priorities, concerns and aspirations. Public consultations are therefore an important tool to assess people's perception of the project and understanding the key issues and concerns of the project-affected persons.

2.4.5.2 Consultation and Participatory approaches adopted

The RAP describes the consultation process that was carried out during the preparation stage of the project included in-depth interviews (a combination of formal and informal interviews), public meetings and focused group discussions with women and other vulnerable groups. The issues raised and discussed in these consultations have been incorporated in the RAP.

Stakeholders Identification and classification

As a part of participatory process multiple stakeholders were identified and consulted for identification of; critical issues'potential impacts, PAFs/PAPs for resettlement and rehabilitation project planning, execution, monitoring and evaluation. The stakeholders have been classified as primary and secondary stakeholders. The details of identified stakeholders are described below.



➤ **Primary level Stakeholders**

- Directly affected people: People losing Land and sources of livelihood
- Indirectly affected people: Project side villagers likely to be affected by air and noise pollution, accidents, communicable diseases, etc
- Agencies / individuals having local knowledge about the area
 - Village Panchayat
 - SHGs
 - Youth associations, farmers associations etc.
 - User group committees, education and health committees etc
 - Service provision providers like anganwadi workers, ANMs etc
 - NGOs/CSOs

➤ **Secondary Stakeholders**

The secondary stakeholders comprise of government institutions, local elected representatives, and community based and civil society organizations that are expected to play a role in the project execution and oversight. They are as follows:

- NREDCAP
- Drainage and Watershed management Authority
- Revenue Department
- Agriculture Department
- Forest Department
- Electricity Department
- Planning Department
- Heads of households likely to be impacted
- Household members
- Clusters of PAPs
- Villagers
- Village panchayats
- Government Agencies and Departments
- Civil society organizations/NGOs



3 REGULATORY FRAMEWORK

3.1 Introduction

Infrastructure development programs require acquisition of land which is likely to result in some adverse social impacts on the community and people living within the core project areas. The ESIA was carried out to gauge the extent of likely changes to the society and the environment and to formulate remedial measures.. To minimize the adverse negative impacts of such development projects on the affected population, various policies and legal guidelines have been prepared by the concerned governments and funding agencies.

3.2 Eligibility Criteria

Project Displaced/Affected Persons have been classified in the following three groups:

- (a) Those that have formal legal rights to land, building or fixed assets on the land and buildings taken by the Project (including customary and traditional rights recognized under the laws of the land)
- (b) Those who do not have formal legal rights to land, building or fixed assets on the land and buildings taken by the Project at the time the Census begins but have a claim to such land, building or fixed assets on the land and buildings taken by the Project, provided that such claims are recognized under the laws of the land
- (c) Those that have no recognizable legal right or claim to the land, building or fixed assets on the land and buildings being taken by the Project but depend on them for their survival.

Persons covered under (a) and (b) are provided compensation and other assistance for the loss of land and livelihoods. Persons covered under (c) are provided resettlement assistance, in lieu of compensation for the land they occupy or depend upon, and other assistance, as necessary, to achieve the objectives set out in this policy, if they occupy the project area prior to the cut-off date. Persons who encroach on the areas after the cut-off date are not entitled to compensation or any other form of resettlement assistance.

3.3 Resettlement Policy Framework

The guidelines are prepared for addressing the issues limited to the project for resettlement and rehabilitation of the PAPs. A project specific policy has been developed based on the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (RFCTLARR) Act, 2013 subject to subsequent supplements by state governments and World Bank Operational Policy 4.12 on Involuntary Resettlement.

3.4 Resettlement Principles

The broad principles of the Resettlement and Rehabilitation (R&R) policy are as given below;

- 1) All negative impacts including displacement should be avoided/ minimized wherever feasible by exploring all viable alternative project designs.
- 2) Where negative impacts are unavoidable, efforts should be made either to improve the standard of living of the affected persons or at least assist them in restoring their previous standard of living at no additional cost to them.
- 3) Ensure peoples' participation during the course of the project cycle.
- 4) Effort should be made towards the enhancement of the positive impact of the projects.



- 5) The Entitlement matrix and RAP should include gender-specific implication of land acquisition and rehabilitation. Special emphasis must be given to female headed households and their special needs/availability/vulnerabilities. Clear strategies to mitigate any adverse social impact on women should be developed based on the gender analysis of men and women in the area.

The Policy aims to resettle and rehabilitate the affected persons on account of its sub-projects in a manner that they do not suffer from adverse impacts and shall improve or at-least retain their previous standard of living, earning capacity and production levels. It is also the endeavour of SECI that the resettlement shall minimize dependency and be sustainable socially, economically and institutionally. Special attention will be paid for the improvement of living standards of marginalized and vulnerable groups. This policy recognizes that involuntary resettlement dismantles a previous production system and a way of life, and therefore all the rehabilitation programs will adopt a developmental approach rather than the welfare approach.

The implementation of solar projects would involve transportation of equipment during the installation phase and all efforts will be made during implementation to minimize any disturbance in the daily activities of the local people. Before taking possession of the acquired lands and properties, all compensation, resettlement and rehabilitation would be made in accordance with this policy. Before taking possession of acquired land, sufficient time would be provided to harvest standing crop (if any).

3.5 Entitlement Matrix

The entitlement matrix for this project has been developed in accordance with the basic principles adopted in the Resettlement Policy Framework and analysis of initial identification of project impacts. In case a State Government through any Act or Gazette Notification or as approved by any authority of State Government (duly authorized for the purpose) as per their approved procedure has fixed a rate for compensation of land which is higher than the provisions under the project, the same may be adopted by the Competent Authority in determining the compensation for land. Similarly, in case a State Government through any Act or Gazette Notification or as approved by any authority of State Government (duly authorized for the purpose) as per their approved procedure has fixed a rate for resettlement and rehabilitation assistance which is higher than the provisions under the project, the same may be adopted by the Executing Authority.

The resettlement and rehabilitation (R&R) benefits shall be extended to all the Project Affected Families (PAFs) whether belonging to below poverty line (BPL) or non-BPL. The details are provided in the entitlement matrix (presented below). The contractor will ensure that access to residences or business or agricultural land is not blocked during construction or subsequently. The easement rights for the villagers shall be ensured while planning the layouts for the park. The agency responsible for RAP implementation and M&E will bring it to the notice of project authorities if the contractor fails to do so.

A Gender Action Plan (GAP) has been developed for the project implementation phase, to address the gender issues identified in the ESIA. Gender specific implications of land acquisition and resettlement will be clearly identified. Clear strategies to mitigate any adverse social impact on women will be developed based on the gender analysis of men and women in the area. The GAP includes gender disaggregated data and issues (across all social groups) related to gender disparities, needs, constraints, priorities, risks, benefits and opportunities. This action plan must be fully understood and owned by the community and executing agency.

Opportunities for equal access to project benefits for men and women need to be created. During project implementation and construction, suitable work conditions for women's

participation and gender-equal wage rates, safety & security issues, child care facilities, and health and sanitary requirements spate toilets for women need to be considered. Strict adherence to child labour norms need to be followed.

The entitlement matrix applicable in the park project for RAP implementation is given in **Table 3-1**.

Table 3-1: Entitlement Matrix

S.No.	Application	Definition of Entitled Unit	Entitlement	Details
A.	Loss of Private Agricultural, Home-Stead & Commercial Land			
	Land for RE Project	Titleholder family and families with traditional land Rights	Compensation at Market value, Resettlement and Rehabilitation	<p>Land for land, if available. Or, Cash compensation for the land at replacement value, which will be determined as provided under section 26 of RFCTLARR Act 2013.</p> <p>b) The land if allotted will be in the name of both husband and wife.</p> <p>c) If post acquisition, residual land is economically unviable, the land owner will have the choice of either retaining or selling of the of rest of the land.</p> <p>d) Refund of stamp duty and registration charges incurred for replacement land to be paid by the project; replacement land must be bought within a year from the date of payment of compensation to project affected persons.</p> <p>e) Subsistence allowance of Rs. 36000 as one time grant</p> <p>f) One time grant of Rs. 500,000 or annuity</p> <p>g) Compensation at market value for loss of crops if any</p>
	Residual land	Titleholder family and families with	Compensation at replacement value,	In case residual land is found to be economically

S.No.	Application	Definition of Entitled Unit	Entitlement	Details
		traditional land Right	Resettlement and Rehabilitation	<p>unviable, PAPs have the choice of:</p> <p>a) selling off the residual land at the replacement value to the project</p> <p>b) take 25% of the compensation value and retain the land parcel.</p>
B.	Loss of Private Structures (Residential/Commercial)			
	Loss of Structure	Title Holder/ Owner	Compensation at Market value, Resettlement & Rehabilitation Assistance	<p>a) Cash compensation for the structure at replacement value which would be determined as per as per section 29 of the RFCTLARR Act 2013. House under Indira Awas Yojana in rural area or Rs 50000 in lieu off and house under RAY in urban area or Rs 100,000 in lieu off. The house if allotted will be in the name of both husband and wife.</p> <p>b) Right to salvage material from the demolished structures.</p> <p>c) Three months' notice to vacate structures.</p> <p>d) Refund of stamp duty and registration charges for purchase of new alternative houses/shops at prevailing rates on the market value as determined in (a) above. Alternative houses/shops must be bought within a year from the date of payment of compensation.</p> <p>e) In case of partially affected structures and the remaining structure remains viable, additional 10% to restore the</p>

S.No.	Application	Definition of Entitled Unit	Entitlement	Details
				<p>structure. In case of partially affected structures and the remaining structure becomes unviable additional 25% of compensation amount as severance allowance.</p> <p>f) Subsistence allowance equivalent to Rs. 36000 as one time grant.</p> <p>g) Each affected family getting displaced shall get a one-time financial assistance of Rs 50,000 as shifting allowance.</p> <p>h) Each affected family that is displaced and has cattle, shall get financial assistance of Rs. 25,000/- for construction of cattle shed.</p> <p>i) One time grant of Rs. 50,000 as resettlement assistance</p> <p>j) Each affected person who is a rural artisan, small trader or self-employed person and who has been displaced (in this project owner of any residential-cum commercial structure) shall get a one-time financial assistance of Rs 25,000/-for construction of working shed or shop.</p> <p><i>In case only part of the structure is demolished and rest of the structure becomes unsafe or economically unviable, project to compensate for the entire structure.”</i></p>
	Structure	Tenants/ Lease Holders	Resettlement & Rehabilitation Assistance	a) Registered lessees will be entitled to an apportionment of the compensation payable to structure owner in case the lessee has erected any part of

S.No.	Application	Definition of Entitled Unit	Entitlement	Details
				<p>the structure as per applicable local laws.</p> <p>b) In case of tenants, three months written notice will be provided along with Rs 50,000 towards shifting allowance.</p>
C.	Loss of Trees and Crops			
	Standing Trees, Crops	Owners and beneficiaries (Registered/ Un-registered tenants, contract cultivators, leaseholders & sharecroppers	Compensation at market value	<p>a) Three months advance notice to project affected persons to harvest fruits, standing crops and removal of trees.</p> <p>b) Compensation to be paid at the rate estimated by:</p> <p>i) The Forest Department for timber trees</p> <p>ii) The State Agriculture Extension Department for crops</p> <p>iii) The Horticulture Department for fruit/flower bearing trees.</p> <p>c) Registered tenants, contract cultivators & leaseholders & sharecroppers will be eligible for compensation for trees and crops as per the agreement document between the owner and the beneficiaries.</p> <p>d) Un-registered tenants, contract cultivators, leaseholders & sharecroppers will be eligible for compensation for trees and crops as per mutual understanding between the park/project owner and the beneficiaries.</p>

S.No.	Application	Definition of Entitled Unit	Entitlement	Details
D.	Loss of Residential/ Commercial Structures to Non-Titled Holders			
	Structures on Government land	Owners of Structures or Occupants of structures identified as per Project Census Survey	Resettlement & Rehabilitation Assistance	<p>a) All non-titleholders including encroachers and squatters will be compensated for the structure as described in section 29 of the RFCTLARR Act 2013 but not for the land. They will be given three months' notice to vacate occupied land.</p> <p>b) All squatters (other than kiosks) will be eligible for one time grant of Rs 36000 as subsistence allowance. c) All squatters other than Kiosks will be given shifting allowance of Rs 50,000 per family as one time grant for a permanent structure and Rs. 30,000 for a semi-permanent structure and Rs. 10,000 for a temporary structure.</p> <p>d) Each affected person who is a rural artisan, small trader or self-employed person assistance' of Rs 25,000/- for construction of working shed or shop.</p> <p>e) In case of Kiosks, only Rs. 5000 will be paid as one time grant.</p> <p>f) In case only part of the structure is demolished and rest of the structure becomes unsafe or economically unviable, project to compensate for the entire structure.</p>
E.	Loss of Livelihood			
	Families living within	Title Holders/ Non-Title holders/	Resettlement & Rehabilitation Assistance	a) Subsistence allowance of Rs. 36,000 as one time grant. (PAPs covered under 1(f), 2 (f) and 5 (e) above would not

S.No.	Application	Definition of Entitled Unit	Entitlement	Details
	the project area	sharecroppers, agricultural labourers and employees		be eligible for this assistance). b) Training Assistance of Rs 10,000/- for income generation per family. c) Temporary employment in the project construction work to project affected persons with particular attention to vulnerable groups by the project contractor during construction, to the extent possible and preference in the employment of semi-skilled and unskilled jobs in the project with adequate training for the job.
F.	Additional Support to Vulnerable Families and women			
	Families Within project area	As per definition of vulnerable	Resettlement & Rehabilitation Assistance based on vulnerability and gender based analysis and assessment	One time additional financial assistance of Rs. 50,000. Squatters and encroachers already covered under clause 5 are not eligible for this assistance.
G.	Loss of Community Infrastructure/Common Property Resources			
	Structures & other resources (e.g. land, water, access to structures etc.) within the project area	Affected Communities and groups, particularly women	Reconstruction of community structure and common property resources	Reconstruction of community structure and Common property resources in consultation with the community and women in particular
H.	Temporary Impact During Construction			
	Land & assets	Owners of land & Assets	Compensation for temporary	Compensation to be paid by the contractor for loss of assets, crops and any other

S.No.	Application	Definition of Entitled Unit	Entitlement	Details
	temporarily impacted during construction		impact during construction e.g. damage to adjacent parcel of land / assets due to movement of vehicles for transportation of equipment's, machinery and construction activities for Infrastructure development.	damage as per prior agreement between the 'Contractor' and the 'Affected Party'.
I.	Land on lease / assigned land			
	Patta land owners	Land Owners/ usufruct right	Compensation	a) Cash compensation as per the circle rate c) Provisions related to loss of structure/ trees/crops as per the provisions of section B and / or D as applicable.
	Agricultural Labour	Non-Title holders/ sharecroppers, agricultural labourers and employees	Annual Lease rental for use of land	Lease amount paid to land owner will be deducted from the compensation of land owner and returned to the lease holder. Will receive Rs. 36,000 as one time grant

3.6 Relevant Acts and Policies

This section presents the legal framework for the land acquisition process and the Resettlement and Rehabilitation Policy which also includes the entitlements for affected and eligible families. The project has developed Resettlement and Rehabilitation Policy based on the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013; World Bank's OP 4.12 and government orders issued by state government for issues related to R&R. The policy recognizes the need to support restoration of livelihoods of adversely affected people and lays down norms for rehabilitating the affected people and broadly outlines an approach and institutional framework to achieve its objectives. The key Social regulations and

legislations that will govern then preparation and implementation of the project are presented below:

Table 3-2: Relevant Social Legislations

Acts/Rule/Policy	Year	Objective	Applicability to this Project	Responsible Agency
Right to fair compensation and transparency in land acquisition, rehabilitation and Resettlement Act	2013	Fair compensation for acquisition of immovable assets; Resettlement of displaced population due to LA and economic rehabilitation of all those who are affected due to land acquisition.	Yes. In case of acquisition of land	Revenue Department. Govt. of A.P.
Seventy Third Constitution Amendment Act,	1992	The Act enables participation of Panchayat level institutions in decision-making by broadening the village level functions, supporting implementation of development schemes. The Act provides for involvement of the PRIs especially, the Gram Sabha/ Panchayat during project preparation and implementation. The Panchayats at the village level will be involved for preparation and implementation of the project.	Yes, especially for any sub project located in panchayat area	Department of Panchayati Raj, Government of Andhra Pradesh

3.7 World Bank Safeguard Policies

Projects financed by World Bank needs to comply with World Bank Operational Policies 4.12 on involuntary resettlement and other applicable policies to avoid, minimize and reduce the adverse affects of development projects. The safeguard policies of World Bank are provided in the table below.

Table 3-3: Safeguard Policies of World Bank

World Bank Safe Guard Policies	Objective	Applicability	Safeguard Requirements
OP/BP 4.12	Involuntary Resettlement- The objective of this policy is to avoid or minimize involuntary resettlement	The project will acquire assigned / patta and resulting in loss of	Resettlement Action Plan in consultation with the community and

World Bank Safe Guard Policies	Objective	Applicability	Safeguard Requirements
	where feasible, exploring all viable alternative project designs. Furthermore, it intends to assist displaced person in improving their former living standards; community participation in planning and implementing resettlement; and to provide assistance to affected people, regardless of the legality of title of land	income sources or means of livelihood.	project authorities The project will adversely impact 216 project affected families (862 project affected persons). Resettlement Action Plan has been prepared).
OP/BP 4.11	Cultural Property –This policy aims at assisting in the preservation of cultural property, historical, religious and unique natural value-this includes remains left by previous human inhabitants and unique environment features, as well as in the protection and enhancement of cultural properties encountered in Bank- financed project.	This policy may be triggered for chance find of cultural property, historical, religious and unique natural value-this includes remains left by previous human inhabitants and unique environment features may be affected during construction stage of the project.	Application has to be prepared and submitted to Archaeological department / appropriate authority. No such property was found during the SIA process.

Table 3-4; Comparative Analysis of World Bank OP 4.12 on Involuntary Resettlement and RFCTLARR Act, 2013

Sr. No.	Topics/Issues/Areas	World Bank OP4.12	RFCTLAR&R	Remarks / Measures taken to address in ESMF
1	Application of LA	Direct economic and social impacts that both result from Bank-assisted investment projects. Applies to all components of the project that result in involuntary resettlement, regardless of the source of financing.	Section 2 Applicable to projects where government acquires land for its own use, hold and control, including PSU and for public purpose; for PPP where ownership of land continues to vest with govt; private companies where 80% of land	

Sr. No.	Topics/Issues/Areas	World Bank OP4.12	RFCTLAR&R	Remarks / Measures taken to address in ESMF
			owners ¹ have given consent or 70% in case of PPP.	
2	Principle of avoidance	Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project design	Alternatives to be considered as Act in chapter II, point # 4 (d) says "extent of land proposed for acquisition is the absolute bare minimum needed for the project; and (e) says land acquisition at an alternate place has been considered and found not feasible.	In line with bank OP 4.12
3	Linkages with other projects	OP 4.12 applies to all components of the project that result in involuntary resettlement, regardless of the source of financing. It also applies to other activities resulting in involuntary resettlement, that in the judgment of the Bank, are (a) directly and significantly related to the Bank-assisted project, (b) necessary to achieve its objectives as set forth in the project documents; and (c) carried out, or planned to be carried out, contemporaneously with the project.	No such provision	The ESMF will be applicable for all components of the project that or any linked project necessary to achieve its objective.
4	Application of R&R	Same as above	In addition to the above, Section 2(3) land purchased by private company as prescribed by Govt. or when part acquired by govt	Provision of OP 4.12 to apply.

¹ Land Owner – whose land and immovable property acquired and land assigned by state or central govt under any scheme (Section 3 c (i) and (v))

Sr. No.	Topics/Issues/Areas	World Bank OP4.12	RFCTLAR&R	Remarks / Measures taken to address in ESMF
5	Affected area	Involuntary take of land resulting in loss of shelter, loss of assets or access to assets, loss of income sources or means of livelihood	Section 3(b): Area notified for 'acquisition'	Provisions of OP 4.12 will be applicable
6	Family	All adversely affected people whether have formal legal rights or do not have formal legal rights on land	Section 3(m) includes person, his and her spouse, minor children, minor brothers and sisters dependent. Widows, divorcees, abandoned women will be considered as separate family.	The definition of family given in RFCTLAR&R Act 2013 will be followed for both titleholders and non titleholders.
7	Affected family for eligibility	All adversely affected people whether have formal legal rights or do not have formal legal rights on land	Section 3 (a): whose land and other immovable property acquired. (b)&(e): Family residing in affected area such as labourers, tenants, dependent on forest and water bodies, etc whose primary source of livelihood is affected due to acquisition (c) Scheduled tribes and other forest dwellers whose rights recognized under the Forest Dwellers Act 2006. (f) Family assigned land by state or central government under any schemes (g) Family residing on any land in urban area that will be acquired or primary source of livelihood affected by acquisition.	
8	Cut-Off date	Date established by the borrower and acceptable to the Bank. It is the date of census.	Section 3 c (ii), (iv) (vi): Families residing for preceding 3 yrs or more prior to "acquisition of land".	Provisions of OP 4.12 will be followed as RFCTLAR&R Act has no such provision for people living on

Sr. No.	Topics/Issues/Areas	World Bank OP4.12	RFCTLAR&R	Remarks / Measures taken to address in ESMF
				public land. Moreover, RFCTLAR&R Act requires proof of residing in the project area at least three years prior to initial notice on LA.
9	Non-application of Chapter II	Stand-alone SIA for all investments	Section 6(2): Irrigation projects where EIA is required under other laws, provisions of SIA not applicable.	Provision of OP 4.12 will be followed.
10	Consultation – Phase I during preparation	Consultation a continuous process during planning and implementation	Section 4(1) date issued for first consultation with PRIs, Urban local bodies, Municipalities, etc to carry out SIA. Section 5: Public hearing of SIA in affected area. Provide adequate publicity of date and time.	Provisions of OP 4.12 will be followed. The draft and final SIA will be disclosed in public as per the provision given in RFCTLAR&R Act, 2013.
11	Time duration to prepare SIA and SIMP	Draft Social Assessment, Resettlement Action Plan and or Social Management Framework prepared before appraisal.	Section 4 (2): within six months from the date of its commencement.	No gap found. RFCTLAR&R Act specifies a timeframe which is followed by the client.
12	Disclosure – Stage I	To be disclosed before appraisal.	Section 6(1): Translated in local language available in PRI institutions and local urban government bodies; district administrative offices and websites of concerned government agency.	No gap found.
13	Formation of Expert Group to appraise SIA and SIMP	Appraised by Bank staff	Section 7(1): Constitute a multi-disciplinary Expert Group include members of decentralized govt Institutes (PRIs, ULBs).	No gaps found.
14	Time stipulated for Group	Before the decision meeting for appraisal	Section 7(4): Submit its report within two	No gaps found.

Sr. No.	Topics/Issues/Areas	World Bank OP4.12	RFCTLAR&R	Remarks / Measures taken to address in ESMF
	to submit its report		months from the date of its constitution	
15	Scope of work of the Expert group	Social Assessment, resettlement action Plan reviewed and appraised by Bank staff and approved by Regional safeguard advisor	Section 7 (4) (a&b): assess whether it serves any public purpose or not; if social costs outweigh potential benefits then should be abandoned; Section 7 (5) (a&b): if serves public purpose, then it has considered minimum land acquisition, and alternate options to minimize displacement; potential benefits outweigh social costs	No gap found.
16	Consultation – Phase II during appraisal	In practice consultation workshops are organized in project affected areas at district and state level.	Section 2 (2): Prior consent of 80% and 70% of land owners in PPP and where private company has approached the govt to acquire balance land has been obtained,	No gap found.
17	Disclosure – Stage II	Information dissemination through the planning and implementation	Section 7 (6): recommendations of expert group under 7(4&5) to be made public in local language in district and block administrative office and PRIs	No gap found.
18	Minimize impact on multi-crop land	Select feasible design that has minimal adverse impact.	Section 10: In case multi-crop land is to be acquired under exceptional circumstances, the area to be acquired cannot exceed aggregate of land of all projects in district or state. The area to be acquired cannot exceed the total net sown area of the district or state. Wasteland equivalent to twice the area acquired will be developed.	No gap found.
19	Information dissemination of	Continuous part of the preparation and participation	Section 11 (1), (2) & (3): Notice published in local language and meetings called of gram	No gap found.

Sr. No.	Topics/Issues/Areas	World Bank OP4.12	RFCTLAR&R	Remarks / Measures taken to address in ESMF
	preliminary notice		sabhas, municipalities to provide full information about the purpose of the project, summary of SIA and particulars of administrator appointed for R&R' summary of R&R scheme	
20	Updating land records	To be part of RAP	Section 11 (5): Once established that the land is required for public purpose, accordingly notice to be issued under section 19 following which land records to be updated within two months	No gap found.
21	Census and preparation of R&R schemes	To be part of RAP including both titleholders and non-titleholders	Section 16 (1) (2): carry out census of affected people and their assets to be affected, livelihood loss and common property to be affected; R&R scheme including time line for implementation.	RFCTLAR&R Act takes only titleholders into account. Provision of OP 4.12 to be followed.
22	Information dissemination and Public hearing - Stage III	Consultation throughout the process is mandatory	Section 16(4) & (5): mandatory to disseminate information on R&R scheme including resettlement area and organize public hearing on the Draft R&R scheme in each Gram Sabha, Municipality and consultations in Scheduled area as required under PESA.	Provisions of OP 4.12 to be followed.
23	Approval of R&R Scheme	As part of RAP prior to appraisal	Section 17 & 18: Draft R&R Scheme to be finalized after addressing objections raised during public hearing and approved.	No gap found
24	Final declaration of R&R Scheme	Approved RAP including budgetary provisions to implement it	Section 19 (2): Only after the requiring body has deposited the money will the govt issue the notice along with 19(1) .	No gap found.

