

Farming Systems For Livelihood Security Of Small And Marginal Farmers In Disadvantaged Districts Of Tamilnadu (Proponent: Annamalai University)

Environmental and Social Management Plan

No. of States : 1 (Tamilnadu)
No. of Districts covered : 4
Number of beneficiary farmers : 2400
Duration : 4 Years (2008-09 to 2011-12)
Funds sought from NAIP : Rs.732.32 Lakhs
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Consortium Partners:

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Project Objectives

- Up scaling Farming System models through on farm research for adoption under wetland, upland and shore farming conditions in disadvantaged districts of Tamilnadu.
- Productivity enhancement in predominant crops of these districts through technologies like IPM, INM and mechanized cultivation.
- Imparting training for processing and value addition in the farm produces.
- Restoring the pristine status of water resources in these districts through integrated bio-control of aquatic weeds and conserving soil health through optimized agro input use.

Brief Project Description

The disadvantaged districts of Tamilnadu viz Cuddalore, Nagapattinam, Villupuram and Thiruvannamalai districts are the disadvantaged districts of Tamil Nadu. The first three of these are coastal districts occupying 270 km of coastal length of the country with an average annual rainfall of 1408.75 mm which is higher than the average annual rainfall of Tamilnadu by 10 percent. Rice occupies a dominant segment of area under agriculture in these districts with 28.19 per cent. Farm diversification is dismally low, with poultry from all the four districts contributing for nearly 9 per cent and the same in Cuddalore, Nagapattinam and Thiruvannamalai districts are less than 1 per cent. The Literacy rate on an average for all these districts are 61.02 per cent compared to 65 per cent of Tamilnadu. The SC &ST populations in these districts are high with an average of 28.09 per cent compared to that of 20 per cent in Tamilnadu. About 72 per cent of the farmers are small and marginal farmers. The last one among the four viz. Thiruvannamalai is in continuity with these districts. Rice is the major crop in all these coastal and irrigated wetlands that occupies a major share. Groundnut, millets and vegetables are the predominant crops in interior rainfed uplands. A small proportion of aquaculture in coastal shore lands of fisher folk also contribute for agricultural production from these districts. The project aims at improving the livelihood security, nutritional standards, employment generation and to reduce the migrational behavior of rural poor towards urban centers through adoption of Integrated Farming Systems such as Rice + Fish + Poultry farming or Goat + Millet / Vegetable / Floriculture Farming in wetlands and rainfed uplands, respectively. Similarly alternative livelihood options such as mushroom production and vermi composting for landless agricultural labourers and seaweed culture for coastal aquaculture are also proposed. Restoration of pristine status of water bodies in these districts and value addition for farm produces are also included among the project activities. The output of the project would be measured by monitoring indicators such as broiler meat and fish production per year, revenue generation per household per year, soil organic matter and irrigation efficiency. The major interventions proposed in the project are

1. Integrated Rice + Fish + Poultry Farming System

2. Productivity enhancement in rice through

- a) INM, comprising green or green leaf manuring and biofertilizer
- b) IPM, comprising use of botanical pesticides such as neem oil, dried powder of Calotropis and Nochi.
- c) Mechanisation in land levelling and harvesting through laser guided land leveller and combine harvesters, respectively.

3. Value Addition: Rice flaking and Rice puffing, Dehydration and pickling in vegetables and dry flower making

4. Integrated Management of Aquatic weeds & Optimized agro input use

- a) Use of bio-control agents in irrigation channels for managing floating weeds
- b) Optimizing agro-chemical use for crop in combination with organic recycling and complimentary plant protection from other farm enterprises in the integrated system.

5. Mushroom production / Vermi composting

6. Integrated Goat + Millet / Vegetable / Floriculture Farming System

7. Sea weed Culture

Environmental Category: B

Issues in the subproject

Social: Major social issues likely to arise on implementation of the projects are –

- 1) Inclusion of poor and disadvantaged groups
- 2) The capacity of farmers to adapt and sustain the productivity gains
- 3) Demonstration of economic benefits of the interventions

Environmental: Major environmental issues likely to arise on implementation of the projects are –

