

Title: “Sustainable Livelihood Improvement through Need Based Integrated Farming System Models in Disadvantaged Districts of Bihar”(ICAR RC for ER, Patna)

Template for Environmental and Social Safeguards:

- 1) **Basic information** : No. of consortium partners : 7
No. of districts covered: **4 in Bihar.**
Duration: **4 years (2008-09 to 2011-12)**
Budget: **Rs. 710.29 lakhs**
Number of beneficiary farmers: **1610**
- **Project Objectives** :
- Participatory development, demonstration and validation of location-specific Integrated Farming System models for livelihood improvement.
 - Empowering resource poor farming community for enabling sustainable livelihood security.
 - Building partnerships and linkages for livelihood improvement and upscaling.
- **Brief Project Description** : This is a multi disciplinary consortium project with an aim to improve the livelihood security of the rural people in four disadvantaged districts of Bihar at the 7 selected clusters/sites in a participatory bottom up approach. It is planned to implement appropriate land and water-centric and location-specific livelihood options through Integrated Farming System models with a potential for upscaling to mass rural communities in the region. Field implementation at the selected clusters (50-150 ha) will be managed by the respective partners in collaboration with other partners for specific activities. At each cluster level, local alliance is proposed to have a linkage with wider group of constituency and stakeholders beyond the selected site for free flow of ideas, exchange of views, publicity of the work, strengthen linkages and wider dissemination of the work and dialogue process.
- **Major technological Interventions proposed** :
- Makhana + fish system in flood-prone ecosystem
 - Fisheries enhancement through fish culture in pens and cages in *chaur* lands
 - Multiple uses of water
 - Animal based integrated farming system in watershed
 - Integrated farming system for livelihood Improvement in *diara* ecosystems
 - Sugarcane-fish based farming system in shallow *chours*.
 - High value crops and seed production based livelihood system
 - Other income generating activity like Vermi-Compost , Beekeeping, Mushroom Cultivation

- B) **Environmental Category** : **B**
- 2) **Major issues in the sub-project**
- **Social** : The major social issues likely to arise related to how we **target the most deserving of the stakeholders** in the cluster in terms of project interventions, whether the technology interventions will have impact on employment for the landless and whether the interventions will have impact on the women, particularly either increasing her work or reducing drudgery.
 - **Environmental** : The project will have mostly positive **impact on environment** as it focuses on rehabilitation of wastelands, conserving soil, water and biodiversity, balanced nutrition to crops through soil testing and increasing nutrient use efficiency.
- The interventions will also focus on minimizing chemical pesticide use in the environment through promotion of IPM and NPM practices.
- 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/BP4.37)		X
Projects in disputed areas (OP/BP 7.60)		X
Projects on international waterways (OPBP 7.50)		X

4)	Risk related issues (not covered under 3 above but perceived to be important in the sub-project)
	<p>Interface with the communities: Several development programmes (both government and donor funded) have implemented in Bihar and there is well set method in place for identifying the poorest of the poor. This project will also follow similar protocol.</p> <p>Full care has been taken about the trend of flood in project sites especially in North Bihar while planning the project; however, under extreme situations the progress of the project can be hampered or delayed.</p>
5)	Impact assessment (enclosures I and II)
	The project mostly will have positive impact as it involves improving the natural resource management and enhancing the crop, animal and fish productivity through farming systems approach. Wherever negative impact is perceived through individual interventions, appropriate mitigation measures have been planned which are detailed in 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/complimentarily with the current as well as those proposed for the next four years) in the areas of activities of the sub-project.
	The basic premise of the proposed project is to generate location-specific knowledge and better understanding of complex farming system approaches in partnership with NARS, CG Centres, NGOs and Civil Societies. This, in turn, would lead to new products (technologies, institutions, management or policy recommendations), and will have impact on livelihoods at local level. The project proposes to address farmers' centric livelihood security based on farmers' resources and perspective. The farmers' participation will be ensured right from planning and implementation to marketing and final achievement of target to make it sustainable and acceptable to cross section of society with special focus on small and marginal farmers, share croppers and landless agricultural labourers. At each cluster level, local alliance is proposed to have a linkage with wider group of constituency and stakeholders beyond the selected site for free flow of ideas, exchange of views, publicity of the work, strengthen linkages and wider dissemination of the work and dialogue process. These Local Alliances will federate into the Regional Level Alliance. Involvement of State agencies, district authorities, and existing rural institutions will be sought right from planning, design and site selection, implementation, capacity building and upscaling.
7)	Identify the key stakeholders and describe mechanisms for consultation with and to them done/disclosure so far done including pre-project consultation with the stakeholders, stakeholders' workshop before formulating the full proposal, discussing the full proposal with some stakeholders before submission to the PIU.