Sr. No.	Topics/Issues/Areas	World Bank OP4.12	RFCTLAR&R	Remarks / Measures taken to address in ESMF
25	Time period stipulated.	Included in RAP - Time line synchronized with Government's procedures or adopts innovative methods to reduce the time which is based operated on the principles of participation and transparency.	<p>Section 19 (2): the entire process to update land records, disseminate information, preliminary survey, census, hearing of objections, preparation of R&R schemes and approval, deposit of money must complete within 12 months from the date on which section 11, the preliminary notice issued.</p> <p>Section 19 (7): If the final declaration not made within 12 months of section 11 (1), the process will lapse, except under special circumstances.</p>	No gap found.
26	Preparation of land acquisition plans	Included in RAP.	<p>Section 20: Land marked, measured for preparation of acquisition plans.</p>	No gap found.
27	Hearing of claims		<p>Section 21(1) (2): Notices issued indicating govt's intension to take possession of land and claims on compensation and R&R can be made not less than one month and not more than six months from the date of issue of section 21(1).</p>	
28	Time period stipulated for declaring the award		<p>Section 25: It is required to announce the award within 12months of issue of Section 19 (final declaration to acquire land, approved R&R scheme) after completing land acquisition plans, hearing of objection, settling individual claims for declaration of the award. If award not made within the stipulated time, the entire proceedings will lapse.</p>	

Sr. No.	Topics/Issues/Areas	World Bank OP4.12	RFCTLAR&R	Remarks / Measures taken to address in ESMF
29	LA Act 1984 deem to lapse and RFCTLAR&R is applicable		Section 24: where award is not declared under section 11, or where made five years ago but land not taken in possession or where award declared but money not deposited in the account of majority of beneficiary.	No gap found.
30	Methodology for determining market value for land	Full replacement Cost	Section 26 and First Schedule: Recognizes 3 methods and whichever is higher will be considered which will be multiplied by a factor given in Schedule First; compensation given earlier will not be considered; if rates not available floor price can be set; steps to be taken to update the market value.	No gap found.
31	Valuation of structures	Full Replacement cost	Section 29 (1) without deducting the depreciated value.	Provisions of OP 4.12
32	Solatium and interest		Section 30(1) 100% of the compensation amount Section 30(3): 12% per annum on the market rate from the date of notification of SIA to the date of ward or land taken over	No gap found.
33	R&R Award	Total cost included in RAP to resettle and rehabilitate the affected persons and assist in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher	Section 31, Second Schedule: A family as a unit will receive R&R grant over and above the compensation and those who are not entitled to compensation. Second Schedule: Homeless entitled to constructed house, land for land in irrigation projects in lieu of compensation, in case of acquisition for urbanization 20% of developed land reserved for owners at a	No gap found

Sr. No.	Topics/Issues/Areas	World Bank OP4.12	RFCTLAR&R	Remarks / Measures taken to address in ESMF
			price equal to compensation' jobs or onetime payment or annuity for 20 years' subsistence grant, transportation, land and house registered on joint name husband and wife, etc	
34	Transparency		Section 37(1): Information of each individual family including loss, compensation awarded, etc will be available on the website.	No gap found.
35	Possession of land	Taking of land and related assets may take place only after compensation has been paid and, where applicable, resettlement sites and moving allowances have been provided to the displaced persons.	Section 38(1): Land will be taken over by the government within three months of compensation and 6 months of R&R benefits disbursed; infrastructure facilities at resettlement sites will be completed within 18 months from the date of award made under section 30 for compensation; in case of irrigation and hydel projects R&R completed six months prior to submergence.	No gap found.
36	Multiple displacement		Section 39: Additional compensation equivalent to compensation determined will be paid to displaced	No gap found.
37	Acquisition for emergency purpose	Not permeable in bank funded projects	Section 40 (5): 75% additional compensation will be paid over and above the compensation amount	Provisions of OP 4.12 will be followed.
38	Prior consent before acquisition and alienation	Mandatory to carry out Free, Prior, Informed Consultation with Indigenous people.	Section 41(3) Mandatory to get consent from Gram Sabha, Panchayat, Autonomous Councils in Scheduled areas.	No gap found.
39	Development plans	Indigenous Peoples' Development plan	Section 41: Separate development plans to be	No gap found.

Sr. No.	Topics/Issues/Areas	World Bank OP4.12	RFCTLAR&R	Remarks / Measures taken to address in ESMF
	for SC and ST	required along with RAP. Land for land for is an option across all sectors.	prepared, settle land rights before acquisition; provision of for alternate fuel fodder, non-timber produce on forest land to be developed within 5 years; 1/3 rd compensation amount to be paid as first instalment and rest at the time of taking possession; ST to be resettled within Scheduled area; land free of cost for community purpose; land alienation will be null and void and ST and SC considered for R&R benefits; fishing rights restored in irrigation and hydel projects; if wish to settle outside the district additional benefits to be provided in monetary terms; all rights enjoyed under other laws will continue. Second Schedule: additional provisions for SC&ST for land for land in irrigation projects, additional sum over and above the subsistence grant,	
40	Institutional arrangement	Institutional arrangement must be agreed upon and included in RAP, IPDP.	Section 43-45: Appointment of administrator, R&R Commissioner, when more than 100 acres of land is to be acquired, R&R Committee will be formed at project level, social audit to be carried out by Gram Sabha and Municipalities.	No gap found.
41	Change of land use	Compensation and R&R assistance should be disbursed before taking physical possession of land.	Section 46(4): Land will not be transferred to the requisitioning authority till R&R is not complied with in full	No gap found.

Sr. No.	Topics/Issues/Areas	World Bank OP4.12	RFCTLAR&R	Remarks / Measures taken to address in ESMF
42	Monitoring and Evaluation	Indicators and monitoring system included in RAP and IPDP	Section 48-50: Set up National and State level Monitoring Committee to review and monitor progress	No gap found
43	Authority to settle claims		Section 51-74: The Authority will be set up settle any legal disputes that arise from acquisition and R&R, the aggrieved party can move to the high court thereafter.	No gap found
44	Exempt from tax and fee	Project to bear all taxes and other expenses if new assets are purchased by the PAP	Section 96: Compensation and agreements will not be liable to tax	No gap found
45	No change in status of land acquired		Section 99: Once the land is acquired for a particular purpose, its purpose cannot be changed	No gap found
46	Return of unutilized land		Section 101: If the acquired land remains unutilized for 5 years, then it will be returned to original owner, heir or included in land bank	No gap found
47	Distribution of increased value of land transferred		Section 102: 40% of appreciated value of acquired land will be distributed to owners provided no development has taken place.	No gap found

4 BASELINE AND IMPACTS

4.1 Introduction

Baseline studies are carried out at the beginning of a project to establish the current status of a specific project area, and act as a benchmark for measuring project progress and success at all stages of the project cycle. It helps in establishing priority areas for a project and attributing change and impacts as a result of the project. This section outlines the findings of the baseline study carried out of the project area.

4.2 Demographic and Socio-economic Profile

The project influence area is characterized by three concentric circles of influence according to their distance from the core project area. These are given below:

- Area falling under the core zone, i.e. hybrid park necessitating acquisition of 643.85 acres of assigned land belonging to 216 families from 2 villages.
- Buffer zone comprises of 18 villages in a 5 km radius of the hybrid park
- The larger project area comprising of the entire district of Anantpur

4.2.1 Socio-economic profile of area falling under the core zone

4.2.1.1 Project Affected Persons (PAPs)

The core zone of project impact comprises of two project impacted villages, each falling under a separate administrative division/ mandal. **Error! Not a valid bookmark self-reference.** lists the names of the Mandals and the villages directly impacted by the project. The assigned land to be acquired for the project is 643.85 acres belonging to 216 families with a total of 862 project affected persons. The details of affected persons is presented in **Annexure 1**.

Out of 216 affected families survey was possible only for 195 families because the remaining families were absentees (7 families in Ramagiri village and 14 affected families in Muthivukuntla). Because the family details of absentees were not available, the analysis has been done only for the 195 respondent families.

Table 4-1: Districts, Mandal and Villages Affected

District	Name of Mandal	Name of Villages
Anantapur	Ramagiri	Ramagiri
	Kanaganapalle	Muthuvakuntala

4.2.1.2 Distribution of affected families/households by vulnerability

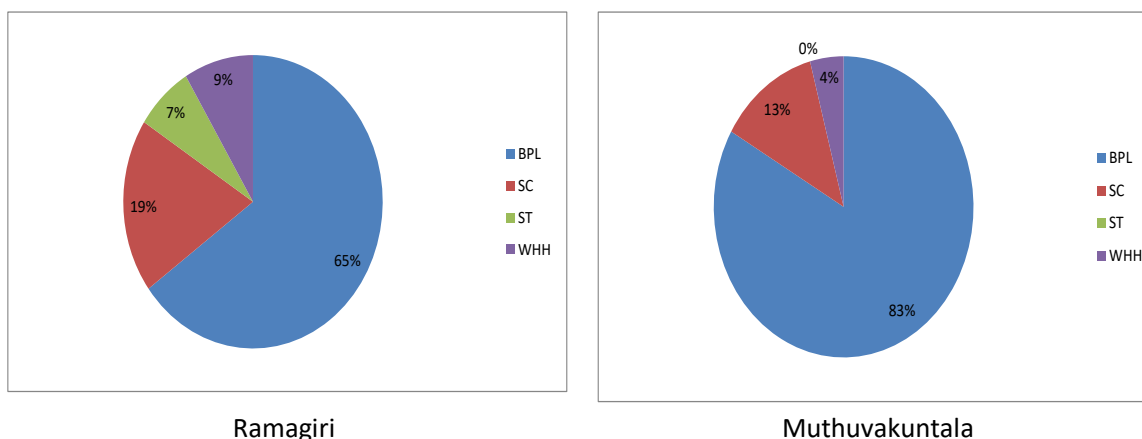
The number of vulnerable families affected is given in **Table 4-2**. All the affected households are BPL families. Out of 216 affected families, 195 affected families were present during the survey and rest were absent. Out of which 49 belong to SC category and 15 belong to ST category. There are 21 women headed households among the affected families.

Table 4-2: Affected Vulnerable Families

Affected Villages	Number of affected families			
	BPL	SC	ST	WHH
Ramagiri	135	40	15	18
Muthuvakuntala	60	9	0	03
Total	195	49	15	21

Source: Primary Survey, 2018

Percentage distribution of the affected families from the two villages by different categories of vulnerability is shown in figure 4.1 below.



Source: Primary Survey, 2018

Figure 4-1: Distribution of PAFs by vulnerability

4.2.1.3 Religion and Social Group

Hindus constitute the majority (96.9 percent) of the affected families. Among Hindus, Other Backward Castes (OBC) constitutes 40.74 per cent; Scheduled Castes constitute 25.92 per cent, followed by, Scheduled Tribes and General castes as shown below (Table 4.3).

Table 4-3: Religion and Social Group

Religion	Social Group				Total
	SC	ST	OBC	General	
Hindu	49	15	77	48	189
Muslim			6		6
Total	49	15	83	28	195

Source: Primary Survey, 2018

4.2.1.4 Family Structure

Both Joint and Nuclear family structures were observed and reported during the socio-economic survey. Overall there are about 15 joint families and 180 nuclear families.

4.2.1.5 Educational Level of Head of the Household

The educational level has been categorized as illiterate, literate, that is, those who can read and write but did not go to school, primary, middle, high School, intermediate and graduate/post-graduate. Educational status of head of the household is given in Table 4-4.

Table 4-4: Education of Head of Household

Level of Education	Head of Household	%
Illiterate	88	44.44
Read & write but did not go to school	3	1.54
Middle	16	8.21
High School (10 th)	38	19.49
Intermediate (10+2)	28	14.36
Graduate & Above	22	11.28
Total	195	100.00

Source: Primary Survey, 2018

About 46 percent of the affected persons have either no education or very low educational levels. Those who have studied up to middle level account for 27.60 percent of the total number. The percentage of graduates and above is about 11.28 percent.

4.2.1.6 Occupational Profile of Project Affected Households

The occupational profile of the affected families as ascertained through the survey (**Figure 4-2**) reveals that the majority (about 74%) are engaged in agricultural and agriculture allied activities. A small percentage of people are engaged in business and the service sector.

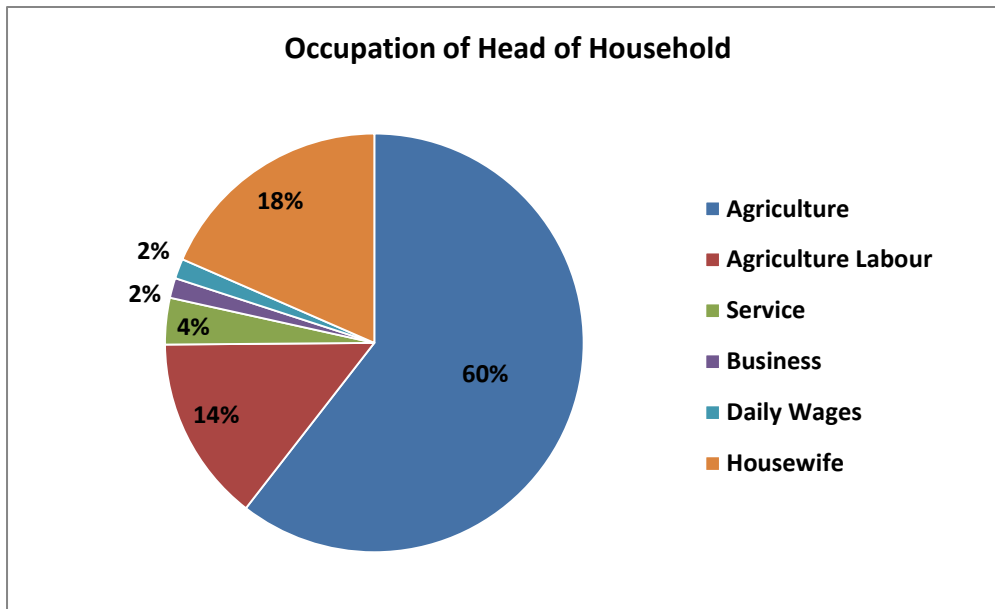


Figure 4-2: Occupational profile of the affected families

Source: Primary Survey, 2018

4.2.1.7 Status of Affected Families

As per survey, all the affected families belong to BPL category. The field visit and consultations with the affected families indicated that most of the houses are pucca houses and were constructed under Indira Avas Yojna. The condition of the houses was observed to be reasonably good. Almost all the families have got cooking gas and electricity connection in their

homes. Every household has toilet facilities. All of them have milch animals. All the affected families have a BPL card, aadhaar card and voter ID.

4.2.1.8 Women headed households

Profile of Women Headed families

Data was analyzed to understand the impact of the project on vulnerable groups like the women headed households. The total number of surveyed affected families in proposed hybrid park in Ramagiri and Muthuvakuntla is 195 out of which 21 are women headed household. **Table 4-5** summaries the profile of women headed families in the project area.

Table 4-5: Profile of Women Headed Households

Sr. No	Categories	No.	
1	Age Group	25-35	3
		35-45	4
		45-55	8
		55-65	5
		65 & above	1
	Total	21	
2	Marital Status	Married	0
		Widow	21
	Total	21	
3	B P L		21
		Total	21
4	Type of Loss	Land	21
		Homestead Land & Structure	
	Total	21	

Source: Primary Survey, 2018

Literacy

Analysis of data indicates that among the 21 WHHs about 55% are literate and 45% are illiterate. Figure 4.3 shows the level of education of women headed households. Majority of the women studied up to Middle school.

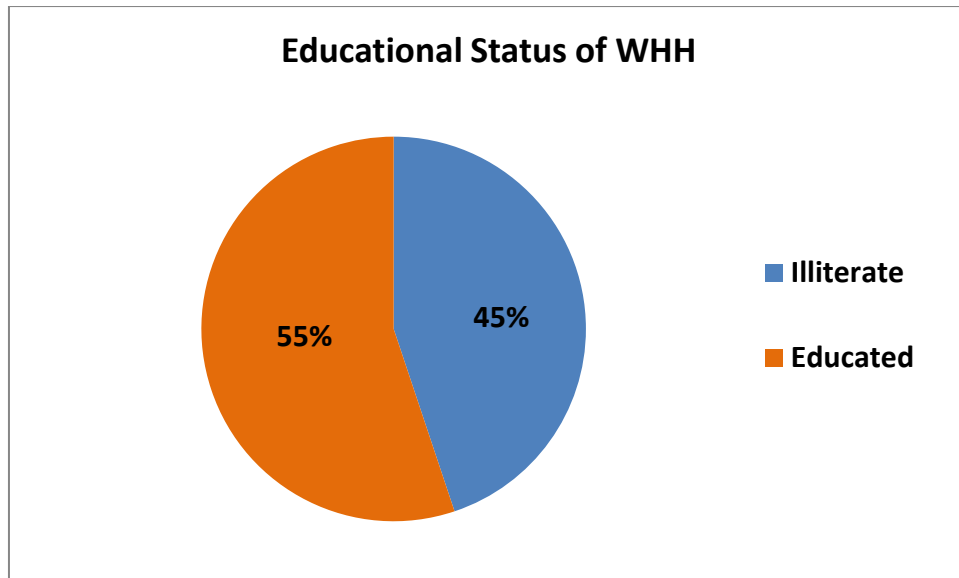


Figure 4-3: level of education of female headed households

Source: Primary Survey, 2018

Occupational Status and Income

Out of the 21 WHHs, only 55% are either main or marginal workers. Among the total working women, a majority are agriculture labours. All women headed households come under BPL category and have BPL card issued by the government.

4.2.2 Profile of Affected Villages falling under the buffer zone

The details regarding population composition, number of literates, workers, etc. have been collected from secondary sources and analyzed. Data on amenities available in the study area have been collected from secondary sources like District Annual Statistical Handbook, <http://www.Anantapur.ap.gov.in/>, and Census of India 2011.

4.2.2.1 Demographic Profile

According to Census of India 2011, the total population of the 20 villages, 2 in the core zone and 18 in the buffer zone is 73,674 of which 51.43% are males and 48.57% are females. The average gender ratio of the study area is approximately 944 females per 1000 males, which is much better than National average of 933 females per 1000 males. The total study area comes under a rural settlement. 10.72% of the total population belongs to the 0-6 age group. The sex ratio of this age group is 885 female children per 1000 male children, which is much below than average sex ratio of the study area.

The demographic profile of population of the buffer zone is given in Table 4.6.

Table 4-6: Demography, Literacy and Occupational details of people living in the buffer zone

S. No.	Description	Number	% to total
1	Total Population - Gender wise	73,674	100
	Male	37,893	51.43

S. No.	Description	Number	% to total
	Female	35,781	48.57
	Sex ratio (No. of females per 1000 males)	944	
2	Total Population (0-6 years) - Gender wise	7,899	100.00
	Male	4,191	53.06
	Female	3,708	46.94
	Sex ratio (No. of females per 1000 males)	885	
3	Total Population (Sector Wise)	73,674	100
	Rural	73,674	100
	Urban	0	0
4	Total no. of households	17,544	-
	Average House hold size	4	-
	Lowest Household size	4	-
	Highest Household size	5	-
5	Total SC & ST Population	16,597	22.53
	Total Population (SC)	13,861	18.81
	Total Population (ST)	2,736	3.71
6	Total Literates – Gender wise	39,221	53.24
	Male Literacy (with respect to the male population)	23,345	61.61
	Female Literacy (with respect to the female population)	15,876	44.37
	Literacy gap between male and female	-	17.24
7	Total Literates – Sector wise	47,524	--
	Rural (Number and % to total literates)	47,524	100
	Urban (Number and % to total literates)	0	0
8	Total Workers & Work Participation Rate	40,043	54.35
	Male (Number and % with respect to the male population)	22,031	58.14
	Female (Number and % with respect to the female population)	18,012	50.34
	Gender gap in workforce (in percentage)	-	7.80
9	Total Main Workers & percentage to total worker	31,306	78.18
	Male (Number and % with respect to the male working population)	18,877	85.68
	Female (Number and % with respect to the female working population)	12,429	69.00
a)	Main Worker as Cultivator (Number and Percentage)	11,905	38.03
b)	Main Worker as Agricultural Labour (Number and Percentage)	14,306	45.70
c)	Main Worker as Household Industry Worker (Number and Percentage)	628	2.01
d)	Main Worker as Other workers (Number and Percentage)	533	1.70
10	Total Marginal Workers & percentage to total worker	8,737	39.66
	Male (Number and % with respect to the male working population)	3,154	17.51
	Female (Number and % with respect to the female working population)	5,583	46.90
a)	Marginal Worker as Cultivator (Number and Percentage)	953	10.91
b)	Marginal Worker as Agricultural Labour (Number and Percentage)	6,908	79.07
c)	Marginal Worker as Household Industry Worker (Number and Percentage)	149	1.71

S. No.	Description	Number	% to total
d)	Marginal Worker as Other workers (Number and Percentage)	727	8.32
11	Number and Percentage of Marginal Worker (3-6 Months)	8,180	93.62
12	Number and Percentage of Marginal Worker (0-3 Months)	557	6.38

Source: Census of India 2011

4.2.2.2 Households and Household Size

The entire population of the study area has been grouped into 17,544 households and the average household size is approximately 4 persons/ household.

During site visits it was observed that a majority of the houses are semi-pucca. Approximately 21% of the houses are kachcha houses. A large majority of the families are living in their own houses. The area of the house structure was varying from 300-600 square meters. Approximately 35% of the households have toilets. However, approximately 75% of the people defecate outside due to shortage of water.

4.2.2.3 Vulnerable groups

With reference to Table 9, approximately 18.81% of the population in the study area belong to Schedule Caste and Schedule Tribes. Among the total population, Scheduled Caste constitute 15.10% and 3.71% belong to the Schedule Tribe community. The majority of households are from the General Category (OC) consisting of Reddy, Rao, Vaishya, Chaudhari, Setty, Rao, and Lingabaleja. The Backward Castes (BC) are Kurma, Valamiki, Boya, Pinjari, Dudekula, Yadaya, Kurva, Kumbari, Golla, Dukula, Chakali, Mangala, Wadde, and Uppare. The Schedule Castes (SC) are Madiga, Mala, Harizana, and Dasari. The Scheduled Tribes (ST) are Yerukala and Nayak.

The site visits and surveys show that the standard of living of people in the area is relatively low. Despite the composition of the higher castes being quite low approximately (10% as per site visit observations), there is a visible domination with regard to income levels, community affairs and decision-making power. A majority of the SC/ST families are agricultural labourers and are dependent on agriculture as their main source of income.

The break up distribution of scheduled caste and scheduled tribe population in the project area is shown in **Table 4-7**.

Table 4-7: Distribution of SC and ST Population in the buffer zone

S. No.	Village	Schedule Caste Population				Schedule Tribe Population			
		Total	M	F	Percentage	Total	M	F	Percentage
Ramagi Mandal									
1	Perur	1205	621	584	16.66	31	14	17	0.43
2	Makkinavaripalle	156	77	79	42.05	0	0	0	0.00
3	Kondapuram	468	231	237	30.33	0	0	0	0.00
4	Motarchintalapalle	1374	692	682	28.23	20	11	9	0.41
5	Nasanakota	2127	1066	1061	32.81	121	54	67	1.87
6	Ramagiri	644	349	295	17.05	255	128	127	6.75
7	Ganthimarri	238	127	111	10.77	0	0	0	0.00
8	Kuntimaddi	284	148	136	8.68	460	231	229	14.06

S. No.	Village	Schedule Caste Population				Schedule Tribe Population			
		Total	M	F	Percentage	Total	M	F	Percentage
9	Seshadribhatra Halli	57	29	28	6.66	17	10	7	1.99
10	Polepalle	392	198	194	11.57	144	71	73	4.25
Subtotal		6945	3538	3407	20.43	1048	519	529	3.08
Kanaganapalle Mandal									
11	Thumucherla	852	434	418	18.87	6	3	3	0.13
12	Thogarakunta	382	202	180	9.41	362	185	177	8.92
13	Maddalacheruvu	1397	727	670	21.74	557	273	284	8.67
14	Konetinayanipalyam	481	254	227	17.06	29	16	13	1.03
15	Narasampalle	324	167	157	20.74	4	1	3	0.26
16	Elakkuntla	443	212	231	14.32	2	1	1	0.06
17	Muthavakuntla	586	308	278	22.25	165	83	82	6.26
18	Kanaganapalle	976	514	462	14.01	27	14	13	0.39
19	Mukthapuram	988	493	495	24.14	36	18	18	0.88
20	Dadalur	487	236	251	13.89	500	274	226	14.27
Subtotal		6916	3547	3369	17.43	1688	868	820	4.25
G. Total		13861	7085	6776	18.81	2736	1387	1349	3.71

4.2.2.4 Literacy

The average literacy rate of the study area is 53.21% with male literacy rates of 61.85% as compared to a female literacy rate of 44.18% (with respect to male and female population respectively). These were found to be lower than the literacy rates at State, district and national level. The gender gap is 17.67%.

Village level consultations indicate a high school drop-out rate, particularly amongst girls. Only 8-10% (approximately) girls in the area have completed secondary level of schooling. The reasons cited by the community for the high dropout rates among girls are sibling care, household work, migration, safety & security concerns, and early marriage. The break up distribution of literate population in the project area is shown in **Table 4-8**.

Table 4-8: Mandal-wise Distribution of Literacy in the Buffer Zone

S. No.	Mandal	Number of Literates			Literacy Rate			
		Total	M	F	Total	M	F	Gender Gap
1	Ramagiri	18091	10740	7351	53.21	61.85	44.18	17.67
2	Kanaganapalle	21130	12605	8525	53.26	72.59	47.12	25.47
Total		39221	23345	15876	53.24	61.61	44.37	17.24

Source: Census of India, 2011

4.2.2.5 Occupation and Income

The main occupation of the study area is agriculture and more than 75% people depend on agriculture and agriculture allied services. Main crops grown in the region are rain-fed namely cotton, ground nut, onion, and corn. Few people are engaged in their ancestral and traditional professions like barber, carpentry etc. Livelihood opportunities are mostly limited to agriculture



and agriculture allied services. The average land holding size of the study area is 3 to 30 acre per family. The average income of the family of the study area is INR 5,000 to 10,000 per month while the income of BPL family is < INR 5,000 per month.