1. Protection of local biodiversity resources
2. Impact of use of agro chemicals on environment

3. Safeguard Policies Triggered (World Bank Policies)

Safeguard Policies Triggered (World Bank Policies)		
	Yes	No
Environmental Assessment (OP/BP 4.01)	[x]	[]
Natural Habitats (OP/BP 4.04)	[]	[x]
Pest Management (OP 4.09)	[x]	[]
Cultural Property (draft OP 4.11-OPN 11.03 -)	[]	[x]
Involuntary Resettlement (OP/BP 4.12)	[]	[x]
Indigenous Peoples (OD 4.20)	[x]	[]
Forests (OP/BP 4.36)	[]	[x]
Safety of Dams (OP/BP 4.37)	[]	[x]
Projects in Disputed Areas (OP/BP 7.60)	[]	[x]
Projects on International Waterways (OP/BP 7.50)	[]	[x]

(Measures to address these issues are given in 8(a).

4. Risk related issues (not covered under 3 above but perceived to be important in the sub project) :

- i. Interface with the communities

5. Impact Assessment (Enclosures- I and II):

6. Potential indirect and / or long-term Impacts due to anticipated future activities in the project areas (assessment of anticipated conflict / complimentary with the current as well as those proposed for the next five years) in the areas of activities of the sub-Project):

Besides the direct impact the project will have indirect impact on the socio-economic upliftment of the rural poor which in turn will increase the educational and technological knowledge improvement of the distressed rural people of the most disadvantaged areas. The different Goshthis/ associations of the farmers created for implementation of the project will be in the long term helpful for the development of the whole village/ region. The environment and soil health of the area will be better conserved which in the long run will increase the agricultural productivity as whole and maintain the ecological balance.

7. Identify the key stakeholders and describe mechanisms for consultation with and to them done / disclosure so far done including pre-project consultations with the stakeholders, stakeholders' workshop before formulating the full proposal, discussing the full proposal with some stakeholders before submission to the PIU

Farmers, Pachayat Raj Institutions, Research Institutes, Govt. Departments, SAU, different Govt. and Non-Govt. organizations, Farmers Goshthis, voluntary organizations etc. who are engaged in improving rural livelihood are the key stakeholders for this project. Several rounds of discussion, exchange visits, field visits, group discussions were organized during the project formulation. After launching the project, the interaction meeting of the workshop involving all the stakeholders, allied departments, and banks will be organized in each cluster. At each cluster level possible interactions were carried out involving all the stakeholders including men and women farmers to identify issues to be addressed and relevant interventions to be undertaken.

8 Measures to address issues

(a) **Safeguard Policies Triggered (World Bank Policies)**-The subproject designed includes following measures

1. **Environment**- The screening of environmental issues has been done to include possible impacts and appropriate mitigation measures or employed (enclosure I)
2. **Pest management** – Encouraging the use of Integrated pest management practices. Banned pesticides are not to be used. Field demonstration and farmers training on IPM are an integral part of the sub project
3. **Indigenous people**

The proposed sub project interventions are not likely to adversely affect livelihood of tribal. However planned efforts have been made to ensure that tribal are included and derive full benefit from the projects intervention

(Note: please give what percent of people are tribal in district/area/ blocks /clusters. Note if tribals are more than 50% the interventions are for the tribals. However if tribals are less than 50% it would be ensured that proportionate represented as well as resources are

distributed accordingly. As the clusters selected do not possess any tribal hamlet, the project interventions in no way would adversely affect tribals.

8 (b) Interface with the communities

- The selection of the families would have proportionate representation from the following groups:
 - i) Small, marginal and landless farmers
 - ii) Women farmers
 - iii) SC and ST group
- **Subproject implementation plan** would be prepared and agreed with the communities and displayed. Participatory approach and transparency in the implementation would be maintained.
- **Gender issues** would be adequately addressed :Gender concerns are also addressed by varying the proportion of selected farmers for technological interventions (male : female constitution of the batch of partners in progress). Women SHGs would be involved for training in technologies that require higher proportion of women (60%). Those technologies include Goat + Crop integration, Mushroom production and Value addition through vegetable preservation and dry flower making.

9. Consultation / disclosures to be done in future: Local disclosure through mechanisms such as launch workshop, interfaces during the implementation stage of the sub-project for sharing the results and soliciting feedback, circulating project brochures and implementation progress from time to time, putting up annual reports on the web site and annual stakeholder workshops wherever feasible

Preliminary discussion has been made with the beneficiaries in the target sites of the project. Situation analysis has been made in the project sites and found favourable for implementation of the project. However, every means of formal and non-formal local communications will be made during the implementation of the project. Group meetings, workshops, inter and intra-cluster meetings of the farmers and all other stakeholders will be organized for sharing the experiences and exchange of views for successful implementation of the project in participatory mode.