4.2.2.6 Religion

The field survey indicates that majority of the persons living in the villages are Hindus and approximately 10 % of population in the study area are Muslim and Christian. Most part of the study area has been occupied by Hindus and they play a vital role in making cultural and religious decisions. Out of total population in the study area, approximately 80% population are general and Backward Caste category, 20% are SC and ST. The main festivals celebrated in the area are Yugadi, Dashahara, Deepawali, Sankranti, Vinayak Festival, Muharram, Eid ul Fiter and Christmas.

4.2.2.7 House Types

The entire population of the study area has been grouped into 51,237 households and the average size of household is approximately 4.16 persons/ household.

During site visit it was observed and noted that most of the houses of the study area are semi-pucca and approximately 21% are kachcha houses. Nearly every respondent reported that they were living in their own house. The area of the house structure was varying from 300-600 square meters. Approx. 45% households have toilet facility but 55% people of the study area defecate outside due to lack of water.

4.2.2.8 Education

Govt. Primary Schools, Upper Primary Schools and Anganwadis are available in every village of the buffer zone. Govt. Senior Secondary Schools are available in Aspari and Pattikonda villages. Government Degree Colleges are available in Pattikonda and Adoni. In every school and college there is facility of toilets for girls and boys separately but it was observed that they were not in a good condition. Although the local panchayat provides water through pipeline connections, this water is contaminated with fluorides and thereby not good for drinking. due to In spite of government infrastructure facilities and support (provision of mid-day meal, distribution of free books and uniforms to every student) for education, the literacy rate is very poor in the study area. Although, there is support for girl child education, but it is only up to junior level.

4.2.2.9 Health

As per Rural Health Statistics 2015, there are 576 sub-centres, 83 PHC, 18 CHC, 1 Sub divisional Hospital and 1 District Hospital in Anantapur District. In of the study area there are two governments Primary Health Centres, one is in Ramagiri village and another is in Kanganapalle village. A government Community Health Centre is available in Penukunda town which is 15 km. from the project site. In addition, there are several private hospitals and health providers in the area. Village consultations revealed a frequent occurrence of several health issues like d fever, cough, cold and bone related pains. The Local community perceives these to be a result of contamination of fluoride in the ground water.

4.2.3 Profile of Anantpur District

The proposed project is located in Anantapur district is in the Rayalaseema region of Andhra Pradesh. The district headquarters is located in Anantapur city. The district has five divisions namely Anantapur, Dharmavaram, Kadiri, Kalyandurga and Penukonda divisions. These revenue divisions are further classified into 63 mandals.

- Anantapur district ranks 1st in terms of area with 19,130 Sq. Kms., and 7th in terms of



population with 40,81,148 persons in the State.

- Anantapur district ranks 7th in terms of urban area with 376.89 Sq. Kms., and 9th in terms of urban population with 11,45,711 persons in the State.
- It ranks 1st in terms of rural area with 18,753.11 Sq. Kms. and 6th in terms of rural population with 29, 35,437 persons in the State.

The demographic profile of Anantpur district is presented below in table 4.9.

Table 4-9: General Demography of Anantpur District

S. No.	Item	Details
1	Population	4.1 million
2	Male Population	2.1 million
3	Female population	2.0 million
4	ST Population	0.2 million
5	SC population	0.6 million
6	Population density	213
7	Literacy Rate	63.6
8	Sex Ratio	977

The total geographical area of the district is 19.13 lakh Hects. The net area sown is 8.37 Lakh Hects. which forms of the total area. The total cropped area is 9.42 Lakh Hects. Area sown more than once is 0.55 Lakh Hects. The cultivated area of the District is 9.42 Lakh Hects. out of which 8.02 Lakh Hects. is under Kharif, and 1.40 Lakh Hects. is under Rabi Season during the year.

Community Consultations

The preliminary consultations were carried out through Focus Group Discussions (FGDs) and meetings with the PAPs and other community members in the project villages. Stakeholder consultations were conducted at designated community centers to encourage maximum participation of people. Panchayat members were consulted and requested to inform the community of these consultations. The Team also had informal meetings with village head, panchayat members, patwaris, district authorities, division and sub-division officials, Forest officials and the business community. The SECI and project developer was responsible for ensuring participation of the community at sub-project level

4.2.4 Objectives of Consultations

The main objectives of the consultation process was to disseminate information about the project and to get responses from the community with regard to their issues, priorities and concerns. . The key objectives of community consultations were:

- Disseminate information about the project
- To understand the views of the people affected w.r.t to the project impacts, benefits and opportunities
- To identify and assess all major economic and sociological characteristics of the village to enable effective planning and implementation and,
- To identify key issues and concerns of the PAPs and community members

4.2.5 Issues Raised During Consultation

Some of the important issues raised by the participants during the consultations have been listed below:

- A key issue raised was that several people had taken crop loan from bank against their assigned land
- Concerns were raised on the nature and mode of compensation. A majority of the participants suggested that compensation be paid in one single instalment so that the amount can be used in a fruitful manner.
- All the participants raised issues with regard to creation of employment generation opportunities by the project for the project affected villages and persons.

Details of public consultations with regard to the number and profile of participants has been presented in table 4.10 while the issues raised and the responsibility matrix has been presented in table 4.11 below. The Consultation team included the Social Specialist, Environment Expert, and the Ecology Expert. The Attendance Sheet of Public Consultation is given in Annexure 2.

Table 4-10: Details of Public Consultation

Sl.No.	Date	Location of consultation	Number of persons who attended the consultation	Participants
Hybrid Park Area				
1	27.02.18	R.K.Kotlapalli (Ramagiri)	54	Local villagers, Shopkeepers, farmers, Students, Sarpanch, village women, Tehsilder, Local elected representatives
2	27.02.18	Muthuvukuntla,	22	

Table 4-11: Output of Local Level Consultation

Name of the village	Participants	Issues Raised	Issues Addressed	Responsibility
Ramagiri and Muthuvukuntla	Local villagers, women, Shopkeepers, farmers, Students, Sarpanch, Tehsilder, Local representatives	<ul style="list-style-type: none"> • Project information not disseminated • majority of the assigned land had been mortgaged to banks for personal loans. • affected land and compensation • Though PAPs are in favour of the project, they were of the view that 	<ul style="list-style-type: none"> • Awareness and information about the project and requirement of land for the project. • Discussions on the process of compensation. Land will be acquired / purchased based at replacement value. 	SECI social officer



Name of the village	Participants	Issues Raised	Issues Addressed	Responsibility
		<p>community should be consulted before the design of the solar wind hybrid power plant are finalised.</p> <ul style="list-style-type: none"> • employment opportunities during the project implementation. • Residual land if it becomes economically unviable • demand for water supply pipeline in the area for ensuring regular supply of drinking water 	<ul style="list-style-type: none"> • Provision to be made in bid document to hire eligible local community members during construction and operations. • Residual land if rendered economically unviable, will be either purchased by the project or 25% of the replacement value will be given as additional compensation. • Project will link up with the scheme 'water supply for all.' 	

Details of discussion with institutional stakeholders have been presented in table 4.12

Table 4-12: Details of Institutional Stakeholder consultation

S. No	Persons/Departments consulted	Date of Consultation	Discussion	Purpose
1	Mr. Nagakumar Land Record Officer Revenue Department – Anantpur	24/02/2018	About availability of village maps and land records status of the project area, land rates and process for assgning and leasing land .	For preparation of ESIA
2	Mr. Basudeva Rao Chief Planning Officer Anantpur	23/02/2018	Secondary socio-economic data like population, literacy, basic amenities etc.	Census information for ESIA
3	M. Kodanda Rama Murthy District Manager NREDCAP-Anantpur	23/02/2018 29/03/2018	Project site information like DPR, Layout Plan, land survey details etc.	Detailed information about the



S. No	Persons/Departments consulted	Date of Consultation	Discussion	Purpose
				Project background
6	Self Help Group Members	30/03/2018	Discussion regarding their activities, participation levels etc	Information about women's collectives for ESIA

Social Impact Assessment

Social Impact Assessments are an important component of project preparation. The Right to Fair Compensation and Transparency in Land Acquisition and Rehabilitation and Resettlement Act, 2013, and World Bank operational policy 4.12 (OP 4.12) on involuntary resettlement require social impact assessments to be undertaken during the design stage to avoid, reduce and mitigate potential negative impacts of project action, and enhance positive impacts, sustainability and development benefits.

The main objective of the study was to ensure that the project addresses the adverse impacts on the livelihood of the people and that nobody is left worse off after implementing RAP and those affected have access to project benefits, both during project construction and operations. In specific, the objectives of social impact assessment study were:

- To carry out a socio-economic study to identify the project stakeholders and social issues associated with the project
- To assess the extent of impact on land and other losses and undertake the census of potential project affected people
- To minimize adverse social impacts and recommend suitable mitigation measures for adverse social impacts based on the detailed SIA
- To develop a Resettlement Action Plan (RAP) in consultation with the affected people and project authorities.

A socio-economic survey of affected households was conducted during the earlier part of the year. A total number of 216 families will be affected due to the Hybrid Park. Out of which the survey has been conducted for 135 nos. of affected families for Ramagiri Village and 60 nos. of affected families for Muthuvakuntla village. Remaining 21 affected families were absent (7 families in Ramagiri village and 14 affected families in Muthuvakuntla) during the survey. The survey was conducted between 29 March to 10 April, 2018 based on available land acquisition data with SECI and balance between 19 to 27 September, 2018 based on final data verified by the revenue department. The survey was further conducted to register and document the status of the potentially affected population within the project impact area, and their sources of livelihood. This survey provides a baseline against which mitigation measures and support will be provided and includes a comprehensive assessment of people's assets, incomes, important cultural or religious networks/sites, and other sources of support such as common property resources. Analyses of survey results cover the needs and resources of different socio-economic groups and individuals, including intra-household and gender analysis was undertaken

The data collected during the survey was analyzed to assess the prevailing socio-economic profile of the area. Based on that, impacts due to project operation on the community have



been identified and recommendations for mitigating adverse affects have been made. The impact from the wind power project will be very minimal and will be limited within a 5 km radius.

Impacts:

The project will be taking over 643.85 acres of land impacting a total of 216 families (862 PAPs). All the families losing land due to the project were landless earlier and were assigned land by the government for the purpose of cultivation. However, the land parcels given were undulating with rocky surfaces and without any irrigation facility. Therefore these plots remained uncultivated.

During the field survey and village level consultations, it was found that approximately 90% of the households received crop loans from the Bank against their assigned land.

Women respondents consulted were very positive about the proposed project. The key priorities listed by the women were access to water and employment opportunities. The gender section outlines the gender gaps and strategies to address these for equitable outcomes and benefits of the project for both men and women. No common property resources (CPRs) will be affected for the proposed project of Hybrid Park.

Impact on Indigenous People

The Census and socio-economic surveys show that amongst the 195 surveyed affected families, only 15 families are Scheduled Tribe. The ST families are mainstreamed with the dominant culture and society in that area and therefore WB policy OP/BP 4.10 for Indigenous People is not applicable. However, they will be given additional assistance as described in the ESMF/Entitlement Matrix.

4.2.6 Impact due to Labour Influx

The total construction period of the project is 15 months. At the peak of construction, it is expected that about a 100 labours will be working at the site. The influx of workforce due to engagement of migrant labours from other areas will have certain potential adverse social impacts if is not managed properly. The anticipated impacts due to influx of migrant labour population are as follows:

- Additional pressure on the local resources and common social infrastructure
- Risk of conflict and social unrest due to cultural differences between the labourers and the local community
- Increased risk of illicit behavior and crime
- Increased risk of spread of communicable diseases due to interaction of the labourers and the local community and an additional burden on local health services
- Risk of Gender-based violence
- Health hazard for host community due to lack of sanitation facilities and waste management.

However such impacts can be avoided/mitigated through proper workforce management as well as labour camp management. Keeping it in view the above social risk due to labour influx, the contractor should, to the extent possible, engage local labour force. Hiring labourers from outside should only be done in case of labours requiring special skills and non availability of



such skilled labours from within the local area. Moreover the labour camps must provided for migrant labours which are at a sufficient distance from local settlement area. These camps must have all the basic facilities to avoid pressure on local social infrastructure and thereby risk of social conflicts. The maintenance of basic amenities in the camp, periodical awareness programme for labours on social issues, environment health and safety measures and periodical health checkup will further minimize the social risks due to labour influx.

4.2.7 Other social, cultural and traditional issues

The customs, traditions and belief systems of any region are deeply rooted in the economy and environment. Any change in the living environment, how-so-ever miniscule it might seem, brings about considerable change in the way of life of the affected population. An in-depth participatory study needs to be carried out to identify the risks to existing cultural and traditional practices in the area. An initial assessment was made to identify some of these issues.

Informal discussions with the Project Affected People helped in identification of some of these issues which are listed below:

- Dislocation or displacement of certain symbols of individual religious cults, specifically totems.
- Places or sites of non-religious (social/peer group) congregations or informal meetings. These have cultural and social significance for the local inhabitants. Fear of loss of livelihoods amongst wage earners.

Positive Impacts:

The project is likely to bring in positive benefits either from short term job opportunities during construction stage, or long term job opportunities during operations stage. It is important that local people are considered for skilled and semi- skilled tasks wherever feasible. The implementation of the solar power projects will also create off-site infrastructure in the vicinity.

Additionally SECI in collaboration with vocational training centres will impart training to local residents on several relevant topics that will enable the local community to not only find employment opportunities within the solar PV park, but to other income generation activities.

The proposed solar project would also bring about an up-gradation in the economic status of the local community in addition to the potential increase in land prices and improvement in welfare conditions in the long run. The summary of the PAHs/PAPs has been presented in **Table 4-13**.

Table 4-13: Summary of the PAHs/PAPs

S. No.	Description	Unit	Number
1	PAHs	Family	216*
2	PAPs	Person	862
3	Family size	Average	4.16
4	SC	Family	49
5	ST	Family	15
6	BPL	Family	195
7	WHH	Family	21
8	Land	Acres	643.85

*A total of 216 nos. of families will be affected due to the Hybrid Park. Out of which the survey was



possible for 135 nos. of affected families for Ramagiri Village and 60 nos. of affected families for Muthuvakuntla village. Rest affected families were absent (7 nos. affected families in Ramagiri village and 14 nos. of affected families in Muthivukuntla) during the survey.

4.2.8 Addressing Gender Issues

Consultations and Focused group discussions with women groups were held to identify gender needs, priorities and concerns. The outcomes of the discussions and proposed strategies to address these issues are detailed in section 7 on Gender.

5 MINIMIZING AND MITIGATING ADVERSE SOCIAL IMPACTS

In accordance with World Bank Operational Policy 4.12 on Involuntary Resettlement., efforts were made at the design stage to avoid and minimize adverse social impacts on people living in the immediate project area with regard to loss of agricultural land and livelihoods. Where this was not feasible, the social assessment has identified potential adverse impacts and mitigation measures to reduce these impacts. The project will take into account these assessments and mitigation measures to ensure that Project Affected Persons have access to project benefits, during project construction and operation.

5.1 Measures to Mitigating Adverse Social Impacts

The objectives of the social analysis was to understand and identify ways to minimize any potential adverse impact of the project on the lives of the affected population, offering them opportunities to enhance their living standards. Although land acquisition on the account of solar park is unavoidable, the project ensured that the area acquired is free of any habitation. The area required for the project was superimposed on the revenue map to ensure that no land under cultivation is taken for the project. The land parcels to be acquired under the project though are marked for cultivation, PAPs are not cultivating as there is no irrigation facility and surface is undulating and rocky. Though land as assigned to the landless labourers, project is compensating the patta land owners at replacement cost. In accordance with World Bank policies the project specific R&R policy, also, acknowledges the importance of avoiding adverse socio-economic impacts in road design and construction.

The success of a project depends to a large extent on the improvement that it brings about in the living standards of the people, both in the short and the long term. While preparing the engineering design, the prime consideration was to minimize adverse social impacts within the parameters of technical requirements and cost effectiveness and to maximize the benefits.

Some of the measures that will be taken to minimize adverse impacts have been identified through social screening and public consultations and are listed below in **Table 5-1** and **Table 5-2**.

Table 5-1: Measures undertaken to Minimize Adverse Social Impacts due to land acquisition

Sl. No.	Issues	Mitigative suggested/taken	Measures
1	Loss of sources of income for PAPs engaged as wage earners	R&R assistances and skill up gradation for alternative income source. No wage earner works on the land parcels identified for the sub project.	
2	Loss of assigned agricultural/farm land	Compensation at replacement value and R&R assistances for all 216 assigned land owners. Skill upgradation for alternative livelihood options.	

Table 5-2: Measures undertaken to Minimize Negative Impacts on Traditional and Cultural Beliefs and Customs

Sl. No.	Issues	Mitigative Measures suggested/ taken
1	Dislocation or displacement of certain symbols of individual religious cults, specifically totems	Consultations and informal discussions with the affected population to allay the fears of negative impacts of displacement on their individual religious beliefs. No such impact in the sub project.
2	Places or sites of non-religious (social/peer group) congregations or informal meetings. These have cultural as well as social significance for the local inhabitants.	Ongoing discussions with affected community groups to address concerns with regard to this issue. No such impact in the sub project
3	Fear of loss of livelihood in the case of wage earners	Sharing and Disclosure of the entitlement matrix amongst the community and project affected persons to address these concerns and increase an understanding of alternative entitlement measures in lieu of loss of livelihood. No agriculture labour works on the land parcels identified for the sub project.

5.2 Additional Supportive Measures for Vulnerable Groups

All the 216 HH in the park area have been found to be in the vulnerable category as they are all in the BPL category and many of them are WHHs, SCs and STs. Additional provisions have been made for them under section F of the entitlement matrix.

5.2.1 Positive Impacts

The benefits of the project will be both short term and long term in nature. The short term benefits are coexistent with the project construction phase and directly benefit the local communities, whereas the long term benefits are the larger project impacts which are sustainable and far reaching. Temporary employment opportunities by way of getting jobs on the project site and increased commercial activities due to the influx of labour are some of the key short term benefits while contribution of electrical energy to the nation will be a key long term impact of the project.



6 INSTITUTIONAL ARRANGEMENTS AND IMPLEMENTATION SCHEDULE

6.1 Introduction

Involuntary resettlement (IR) disrupts the lives and livelihoods of affected persons by dismantling existing production systems, asset and resource bases, social networks, and cultural affiliations. The affected persons experience acute social, economic, and psychological alienation and marginalization, often leading to depletion of their resource base resulting in impoverishment and sometimes an increase in morbidity and mortality. Hence, the GOI, and World Bank policies are formulated in such a manner that they emphasize avoidance of such disturbance and displacement and where it is unavoidable; the project authority should strive to minimize adverse socio-economic impacts. Resettlement planning must be designed to ensure that people who are physically or economically displaced end up no worse off, and preferably better off, than they were in the pre-project stage.

Traditionally, rehabilitation has been limited to payment of compensation and some skill training to support income-generating activities, which are usually unsustainable. Lately, there has been an increasing realization that this is inadequate and, therefore, R&R activities must be more inclined towards income restoration activities aimed at improving or at least bringing the income of project affected persons to pre-project levels.

In order to ensure that the Resettlement Action Plan meets National, State and World Bank policy standards, the client or the implementing agency is responsible for hiring qualified consultants to prepare the Resettlement Action Plan and Gender Action Plan, and also for appointing qualified social and environmental safeguard staff within its own ranks to undertake implementation and oversight functions.

6.2 Institutional Framework for Implementation of RAP

The ultimate responsibility for implementation and enforcement of the Resettlement and Rehabilitation Policy Framework rests with the Government through an array of officials and committees, as per the provisions of the National and the State Resettlement and Rehabilitation Policy. These are in turn responsible for ensuring full and effective implementation of all resettlement and rehabilitation activities. At the community level, the Block Development Officer, in coordination with the Gram Sabha, will ensure active and effective participation of the PAPs in the implementation of the Resettlement and Rehabilitation Action Plan. Other related agencies are Rehabilitation and Periphery Development Advisory Committee, State Level Compensation Advisory Committee, State Level Council on Resettlement and Rehabilitation and the Land Acquisition Officer who has the most important role to play.

Personnel responsible for project management and implementation need to be sensitized about the project's objectives, the importance of building grassroots capabilities, and to generate concern and commitment in them towards the intervention.

Suitable institutional arrangements have been suggested to manage and implement the Resettlement Action Plan

6.3 Implementation of RAP

Government of India has given its approval to the proposal "Investment for innovation in solar power and Hybrid technologies". Under the proposal, the World Bank would finance USD 200

million (50% of project cost) for projects with innovative technologies, such as solar-wind hybrid, floating solar etc. to be developed by SECI. The counterpart 50% funding would be met by SECI through its equity and/or through domestic commercial borrowings.

As the first project under this proposal, a 160 MW solar-wind hybrid project with battery storage is being developed. SECI is the Project Implementation Agency (PIA) for the project. Other project options are being explored.

The solar-wind hybrid with storage project would be under the ownership of SECI. It would be set up on a freehold basis inside a hybrid power park being developed by developer (developer in this case being SECI itself). Project would be set up in a turnkey EPC mode, with EPC contractor being determined through a transparent international competitive bidding process. The implementation arrangement of the project is given **Figure 6-1**.

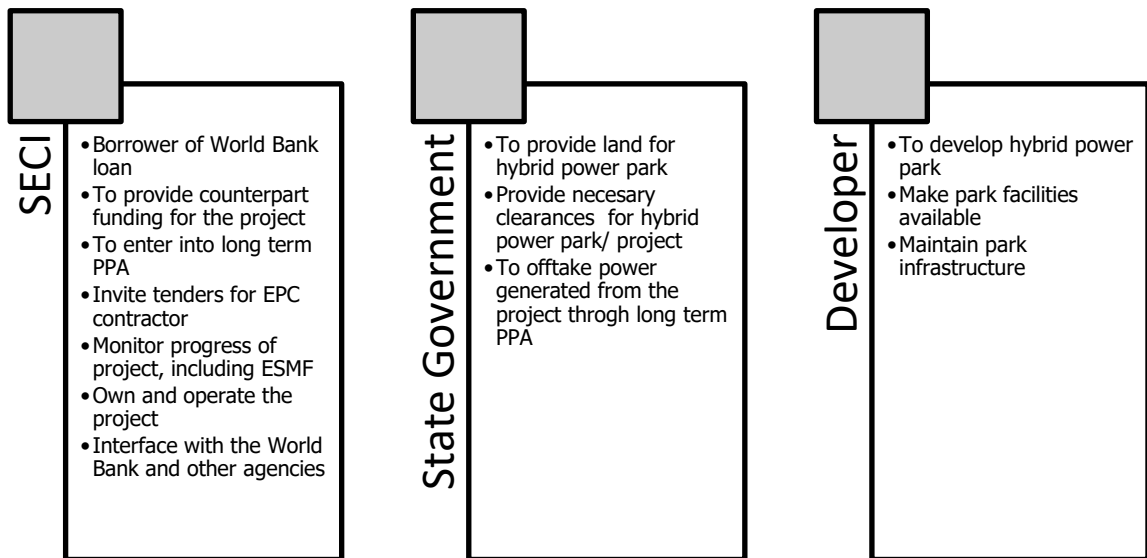


Figure 6-1: Implementation Arrangement for the project

6.3.1 Role of SECI

Managing Director, SECI will have overall responsibility for implementation of the project. Environmental and Social development expert(s) would be engaged by SECI as part of project development and will report to GM (Solar), SECI.

- SECI, being the PIA for the project, would be overall responsible for monitoring the compliance of environmental and social norms for the project-related activities. Presently, SECI does not have an Environment and Social Management System (ESMS); however, same would be developed. SECI would designate Social & Environmental Officer(s) for the project.
- It would develop the project under its ownership. SECI is the borrower of World Bank loan. Counterpart funding to the tune of 50% of project cost would be provided by SECI.
- As project developer, SECI would get the necessary due-diligence done before project set-up. SECI would enter into long term power purchase agreements with Discoms/bulk consumers for ensuring off take of power from the project.

- SECI would invite tenders for EPC contractor through international competitive bidding process. SECI would enter into contract with the selected bidder. During execution phase, SECI would monitor progress of project and ensure compliance with World Bank norms.
- SECI would own the project assets and operate it for the project life time. During operation phase, SECI would ensure compliance with World Bank norms.
- The proposed organization structure for RAP/EMP implementation is presented in Figure 6.2.

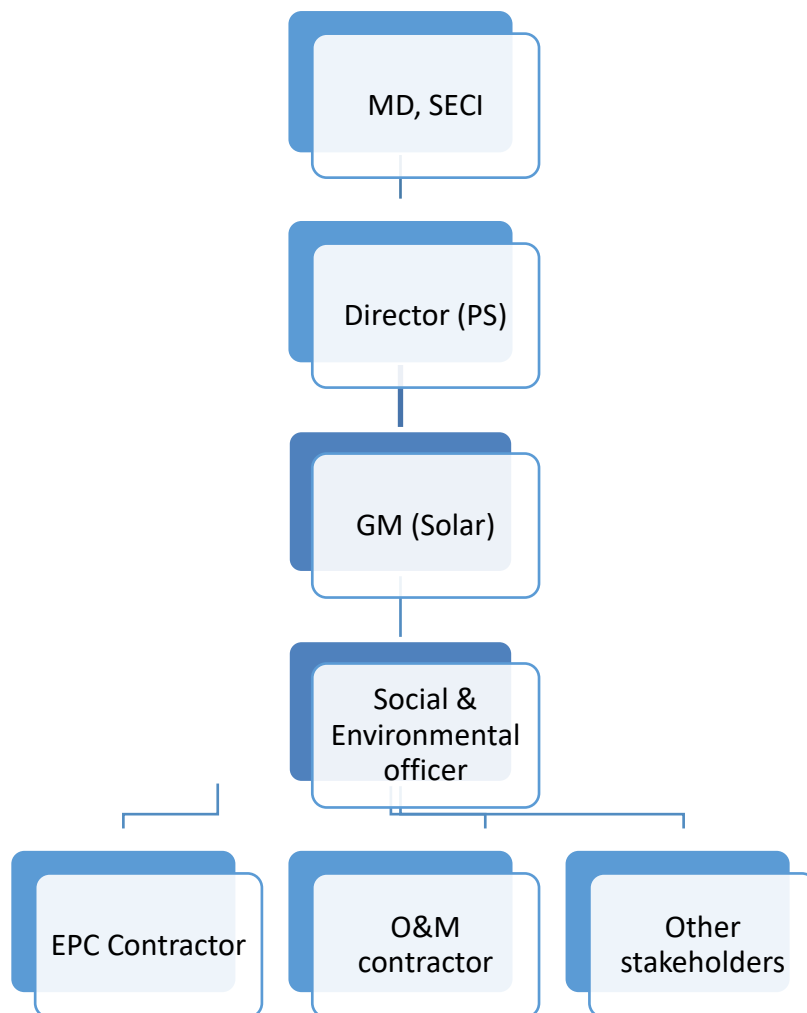


Figure 6-2: Organisation structure for EMP / RAP Implementation

6.3.2 Role of State Government

- 1) The State Government would provide land and necessary clearances for setting up of the project.
- 2) The State Government would have to agree to off take power generated from the project.



6.3.3 Role of Hybrid Power Park Developer

- 1) Developer would obtain necessary approvals for developing the hybrid power park at the designated site.
- 2) As park developer, developer would develop the land and infrastructure for the hybrid power park and make the facilities available for the project.
- 3) developer would be responsible for maintaining the hybrid park infrastructure.

The above-mentioned activities related to hybrid park development and project development are likely to have some adverse impacts on the environment which need to be mitigated and ensured that the appropriate mitigation measures are included as part of the EPC contract and O&M processes.

6.3.4 Roles and responsibility of Environment and Social Officer (ESO), SECI

The Environmental & Social Development Officer(s) are overall responsible for EMP and RAP implementation, coordinating and liaising with NREDCAP, contractors and other agencies, as well as the World Bank, with respect to different social/gender and environmental issues. The expert(s) will also be responsible for progress monitoring of environmental and social safeguards during project construction and execution stage and submission of monthly report (during construction stage) and quarterly report (during operations stage) on EMP compliance to the World Bank.

The roles and responsibilities of the Social and Environmental Officer(s) shall be:

- Prepare TOR for any studies required and qualitative dimensions to the implementation of RAP/ ESMP/GAP;
- Participate in and facilitate consultations with stakeholders;
- Participate in project meetings and report on the issues related to environmental management, social safeguards and gender equality to provide for any mid-course corrections that may be required based on the situation on the ground;
- Assist PAPs to resolve their grievances;
- Coordinate on the training and capacity building initiatives;
- Review contract documents to ensure that EMP provisions related to works are included in the contract documents;
- Act as a resource person in trainings based on experience on implementing this project and previous relevant work;
- Oversee and report to CEO on implementation of EMP provisions included in the works contract for each sub-project in the state;
- Liaison with state administration for land acquisition/procurement and implementation of RAP;
- Report progress, highlighting social issues not addressed, to provide for mid-course correction;
- Assist PAFs in approaching the grievance redressal mechanism;

Carry out other responsibilities as required from time to time.

6.4 Mechanism for Implementation of RAP

Based on the list approved by Government and options chosen by the displaced families, Resettlement and Rehabilitation Plan is prepared by the Collector for resettlement and rehabilitation after due consultation with displaced communities in the manner determined by the Government. Such plan addresses the specific needs of the women, vulnerable groups and indigenous communities.



6.5 RAP Implementation Support Agency

To implement RAP, the Project Authority will engage the services of one or more agencies which can be NGO/Consultancy groups having experience in resettlement and rehabilitation issues through a standard bidding process. Financial matters related to services of the RAP implementation agency shall be under the jurisdiction of the Project Authority. The RAP Implementation and Support Agency (SA) would be the main link between the Project Authority and the PAPs. It would be responsible for verification of the PAPs

6.5.1 Procedure for executing the survey and identification of Displaced Families

- Ordinarily within two months of publication of notice for acquisition of land for the project, a socio-economic survey should be undertaken in the manner to be decided by the Government for identification of displaced families and for preparing their socio- economic baseline
- The list of displaced families shall be placed before and approved by the Government
- The list of displaced families so approved will be displayed at Collectorate / Block/ Tehsil / Panchayat and other conspicuous and public locations for wider dissemination
- Implementing Agency shall realistically assess the requirement of land for acquisition before issue of notification under the relevant law(s) or under the provisions of this Policy
- Gram Sabha or Panchayats at the appropriate level shall be consulted in the notified area before initiating the process of Land Acquisition
- Other development programmes implemented by different agencies should be dovetailed with the resettlement and rehabilitation package in resettlement habitats and made available to the displaced community on a priority basis
- An identity card shall be issued to each displaced family in a manner prescribed by Government.

6.5.2 Procedure for executing Land Acquisition and Payment of Compensation

- The procedure prescribed by Government is followed in acquiring land and other property and for payment of compensation / award
- All compensation money due to the "displaced families" is to be paid through account payee cheques. As regards "public property" like School Building, Club House, Hospital, Panchayat building, electrical installation, place(s) of worship, etc. value of such affected property shall be deposited with the concerned District Collector
- Either Project or District Administration shall take up construction at the place as would be determined in consultation with representatives of displaced persons
- Land not utilized by the Project within the prescribed time limit and for the required purposes shall be resumed.

6.6 Implementation schedule

Planning, surveying, assessing, policy development, institutional identification, participation, income restoration and implementation are typical activities of RAP. While these activities have



discrete components that can be put on a time line, there is a close inter relationship of each activity to the whole. The breakdown of each activity according to a specific time frame has been given for Project to assist SECI in implementation of RAP.

It is further cautioned that specific situations may require an increase in time allotted to a task. Such situations include, but are not limited to local opposition; seasonal factors, social and economic concerns, training of support staff and financial constraints. The Implementation Schedule will require detailed coordination between the project authorities and various line departments.

The following are the key implementation activities presented in a work plan.

- a) Approval of RAP and Disclosure
- b) Constitution and notification of GRCs
- c) Verification of APs and Notification of AP list
- d) Issue of Identity cards
- e) Disbursement of compensation
- f) Disbursement of R&R assistances
- g) Monitoring by SECI
- h) External Evaluation of RAP implementation

A detailed implementation schedule of the various activities to be undertaken has been included in the RAP, with the resettlement implementation schedule clearly linked to the civil work implementation schedule. The acquisition of land and related assets shall take place only after compensation has been paid and, where applicable, resettlement sites and displacement allowances have been provided to PAPs. The implementing agency will arrange adequate and experienced staff to make sure that the RAP is implemented smoothly in accordance with the approved schedule.

The following time-frames shall apply unless otherwise agreed between the implementing agency and the PAPs; provided, however, no such agreement to waive the time-frames shall adversely affect the rights or interests of Project Affected/Displaced Persons under this Framework:

- The inventory shall be completed at least four months prior to the commencement of work
- The Resettlement Plan shall be submitted to the Implementing Agency for its approval
- Compensation payments and Resettlement and Rehabilitation activities will only commence after the Implementing Agency has accepted the Resettlement Plan
- The compensation, resettlement and rehabilitation activities, if any, will be completed at least one month prior to the commencement of work.

Implementation of RAP mainly consists of planning for relocation and livelihoods restoration along with payment of compensation to Displaced Persons as per their entitlements. The time for implementation of resettlement plan will be scheduled as per the overall project implementation plan. All activities related to the land acquisition and resettlement must be planned to ensure that compensation is paid prior to displacement and commencement of civil works. Public consultation, internal monitoring and grievance redress will be undertaken

intermittently throughout the project duration. However, the schedule is subject to modification depending on the progress of the project activities.

Table 6-1: Implementation Schedule

Tasks	Period (Months)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Updating RAP if required															
GRC formation															
Verification of PAFs and Notification of PAF list															
Issue of Identity Cards															
Compensation disbursement															
R&R Assistance															
Implementation of Income Restoration and community development															
Monitoring by SECI															
External evaluation of RAP implementation															

6.7 Implementation Responsibility

It is the responsibility of the SECI to ensure that the RAP is successfully implemented in a timely manner. The implementation plan of RAP for a specific route will be prepared by the SECI. The implementation schedule proposed will be updated as the implementation progresses.

6.7.1 Community Participation in the Implementation of RAP

The institutional arrangements as detailed out in the R&R policy already provides for continued involvement of communities, especially the project-affected persons in implementation of RAP. The SECI will ensure:

- The stakeholders are consulted at every stage of project
- Focussed groups with women should be carried out for identifying gender needs and concerns and developing appropriate strategies for equitable benefits of R&R, compensation and employment opportunities.
- An institutional mechanism is evolved involving the people, the gram panchayats and the formal and informal stakeholders

6.8 Grievance Redressal Mechanism (GRM)

Effective environmental and social grievance redressal mechanism gives an opportunity to the organization to implement a set of specific measures to ensure good governance accountability and transparency in managing and mitigation of environmental and social issue of a particular project. This consists of defining the process for recording/receiving complaints and their redressal in respect of environmental and social matters.



Three-tier appropriate grievance redressal mechanism will be established at project level to ensure speedy resolution of disputes. An integrated system will be established with Grievance Redressal Cell (GRCs), with necessary officers, officials and systems, at the state as well as SECI. Grievances if any, may be submitted through various mediums, including in person, in written form to a noted address, e-mail, or through direct calls to concerned officials. The Social and Environmental Expert in the concerned agency shall be responsible for coordination of grievance/complaints received.

Grievances of PAPs, in writing, will be brought to GRC for redressal by the RAP implementation agency. The RAP implementation agency will provide all necessary help to PAPs in presenting his/her case before the GRC. In case an aggrieved person is illiterate or any vulnerable person (differently abled or woman), can use toll free number to register the grievance or can approach NGO responsible for implementation of RAP. An aggrieved person can keep his or her identify confidential. The GRC will respond to the grievance within 15 days. The GRC will normally meet once in a month but may meet more frequently, if the situation so demands. Time period of 45 days will be available for redressing the grievance of PAPs. The decision of the GRC will not be binding to PAPs. This means the decision of the GRC does not debar PAPs taking recourse to court of law, if he/she so desires. Broad functions of GRC are as under:

- Record the grievances of PAPs, categorize and prioritize them and provide solution to their grievances related to resettlement and rehabilitation assistance
- The GRC may undertake site visit, ask for relevant information from Project Authority and other government and non-government agencies, etc in order to resolve the grievances of PAPs
- Fix a time frame within the stipulated time period of 45 days for resolving the grievance
- Inform PAPs through implementation agency about the status of their case and their decision to PAPs and Project Authority for compliance.

The GRC will be constituted within 3 months by an executive order from competent authority (centre/ state) from the date of mobilization of RAP implementation agency. The Social Officer of SECI will pursue the matter with assistance from implementation agency in identifying suitable persons from the nearby area for the constitution of GRC.

A three-tier appropriate grievance redressal mechanism will be established to ensure speedy resolution of disputes. An integrated system will be established with necessary manpower at the project level, state as well as in SECI. Grievances if any may be submitted through various mediums, including in person, in written form to a noted address, e-mail, or through direct calls to concerned officials. The Social and Environmental Expert in the concerned agency shall be responsible for coordination of grievance/complaints received. All grievances recorded either through GRC or toll free number or web based grievance registration, will be made public.

6.8.1 Grievance redressal through toll free number or web based mechanism

In case of grievances received through a toll free number or web based system, a person will be appointed in-charge of screening and resolution of the same/communicating with the concerned officials. The person in-charge based on the nature of complaint, will forward the same to the concerned official. A ticket or a unique number will be generated for all such

complaints. The complainant will follow up based on that unique number. All calls and messages will be responded to within a two week time frame. If responses are not received within 15 days, the complaint will be escalated to project head. It is also recommended to maintain a grievance register on action taken and disposal of grievance.

6.8.2 Site level Grievance Redressal Cell

A site level GRC will be set up that is easily accessible to the affected community. The details of the system is given in **Table 6.2**

Table 6-2: Details of GRM Committee

Tier	Representative	Roles and responsibility
I	Field Officer- Member Secretary	Overall responsibility is to convene and conduct the meeting on monthly basis for the grievances received from the local community
	Representatives from Community (Village Head)	Will be part of GRC to protect rights of community. Will be first level of contact for the community and will also be responsible for informing the community about the decisions taken.
	Representatives from Developers	Along with the community representative, will be responsible for informing the community regarding the decisions taken and will provide technical inputs.
II	SECI- Head or representative	If not resolved at site level, the grievances will be escalated to tier 2. The Social Specialist of SECI will be responsible for policy interpretation based on field level inputs provided by field Officer of SECI.
	SECI- Social/Gender Specialist	
III	Judiciary	If unresolved, aggrieved persons have the right to approach the Judiciary. Project will assist any PAPs approaching judiciary.



7 GENDER STRATEGY & WOMEN'S PARTICIPATION

7.1 Profile of Women in the Project Affected Area.

As per the census and socio-economic survey approximately 48% of the PAPs are women. Amongst this group there are also 21 women headed households (WHHs), and women from vulnerable social groups (SC/ST) will to be affected by the solar hybrid park project. The gender section outlines the gender gaps and issues identified during ESIA and appropriate strategies to address these for equitable outcomes and benefits of the project for women.

7.2 Potential Impact on Women

Gender inequality in decision-making, control over natural and economic resources, and community participation persists across India. The underlying causes of the low status of women are socio-economic structures and formal and informal practices that continue to discriminate against women. Access of women to health, education and other services is limited. Restrictions on mobility and lack control over productive resources leads to further vulnerability amongst women. Women belonging to Scheduled Castes and Scheduled Tribes are often further marginalized as a result of social exclusion and poverty.

A similar trend was observed during social survey and public consultation meetings. Women members responded to the survey only in the absence of male members of the household. The participation of women in the public consultation meeting was also observed to be very low. Some key issues and concerns of women were raised during the focused group discussion with women during the field visits. The issues and concerns highlighted by women were with regard to the lack of toilets and sanitary facilities, limited availability of drinking water sources, compensation for loss of land and natural resources, inadequate employment opportunities and safety and security.

The following section outlines the gender gaps identified during ESIA, and strategies to address these for equitable outcomes and benefits of the project for both men and women.

7.3 Gender Gaps

Almost all human development indicators are lower for women than men and further lower for women from excluded and marginalized communities and groups. Some of the key gender gaps and differentials adversely affecting women in Andhra Pradesh and the project area are outlined below:

7.3.1 Education

Education is a key determinant of community and societal well being. Gender disparities in literacy levels, is a clear measure of the low status of women in India. World Bank studies have shown that gender disparities in human development outcomes (health and education) are a result of low investment in the girl child by families and communities. Public policies investing in the girl child are likely to narrow the gender gap. The studies highlight the strong associations between female literacy and other human development indicators like infant mortality and child underweight rates. For example, an additional year of schooling of can significantly reduce infant mortality rates of 4% ('Attaining the MDG goals in India', WB report). The NFHS-4 data (National Family and health Survey 2015-16) shows that higher education of women consistently lower women's risk of domestic violence. It is found that 10 or more years of education is strongly and negatively associated with all types of violence. In Andhra Pradesh in



the age group 15-49 only 63 percent of women are literate as compared to 79 percent of men. Thirty-three percent of women and 17 percent of men age 15-49 have never been to school.

The gender disaggregated data as provided in the sections above for Anantpur district, reflects a similar gender disparity in literacy levels between men and women. The average literacy rate in the study area is 44.18% for women compared to 61.85% for men. The field visits and stakeholder consultations confirmed a high school dropout rate amongst girls with only 8-10% having completed secondary level schooling. Reasons cited for the high dropout rates are sibling care, household work, migration and early marriage.

7.3.2 Employment

There are gross gender disparities in work participation rate amongst men and women in India. According to 1991 census in rural India, the male work participation rate was 52.50 per cent where as the female work participation rate was 27 per cent. Women in India earn 50-75% of what men earn across all sectors. In addition they experience harassment and violence at the workplace, both in the formal and informal sectors. Over 90% of the economy is in informal employment, and since majority of women are engaged in the informal economy, they are exposed to the risk of exploitation and harassment.

The gender disaggregated data as provided in the sections above indicates women's work participation rate as 45% compared to 55% for men. Out of the 78% of main workers in the area, only 40% are women as compared to 60% male main workers. The gender balance is reversed when it comes to marginal workers. Out of 22% of marginal workers, 64% are women as compared to only 36% men. In the non worker category, out of 46% of non workers in the study area, 47% are women and 53% are men.

7.3.3 Crimes against women/Domestic Violence

Gender is a cross cutting axis of inequality, with women across groups and communities being accorded low social value and discrimination. Lack of voice and decision-making makes them further vulnerable. This leads to a cycle of low investment in female children in health and education, a skewed sex ratio, lack of access to natural resource, low decision-making within the household and high levels of domestic violence within the home.

NFHS-4 shows that in Andhra Pradesh 44% of women have experienced physical or sexual violence. There has been increase of spousal violence by 8.0 percentage points since NFHS-3. Among those who experienced physical violence since age 15, the most common perpetrator for ever-married women was the husband. A study 'Women and Men in India', 2016 found that in 2015 4% of the total crimes reported in the country, are categorized as 'crimes against women'. Among these, cruelty by husbands and relatives has the highest share of 35%. NFHS reports similar findings whereby 37.2 per cent of ever-married women (age 15-49) have experienced physical and sexual violence from their husbands.

Despite an increasingly high percentage of women experiencing violence in Andhra Pradesh, only 14 percent of women who have ever experienced physical or sexual violence by anyone have sought help. 79% of women have neither sought help nor told anyone about the violence. Only 2 percent of abused women who sought help for the violence sought help from the police (NFHS-4).

Although domestic violence was neither observed nor reported during the village consultations, the high percentage of domestic violence in AP is a cause for great concern and needs to be addressed during project planning and implementation.



7.3.4 Gender Action Plan

A Gender Action Plan (GAP) has been developed in consultation with the community for the project implementation phase, to address the gender issues identified in the ESIA. The GAP includes gender disaggregated data and issues (across all social groups) related to gender disparities, needs, constraints, priorities, risks, benefits and opportunities. This action plan must be fully understood and owned by the community and executing agency. The key components of this plan are outlined below

Opportunities for equal access to project benefits, including employment opportunities, for men and women will be created during project implementation and construction. Suitable work conditions for women's participation which includes, gender-equal wage rates, safety & security issues, child care facilities, health and sanitary requirements and separate toilets for women will be provided. Strict adherence to child labour norms shall to be followed. Some of the provisions particularly during the construction phase are listed below

7.3.5 Temporary Housing

Families of labourers /workers shall be provided suitable accommodation during the construction work at the labour camp site with strict compliance to availability of water and sanitation facilities.

7.3.6 Health Centre

Health problems of the workers should be taken care of by providing basic health-care' facilities through health centers temporarily set up for the construction camp. The health centre will have at least a visiting doctor, nurses, general duty staff, free medicines and minimum medical facilities to tackle first-aid requirements, and linkage with nearest hospitals for referring patients for treatment of critical cases. The health centre shall have MCW (Mother and Child Welfare) units for specifically addressing mothers and children in the camp. Apart from this, the health centre will provide regular vaccinations maternal and child health.

7.3.7 Day Crèche Facilities

Crèche facilities will be provided with at least one trained ICDS (Integrated Child Development Scheme) worker and 'a helper to look after the children.

7.3.8 Proper Scheduling of Construction Works

Owing to the demand for fast construction work it is expected that a 24 hours- long work schedule would be in operation. Women will be exempted from night shifts as far as possible. A strong vigilance mechanism will be created to check against exploitation of women and children in the camps.

7.3.9 Education Facilities

linkages with the education department will be established to ensure that the children of these workers are provided appropriate levels of schooling and education.

- I. . Strategies to mitigate any adverse social impact on women will be developed based on a detailed gender analysis of men and women in the area in consultation with the community and focussed group discussions with women.
- II. In addition, specific interventions like awareness campaigns and skill development training's will be systematically carried out for improved social and economic outcomes for women in the project area. Up-gradation of skills through capacity building interventions will be carried out based on a need assessment study. Adequate funds



for capacity building need to be earmarked for addressing the gender-related issues identified.

- III. There are several existing National and State level programmes for improved education & health outcomes, livelihood enhancement and women's social & economic empowerment, like ' Beti Bachao Beti Padhao Abhiyan', 'Aajvikas', 'PMKVY' and MGNREGA. Institutional mechanisms for convergence and effective implementation of these programmes will be developed. Interventions like awareness generation programmes and campaigns with the support of civil society organization will be carried out highlighting gender disparities and discrimination. In addition, existing women's collective, service providers and women panchayat leaders (local elected representatives) will also be mobilized for facilitating these interventions.
- IV. Gender sensitization training's will also be carried out for staff of implementing agencies to ensure gender constraints and priorities are taken into account at every stage.
- V. Andhra Pradesh has a history of strong women's collectives that have mobilized against issues like alcoholism, violence against women, and discriminatory social practices at the community and State level. A large number of Self Help Groups (SHGs) exist focusing on savings & credit and alternate means of livelihood and economic empowerment of women. These groups have also been instrumental in strengthening women's voice and participation in social, political and development interventions at the community level. Women's collectives are an effective mechanism for reducing gender inequalities at the household and community level. Reviving and strengthening these women's collectives in the project area will be an integral part of the gender action plan.
- VI. The overall monitoring framework of the project includes gender sensitive and gender disaggregated indicators. Issues of division of labour, access to resources and decision-making power will be further assessed for gender differential impact on men and women of different social groups. Gender-specific restraints in access to information will to be identified. There shall be continuous follow-up and monitoring of gender related targets. Gender specific monitoring indicators have been included in the section on Monitoring and evaluation.



8 TRAINING, SKILL UPGRADATION AND INCOME RESTORATION (IR)

8.1 Introduction

The project will have an adverse impact on the income and livelihoods of 216 affected families and is committed towards restoration of pre-project levels of income. The R&R framework proposed for the project has adequate provisions for restoration of livelihood of the affected communities. The focus will be on improving the standards of living of the affected families. To restore and enhance the economic conditions of the PAPs, certain income generation and income restoration programs are incorporated in the RAP.

For Income restoration it is important that the existing skills of the PAPs are identified and further upgraded. During the implementation of RAP, the project will conduct a skills based survey of the PAPs in accordance with the available resource base of the area and market demands (with proper forward and backward linkages). This study will determine the training and capacity building interventions to be carried out. The study will also take into account the skill requirements across gender and different social and religious groups. Based on the training's provided, the project will identify income-generating activities. This would include establishing forward and backward linkages for marketing and credit facility. The project in consultation with the PAPs, district administration and other stakeholders in institutional financing and marketing federations will prepare micro-plans for IR activities. Further, these options will be tested for their viability against availability of skills, resource base of the area and available and appropriate technology. Project should look to dovetail with ongoing government initiatives for skill enhancement like the "PMKVY" for skill development of PAPs.

In addition, there are numerous poverty alleviation programmes at the national and state level. One such scheme is Mahatma Gandhi National Rural Employment Guarantee Act. The objective of this programme is to generate additional gainful employment for the unemployed population in rural areas especially during the lean agriculture season. The Act provides for 100 days of employment to husband and wife in a year. This scheme can be utilized by SECI to gainfully provide temporary employment.

During the survey PAPs were specifically asked about their preference for rehabilitation in case they are affected / displaced by the proposed project. As table below shows, over three fourth of the total affected PAPs opted for cash grant. Nearly 16% of the PAPs, primarily those running shops, opted for petty shops as they are already in the same vocation. Less than five percent of PAPs opted for employment with contractors during construction phase. However, educated PAPs demanded permanent employment either with SECI or contractors. Training for skill upgradation was demanded by a majority of the PAPs.

Table 8-1: Income Restoration Options as Preferred by PAPs

IR Options	% of respondents *
Allied Agriculture Activity	23.32
Cash Grant	34.02
Employment during construction	13.85
Training for skill upgradation	88.72
Others	2.77

Source: Primary Survey *: multiple responses



8.2 Short Term IR activities

Short term IR activities mean restoring PAPs' income levels during periods immediately before and after relocation. Such activities will focus on the following:

- Ensuring that adequate compensation is paid before taking physical possession of land
- Transitional allowances or grants until adequate income is generated, special allowances for vulnerable groups
- With consideration of PAPs skills and needs, promoting PAP access to project related employment opportunities in the Main Investment Project

8.3 Long Term IR Activities

Long-term options are affected by the scale of resettlement which may affect the feasibility of various non-land based and land based IR options. The long-term options will be financed by the government and therefore no separate budget is required. However, in the R&R budget provisions have been made for expenses incurred for linking up with the relevant existing poverty alleviation schemes. The project will coordinate with the respective government administration (district administration), and tribal development and social welfare departments, to ensure PAPs access to all schemes for improving IR services. Project financed programmes should include a specific time frame for handing over the project to local administration Mechanisms to link up with existing government poverty alleviation programmes and IR will be developed in consultation with the community and officials of district administration

8.4 Monitoring of IR Schemes

The internal monitoring of IR schemes will be carried out along with the monitoring of other components of RAP by SECI. The Environment and Social Officer will provide information for regular (quarterly) monitoring of income restoration of PAPs.

8.5 Training and Capacity Development

Training and capacity development is an integral part of successful and timely implementation of the RAP. Two types of trainings and capacity development will be taken-up; one for the staff of the implementing agency and the other for the PAPs. Focused training modules and training program schedules will be prepared after undertaking a Training Needs Assessment for a) identification of the areas which require training of staff for successful implementation of the RAP, and b) oriented towards livelihood restoration of the PAPs.

8.5.1 Purpose of Imparting Training

The purpose of imparting training to the various functionaries and PAPs is to:

- 1) Strengthen in house capacity to implement the provisions of RPF/RAP
- 2) Create Awareness and provide the tools for implementation of RPF management procedures to all departments
- 3) Develop the capacities of key officials to provide training at their respective levels.
- 4) Skill development of the PAPs for successful integration and utilization of existing the income generation schemes and programmes of government.