Consortia PI

National Coordinator

National Director

Summary

The Project is based on integrated farming system modules for clusters with in the target districts, differing with the agro climatic conditions. The environmental impacts would be positive through reduced agro input use, enhanced revenue generation and improved soil health. Mitigation of risk due to damage of crops by floods is attempted through provision of poultry rearing as a component enterprise in rice farming. Water resource conservation through integrated management of aquatic weeds would also result in reduced risk of flood damage and enhanced water conveyance efficiency. Social impacts are also expected to be positive through gender concerns that are suitably addressed by varying the proportion of selected partners in progress. In case of negative impact in villages with predominance of vegetarian habits of dieting, marketing of poultry meat and fish would be linked to urban markets. The impact of project interventions on environmental and social aspects would be monitored periodically based on the activities listed in safeguards template.

Safeguards Template for NAIP Projects				
A. NAIP Annamalai University, Tamilnadu, Environmental Safeguard : Activities, Issues, Impact and mitigation measures				
Table 1: Environment Safeguard: Activities, Issues, Impact and Mitigation measures				
Activities	Issues	Anticipated level of impacts		Mitigation measures
		Positive	Negative	
1. Adoption of improved technologies in Rice + Fish + Poultry Farming	Increased nutritional security through enhanced production	3		
	Improved soil health due to reduced use of chemicals, INM, vermi composting IPM and also utilization of poultry excreta for fish feed	3		
	Nutrient and pest management		1	INM, IPM particularly using locally available material, Field demonstration and farmers training on INM & IPM are an integral part of the sub projects , Resource conservation would also help
	Reduced loss during flood poultry birds would help the farmer to sustain livelihood. Further, use of damaged crop biomass for nano fibre extraction & weed control is also attempted	2		.
2. Goat + Millet / Vegetable / Floriculture	Increased nutritional security	1		
	As the intervention on Goat+Crop Farming System insist on using the goats for grazing on farming lands only during off-season and stall feeding during cropping period it will not displace any area under field crops.			
	Enhanced use of chemicals and fertilizers		1	INM, IPM particularly using locally available material, Field

				demonstration and farmers training on INM & IPM are an integral part of the sub projects , Resource conservation would also help
3. Intervention Sea-weed culture	Culture of seaweeds of native origin will help bio diversity conservation	3		
4. Technological intervention Aquatic weed management	Enhanced water availability of water through control of aquatic weeds	4		
	Improved quality of water	3		
5. Value addition in farm produces	Increased nutritional security	3		

B. Social Safeguard : Activities, Issues, Impact and mitigation measures				
Table 2 : Social Safeguard : Activities, Issues, Impact and Mitigation Measures				
Activities	Issues	Anticipated level of impacts		Mitigation measures (Negative impact)
		Positive	Negative	
1. Integrated Rice + Fish Poultry, Integrated goat + Millet / Vegetable/ Floriculture	Enhanced nutritional security	3		
	Additional employment generation	3		
	Additional revenue generation	4		
	Reduced drudgery for women through farm mechanization	3		
	Unequal access to inputs		1	Measures be employed to ensure availability of quality planting material & other inputs to all
2. Mushroom Production, Vermi composting	Additional / alternative employment generation particularly for landless and women	3		
	Enhanced Revenue generation	4		
3. Sea weed culture	Enhanced revenue generation	3		
4. Aquatic weed management	Improved quality of water	3		
5. Value addition of farm produces	Additional / alternative employment generation	3		
	Enhanced revenue generation	3		
6 Empowerment through capacity building and skill development of stakeholders including men and women farmers.	Enhanced skill for adoption of different interventions through different training programmes, exposure visits etc, information dissemination through establishment of rural technology centers	(4)		
	Reduced role of middle men, contractors through formation of SHG/CIG/SHG	(4)		

	Federation			
	Gender empowerment through involvement of women in different committees, formation of women SHGs	(4)		
	Social conflicts among different members		(1)	All the interventions to be decided and implemented in participatory mode through involvement of village level committees, panchayati raj members