These training programs will be conducted in collaboration with local and national training institutions, NGO's and experts.

Training for PAPs

A need assessment study will be carried out to determine the nature and level of available skills amongst the PAPs and the local community. This study will be the basis for identifying the training's to be provided, and the kind of experts required to conduct these training's. The study will take into account the skill requirements across gender and different social and religious groups. A combination of classroom training, on the job training and participatory training's will be organized with the support of Ngo's and other technical institutions/experts.

Classroom and on the job training's are important for developing and upgrading technical (theoretical and practical) skills of the local community, which in turn will enable them to be gainfully employed by the project and/or the market.

Participatory training's provide a platform for: disseminating information and awareness about the project and its benefits, identification of the roles and responsibilities of PAP's and community members in project implementation and oversight, ensuring community participation in decision-making and outcomes of the project, and building ownership of the project among all the stakeholders.

Training of staff for RAP implementation

Suitable NGOs will be identified and selected for staff training and implementation of RAP and under this project. An indicative list of classroom/structured training's programmes that shall be conducted to facilitate proper implementation of the RAP has been provided in **table 8-2**.

Table 8-2: Proposed Training / Capacity Building Workshops

S. No.	Type of training/capacity building workshop	Duration (in days)	Participants
1	Participatory Social and gender Appraisal	1	SE, EE, AE, Social Officer and Representatives of Fisheries, Agriculture and Animal Husbandry Departments
2	Collaboration/Coordination with other Departments	1	
3	Communication Skills and gender sensitization	1	SE, EE, AE and Social Officer
4	Implementation Mechanism of RAP	1	
5	Progress Monitoring and Project Evaluation	1	
6	Land Acquisition	1	
7	Conflict/Crisis Management	1	
8	Team Building	1	
9	Grievance Handling	1	
10	Survey Techniques	1	
11	Extension	1	Social Officer and Representatives of Fisheries, Agriculture and



S. No.	Type of training/capacity building workshop	Duration (in days)	Participants
			Animal Husbandry Departments
12	Trainings on Different Income Generation Schemes	1day (each)	PAPs

A total of 12 training areas have been identified as a part of RAP implementation out of which 11 are one day's duration totaling 11 days training in all, while the last – training on different income generation/restoration schemes – will consist of several 1-day trainings to the PAPs on the various schemes and programmes. In addition, on the job training's and participatory training's will be organized for the PAPs as mentioned earlier. Overall, the number of trainings will be approximately 25-30

8.5.2 Training Delivery Strategy

Keeping in view the specific needs of the PAPs, special care has been taken in identifying the different options available in the form of institutional and infrastructural support for delivery of training programs. The available avenues for training delivery have been identified and grouped into the following:

8.5.2.1 Training Institutions either run or supported by the government

Organizations like Industrial Training Institutes (ITIs) and Krishi Vigyan Kendras (KVKs) are run by the government to impart training on specific skills. ITIs provide skill based training on welding, plumbing, fitting, motor winding, electrician, auto mechanic etc. while KVKs impart training on agriculture and allied area like pickle making, papad making, mushroom cultivation, dairy, poultry etc. where women can play a major role.

8.5.2.2 Private trainers/ Local Experts/ entrepreneurs

Skills like tailoring, TV repair, computer operations like typing and formatting, designing etc., are imparted by several private institutes, trainers and entrepreneurs. These can be identified by the implementing agency based on the capacities of the PAPs and marketability of the acquired skills.

8.5.2.3 Government income generating schemes

Government of India (Central and State) is implementing several poverty alleviation and rural development programs through the respective Ministries, State departments and District Rural Development Agencies (DRDA). A majority of these programmes are for BPL, SC/ST families and provide opportunities for employment and income generation for poor and marginalized communities. Linkages with these programmes will be made to create IR opportunities for PAPs.

8.6 Income Restoration Schemes

To minimize adverse impacts of land acquisition and R&R and in-keeping with the project objectives of providing gainful economic alternatives to the PAPs, some Income Generation/Restoration Schemes have been prepared. Following the training need assessment of PAPS, linkages will be made for effective utilization of these schemes. A prerequisite of the success of these plans is identification and creation of good market linkages and active support of the implementing agency. A list of some of these schemes has been presented in the annexure 4. Duration project implementation other such relevant schemes can be identified for providing employment opportunities to PAPs.

8.7 Training Cost

The cost of training has been calculated after taking into account the expenditures on learning material/kits, venue, audio-visual aids, meal costs, and the resource persons. The unit cost incurred on training a group of 20 participants would be Rs.75,000.00. Taking the total number of trainings to be imparted during the implementation of the RAP as 30, the training cost works out to INR 22,50,000.00.

8.8 Income Restoration Strategy

The overall strategy for restoration of incomes of the PAPs, thus, consists of verification of PAPs, identification of marketable skills of the PAPs, identification of training needs of the PAPs and project staff and establishing linkages with relevant schemes and programmes. The steps included in this process are presented below in **figure 8-1**.

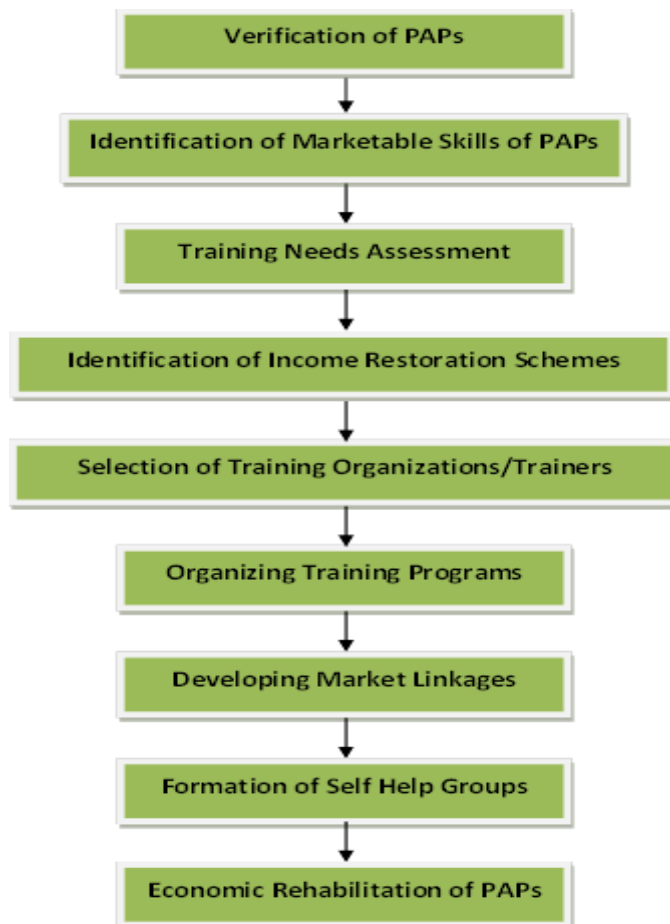


Figure 8-1: Income Restoration Strategy and Steps



9 MONITORING AND EVALUATION

9.1 Introduction

Monitoring and Evaluation are the most critical activities in effective implementation of the Resettlement Action Plan.

Monitoring involves periodic review to ascertain whether activities are moving ahead in strict accordance with the plans. It also helps to continuously assess and track the physical and financial progress of the project, and provides the necessary feedback for project management to ensure timely attainment of targets. Evaluation, on the other hand, helps to assess the extent to which the project has achieved its objectives and goals in the context of the Resettlement Action Plan. Project evaluation assesses the extent of achievements of resettlement objectives, specifically whether livelihoods and living standards of PAPs have been restored and/or enhanced. Evaluations will help to assess the efficiency, effectiveness, impact and sustainability of resettlement while simultaneously drawing lessons to guide future resettlement planning.

9.2 Project Monitoring

Project monitoring will be taken-up at two levels: internal and external.

9.2.1 Internal Monitoring

Monitoring will be undertaken internally by the project staff at different levels. The Field Officer of SECI on a monthly basis will carry out the project's internal monitoring. The Field Office will submit monthly report to the Social Specialist of SECI. Internal monitoring will:

- 1) Verify that the baseline information of all PAPs that has been obtained and whether the valuation of assets acquired, lost or damaged, and the provision of compensation, resettlement and other rehabilitation entitlements have been carried out in accordance with the provisions of the Resettlement Policy Framework
- 2) Oversee that the RAP is implemented as designed and approved
- 3) Verify that funds for implementing the RAP are provided in a timely manner and in amounts sufficient for their purposes, and that such funds are used in accordance with the provisions of the RAP and policy framework
- 4) Record all grievances and their resolution and ensure that complaints are dealt-with in a timely manner.

9.2.2 External Monitoring

An independent agency/ agencies or individual consultant will be hired by the Implementing Agency to periodically carry out external monitoring and evaluation of the implementation of the RAP. The independent agencies will be academic or research institutions, non-Governmental Organizations (NGO) or independent consulting firms, all with qualified and experienced staff working in accordance with the terms of reference approved by the World Bank. In addition to verifying the information furnished in the internal supervision and monitoring reports of the DLCAC, the external monitoring agency will also visit a sample of 10% of PAP households to monitor all activities required under the RAP. External monitoring consultants or agencies will:

- 1) Determine whether the procedures for PAPs participation and delivery of compensation and other rehabilitation entitlements has been done in accordance with the Resettlement Policy Framework



- 2) Assess if the Resettlement Policy Framework objective of enhancement or at least restoration of living standards and income levels of PAPs have been met
- 3) Gather qualitative indications of the social and economic impact of Project implementation on the PAPs
- 4) Identify and suggest modifications, if any required, in the implementation procedures to achieve the principles and objectives of the Resettlement Policy Framework.

9.3 Monitoring and Evaluation Indicators

The performance indicators which will be used to monitor project objectives will form the basis for monitoring and evaluation of the implementation of the RAP. The socio-economic survey undertaken during the project preparation will provide benchmarks for comparison on the socio-economic status of the PAPs in the post project period. It will provide information about whether the project objectives are being achieved. A key objective of the project is the restoration and improvement of affected people's income and quality of life.

Monitoring is done on the basis of certain predefined parameters or performance indicators which generally consist of two broad categories

- input and output indicators
- outcome/impact indicators

Input and output indicators relate to the physical progress of the works and include such items as extent of LA and compensation paid, number of families displaced and resettled, other R&R assistance extended and the related financial aspects. Monitoring of project inputs and output will be carried out by the implementing agencies.

Outcome and impact indicators relate to overall project objectives as stated in the R&R policy. An external agency will be contracted to carry out annual, mid-term and end-term evaluation of the implementation of RAP. This may, at times, lead to certain changes in the RAP as per the exigencies of the situation.

The Resettlement Action Plan contains indicators and benchmarks for achievement of the objectives under the resettlement programme. These indicators and benchmarks are of three kinds and are detailed out in the table below:

- i. Indicators of financial achievement, indicating project inputs and expenditures.
- ii. Indicators of physical achievement, indicating results in terms of numbers of affected People compensated and resettled, training held, credit disbursed, etc.
- iii. Indicators of social development and gender or impact indicators, related to the longer-term effect of the project on the lives of the project affected people. These relate to the overall project objectives as per the R&R policy.

The benchmarks and indicators will be limited in number, and combine quantitative and qualitative types of data. The first two types of indicators, related to process and immediate outputs and results, will be monitored to inform project management about progress and results, and to adjust the work programme where necessary if delays or problems arise. The results of this monitoring will be summarized in reports which will be submitted to the World Bank on a regular basis. Provisions will be made for participatory monitoring involving the project affected people and beneficiaries of the resettlement programme in assessing results and impacts. The Project Authority will engage services of an external agency (third party), which will undertake independent concurrent evaluations at least twice a year during the project

implementation period. At the end of the project an impact evaluation will be carried out as part of the project completion report. Such independent evaluation will focus on assessing whether the overall objectives of the project are being met and will use the defined impact indicators as a basis for evaluation.

9.3.1 Monitoring Indicators

Table 9-1: Monitoring Indicator with Measurement Frequency and Responsibility

Sr. No.	Monitoing Indicators	Frequency of measurement	Responsibility
	Indicators of financial achievement		
a.	Disbursement of compensation amount for land, productive assets,R&R assistance, community property resources &infrastructure	Half yearly	SECI
b.	Amount spent on training and capacity building/enhancement	Monthly	SECI
c.	Fees to implementing NGOs	Monthly	SECI
	Indicators of physical achievement		
a.	Total Land Acquired	Half yearly	SECI
b.	Number of PAPs whose land was acquired, community infrastructure relocated	Half yearly	SECI,NGO
c.	Number of training and capacity building/enhancement workshops held	Monthly	NGO
	Indicators of social development		
a.	Percentage change in consumption & occupational patterns	Annually, end of project	NGO
b.	Status of health and medical infrastructure	End of project	NGO
c.	Number of PAFs brought above BPL level	End of project	NGO
	Gender responsive Indicators		
a.	Proportion of per capita income generated by self employed/employed women.	End of project	NGO
b.	Number of women owned enterprise initiated after scheme convergence.	End of project	NGO
c.	Number of women provided micro finance or easy credit from Banks & Increase in participation rate of SHG's.	Annually	NGO
d.	% increase in enrolment to courses on skill enhancement provided for women.	Half yearly	NGO
	Number of men and women employed in the solar power project during the construction and operations stage.	Half yearly	Contractor,NGO
	% Increase in incomes for men and women.	End of Project	NGO
e.	Change in number of women registered in different schemes for women's empowerment.	End of project	NGO
f.	Number of legal cases registered for domestic violence annually.	Annually	NGO
g.	% of women participating in citizens committees during project implementation.	Half yearly	NGO,contractor



Sr. No.	Monitoing Indicators	Frequency of measurement	Responsibility
	Indicators of financial achievement		
h.	Increase in number of women attending gram sabha (village counsel) meetings.	Half yealy	NGO
i.	Change in dropout % of girls in primary and secondary schools.	End of project	NGO
j.	Increase in the scale of 10 of acceptance in families to educate girl child and send them to school.	End of project	NGO



10 COSTS AND BUDGET

The budget is indicative in nature and consists of outlays for the different expenditure categories and has been calculated at the prevailing prices. The costs are based on the information collected through the socio-economic surveys and census of the PAPs and from the Revenue Department and market value. These costs will be updated and adjusted to the inflation rate as the project continues and in respect of more specific information such as extra number of PAPs during its implementation, unit cost will be updated, in specific cases, based on justification of the same by the findings of the district level committee on market value assessment.

The resettlement budget comprises itemized estimate of compensation for land, structures, trees, crops, various resettlement assistances, rehabilitation or relocation of CPRs including land, institutional cost, contingency, additional studies if required, cost towards implementation, engagement of RAP implementation agency, evaluation consultants, etc. The total R&R cost has been estimated to be around 40 Crores and has been assessed on the basis of consultations with the local people regarding the average costs of the materials and the labour inputs required for such constructions and the entitlement matrix prepared for the PAPs.

The implementation of RAP entails expenditure, which is a part of the overall project cost. The R&R budget gives an overview of the estimated costs of the RAP and provides a cost-wise, item wise budget estimate for the Project of resettlement implementation, including compensation, assistance, administrative expense, monitoring and evaluation and contingencies. The costs estimated mainly include land cost only.

The R&R cost has been taken from approved R&R policy as prescribed in the ESMF for the project. Land cost has been calculated on the basis of rate collected during social survey. Since all the affected families come under vulnerable category, the assistance for them has been calculated as per the Entitlement matrix (EM). Rest of the relevant expenditure has been taken as lump sum rate. The resettlement and rehabilitation assistance includes transitional allowance, shifting allowance, economic rehabilitation assistance, land cost of government land and the land cost to be disbursed to the affected PAPs/HH. An additional sum of Rs.22,50,000 has been added as training cost, details of which has been provided in Chapter 9: Training, Skill Up gradation and Income Restoration.

The cost for hiring social officers and an M&E agency has been estimated based on other projects, activities envisaged, and number of PAPs. The budget for RAP implementation comes to about INR 23.34 Crores. The detailed R&R budget is presented below in Table 10-1.

Table 10-1: Estimated Costs for Resettlement Action Plan (RAP) as per Entitlement of Provisions of ESMF under SECI

Sl. No.	Items	Unit	Quantity	Unit Rate (in INR)	Amount (in INR)
1	Assigned land	Acre	643.85	3,25,000*	20,92,51,250
2	Assistance for Vulnerable Families (as per EM)	Nos.	216	50,000	1,08,00,000
3	Training Assistance to PAPs (as per EM)	No. of families.	216	10,000	21,60,000
4	Hiring of agency for M & E of RAP and GAP implementation	-	-	Lumpsum	15,00,000
5	GRC	-	-	Lumpsum	2,00,000

Sl. No.	Items	Unit	Quantity	Unit Rate (in INR)	Amount (in INR)
6	Awareness Generation and continued consultation			Lumpsum	2,00,000
7	Livelihood and Capacity Building trainings			Lumpsum	22,50,000
8	External Monitoring and Evaluation			Lumpsum	10,00,000
9	RAP Implementation Agency			Lumpsum	15,00,000
	Sub-Total				22,88,61,250
10	Contingency @ 2 % of Total Cost				45,77,225
	G.Total				23,34,38,475

***Based on Govt rate**

ANNEXURE 1:LIST OF PROJECT AFFECTED HOUSEHOLD IN SECI PROJECT AT ANANTPUR DISTRICT OF ANDHRA PRADESH

Ramagiri:

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey/Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barran 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH : Yes =1, No =2	Physically Handicapped :: Yes=1, No=2	BPL :: Yes =1, No =2
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	Ramagiri	G Papanna	G Veramma	Telugu	2	807	Assigned	1	1	5.01	3,25,000	5	1	illiterate	Agri	1	0	1	6000	2	2	1
2	Ramagiri	D Fakruddin	D Kasim	Telugu	1	345-1	Assigned	1	1	5	3,25,000	3	2	10	Labour	4	2	2	9000	2	2	1
3	Ramagiri	P Fakauddin	Ibrahim	Telugu	1	345-4	Assigned	1	1	5	3,25,000	3	2	ITI	Labour	4	3	1	9000	2	2	1
4	Ramagiri	K nagaratham ma	K Raghu Ramudu	Telugu	2	353-1	Assigned	1	1	4.76	3,25,000	1	1	illiterate	Agri	4	2	2	9000	2	2	1

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey/Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barran 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH : Yes =1, No =2	Physically Handicaped :: Yes=1, No=2	BPL :: Yes =1, No =2
5	Ramagiri	Vaddi Mutthalappa	Mutthalappa	Telugu	1	353-2	Assigned	3	3	5	5,00,000	3	1	Inter (10+2)	Agri	3	2	1	5000	2	2	1
6	R Kottapalli	A shobha	Lt.Srivatasulu	Telugu	2	353-3	Assigned	1	1	5.00	3,25,000	3	1	10	Agri	2	1	1	6000	1	2	1
7	R Kottapalli	Narsimha Naik	Rame Naik	Telugu	1	355-1A	Assigned	1	1	2.46	3,25,000	2	1	10	Agri	8	2	6	9000	2	2	1
8	Ramagiri	Murali Mohan	Palleppa	Telugu	1	355-1A, 1B	Assigned	3	3	4.92	5,00,000	4	1	Inter (10+2)	Agri	3	2	1	10000	2	2	1
9	R Kottapalli	B Narsimhulu	B Kullayappa	Telugu	1	355-2A	Assigned	1	1	2.46	3,25,000	3	1	Inter (10+2)	Labour	2	1	1	9000	2	2	1
10	Ramagiri	H. Bayabayat	Nidimamirappa	Telugu	1	355-2b	Assigned	3	3	4.96	5,00,000	1	1	Inter (10+2)	Agri	4	2	2	5000	2	2	1
11	Ramagiri	D VannurSab	D Buden Sab	Telugu	1	355-3	Assigned	1	1	4.95	3,25,000	3	2	illiterate	Agri	4	3	1	9000	2	2	1
12	R Kottapalli	G Lakshmi Devi	Sanjeevappa	Telugu	2	355-5, 359-3	Assigned	1	1	5.46	3,25,000	5	1	illiterate	Agri	4	3	1	10000	2	2	1

The Consulting Agency for Environmental and Social Impact Assessment (ESIA) studies for SECI's 160 MW Solar-Wind Hybrid Power Plant in the State of Andhra Pradesh

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey/Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barr en 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH : Yes =1, No =2	Physically Handicaped :: Yes=1, No=2	BPL :: Yes =1, No =2
13	Ramagiri	T N Rajesh	Nanjappa	Telugu	1	356-1A	Assigned	1	1	4.00	3,25,000	3	1	illiterate	Agri	4	1	3	9000	2	2	1
14	Ramagiri	T K Yogesh Kumar	Kuppu Swamy	Telugu	1	356-1B	Assigned	1	1	4.00	3,25,000	3	1	ITI	Agri	1	1	0	9000	2	2	1
15	R Kottapalli	K Ravi	K Nagabhushana	Telugu	1	357-1B	Assigned	1	1	3.30	3,25,000	3	1	illiterate	Agri	4	3	1	9000	2	2	1
16	R Kottapalli	K Vannuramma	Nagappa	Telugu	2	357-1B, 358-B	Assigned	1	1	3.02, 3.69	3,25,000	3	1	illiterate	Agri	1	0	2	8000	1	2	1
17	R Kottapalli	K Ramesh	K Nagabhushana	Telugu	1	358-2	Assigned	1	1	3.70	3,25,000	4	1	illiterate	Agri	4	3	2	8000	2	2	1
18	R Kottapalli	K Vannuramma	Lt.Basunagappa	Telugu	2	358-B, 357-C	Assigned	1	1	6.71	3,25,000	3	1	illiterate	Agri	1	0	1	9000	1	2	1
19	R Kottapalli	K Akkamma	Lt.Narayana	Telugu	1	358-D, 357-1D	Assigned	1	1	6.72	3,25,000	3	1	10	Labour	3	2	1	8000	1	2	1

The Consulting Agency for Environmental and Social Impact Assessment (ESIA) studies for SECI's 160 MW Solar-Wind Hybrid Power Plant in the State of Andhra Pradesh

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey/Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barren 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WHH : Yes =1, No =2	Physically Handicapped : Yes=1, No=2	BPL : Yes =1, No =2
20	R Kottapalli	K Nagabhusana	K Gongappa	Telugu	1	359-1	Assigned	1	1	5.00	3,25,000	3	1	10	Agri	4	3	1	8000	2	2	1
21	R Kottapalli	K Narayana	K Gongappa	Telugu	1	359-2	Assigned	1	1	5.00	3,25,000	3	1	illiterate	Agri	3	2	1	9000	2	2	1
22	R Kottapalli	A Veetanarayana	A Mareena	Telugu	1	360-1	Assigned	1	1	5.12	3,25,000	1	1	literate	Agri	3	2	1	9000	2	2	1
23	Ramagiri	Challa Gundla Muthylappa	C Subbaiah	Telugu	1	361-2	Assigned	1	1	5.00	3,25,000	4	1	MA, B.Ed.	Service	5	1	4	10000	2	2	1
24	Ramagiri	K Ashok Kumar	K Ganganna	Telugu	1	361-3	Assigned	1	1	5.00	3,25,000	4	1	M.Sc., B.Ed.	Service	4	2	2	19000	2	2	1
25	Ramagiri	E Srinivasalu	E Narayanappa	Telugu	1	361-4	Assigned	3	3	4.3	3,25,000	3	1	7	Agri	5	2	2	4000	2	2	1
26	Ramagiri	E Srinivasalu	E Narayanappa	Telugu	1	362-1	Assigned	3	3	4.3	5,00,000	3	1	7	Agri	5	2	3	4000	2	2	1

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey/Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barren 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH : Yes =1, No =2	Physically Handicapped : Yes=1, No=2	BPL : Yes =1, No =2
27	Ramagiri	D Pathima	Lt.D Kassanna	Telugu	2	362-2	Assigned	1	1	4.75	3,25,000	3	1	illiterate	Labourer	4	2	2	8000	1	2	1
28	Ramagiri	D Babayya	D Babayya	Telugu	1	362-3	Assigned	1	1	4.30	3,25,000	2	1	7	Agri	5	2	3	10000	2	2	1
29	Ramagiri	B Sudhakar	B Gurumurthy	Telugu	1	362-4	Assigned	1	1	4.30	3,25,000	3	1	7	Agri	4	2	2	8000	2	2	1
30	Ramagiri	A Muthyalappa	A Muthyalappa	Telugu	1	362-5	Assigned	1	1	4.3	3,25,000	1	1	8	HW	5	2	3	9000	2	2	1
31	R Kottapalli	G Muthyalappa	Hanumatappa	Telugu	1	363-1	Assigned	1	1	5.5	3,25,000	3	1	8	Agri	2	1	1	5000	2	2	1
32	R Kottapalli	G Ramalakshamma	Lt.G Muthyalappa	Telugu	2	363-2	Assigned	1	1	5.4	3,25,000	3	1	illiterate	HW	1	0	1	9000	1	2	1
33	Ramagiri	Golla Parameshwara	Bayyanna	Telugu	1	363-3	Assigned	3	3	5.43	5,00,000	3	1	illiterate	Agri	6	3	3	10000	2	2	1

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S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey/Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barr en 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH H : Yes =1, No =2	Physically Handicaped :: Yes=1, No=2	BPL :: Yes =1, No =2
34	R Kottapalli	A Sreanivasulu	A Chennayya	Telugu	1	364-1	Assigned	1	1	5	3,25,000	1	1	BA	Agri	4	3	1	8000	2	2	1
35	Ramagiri	K Venkatesh Naik	K Advani Naik	Telugu	1	364-2	Assigned	3	3	5.4	5,00,000	2	1	High School	Agri	6	4	2	10000	2	2	1
36	R Kottapalli	Kari Lokesh	Parameshappa	Telugu	1	364-3	Assigned	1	1	5.00	3,25,000	3	1	Inter (10+2)	Agri	4	3	1	9000	2	2	1
37	R Kottapalli	M Muthyalappa	Lt. M Nallayya	Telugu	1	364-4	Assigned	1	1	4.59	3,25,000	3	1	10	Agri	6	3	3	8000	2	2	1
38	R Kottapalli	Muppala Varalakshmi	G Akkana	Telugu	2	366-1	Assigned	1	1	5	3,25,000	4	1	illiterate	Business	3	2	1	9000	2	2	1
39	R Kottapalli	Golla Gopalappa	Jayamma	Telugu	2	366-2	Assigned	1	1	5.00	3,25,000	3	1	10	Agri	5	3	2	9000	2	2	1
40	R Kottapalli	G Bala Narsimhulu	Muthyalappa	Telugu	1	366-3	Assigned	1	1	5	3,25,000	3	1	Inter (10+2)	Agri	4	2	2	9000	2	2	1
41	Ramagiri	M. Narasimhulu	M Naraisimhulu	Telugu	1	366-3A	Assigned	3	3	5	5,00,000	3	1	Inter (10+2)	Agri	4	2	2	10000	2	2	1

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey/Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barren 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH : Yes =1, No =2	Physically Handicapped : Yes=1, No=2	BPL : Yes =1, No =2
42	R Kottapalli	Golla Narsimhalu	Narsimhulu	Telugu	1	366-4	Assigned	1	1	5	3,25,000	4	1	illiterate	Agri	6	3	3	8000	2	2	1
43	R Kottapalli	A M Muthyalappa	A Timmappa	Telugu	1	367-2	Assigned	1	1	4.50	3,25,000	1	1	illiterate	Agri	3	1	2	8000	2	2	1
44	R Kottapalli	A Nagaraju	Sidhappa	Telugu	1	367-3	Assigned	1	1	4.50	3,25,000	1	1	illiterate	Labour	5	2	3	8000	2	2	1
45	R Kottapalli	G Srinivasulu	G Hanumathappa	Telugu	1	368-1	Assigned	1	1	5.00	3,25,000	4	1	10	Labour	5	2	3	9000	2	2	1
46	R Kottapalli	G Veeranaganna	G Bayanna	Telugu	1	368-2A	Assigned	1	1	4	3,25,000	3	1	illiterate	Agri	4	2	2	8000	2	2	1
47	R Kottapalli	Galla Gangamma	Anjinappa	Telugu	2	368-2B	Assigned	1	1	4.53	3,25,000	3	1	BA	Agri	4	3	1	9000	2	2	1
48	R Kottapalli	S Danujaya Naik	S Lakshmi Naik	Telugu	1	369-2A	Assigned	1	1	2.50	3,25,000	2	1	Inter (10+2)	Agri	5	2	3	9000	2	2	1

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S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey/Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barren 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH : Yes =1, No =2	Physically Handicapped :: Yes=1, No=2	BPL :: Yes =1, No =2
49	R Kottapalli	Muthyalu Naik	Lt. Lakshmi Naik	Telugu	1	369-2B	Assigned	1	1	2.50	3,25,000	3	1	BA	Agri	5	2	3	8000	2	2	1
50	R Kottapalli	H Muthyalappa	Chinna Chinnayya	Telugu	1	369-3	Assigned	1	1	5	3,25,000	1	1	BA	Agri	3	1	2	10000	2	2	1
51	Ramagiri	K Shyam Prasad Chowdary	K Ganganna Chowdary	Telugu	1	370-1	Assigned	1	1	5.50	3,25,000	4	1	MA, B.Ed.	Agri	4	2	2	9000	2	2	1
52	R Kottapalli	H Chendrayudu	Chenna Chennayya	Telugu	1	370-2	Assigned	1	1	3.00	3,25,000	1	1	9	Agri	3	2	1	8000	2	2	1
53	R Kottapalli	C Mallesh	C Muthyalappa	Telugu	1	371-1	Assigned	1	1	5	3,25,000	5	1	illiterate	Agri	4	1	3	9000	2	2	1
54	Ramagiri	M Ram Mohan	M Sanjivanna	Telugu	1	371-2	Assigned	1	1	5.00	3,25,000	3	1	M Com	Service	4	3	1	9000	2	2	1
55	Ramagiri	T Lakshmi Kumar Chowdary	Vulekkilappa	Telugu	1	372-1	Assigned	1	1	5	3,25,000	5	1	10	Agri	2	1	1	9000	2	2	1

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey/Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barren 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH : Yes =1, No =2	Physically Handicapped :: Yes=1, No=2	BPL :: Yes =1, No =2
56	R Kottapalli	M Madhavi	Thirupalhaya	Telugu	2	373-1A	Assigned	1	1	5	3,25,000	3	1	5	Agri	4	3	1	8000	2	2	1
57	R Kottapalli	H Anjinamma	Pothanna	Telugu	2	373-2	Assigned	1	1	5.00	3,25,000	1	1	BA	Agri	4	2	2	8000	2	2	1
58	R Kottapalli	A Muthyalappa	A Chennayya	Telugu	1	376-1	Assigned	1	1	5.00	3,25,000	1	1	10	Agri	5	2	3	8000	2	2	1
59	Ramagiri	B. Mutthialamma	Lt. Kullappa	Telugu	1	377-1	Assigned	3	3	5	5,00,000	1	1	Inter (10+2)	Daily wage	4	2	2	5000	2	2	1
60	R Kottapalli	M Sivaram	M Narayana	Telugu	1	378-2	Assigned	1	1	5	3,25,000	4	1	BA	Agri	3	2	1	12000	2	2	1
61	R Kottapalli	S Ramakrishna	S Ramjanaik	Telugu	1	380-1	Assigned	1	1	5.21	3,25,000	2	1	Inter (10+2)	Agri	3	2	1	9000	2	2	1
62	R Kottapalli	D Buden Sab	Gali Sab	Telugu	1	380-2	Assigned	1	1	5.18	3,25,000	3	2	Primary	Daily wage	3	2	1	9000	2	2	1

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S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey/Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barren 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH : Yes =1, No =2	Physically Handicapped : Yes=1, No=2	BPL : Yes =1, No =2
63	R Kottapalli	Rameeja Begum	Lt.Buden Saab	Telugu	2	380-3	Assigned	1	1	5.00	3,25,000	3	2	illiterate	Business	2	1	1	5000	1	2	1
64	R Kottapalli	M Raghuveera	M Ramappa	Telugu	1	386-2	Assigned	1	1	5	3,25,000	5	1	5	Agri	5	1	4	10000	2	2	1
65	R Kottapalli	B Naresh	Verramma	Telugu	1	386-3	Assigned	1	1	5	3,25,000	3	1	10	Agri	4	2	2	15000	2	2	1
66	R Kottapalli	B Narasimhulu	B Chimmavaranna	Telugu	1	386-4	Assigned	1	1	2.45	3,25,000	3	1	10	Labourer	4	2	2	8000	2	2	1
67	R Kottapalli	A Akkamma	Ramayya	Telugu	2	388-3C	Assigned	1	1	3.40	3,25,000	3	1	illiterate	Labourer	4	3	1	9000	2	2	1
68	R Kottapalli	B Lakshmidevi	Lt.Sangappa	Telugu	2	389-2	Assigned	1	1	5.24	3,25,000	3	1	BA	Labourer	3	1	2	9000	1	2	1
69	Ramagiri	A Pothakka	A Pothappa	Telugu	1	389-3	Assigned	1	1	5.00	3,25,000	1	1	illiterate	HW	5	2	3	9000	2	2	1

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey/Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barren 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH : Yes =1, No =2	Physically Handicapped : Yes=1, No=2	BPL : Yes =1, No =2
70	R Kottapalli	G Akkamma	Peddaappaiah	Telugu	2	394-4	Assigned	1	1	4.25	3,25,000	4	1	Inter (10+2)	Agri	2	1	1	9000	2	2	1
71	R Kottapalli	Nbala Akkamma	Papanna	Telugu	2	395-1	Assigned	1	1	3.3	3,25,000	3	1	illiterate	Labour	3	2	1	9000	2	2	1
72	R Kottapalli	Golla Sarorjamma	G Kadarappa	Telugu	1	396-1	Assigned	1	1	4.25	3,25,000	3	1	illiterate	Agri	7	3	4	10000	2	2	1
73	R Kottapalli	M Lakshmi Narasamma	Adhi Narayana	Telugu	2	396-2	Assigned	1	1	4.25	3,25,000	4	1	illiterate	Agri	5	3	2	9000	2	2	1
74	R Kottapalli	Boya Narasamma	Rama Kaishna	Telugu	2	396-3	Assigned	1	1	4.25	3,25,000	3	1	10	Agri	4	3	1	9000	2	2	1
75	R Kottapalli	S Manemma	Muthyalappa	Telugu	1	397-2	Assigned	1	1	4.57	3,25,000	1	1	illiterate	Agri	5	3	2	9000	2	2	1
76	R Kottapalli	Magida Pottahliah	Mutylappa	Telugu	2	397-4	Assigned	1	1	4.58	3,25,000	1	1	8	Agri	6	3	3	8000	2	2	1

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey/Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barren 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH : Yes =1, No =2	Physically Handicapped : Yes=1, No=2	BPL : Yes =1, No =2
77	Ramagiri	S Gongamma	Linghamaiah	Telugu	2	399-2	Assigned	1	1	5	3,25,000	1	1	illiterate	Agri	4	1	3	18000	2	2	1
78	R Kottapalli	B Durgayya	Chennappa	Telugu	1	399-2	Assigned	1	1	4.58	3,25,000	1	1	illiterate	Agri	8	5	3	9000	2	2	1
79	Ramagiri	S Gangamma	M Kullayappa	Telugu	1	399-3	Assigned	1	1	5	3,25,000	1	1	illiterate	HW	4	1	3	9000	2	2	1
80	Ramagiri	M Nagamani	M Sai Prasad	Telugu	2	399-4	Assigned	1	1	1.54	3,25,000	3	1	10	HW	4	1	3	9000	2	2	1
81	R Kottapalli	S Sarojamma	Arimi Naik	Telugu	2	400-1	Assigned	1	1	4.58	3,25,000	2	1	illiterate	HW	5	3	2	8000	2	2	1
82	R Kottapalli	S Varalamma	Lt. Subbe Naik	Telugu	1	400-2	Assigned	1	1	4.58	3,25,000	2	1	illiterate	Agri	6	1	5	8000	2	2	1
83	R Kottapalli	S Ramanaik	S Peddabojannaik	Telugu	1	400-3	Assigned	1	1	4.58	3,25,000	2	1	illiterate	Agri	5	2	3	8000	2	2	1

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S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey/Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barr en 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH H : Yes =1, No =2	Physically Handicaped :: Yes=1, No=2	BPL :: Yes =1, No =2
84	Ramagiri	E Gonganna	E Gonganna	Telugu	1	400-4	Assigned	1	1	4.59	3,25,000	2	1	illiterate	Agri	4	3	1	7000	2	2	1
85	R Kottapalli	S Lakshmi Devi	S Lakshmi Naik	Telugu	2	401-1	Assigned	1	1	3.88	3,25,000	2	1	10	HW	5	2	3	8000	2	2	1
86	R Kottapalli	B Thippamma	Lt.Obulappa	Telugu	2	401-2	Assigned	1	1	4	3,25,000	3	1	illiterate	HW	2	1	1	8000	1	2	1
87	Ramagiri	H Subbamma	Lt.H Muthyalappa	Telugu	2	401-3	Assigned	1	1	4	3,25,000	1	1	illiterate	HW	3	1	2	9000	1	2	1
88	Ramagiri	B Shankarrmma	Lt.Vennurappa	Telugu	2	401-4	Assigned	1	1	4	3,25,000	3	1	9	Labour	1	0	1	9000	1	2	1
89	Ramagiri	S Savithramma	A Narayanappa	Telugu	2	401-5	Assigned	1	1	2.88	3,25,000	1	1	illiterate	Agri	5	2	3	9000	2	2	1
90	Ramagiri	Co Vomma	Lt. C Narsimha Rao	Telugu	2	407-1	Assigned	3	3	5	5,00,000	1	1	illiterate	Agri	4	3	1	5000	1	2	1
91	R Kottapalli	A Ramanjineyulu	A Sri Ramulu	Telugu	1	407-2	Assigned	1	1	5	3,25,000	4	1	illiterate	Agri	4	1	3	8000	2	2	1

The Consulting Agency for Environmental and Social Impact Assessment (ESIA) studies for SECI's 160 MW Solar-Wind Hybrid Power Plant in the State of Andhra Pradesh

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey/Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barr en 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH H : Yes =1, No =2	Physically Handicaped :: Yes=1, No=2	BPL :: Yes =1, No =2
92	Ramagiri	K Jaswanth	K Gopal	Telugu	1	407-3	Assigned	1	1	5	3,25,000	3	1	illiterate	Agri	3	2	1	9000	2	2	1
93	R Kottapalli	S Prabhathibai	S Damalanaik	Telugu	2	407-4	Assigned	1	1	1.94	3,25,000	2	1	Inter (10+2)	Agri	4	3	1	6000	2	2	1
94	Ramagiri	G Muthayamma	Veeranna	Telugu	1	408-3	Assigned	1	1	5	3,25,000	5	1	illiterate	Agri	4	3	1	9000	2	2	1
95	R Kottapalli	G Obulamma	Venkatesh	Telugu	1	409-1	Assigned	1	1	4.11	3,25,000	1	1	illiterate	Labour	4	3	1	8000	2	2	1
96	R Kottapalli	H B Anjamamma	Chennarayadu	Telugu	2	409-2	Assigned	1	1	4.08	3,25,000	1	1	illiterate	Agri	7	4	3	8000	2	2	1
97	Ramagiri	Pottaka	Chinmachenai	Telugu	1	409-3	Assigned	3	3	4.08	5,00,000	1	1	Graduate	HW	6	4	2	5000	2	2	1
98	R Kottapalli	Chinna Anjinamma	K B Nagaraja	Telugu	2	409-4	Assigned	1	1	4.40	3,25,000	1	1	illiterate	Agri	5	3	2	8000	2	2	1
99	R Kottapalli	G Ashoke Kumar	G Aswarthuppy	Telugu	1	411-1	Assigned	1	1	5	3,25,000	5	1	Degree	Agri	4	2	2	9000	2	2	1

The Consulting Agency for Environmental and Social Impact Assessment (ESIA) studies for SECI's 160 MW Solar-Wind Hybrid Power Plant in the State of Andhra Pradesh

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey/Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barr en 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH H : Yes =1, No =2	Physically Handicaped :: Yes=1, No=2	BPL :: Yes =1, No =2
100	R Kottapalli	K Lakshiminara yan	Narayanappa	Telugu	1	412-1	Assigned	1	1	4	3,25,000	3	1	illiterate	Agri	4	3	1	8000	2	2	1
101	R Kottapalli	Yala Mandhala Sri Ramulu	Yala Mandhala Nagaiah	Telugu	1	412-2	Assigned	1	1	4.00	3,25,000	3	1	illiterate	Agri	4	2	2	9000	2	2	1
102	Ramagiri	G Suryanayana	G Nagabhushana	Telugu	1	412-2	Assigned	1	1	4.80	3,25,000	4	1	illiterate	Labour	4	2	2	9000	2	2	1
103	R Kottapalli	Venkal Lakshmi	Lt.M Raghuvvera	Telugu	2	412-3	Assigned	1	1	4.00	3,25,000	5	1	Inter (10+2)	HW	2	0	2	10000	1	2	1
104	R Kottapalli	Vaddi Murthy	Vaddi Ramappa	Telugu	1	412-4	Assigned	1	1	4.34	3,25,000	3	1	illiterate	Labour	3	1	2	9000	2	2	1
105	Ramagiri	G ramu	G Nagabhushana	Telugu	1	414-1	Assigned	1	1	3.94	3,25,000	4	1	illiterate	Labour	4	3	1	9000	2	2	1
106	R Kottapalli	C Muthyalappa	C Varadappa	Telugu	1	414-3	Assigned	1	1	4.8	3,25,000	3	1	illiterate	Agri	6	4	2	18000	2	2	1

The Consulting Agency for Environmental and Social Impact Assessment (ESIA) studies for SECI's 160 MW Solar-Wind Hybrid Power Plant in the State of Andhra Pradesh

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey/Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barren 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH : Yes =1, No =2	Physically Handicapped : Yes=1, No=2	BPL : Yes =1, No =2
107	R Kottapalli	G Ramadevi	G Ashok Kumar	Telugu	2	414-4	Assigned	1	1	4.8	3,25,000	5	1	10	HW	4	2	2	9000	2	2	1
108	Ramagiri	E Jayamma	Lt. Narayanappa	Telugu	2	447-1	Assigned	1	1	5.00	3,25,000	3	1	illiterate	HW	3	1	2	7000	1	2	1
109	R Kottapalli	A Veetanarayana	A Mareena	Telugu	1	447-2	Assigned	1	1	4.53	3,25,000	1	1	literate	Agri	3	2	1	9000	2	2	1
110	R Kottapalli	A Paramesaara	Marena	Telugu	1	447-3	Assigned	1	1	4.87	3,25,000	1	1	PG	Agri	4	2	2	8000	2	2	1
111	Ramagiri	K Janardhan	K Gongadri	Telugu	1	448-1	Assigned	1	1	4.11	3,25,000	5	1	illiterate	Agri	3	2	1	8000	2	2	1
112	R Kottapalli	A Gangamma	Pedda Chandrayudu	Telugu	2	448-2	Assigned	1	1	4.1	3,25,000	1	1	illiterate	HW	4	3	1	9000	2	2	1
113	Ramagiri	A Sonkarayya	A Yagataramudu	Telugu	1	448-3	Assigned	1	1	4.1	3,25,000	5	1	illiterate	Agri	3	2	1	19000	2	2	1

The Consulting Agency for Environmental and Social Impact Assessment (ESIA) studies for SECI's 160 MW Solar-Wind Hybrid Power Plant in the State of Andhra Pradesh

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey/Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barren 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH : Yes =1, No =2	Physically Handicapped : Yes=1, No=2	BPL : Yes =1, No =2
114	Ramagiri	D Abbasvadi	D Husenpeeta	Telugu	1	448-4	Assigned	1	1	4.15	3,25,000	3	2	10	Agri	4	3	1	9000	2	2	1
115	R Kottapalli	B Sunitha	Kullayappa	Telugu	2	449-3	Assigned	1	1	4.21	3,25,000	1	1	5	HW	4	3	1	8000	2	2	1
116	R Kottapalli	Sujali Jayemma	Lt.S Lakshmi Narayana	Telugu	2	449-4	Assigned	1	1	4.21	3,25,000	2	1	Inter (10+2)	Daily wage	3	1	2	8000	1	2	1
117	R Kottapalli	Mallikarjun Naik	Pakkeer Naik	Telugu	1	452-1	Assigned	1	1	4.7	3,25,000	2	1	10	Service	7	4	3	9000	2	2	1
118	R Kottapalli	H Saraswati	Muthyalappa	Telugu	2	452-2	Assigned	1	1	4.70	3,25,000	1	1	10	HW	4	3	1	8000	2	2	1
119	R Kottapalli	Chinna Chennaiah	Chennaiah	Telugu	1	452-3	Assigned	1	1	4.71	3,25,000	1	1	illiterate	Agri	3	2	1	8000	2	2	1
120	R Kottapalli	Sake Pathulayya	Chenna Kareppa	Telugu	1	452-4	Assigned	1	1	4.71	3,25,000	1	1	illiterate	Agri	5	3	2	10000	2	2	1

The Consulting Agency for Environmental and Social Impact Assessment (ESIA) studies for SECI's 160 MW Solar-Wind Hybrid Power Plant in the State of Andhra Pradesh

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey/Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barren 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH : Yes =1, No =2	Physically Handicapped : Yes=1, No=2	BPL : Yes =1, No =2
121	R Kottapalli	S Balamma	S Thulasinaik	Telugu	2	453-1A	Assigned	1	1	4.1	3,25,000	2	1	illiterate	Agri	4	2	2	6000	2	2	1
122	R Kottapalli	G Sadhya	G Pala Muthyalu	Telugu	2	453-1B	Assigned	1	1	4.10	3,25,000	3	1	Diploma	Agri	4	2	2	9000	2	2	1
123	Ramagiri	P Hemavathi	Lt.Sunil Prakash	Telugu	2	453-1D, 457-4	Assigned	1	1	4.2	3,25,000	1	1	Inter (10+2)	Business	3	1	2	8000	1	2	1
124	R Kottapalli	J Pakeerramma	J Chennappa	Telugu	2	453-1E	Assigned	1	1	0.4	3,25,000	1	1	10	Agri	2	1	1	9000	2	2	1
125	R Kottapalli	A Pothakka	Lt.Pothakka	Telugu	2	453-1F	Assigned	1	1	0.4	3,25,000	1	1	illiterate	Labour	5	2	3	8000	1	2	1
126	R Kottapalli	M Lakshidevi	Lt.Muthyalappa	Telugu	2	455-2	Assigned	1	1	4.7	3,25,000	1	1	illiterate	Agri	2	1	1	6000	1	2	1
127	R Kottapalli	A Kampchennayya	A Chennappa	Telugu	1	455-3	Assigned	1	1	1	3,25,000	1	1	illiterate	Agri	3	2	1	8000	2	2	1

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey/Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barren 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH : Yes =1, No =2	Physically Handicapped : Yes=1, No=2	BPL : Yes =1, No =2
128	R Kottapalli	M Thipanna	Pedhanna	Telugu	1	457-1	Assigned	1	1	5.00	3,25,000	1	1	illiterate	Agri	3	2	1	9000	2	2	1
129	R Kottapalli	H Naggabhushana	H Pedda Chennappa	Telugu	1	457-2	Assigned	1	1	4.1	3,25,000	1	1	illiterate	Labour	2	2	0	8000	2	2	1
130	R Kottapalli	S Kanthamma	Bojja Naik	Telugu	1	457-3	Assigned	1	1	4.1	3,25,000	2	1	illiterate	Agri	5	2	3	9000	2	2	1
131	Ramagiri	M Subbayya	Chinnarappa	Telugu	1	799-1	Assigned	1	1	5.04	3,25,000	5	1	BA	Agri	5	3	2	9000	2	2	1
132	Ramagiri	P Gangamma	Linghamaiah	Telugu	1	801-1	Assigned	1	1	4.75	3,25,000	4	1	10	Agri	3	2	1	9000	2	2	1
133	Ramagiri	E Kistappa	E Narayanappa	Telugu	1	801-2	Assigned	1	1	4.35	3,25,000	3	1	BA	Labour	4	2	2	10000	2	2	1
134	Ramagiri	M Adilakshamma	Venkatappa	Telugu	2	824-4	Assigned	1	1	2,53	3,25,000	1	1	illiterate	HW	4	3	1	8000	2	2	1

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey/Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barr en 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH H : Yes =1, No =2	Physically Handicaped :: Yes=1, No=2	BPL :: Yes =1, No =2
135	Ramagiri	D Manjula	Ramesh	Telugu	2	825-2	Assigned	1	1	2.20	3,25,000	4	1	10	HW	4	2	2	8000	2	2	1

Absentees in Ramagiri:

1. G Sankaraiah (378-1)
2. M Premamma (389-1)
3. D Nabelamma (447-4)
4. T Laxman kumar(371-4)
5. B Muthyalamma (415-1)
6. G Bhajana (825-2, 825-4)
7. Akkulappa (393-1)

Muthuvakuntla:

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey /Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barr en 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH : Yes =1, No =2	Physically Handicaped :: Yes=1, No=2	BPL :: Yes =1, No =2
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	Thalima dugulla	Edigar Siddessa	Vannurappa	Telegu	1	571-2A	Assigned	1	1	2.18	3,25,000	3	1	Inter (10+2)	Agri	3	1	2	8000	2	2	1
2	Thalima dugulla	P Manjula	Gopal	Telegu	2	332-4	Assigned	1	1	4.64	3,25,000	5	1	7th	HW	4	2	2	9000	2	2	1
3	Thalima dugulla	P Lakshamderamma	Lt.P Gangappa	Telegu	2	326-2	Assigned	1	1	5	3,25,000	4	1	illiterate	HW	5	1	4	9000	2	2	1
4	Muthuvakuntla	Manivardhan	C-Ramlu	Telegu	1	326-4	Assigned	3	3	3.7	5,00,000	4	1	High School	Agri	4	3	1	5000	2	2	1
5	Thalima dugulla	Yallamma	Vanurappa	Telegu	2	327-1	Assigned	1	1	5.21	3,25,000	3	1	illiterate	HW	3	2	1	8000	2	2	1

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S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey /Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barr en 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH H : Yes =1, No =2	Physically Handicaped :: Yes=1, No=2	BPL :: Yes =1, No =2
6	Thalima dugulla	K Lakshmana	K Narayannappa	Telegu	1	332-2	Assinged	1	1	0.8	3,25,000	4	1	illiterate	Agri	4	3	1	8000	2	2	1
7	Thalima dugulla	P Wann	P Ravi	Telegu	2	332-3	Assinged	1	1	5	3,25,000	4	1	BA	Agri	4	3	1	9000	2	2	1
8	Thalima dugulla	Harizana Mutthilaggamma	Lt. Mutthulaggamma	Telegu	1	333-4	Assinged	1	1	5.04	3,25,000	1	1	illiterate	Labour	4	1	3	8000	1	2	1
9	Thalima dugulla	A Peddna	Subba Prasad	Telegu	1	336-1	Assinged	1	1	5	3,25,000	1	1	illiterate	Labour	8	5	3	8000	2	2	1
10	Thalima dugulla	Hanjanna Methylappa	Peddanna	Telegu	1	336-2	Assinged	1	1	5	3,25,000	1	1	illiterate	Agri	6	3	3	10000	2	2	1
11	Thalima dugulla	H Narainamma	Lt. Muttyalappa	Telegu	2	336-3	Assinged	1	1	5	3,25,000	1	1	illiterate	Labour	3	1	2	8000	1	2	1
12	Muthvakuntla	A.laxmi devi	Late Narsinghal	Telegu	2	336-4	Assinged	3	3	1.3	5,00,000	1	1	Inter (10+2)	Agri	5	2	3	5000	1	2	1

The Consulting Agency for Environmental and Social Impact Assessment (ESIA) studies for SECI's 160 MW Solar-Wind Hybrid Power Plant in the State of Andhra Pradesh

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey /Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barr en 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH H : Yes =1, No =2	Physically Handicaped :: Yes=1, No=2	BPL :: Yes =1, No =2
13	Thalima dugulla	B Naresh	Narayana	Telegu	1	337/1	Assinged	1	1	4.96	3,25,000	3	1	illiterate	Agri	5	3	2	9000	2	2	1
14	Thalima dugulla	B Naresh	Narayana	Telegu	1	337/2	Assinged	1	1	4.96	3,25,000	3	1	illiterate	Agri	5	3	2	9000	2	2	1
15	Thalima dugulla	Prasad	Rammanna	Telegu	1	339-10	Assinged	1	1	5	3,25,000	3	1	Inter (10+2)	Labour	3	2	1	9000	2	2	1
16	Thalima dugulla	Sake Narayannamma	Adeppa	Telegu	2	339-11	Assinged	1	1	5	3,25,000	3	1	BA	HW	4	3	1	9000	2	2	1
17	Thalima dugulla	M Chennamma	Tippaswami	Telegu	2	339-12	Assinged	1	1	5	3,25,000	3	1	illiterate	Agri	4	2	2	9000	2	2	1
18	Thalima dugulla	B Ravikumar	B Pothallaya	Telegu	1	339-4	Assinged	1	1	2.71	3,25,000	3	1	Inter (10+2)	Agri	3	1	2	9000	2	2	1
19	Thalima dugulla	P Shivshankar Prasad	Lt. P Muthylappa	Telegu	1	339-5	Assinged	1	1	5	3,25,000	4	1	10th	Agri	4	2	2	9000	2	2	1

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey /Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barr en 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH H : Yes =1, No =2	Physically Handicaped :: Yes=1, No=2	BPL :: Yes =1, No =2
20	Thalima dugulla	M Prasad	Vanurappa	Telegu	1	339-6	Assigned	1	1	5	3,25,000	3	1	10th	Agri	1	1	0	8000	2	2	1
21	Thalima dugulla	M Srivasalu	Hammanatt hulu	Telegu	1	339-7	Assigned	1	1	5.00	3,25,000	3	1	10	Agri	4	3	1	8000	2	2	1
22	Thalima dugulla	Rammanna	Anjanappa	Telegu	1	339-9	Assigned	1	1	5	3,25,000	3	1	illiterate	Labour	5	3	2	8000	2	2	1
23	Thalima dugulla	P Nirmala	P Gangadhar	Telegu	2	341-2	Assigned	1	1	5	3,25,000	4	1	10	Agri	4	1	3	9000	2	2	1
24	Thalima dugulla	B Krishmurthy	Muthayalappa	Telegu	1	342-1	Assigned	1	1	5	3,25,000	3	1	Polytechnique	Service	4	1	3	9000	2	2	1
25	Thalima dugulla	E Arjun	Darappa	Telegu	1	358-3B	Assigned	1	1	2.18	3,25,000	3	1	illiterate	Agri	4	2	2	8000	2	2	1
26	Thalima dugulla	P Manjunath	P Rana Subbaiah	Telegu	1	513-1	Assigned	1	1	5.10	3,25,000	4	1	Diploma	Service	4	3	1	9000	2	2	1

The Consulting Agency for Environmental and Social Impact Assessment (ESIA) studies for SECI's 160 MW Solar-Wind Hybrid Power Plant in the State of Andhra Pradesh

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey /Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barr en 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH H : Yes =1, No =2	Physically Handicaped :: Yes=1, No=2	BPL :: Yes =1, No =2
27	Thalima dugulla	Samantakmani	Shibshankar Prasad	Telegu	2	513-2	Assigned	1	1	4.58	3,25,000	4	1	BA, BEd	HW	4	2	2	9000	2	2	1
28	Thalima dugulla	Onnuvappa	G Kondayya	Telegu	1	531-1	Assigned	1	1	5.44	3,25,000	5	1	illiterate	Agri	4	2	2	8000	2	2	1
29	Thalima dugulla	E Anithamma	Sreeramulu	Telegu	2	549-1	Assigned	1	1	5.44	3,25,000	3	1	illiterate	Agri	4	2	2	9000	2	2	1
30	Thalima dugulla	Lalitamma	Venkatasulu	Telegu	2	549-2	Assigned	1	1	5.44	3,25,000	3	1	illiterate	HW	4	2	2	10000	2	2	1
31	Thalima dugulla	B Lakshmi	Venkatasulu	Telegu	2	551-2	Assigned	1	1	5.00	3,25,000	3	1	6	HW	4	2	2	9000	2	2	1
32	Thalima dugulla	B Ravikumar	B Pothallaya	Telegu	1	551-3	Assigned	1	1	1.43	3,25,000	3	1	Inter (10+2)	Agri	3	1	2	9000	2	2	1
33	Thalima dugulla	H Nirmala	Pedanna	Telegu	2	565-1	Assigned	1	1	3.90	3,25,000	1	1	illiterate	HW	4	2	2	8000	2	2	1

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey /Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barran 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH H : Yes =1, No =2	Physically Handicaped :: Yes=1, No=2	BPL :: Yes =1, No =2
34	Thalima dugulla	E Anitha Laksmi	Srinivasulu	Telegu	2	565-2	Assigned	1	1	3.90	3,25,000	3	1	10	HW	4	3	1	9000	2	2	1
35	Thalima dugulla	B Mutyalappa	B Venkatarayudu	Telegu	1	565-3	Assigned	1	1	3.20	3,25,000	3	1	Inter (10+2)	Agri	5	2	3	9000	2	2	1
36	Thalima dugulla	B Mallikamma	Somashekhara	Telegu	2	568-2	Assigned	1	1	3.79	3,25,000	3	1	6	HW	4	3	1	9000	2	2	1
37	Thalima dugulla	Harjana Gopal	Kullayappa	Telegu	1	571-1	Assigned	1	1	4.40	3,25,000	1	1	illiterate	Labour	4	1	3	8000	2	2	1
38	Thalima dugulla	K Ankamma	Y Muthayalappa	Telegu	2	571-2	Assigned	1	1	2.55	3,25,000	4	1	10	HW	4	1	3	9000	2	2	1
39	Muthuvakuntla	S Ratanamma	S Venkateshulu	Telegu	2	572-1	Assigned	1	1	4.74	3,25,000	4	1	BA	HW	3	1	2	9000	2	2	1
40	Muthuvakuntla	S Narendra	S Venkateshulu	Telegu	1	572-2	Assigned	1	1	4.73	3,25,000	4	1	10	Agri	4	3	1	9000	2	2	1

The Consulting Agency for Environmental and Social Impact Assessment (ESIA) studies for SECI's 160 MW Solar-Wind Hybrid Power Plant in the State of Andhra Pradesh

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey /Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barr en 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH H : Yes =1, No =2	Physically Handicaped :: Yes=1, No=2	BPL :: Yes =1, No =2
41	Thalima dugulla	T Malikaarjun	T Venkateshulu	Telegu	1	573-1	Assigned	1	1	4.85	3,25,000	4	1	B. Tech	Agri	2	1	1	9000	2	2	1
42	Thalima dugulla	T Mahesh	T Venkateshulu	Telegu	1	573-2	Assigned	1	1	4.82	3,25,000	5	1	B.Tech	Service	4	2	2	9000	2	2	1
43	Thalima dugulla	E Ramanajulu	Hanumant Raidu	Telegu	1	574-1	Assigned	1	1	3.15	3,25,000	3	1	7	Agri	3	1	2	8000	2	2	1
44	Muthuv akuntla	M Suresh	M Lakshmanaiya	Telegu	1	574-2	Assigned	1	1	3.14	3,25,000	5	1	10	Agri	5	3	2	9000	2	2	1
45	Muthuv akuntla	K Madhavanaidu	H Ranjalava	Telegu	1	575-1	Assigned	1	1	4.53	3,25,000	5	1	illiterate	Agri	4	3	1	9000	2	2	1
46	Thalima dugulla	V Sujatha	Satyanandarnath	Telegu	2	575-2	Assigned	1	1	4.53	3,25,000	3	1	BA	HW	4	2	2	9000	2	2	1
47	Muthuv akuntla	B Muthyalamma	B Mllikarjun	Telegu	2	576-1	Assigned	1	1	5.12	3,25,000	3	1	5	HW	4	3	1	9000	2	2	1

The Consulting Agency for Environmental and Social Impact Assessment (ESIA) studies for SECI's 160 MW Solar-Wind Hybrid Power Plant in the State of Andhra Pradesh

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey /Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barran 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH : Yes =1, No =2	Physically Handicapped :: Yes=1, No=2	BPL :: Yes =1, No =2
48	Thalima dugulla	Anilamma	B Katappa	Telegu	2	576-2	Assigned	1	1	2.57	3,25,000	3	1	10	HW	4	2	2	9000	2	2	1
49	Thalima dugulla	Anilamma	Boya Kistappa	Telegu	2	576-2	Assigned	1	1	2.57	3,25,000	3	1	10	HW	4	2	2	8000	2	2	1
50	Thalima dugulla	B Ramu	Rammanna	Telegu	1	577-1	Assigned	1	1	5.09	3,25,000	3	1	10	Labour	5	3	2	9000	2	2	1
51	Thalima dugulla	Muthyappa	Muthyalappa	Telegu	1	577-2	Assigned	1	1	4.53	3,25,000	1	1	illiterate	Labour	5	2	3	9000	2	2	1
52	Thalima dugulla	P Shivshankar Prasad	Lt. P Muthylappa	Telegu	1	578-1	Assigned	1	1	4.6	3,25,000	4	1	10	Agri	4	2	2	9000	2	2	1
53	Thalima dugulla	T Peddna	Pakiramma	Telegu	1	578-2	Assigned	1	1	3.46	3,25,000	1	1	5th	Agri	7	2	5	8000	2	2	1
54	Thalima dugulla	M Srivasalu	Hammanattulu	Telegu	1	578-3	Assigned	1	1	3.46	3,25,000	3	1	10	Labour	4	3	1	8000	2	2	1

S. No.	Village	Name of Owner (HH)	Father/Husband Name	Mother Tongue	Sex Male-1, Female-2	Affected Survey /Plot No.	Ownership : (a) Private (b) Government (c) Religious (d) Community (e) Others (Specify)	Type of Land : 1. Irrigated 2. Un Irrigated 3. Barran 4. Forest 5. Others (Specify)	Use of Land : 1. Cultivation 2. Orchard 3. No Use/Barren 4. Others (Specify)	Total Area of the Land /Plot (Acre)	Rate of the Land in Acre	Social Category 1. SC 2. ST 3. OBC 4. General 5. Others (specify)	Religious Category 1. Hindu 2. Muslim 3. Christian 4. Other (specify)	Education	Occupation	Number of Family Members			Monthly income of the family in (INR)	Vulnerability Status of the Household:		
																Total	Male	Female		WH : Yes =1, No =2	Physically Handicapped :: Yes=1, No=2	BPL :: Yes =1, No =2
55	Thalima dugulla	Edigar Siddesha	Vannurappa	Telegu	1	579-1	Assigned	1	1	2.55	3,25,000	3	1	Inter (10+2)	Agri	3	1	2	8000	2	2	1
56	Thalima dugulla	R Venkatesh	R Ramanjanalam	Telegu	1	579-2	Assigned	1	1	5.10	3,25,000	3	1	illiterate	Agri	4	3	1	9000	2	2	1
57	Thalima dugulla	B Maruti	Ammanajanalu	Telegu	1	579-3	Assigned	1	1	5.33	3,25,000	3	1	illiterate	Agri	5	3	2	8000	2	2	1
58	Muthuvakuntla	B Kulavardhan	Bhaskar	Telegu	1	580-1	Assigned	1	1	4.84	3,25,000	3	1	BA	Agri	4	2	2	9000	2	2	1
59	Thalima dugulla	Y Venkatalakshmi	T Subbaiah	Telegu	2	580-2	Assigned	1	1	4.72	3,25,000	4	1	10th	HW	4	3	1	9000	2	2	1
60	Thalima dugulla	S Saraswati	T Subbaiah	Telegu	2	580-3	Assigned	1	1	4.71	3,25,000	4	1	10th	HW	4	2	2	9000	2	2	1

Absentees in Muthuvakuntla:

1. Manjunath (323-1)

2. S Prasad Rao (323-2)
3. S Saradhamma (323-3)
4. P Narayanamma (326-1)
5. K Chandramohan (326-3)
6. Ediga Vanuramma (342-4)
7. P Bharthi (562-1)
8. P Ramanjaneyulu (531-2)
9. P Kavitha (562-2)
10. N Krishnamorthy (326-5)
11. S Surendra (326-7)
12. Madiga Bodi Muthyalappa (326-8)
13. A Nirmalamma (326-9)
14. S Lalithamma (551-1)

ANNEXURE 2: ATTENDANCE SHEET OF PUBLIC CONSULTATION

Public consultation Attendance sheet

Name of Site/Location - R. Kottapalli (Ramgini Village)

Date- 27.02.2018

Sr/ no	Name of Person	Occupation	Signature	Remarks
1.	G. paramdhara			
2.	J. Gopinivasulu			
3.	M. Shivakumar			
4.	G. narasimhulu			
5.	m. Raghukumar			
6.	G. Sanjeevappa			
7.	G. Nagendra			
8.	m. NarasimhaPrathy			
9.	G. VaeranaSarma			
10.	m. Adinarayana			
11.	G. Gopal			
12.	K. Ram Mohan			
13.	A. Adinarayana			
14.	S. Lingamaiah			
15.	G. chandramohan			
16.	M. Kumar			
17.	B. chammaiah			
18.	S. pakkirraik			
19.	B. polhanna			
20.	S. pothalaiah			

Public consultation Attendance sheet

Name of Site/Location - L. K. Kottapalli (Ramsimivillage)

Date- 27/02/2018

Sr/ no	Name of Person	Occupation	Signature	Remarks
21	A. Nagabhushana.			
22	H. B. Chandrayuda			
23	S. Thavare naik.			
24	S. Maremma.			
25	S. Ramenaik.			
26	B. Narayana.			
27	S. Ramakrishnaik			
28	G. Ramakrishna.			
29	S. Nagaji Naik.			
30	A. Srimivasulu.			
31	S. Kramithi.			
32	B. Ramalingappa.			
33	B. Gangathara.			
35	G. Srinivasulu.			
36	H. Neelappa.			
37	S. Gopenaik.			
38	B. Chandrayuda			
39	G. Jagananna.			
40	A. Anjamma.			
41	S. Muthakanna.			

Public consultation Attendance sheet

Name of Site/Location - R.K. Kotapalli (Ramgini Village)

Date - 27/02/18

Sr/ no	Name of Person	Occupation	Signature	Remarks
	G. Sandhya		G. Sandhya	
	B. Muthyalaamma		B. ముత్యాలమ్మ	
	obukamma		అంబుకమ్మ	
	G. Sareethamma		గారికొండ	
	Lakshmideni		అంబుకమ్మ	
	Sarojaamma		సరోజామ్మ	
	M. Akkamma		ఎమ్. అక్కమ్మ	
	B. Sakithri		బి. సాకిత్రి	
	B. Srid		బి. సీద్	
	H.B. Krista		ఎం.బి. క్రిస్టా	
	B. Anjanamma		బి. అంజనమ్మ	
	B. Svarna		బి. స్వర్నా	
	Satyam Reddy			
	Social Specialist (Egis India)	MPA Ramagiri (M)		Dist. Manager NRE Dept Anantapur
	E. Soma		K. Prantik Reddy	
			FI NRE Dept Anantapur	

(Signature)
ENV. EXP

Public consultation Attendance sheet

Name of Site/Location - MUTUKONTLA

Date- 27.02.2018

Sr/ no	Name of Person	Occupation	Signature	Remarks
1	P. Anjanayudu		P. Anjanayudu	
2	N. Manohar		N. Manohar	
3	T. Ramamudra		T. Ramamudra	
4	S. Ajay		S. Ajay	
5	P. Jagadeesh		P. Jagadeesh	
6	S. Manjunath		S. Manjunath	
7	B. Ananth		B. Ananth	
8	M. Thippeswar		M. Thippeswar	
9	B. Ramrajesh		B. Ramrajesh	
10	B. Madhu		B. Madhu	
11	P. Mangadhar		P. Mangadhar	
12	B. Thirupanna		B. Thirupanna	
13	K. Hari		K. Hari	
14	M. Narasimha		M. Narasimha	
15	K. Bhargava		K. Bhargava	
16	S. Anand		S. Anand	
17	S. N. Ramakrishna		S. N. Ramakrishna	
18	S. Ramu		S. Ramu	
19	B. Anand		B. Anand	
20	V. Sathimaik		V. Sathimaik	

Public consultation Attendance sheet

Name of Site/Location - KHALLIMADUGULA / HAMLET OF MUTAJA KUNTLA
 Date- 27.02.2018

Sr/ no	Name of Person	Occupation	Signature	Remarks
1	P. Anjanayulu		P. Anjee	
3	N. Manohar		N. Manohar	
31	P. Gangadhar		P. Gangadhar	
4	P. Anathaiyah		P. Anathaiyah	
51	B. Maruthi		B. Maruthi	
61	F.P. Ramanije		F.P. Ramanije	
71	S. Venkatasayana		S. Venkatasayana	
81	P. Saeramulu		P. Saeramulu	
9	N. Kistappa		N. Kistappa	
101	B. Bhaswar		B. Bhaswar	
11	T. Ramasivaiyah		T. Ramasivaiyah	
121	E. Siddappa		E. Siddappa	
131	K. Prani		K. Prani	
14	B. Muthyal		B. Muthyal	
151	F. Sivasankar		F. Sivasankar	
161	K. Umesh		K. Umesh	
17	E. Kullai		E. Kullai	
181	D. Aswatha		D. Aswatha	
19	T. Ramu		T. Ramu	
201	K. Bhuti		K. Bhuti	

Public consultation Attendance sheet

Name of Site/Location - (Muthavakuntla)
 Date - (Hikalamadugula) 27/01/18

Sr/ no	Name of Person	Occupation	Signature	Remarks
21	A. N. Kumar		<i>[Signature]</i>	
22	E. Ramaraj		<i>[Signature]</i>	
23	G. N. Venkatesh		<i>[Signature]</i>	
24	E. Nagaraj		<i>[Signature]</i>	
25	B. Prakash		<i>[Signature]</i>	
26	K. Ramana		<i>[Signature]</i>	
27	B. Arjun		<i>[Signature]</i>	
28	B. Eswar		<i>[Signature]</i>	
29	S. Raju		<i>[Signature]</i>	
30	K. N. G. S. S. S.		<i>[Signature]</i>	
	<i>[Signature]</i> ENV EXPERT Egis India	<i>[Signature]</i> K. N. G. S. S. S. Kangayyala	<i>[Signature]</i>	<i>[Signature]</i> S. P. S. S. Muthavakuntla
	<i>[Signature]</i> DIST. MANAGER NREDCAP, ANANTAPUR		K. Prathyusha F. U. NREDCAP Anantapur	
			<i>[Signature]</i> (Social Specialist) Egis India	

ANNEXURE 3: DEFINITIONS

Following definitions that will be applicable unless otherwise stated specifically.

Agricultural labourer means a person primarily resident in the affected area for a period of not less than five years immediately before the declaration of the affected area, who does not hold any land in the affected area but who earns his livelihood mainly by manual labour on agricultural land therein immediately before such declaration and who has been deprived of his livelihood

Agricultural land denotes land used or capable of being used for the purpose of agriculture or horticulture, dairy farming, poultry farming, pisciculture, sericulture, breeding of livestock or nursery growing medicinal herbs, raising of crops, grass or garden produce and land used by an agriculturist for the grazing of cattle, but does not include land used for cutting of wood only

Below poverty line (BPL) or BPL family means below poverty line families as defined by the Planning Commission of India, from time to time and those included in the BPL list for the time-being in force

Census means a field survey carried out to identify Project Affected/Displaced Persons in accordance with procedures, satisfactory to the Client, including criteria for eligibility to compensation, resettlement and other rehabilitation measures, and consultations with Project Affected/Displaced Persons

Corridor of impact (COI) Refers to the minimum land width required for construction including embankments, facilities and features such as approach roads, drains, utility ducts and lines, fences, green belts, safety zone, working spaces etc. Additional land width would be acquired/purchased or taken on temporary lease if the Corridor of Impact extends beyond the available Right of Way

Cut-off date refers to the date on which the **census survey of PAPs starts** in project site. For entitlement purpose, the PAPs would be those who have been in possession of the immovable or movable property within the affected area/zone on or prior to cut off date. However, the cut-off date for land acquisition purpose is the date on which the notification under section 3A will be issued under the NH Act, 1956

Compensation means the payment in land, cash or other assets given in exchange for the taking of land and buildings, in whole or in part, and all fixed assets on the land and buildings

Cut-off date for the purpose of compensation shall be the date on which the notification declaring the intention to acquire land under the relevant Act or under the provisions of this Policy is published

Displaced Family means a family ordinarily residing in the project area prior to the date of publication of notification under the provisions of the relevant Act and on account of acquisition of his/her homestead land is displaced from such area or required to be displaced

Encroacher: A person who has extended their building, agricultural lands, business premises or work places into public/government land without authority

Entitled person (EP): A person who is adversely impacted by the project and is entitled to assistance as per the project entitlement framework is considered to be an Entitled Person

Ethnic / Indigenous People are defined as persons who belong to a minority tribal group affected in part or in total (temporarily or permanently) by the Project due to acquisition of their lands, dwellings, disturbance of their place of work, and other Project-related adverse impacts

Family means the person and his or her spouse, minor sons, unmarried daughters, minor brothers or unmarried sisters, father, mother and other members residing with him or her and dependent on him or her for his / her livelihoods

Note: Each of the following categories will be treated as a separate family for the purpose of extending rehabilitation benefits under this Policy

- (i) A major son irrespective of his marital status
- (ii) Unmarried daughter / sister more than 30 years of age
- (iii) Physically and mentally challenged person irrespective of age and sex; (duly certified by the authorized Medical Board). For this purpose, the blind/ the deaf/ the orthopedically handicapped/ mentally challenged person suffering from more than 40% permanent disability will only be considered as separate family.
- (iv) Minor orphan, who has lost both his/her parents
- (v) A widow or a woman divorcee

Government means the Government of Orissa in Revenue Department

Holding means the total land held by a person as an occupant or tenant or as both

Implementing Agency: The Government of Odisha and its departments, in coordination with the NHAI, tasked with successful implementation of the project

Involuntary Displacement means direct economic and social impacts caused by:

- a) The involuntary taking of land resulting in:
 - (i) Relocation or loss of shelter
 - (ii) Loss of assets or access to assets, or
 - (iii) Loss of income sources or means of livelihood, whether or not the Displaced Persons must move to another location, or
- b) The involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons.

Involuntary Land Acquisition is the taking of land by government for public purpose against compensation where the landowner must surrender their land involuntarily and has only the right to negotiate and appeal the amount of compensation proposed. This includes land or assets for which the owner enjoys uncontested customary rights

Kiosk: A kiosk is a booth/stall/cabin/cubicle made of wood or iron or any other building material which could be shifted to another location as a single unit without much damage and is used for carrying out petty business/ commercial activities and has been in operation/existence prior to cut off date

Land refers to agricultural and non-agricultural land and any structures thereon whether temporary or permanent and which is required for the Project

Land acquisition" or "acquisition of land" means acquisition of land under the NH Act, 1956 for the time being in force

Land Acquisition Officer (LAO) means an Officer appointed by the Government by an order to perform duties as such under Land Acquisition Act, 1894 for the project

Landowner: A person who is an allottee or a grantee of any land under any scheme of the Government under which such allotment or grant is to mature into ownership, who has mortgaged his land (or any portion thereof) or who has permanent rights and interest in land

Marginal farmer Refers to a cultivator with an un-irrigated land holding up-to one hectare or irrigated land holding up-to half hectare

Non-agricultural labourer means a person who is not an agricultural labourer but is primarily residing in the affected area for a period of not less than five years immediately before the declaration of the affected area and who does not hold any land under the affected area but who earns his livelihood mainly by manual labour or as a rural artisan immediately before such declaration and who has been deprived of earning his livelihood mainly by manual labour or as such artisan in the affected area

Non-titleholder: Affected persons/families/ households with no legal title to the land, structures and other assets adversely affected by the project. Non- titleholders include encroachers, squatters, etc.

Notification means a notification published in the Gazette of India

Occupier means a member of a Scheduled Tribes community in possession of forest land prior to the 13th day of December, 2005

Project means the construction, extension or improvement of any work such as reservoir, dam, canal, highway, industrial plant, factory, mining, national park, sanctuary, etc. as notified by the Government from time to time and includes its offices and establishment within the State. In the present context it refers to the National Highways Interconnectivity Improvement Project (NHIIP)

Project area for the purpose of extending R & R benefits means the land, which is acquired / alienated / purchased for establishment of any project

Project affected area Refers to the area of village or locality under a project for which land will be acquired under NH Act 1956 through declaration by Notification in the Official Gazette by the appropriate Government or for which land belonging to the Government will be cleared from obstructions

Project affected family includes a person, his or her spouse, minor sons, unmarried daughters, minor brothers, unmarried sisters, father, mother and other relatives residing with him or her and dependent on him or her for their livelihood; and includes "nuclear family" consisting of a person, his or her spouse and minor children

Project affected person (PAP): Any tenure holder, tenant, Government lessee or owner of other property, or non-titleholder who on account of the project has been affected from such land including plot in the abadi or other property in the affected area will be considered as PAP

PAPs without Legal Title are occupants of land and housing without legal ownership rights and individuals or groups of people with shops conducting business in the immediate project areas without official registration and will be adversely impacted by the Project through displacement

Project displaced person (PDP): Any tenure holder, tenant, Government lessee or owner of other property, or non-titleholder who on account of the project has been involuntarily displaced from such land including plot in the abadi or other property will be considered as PDP. A displaced will always be a PAP but all PAP may not be PDP

Project affected household (PAH): A household that may comprise of one family or several families

Project Director Resettlement & Rehabilitation (PD-RR) means an Officer appointed by Government by an order to perform such duties under R & R Policy of the State, for the project

Proposed Right of Way (PROW) is determined as a corridor below the transmission line of specified width in meters as per project requirements

Rehabilitation means providing assistance to PAPs affected due to substantial or entire loss of productive assets, incomes, employment opportunities or sources of living, to supplement payment of compensation for acquired assets in order to improve, or at least achieve full restoration of incomes and living standards to the pre-project levels

Rehabilitation Assistance means the provision of development assistance in addition to Compensation such as land preparation, credit facilities, training, or job opportunities, needed to enable Project Affected/Displaced Persons to improve their living standards, income earning capacity and production levels, or at least maintain them at pre-Project levels

Rehabilitation & Periphery Development Advisory Committee (RPDAC) means the Committee constituted by the Government under relevant provisions of this Policy by Government to look after rehabilitation and periphery development matters

Replacement cost means the method of valuation of assets which assists in determining the amount sufficient to replace lost assets and cover transaction costs, as follows:

- (i) "Replacement cost for agricultural land" means the pre-project or pre-displacement, whichever is higher, market value of land of equal productive potential or use located in the vicinity of the affected land, plus the costs of:
 - a) Preparing the land to levels similar to those of the affected land; and
 - b) Any registration and transfer taxes
- (ii) "Replacement cost for houses and other structures" means the market cost of the materials to build a replacement structure with an area and quality similar to or better than those of the affected structure, or to repair a partially affected structure, plus the costs of:
 - a) Transporting building materials to the construction site
 - b) Any labour and contractors' fees; and
 - c) Any registration and transfer taxes
- (iii) "Replacement cost for land in urban areas" means the pre-displacement market value of land of equal size and use, with similar or improved public infrastructure facilities and services and located in the vicinity of the affected land, plus the cost of any registration and transfer taxes
- (iv) Crops, trees and other perennials based on current market value

- a) Compensation for annual crops is equivalent to the production over the last three years multiplied by the market price for agricultural products at the time of the calculation of the compensation
- b) Compensation for trees includes total investment cost plus production cost from the time of its planting to the expropriation. In case this cost cannot be determined, the compensation will be calculated on the basis of the type, age and productive value
- (v) Other assets (i.e., income, cultural, aesthetic) based on replacement cost or cost of mitigating measures. For example, compensation for the relocation of temples includes all expenditures for dismembering, transportation and reconstruction to its original state

Resettlement refers to all measures taken by the Project proponent to mitigate any and all adverse social impacts of a project on the PAPs, including compensation for lost assets and incomes and the provision of other entitlements, income rehabilitation assistance, and relocation, as needed

Resettlement Assistance means the measures to ensure that Project Affected/Displaced Persons who need to be physically relocated are provided with assistance during relocation, such as moving allowances, and provided with residential housing or housing sites or, as required, agricultural sites

Small farmer Refers to a cultivator with an un-irrigated land holding up to two (2) hectares or with an irrigated land holding up to one (1) hectare

Squatter: A person who has settled on public/government land, land belonging to institutions, trust, etc and or someone else's land illegally for residential, business and or other purposes and/or has been occupying land and building/asset without authority

State Level Compensation Advisory Committee means a Committee constituted by Government under the relevant provisions of this Policy

State Level Council on Resettlement & Rehabilitation (SLCRR) means the Council headed by the Chief Minister constituted by a notification of Government to that effect

Tenant: A person who holds / occupies land / structure of another person and is or (but for a special contract) would be liable to pay rent for that land / structure to other person and includes the predecessor and successor-in-interest of such person but does not include mortgage of the rights of a landowner or a person to whom holding has been transferred or an estate or holding has been let in farm for the recovery of an arrear of land revenue or of a sum recoverable as such an arrear or a person who takes from Government a lease of unoccupied land for the purpose of subletting it

Titleholder: A PAP/PAF/PAH who has legal title to land, structures and other assets in the affected zone

Vulnerable group: This includes Scheduled Caste, ST, family/household headed by women/ female, disabled, handicapped, orphans, destitute, BPL, abandoned woman; unmarried girls; widows; and persons above the age of 65 years **irrespective of their status of title** (ownership). Vulnerable groups would also include those farmers who (after acquisition of land) become small/marginal farmers and also qualify for inclusion in BPL. For such cases, total land holding of the landowner in that particular revenue village will be considered in which land has been acquired

Wage earner: Wage earners are those whose livelihood would be affected due to the displacement of the employer. The person must be in continuous employment for at least six months prior to the cut-off date with the said employer and must have reliable documentary evidence to prove his/her employment



ANNEXURE 4: INCOME RESTORATION SCHEMES

The income restoration schemes have been derived mainly from the model schemes of NABARD

1 Dairy Farming

1.1 Introduction

Dairying is an important source of subsidiary income to small/marginal farmers and agricultural labourers. The manure from animals provides a good source of organic matter for improving soil fertility and crop yields. The gobar gas from the dung is used as fuel for domestic purposes as also for running engines for drawing water from well. The surplus fodder and agricultural by-products are gainfully utilized for feeding the animals. Almost all draught power for farm operations and transportation is supplied by bullocks. Since agriculture is mostly seasonal, there is a possibility of finding employment throughout the year for many persons through dairy farming. Thus, dairy also provides employment throughout the year. The main beneficiaries of dairy programmes are small/marginal farmers and landless labourers.

1.2 Scope

The total milk production in the country for the year 2008-09 was estimated at 108.5 million tonnes and the demand is expected to be 180 million tonnes by 2020. To achieve this demand annual growth rate in milk production has to be increased from the present 2.5 % to 5%. Thus, there is a tremendous scope/potential for increasing the milk production through profitable dairy farming.

Model Unit Cost of a 5 Buffalo Unit	
A. Capital Cost	Amount (Rs.)
Cost of milch animals including transportation cost	330000
Cost of construction of shed for adult animals	60000
Cost of construction of shed for calves	20000
Cost of equipment	50000
Sub-total A	460000
B. Recurring Expenditure	
Cost of concentrate feed for first batch for first month	5000
Cost of fodder cultivation in 2 acres	9000
Insurance of first batch of milch animals	16000
Sub-total B	30000
Total (A+B)	490000

2 Poultry: Layer Farming

2.1 Introduction

Poultry, egg and meat are important sources of high quality proteins, minerals and vitamins to balance the human diet. Specially developed breeds of egg type chicken are now available with traits of quick growth and high feed conversion efficiency. Depending on the farm-size, layer (for eggs) farming can be main source of family income or can provide income and gainful employment to farmers throughout the year. Poultry manure has high fertilizer value and can be used for increasing yield of all crops

2.2 Scope

Poultry industry which provides a cheap source of animal protein has taken a quantum leap in the last three decades evolving from a near backyard practice to a venture of industrial promotion. Poultry is one of the fastest growing segments of the agricultural sector in India today. While the production of agricultural crops has been rising at the rate of 1.5 to 2 percent per annum, that of eggs has been rising at the rate of 8 percent per annum. India is on the world map as one of the top five egg producing countries with 55.6 billion eggs produced during 2008 (FAO).

The poultry sector in India has undergone a paradigm shift in structure and operation. This transformation has involved sizable investments in breeding, hatching, rearing and processing. Farmers in India have moved from rearing non-descript birds to rearing hybrids which ensures faster growth, good livability, excellent feed conversion and high profits to the rearers. High quality chicks, equipment, vaccines and medicines are available. Technically and professionally competent guidance is available to the farmers. The management practices have improved and disease and mortality incidences are reduced to a great extent. The industry has created direct and indirect employment for 3 million people.

Model Unit Cost of a Layer Poultry farm of 1000 birds	
A. Capital Cost	Amount (Rs.)
Construction of brooder cum grower house	80000
Construction of layer house	150000
Purchase of brooder cum grower equipment	16000
Purchase of layer equipment	100000
Sub-total A	346000
B. Recurring Expenditure	
Cost of 1000 day old chicks@20	20000
Cost of feed upto 25% laying	50000
Cost of medicines & miscellaneous expenses upto laying	15000

Model Unit Cost of a Layer Poultry farm of 1000 birds	
Insurance of sheds and equipment	2500
Insurance of birds	1500
Sub-total B	89000
Total (A+B)	435000

3 Poultry: Broiler Farming

3.1 Introduction

Poultry meat is an important source of high quality proteins, minerals and vitamins to balance the human diet. Specially developed varieties of chicken (broilers) are now available with the traits of quick growth and high feed conversion efficiency. Depending on the farm size, broiler farming can be a main source of family income or can provide subsidiary income and gainful employment to farmers throughout the year. Poultry manure is of high fertilizer value which can be used for increasing yield of all crops.

3.2 Scope

India has made considerable progress in broiler production in the last three decades. The broiler production has increased at an annual growth rate of about 10% and stands at about 2.3 million metric tons of chicken meat. Today India is the fifth largest producer of broiler meat in the world. Despite this achievement the annual per capita consumption in India is only 1600 grams of poultry meat as against the world average of 5.9 kg of meat.

Owing to the considerable growth in broiler industry, high quality chicks, equipment, vaccines and medicines, technically and professionally competent guidance are available to the farmers. The management practices have improved and disease and mortality incidences are reduced to a great extent. Many institutions are providing training to entrepreneurs. Increasing assistance from the Central/ State governments and poultry corporations is being given to create infrastructure facilities so that new entrepreneurs are attracted to take up this business. Broiler farming has been given considerable importance in the national policy and has a good scope for further development in the years to come.

Model Unit Cost of a Broiler Unit	
A. Capital Cost	Amount (Rs.)
Construction of shed	120000
Cost of equipment	16000
Sub-total A	136000
B. Recurring Expenditure	
Cost of 1000 day old chicks@20	20000
Cost of feed	5000
Medicines, labour, miscellaneous charges@ 5	5000
Insurance of birds	500
Insurance of sheds and equipment	700
Sub-total B	31200
Total (A+B)	167200

4 Sheep Farming

4.1 Introduction

Sheep with its multi-faceted utility for wool, meat, milk, skins and manure, form an important component of rural economy particularly in the arid, semi-arid and mountainous areas of the country. It provides a dependable source of income to the shepherds through sale of wool and animals. The advantages of sheep farming are that they do not need expensive buildings to house them and on the other hand require less labour than other kinds of livestock; the foundation stock are relatively cheap and the flock can be multiplied rapidly; are economical converter of grass into meat and wool; they eat varied kinds of plants compared to other kind of livestock. This makes them excellent weed destroyer; and, unlike goats, sheep hardly damage any tree.

4.2 Scope

The country ranks sixth in the world in terms of number of sheep. The contribution of sheep to total meat production in the country is around 14 percent. The contribution of sheep through export of meat is 8 percent of the total export value of agricultural and processed food products. Live sheep are also exported for meat purpose. Sheep skin in the form of leather and leather products is also exported. Sheep make a valuable contribution to the livelihood of the economically weaker sections of the society.

Model Unit Cost of a Sheep Rearing Unit	
A. Capital Cost	Amount (Rs.)
Cost of 20 ewes @ Rs. 1500/-	30000
Cost of 1 ram @ Rs. 2500	2500
Cost of Shed, equipment and miscellaneous expenditure	7500
Veterinary expenses @ 100	1300
Sub-total A	41300
B. Recurring Cost (per month)	
Fodder	4000
Labour	3000
Water, electricity and other miscellaneous expenses	1500
Sub-total B	8500
Total (A+B)	49800



5 Goatery

5.1 Introduction

Goat is a multi functional animal and plays a significant role in the economy and nutrition of landless, small and marginal farmers in the country. Goat rearing is an enterprise which has been practiced by a large section of population in rural areas. Goats can efficiently survive on available shrubs and trees in adverse harsh environment in low fertility lands where no other crop can be grown. In pastoral and agricultural subsistence societies in India, goats are kept as a source of additional income and as an insurance against disaster. Goats are also used in ceremonial feasting and for the payment of social dues. In addition to this, goat has religious and ritualistic importance in many societies.

5.2 Scope

The country ranks first in the world in terms of goat population. Goat meat production stands at the level of 0.6 million tonnes per year. The slaughter rate of goat is at the level of 39.7 % as compared to 31.8% for sheep and 11% for buffaloes respectively. The trend in consumption of mutton and goat meat shows an annual increase of 1.4%. Goat make a valuable contribution to the livelihood of economically weaker sections of the society. Amongst the livestock owners goat rearers are the poorest of the lot.

Model Unit Cost of a Goatery	
A.Capital Cost	Amount (Rs.)
Shed	20000
Equipment	2000
Cost of Animals	Does 10@1600
	Buck 1@2500
	16000
	2500
Insurance	2500
Veterinary expenses @100	1100
Sub-total A	44100
B. Recurring Cost	
Fodder (per month)	2000
Labour wages (per month)	3000
Water, electricity and other miscellaneous expenses (per month)	1500
Sub-total B	6500
Total (A+B)	50600

6 Piggery

6.1 Introduction

The challenges faced by our country in securing food and nutritional security to its fast growing population needs an integrated approach for livestock farming. The pig population of the country constitutes around 1.30% of the total world's population. The contribution of pork products in terms of value works out to 0.80% of total livestock products and 4.32% of the meat and meat products. The pig farming constitutes the livelihood of rural poor belonging to the lowest socio-economic strata and they have no means to undertake scientific pig farming with improved foundation stock, proper housing, feeding and management. Therefore, suitable schemes to popularize the scientific pig breeding cum rearing of meat producing animals with adequate financial provisions are necessary to modernize the Indian pig industry and improve its productivity.

6.2 Scope

Among the various livestock species, piggery is the most potential source of meat production and more efficient feed converters after the broiler. Apart from providing meat, it is also a source of bristles and manure. Pig farming will provide employment opportunities to seasonally employed rural farmers and supplementary income to improve their living standards. Pigs have the highest feed conversion efficiency i.e. they produce more live weight gain from a given weight of feed than any other class of meat producing animals except broilers. They can utilize wide variety of feed stuffs viz. grains, forages, damaged feeds and garbage and convert them into valuable nutritious meat. They are prolific with shorter generation interval. A sow can be bred as early as 8-9 months of age and can farrow twice in a year. They produce 6-12 piglets in each farrowing. The meat yield, in terms of dressing percentage ranges from 65 - 80 in comparison to other livestock species whose dressing yields may not exceed 65%, and Pig farming requires small investment on buildings and equipments.

Model Unit Cost of a Piggery		Amount (Rs.)
A.Capital Cost		
Shed, including (Water supply system (Bore well, electric motor pump-set - 1HP, water tank)		100000
Equipment		5000
Cost of Animals	Sows 10@1800	18000
	Boar 1@2500	2500
Insurance		1200
Veterinary expenses @100		1100
Sub-total A		127800
B. Recurring Cost		
Fodder (per month)and Labour wages (per month)		4500
Water, electricity and other miscellaneous expenses (per month)		1500
Sub-total B		6000
Total (A+B)		133800

7 Duckery

7.1 Introduction

Duck rearing is prevalent among weaker sections of the rural population which provides them supplementary and steady income on a daily basis. In addition it also provides them nutrition duck eggs for family consumption and engaging family labour in their leisure hours to look after the Duck unit. Over 10 million duck population exists in the country and ranks 2nd in the world after Indonesia. Around 600 million duck eggs valued at Rs. 180 crore are being produced and are being consumed in the rural area, Kerala, West-Bengal, Orissa, Andhra Pradesh are the States where duck are predominant.

7.2 Scope

Ducks supplement their feed by foraging. They eat fallen grains in harvested paddy fields, insects, snails, earth worms, other small fish etc. Duck rearing does not require elaborate housing like poultry. Ducks are more robust than poultry and thus are well suited for weaker section where level of management is moderately scientific. Marshy, riverside, wet land and barren moors are excellent areas for duck farming. Duck cum fish farming can be integrated. Ducks lay 95% to 98% eggs in early morning before 9.00 am after which the flock can be taken for foraging to nearby ponds by the duck farmer or his family members.

Model Unit Cost of a Duckery	
A.Capital Cost	Amount (Rs.)
Shed	10000
Equipment	1500
Cost of Birds (115 ducklings @ 15)	1725
Insurance	105
Veterinary expenses @ 5	575
Sub-total A	13905
B. Recurring Cost	
Fodder (per month) for first two months	2800
Labour wages (per month) for first two months	3000
Sub-total B	5800
Total (A+B)	19705

8 Turkey Farming

8.1 Introduction

The turkey is a well known bird in North America and Europe, but in rest of the world especially in developing countries it is yet to be established on commercial lines. The probable reason for turkey not being popular in our country is because chickens are so familiar and grow so well that there seems no reason to consider any other poultry. Indigenous and non descriptive turkey are found in small numbers in and around Mirzapur and Allahabad district of Uttar Pradesh and in some parts of Southern India.

8.2 Scope

Turkey farming is picking up slowly in the country and has a good potential in the future especially in the areas where people have preference for lean meat and Christian dominating area. Although the backward linkages are available in the form of the network of chicken marketing, it needs to be further improved. Turkey has good potential in developing countries especially in the areas where people prefer lean meat. The bird is quite suitable for upliftment of small and marginal farmers as it can be easily reared in free range or under semi-intensive system with little investment for housing, equipment and management.

Model Unit Cost of a Turkey Rearing Unit	
A.Capital Cost	Amount (Rs.)
Shed and other structures	40000
Equipment	2000
Cost of Birds (105 one month old turkeys @ 150)	15750
Insurance	950
Veterinary expenses @ 5	525
Sub-total A	59225
B. Recurring Cost	
Fodder (per month) for six months	23000
Labour wages (per month) for six months	9000
Sub-total B	32000
Total (A+B)	91225

9 Oyster Mushroom Cultivation

9.1 Introduction

Mushrooms, also called 'white vegetables' or 'boneless vegetarian meat' contain ample amounts of proteins, vitamins and fibre apart from having certain medicinal properties. Mushroom contains 20-35% protein (dry weight) which is higher than those of vegetables and fruits and is of superior quality. Mushroom offers prospects for converting lignocellulosic residues from agricultural fields, forests into protein rich biomass. Such processing of agro waste not only reduces environmental pollution but the by product of mushroom cultivation is also a good source of manure, animal feed and soil conditioner.

9.2 Scope

Mushroom has a good overseas market in which the present contribution of India is negligible. In the domestic market the availability of mushroom is limited to cities and big towns only. Mushrooms can be marketed either fresh or after dehydration. There is huge international demand for dried mushroom and the farmers can get better returns by tapping these sources.

Model Unit Cost of a Oyster Mushroom Cultivation Unit (for production of 1000 kg)	
A. Fixed Cost	Amount (Rs.)
Cost of Temporary Shed (20x12x6 = 240 sq.ft.)	15000
Cost of equipments (Racks, Bamboo, Knap Sack Sprayer, Rope, Heating Equipment, Knives etc.)	10000
Sub-total A	25000
B. Operational cost (per cycle)	
Paddy Straw	2000
Cost of bags	2500
Cost of pasteurisation	1500
Cost of Bavistin & Formaldehyde	500
Spawn cost	6000
Labour Charges	2500
Fuel / Power cost (Lumpsum)	5000
Sub-total B	20000
Total (A+B)	45000

10 Composite Fish Culture

10.1 Introduction

Fish is the cheapest and most easily digestible animal protein and was obtained from natural sources from time immemorial for consumption by human beings. However, due to over exploitation and pollution, the availability of fish in natural waters has declined considerably forcing scientists to adopt various methods to increase its production. Composite fish farming entails conjunctive farming of at least three varieties of fish, Catla, Rohu and Mrigal. Additionally, Silver, Grass and Common Carp may also be grown in the same pond along with the above three.

10.2 Scope

Fish farming in controlled or under artificial conditions has become the easier way of increasing the fish production and its availability for consumption. Farmers can easily take up fish culture in village ponds, tanks or any new water body and can substantially improve their financial position. It also creates gainful employment for skilled and unskilled youths.

Model Unit Cost of a Composite Fish Farm of 1ha	
A. Capital Cost	Amount (Rs.)
Construction of pond (1ha) with inlet/outlet sluices	50000
Diesel Pump Set and other implements	35000
Miscellaneous	5000
Sub-total A	90000
B. Operational cost (for one crop: one year)	
Drying, desilting and ploughing	3000
Lime, Phosphate, Urea, Cow dung	8000
Fish Seed, Catla (2000), Rohu(1500) and Mrigal (1500)@ Rs 5 each	25000
Fish Feed 1000kg @12	72,000
Miscellaneous	4000
Sub-total B	112000
Total (A+B)	202000

11 Prawn Culture

11.1 Introduction

Over the years, aquaculture in India has evolved from a subsistence and backyard activity to that of a technology driven commercial and profitable venture. India is now second in world aquaculture production next to China. Although India has vast freshwater resources in the form of ponds and tanks, reservoirs, lakes and derelict water bodies, rivers and canals, low lying waterlogged areas etc., these are not fully exploited except for culture of carps in a limited scale.

11.2 Scope

In order to meet the raw material requirement of large number of processing units established for export and also to meet the domestic demand, there is urgent need for promotion of sustainable production of Scampi in vast untapped fresh water resources of the country to ensure livelihood to poor people in rural areas and also the much needed food security. Among all the fresh water prawns, Scampi grows faster and is the largest known species. Considering the high export potential and domestic demand, the Giant Fresh Water Prawn (*Macrobrachium rosenbergii*) "Scampi", enjoys immense potential for culture in India.

Model Unit Cost of Freshwater Prawn (Scampi) Farm of 1ha	
A. Capital Cost	Amount (Rs.)
Construction of pond (1ha) with inlet/outlet sluices	50000
Diesel Pump Set and other implements	35000
Miscellaneous	5000
Sub-total A	90000
B. Operational cost (for one crop: one year)	
Drying, desilting and ploughing	3000
Inorganic fertiliser	4000
Fish Seed	25000
Fish Feed	50,000
Harvesting	10000
Miscellaneous	4000
Sub-total B	96000
Total (A+B)	186000

12 Culture of Pangassius sutchi or Silver Stripped Catfish

12.1 Introduction

The exotic freshwater catfish *P. sutchi* was first introduced into India in the year 1995-96 in the state of West Bengal from Thailand through Bangladesh. Initially farming was carried in limited areas in the states of West Bengal and Andhra Pradesh, but since 2004 its farming has increased due to the commercial importance.

12.2 Scope

It is cultured due to its strong market demand and exhibits fast growth when cultured in a given good environment. Due to the high flesh content and single middle bone the fish is highly preferred. It can be cultured in fish ponds, concrete tanks, fish cages or pens. The fish has rapid growth rate and attains 1.0 to 1.5 kg in 8 - 10 months during the culture period in ponds.

Model Unit Cost Silver Stripped Catfish (Pangassius sutchi) Farm of .5ha	
A. Capital Cost	Amount (Rs.)
Construction of pond (1ha) with inlet/outlet sluices	25000
Diesel Pump Set and other implements	35000
Miscellaneous	5000
Sub-total A	65000
B. Operational cost (for one crop: 8 months)	
Drying, desilting and ploughing	2000
Inorganic fertiliser	2000
Fish Seed 7000@ 1.0	7000
Fish Feed	72000
Harvesting	5000
Miscellaneous	2000
Sub-total B	90000
Total (A+B)	135000

13 Aloe vera Cultivation

3.1 Introduction

Aloe (Aloe vera) is an important and traditional medicinal plant belonging to the family Liliaceae. It is a hardy perennial tropical plant and can grow in various climatic conditions and a variety of soils ranging from sandy coastal soils to loamy soils of plains.

13.2 Scope

It is used as a good substitute to the synthetic ingredients in cosmetic industry. Aloe contains a mixture of glucosides collectively called 'aloin', which is the active constituent of the drug. 'Aloin' and its gel are used as skin tonic which has a cooling effect and moisturizing characteristic and hence used in preparation of creams, lotions, shampoos and allied products. It is also used in gerontology and rejuvenation of aging skin.

Cost of Cultivation - Aloe vera (1 ha)	
A. Materials	Amount (Rs.)
Planting Material	12500
Farm Yard Manure	16000
Vermicompost	7500
Misc. Expenses	2500
Sub-total A	38500
B. Recurring Cost	
Land preparation	5100
Inter cultivation	4500
Irrigation cost	2400
Harvesting, Cleaning & Grading	4500
Sub-total B	16500
Total (A+B)	55000

14 Ashwagandha (*Withania somnifera*) Cultivation

14.1 Introduction

Ashwagandha or Asgand (*Withania somnifera*), also known as Indian ginseng, is a native medicinal plant grown all over north-western and central India. It is an important ancient plant, the roots of which have been deployed in Indian traditional systems of medicine, ayurveda and unani

14.2 Scope

Ashwagandha is considered to be one of the excellent rejuvenating agents in Ayurveda. Its roots, seeds and leaves are used in Ayurvedic and Unani medicines. Ashwagandha is mentioned as an important drug in ancient Ayurvedic literature. The estimated production of its roots in India is a little more than 1500 ton, while the annual requirement is about 7000 ton, necessitating increase in its cultivation and higher production.

Cost of Cultivation Ashwagandha (<i>Withania somnifera</i>) (1 ha)	
A. Materials	Amount (Rs.)
Seeds	500
Farm Yard Manure(FYM)	4500
Fertilizers (15 kg N + 15 kg P /ha)	800
Seed treatment chemicals	500
Plant protection chemicals	500
Sub-total A	6500
B. Recurring Cost	
Land preparation – Tractor ploughing, discing	2000
Making of ridges and furrows	2800
Nursery bed preparation, raising and maintenance	700
Transplanting	4500
Application of manures and fertilizers	350
Plant protection	350
Irrigation	1400
Interculture	1400
Harvesting berries and post harvest handling	8500
Sub-total B	22000
Total (A+B)	28500