	Farmers, Panchayat Raj Institutions, research institutions, government and non-government institutions engaged in improving rural livelihoods are the key stakeholders for this project. Several rounds field visits to farms and rural households, discussions and brainstorming sessions with stakeholders and workshops were organized during the pre project consultation. A launching workshop of the project will be held very soon involving all the stakeholders including farmers, land less, village artisans and women. At the cluster level, a structured PRA will be carried out for getting detailed baseline information.
8	<p>a) Measures to address the environmental and social issues</p> <p>In the subproject the viable adaptation technologies and options will be discussed and selected in consultation with the beneficiaries. The interventions will be demonstrated and monitored in cooperation with the extension staffs involving local communities. The benefit of interventions and best practices will be disseminated through several farmers' friendly tools like orientation meetings, field day, melas & exhibitions etc.</p> <p>i. Environmental issues</p> <p>An environmental screening has been done for environmental impacts and appropriate mitigation measures have been prepared as indicated in the Enclosure 1.</p> <p>ii. Pest Management</p> <p>Minimizing the impact of agro chemicals by using alternate techniques is an essential component of the sub project. IPM systems for the various crops included practices that involved management of soil and nutrients, weeds, insects, and diseases as well as a farmers' education component.</p> <p>iii) Indigenous people:</p>

	<p>The proposed sub-project interventions planned here are unlikely to have any adverse impact on the livelihoods of the tribal, however, planned efforts have been made to ensure that the tribals are included and they derive full benefits from these interventions.</p> <p>8B) Risk related issues</p> <p>i. The interface with the community:</p> <p>The selection of the beneficiaries will be done through involvement of local institutions and communities as well as the Panchayats in consultation with development departments of the government. Project partners at local level will be drawn from various socio-economic strata while priority will be given to poor families and women headed families, and emphasis will be laid upon the spirit of solidarity and willingness to spread aims and benefits of the project to other farmers.</p> <p>Local adaptation practices were identified by involving the community in participatory dialogue. The village specific intervention plans are to be prepared in consultation with the participating partners and the collaborating institutes and finally agreed implementation plans will be shared with the beneficiaries as well as the communities.</p> <p>To enhance the transparency each beneficiary will be provided with some sort of “identification cards/slips”, and at community level ‘transparency board’ indicating the project details will be displayed at prominent places.</p> <p>Gender sensitivity: Women specific approach and plans will be stressed upon to facilitate inclusion of women in project implementation and assessment processes. Activities (training, demonstration and visits) have been designed for capacity building of women in technological and entrepreneurial uptake. Women SHGs will be mobilized for micro-finance and income generating activities at household levels. The project beneficiary households will be sensitized through group meetings for involving women in decision making regarding project activities. Drudgery reduction in agricultural operations will be one of the important considerations of the project.</p> <p>ii. Training and capacity building among loosely organized and lower-level of education of the farming community may be a complex in perceiving the need of climate change adaptation issues. Persistent motivation, participatory approach, customized training programmes will help.</p>
9)	<p>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 website and annual stakeholder workshops wherever feasible.</p> <p>All means of affective local communication will be ensured. The project brochures are being prepared in local languages. Need based stakeholders workshop will be organized at the cluster level and all events of the project implementation and the results thereof will be put on the website.</p>

**Consortium PI
Director**

National Coordinator

National

Safeguards Template for NAIP Projects

A: Environmental safeguard : Activities, Issues, Impact and Mitigation Measures

Table 1: Environmental safeguard: Activities, Issues, Impact and Mitigation Measures

Activities ¹	Issues ²	Anticipated level of impacts ³		Mitigation measure
		Positive	Negative	
location-specific Integrated Farming System models for livelihood improvement	Conservation of natural resources through management of water bodies like <i>diara</i> and, <i>chaurs</i>	✓(4)		
	Impact of use of agro chemicals		✓(1)	Field demonstration and farmers training on INM & IPM are an integral part of the sub project
Makhana – Fish System	Improved agro bio diversity	✓(4)		
Fisheries enhancement through fish culture in pens and cages in chaur lands	Improved agro bio diversity by production of seed and Table fish in pens and cages	✓(2)		
	Water contamination		✓(1)	Nature will take care by flushing during flood

Enclosure II

B. Social Safeguards : Activities, Issues, Impact and Mitigation Measures

Table 2: Social safeguard : Activities, Issues, Impact and Mitigation Measures

Activities ¹	Issues ²	Anticipated level of impacts ³		Mitigation measures (negative impact) ⁴
		Positive	Negative	
Interventions on location-specific Integrated Farming System models for livelihood improvement.	Enhanced income, increased employment and nutritional security through high yielding varieties, high value crops	✓(4)		
	Vulnerability to economic loss		✓(2)	Cost reduction measures like INM, IPM and NPM would be employed.
	Unequal access to inputs		✓(3)	Institutional measures would be employed to make inputs available particularly to small and marginal farmers through collective action
	More dependence on external resources		✓(2)	Emphasis for generating organic fertilizers and botanical pesticides would be laid to generate more internal resources
Fisheries enhancement through fish culture in pens and cages in <i>chaur</i> lands	Enhanced income, increased employment opportunity and nutritional security through fish production	✓(4)		
	Marketing of fish		✓(1)	Organization of fisher group and linking it to the market
Farm mechanization	Reduction in drudgery	✓(3)		
Processing and value addition of agriculture produce	Enhanced income, increased employment opportunity and nutritional security through primary processing and value addition	✓(3)		
	Change in occupational pattern		✓(1)	Adequate capacity building would be done through various training programmes
Development of SHGs/CIGs	Social conflicts Increased risk of encroachment		✓(1)	Will be carried out in a participatory mode by taking in confidence all sections of the community and with the involvement of Panchayat.

Brief Note of Environmental and Social Safeguards

Crop diversification, promotion of rainwater harvesting structures and in situ moisture conservation, farm mechanization, development of CPRs are some of the activities that will create positive impact on the environment. Positive impacts include increased improvement in soil health, cropping intensity, agro-biodiversity, carrying capacity of the land and conservation of soil and natural resources. Use of high yielding varieties, chemical fertilizers and pesticides might result in degradation of soil biological status and pest resurgence and requires careful mitigation measures like integrated nutrient and pest management principles scientifically and judiciously adopted by the target groups through facilitation of the consortium partner.

Increased food and nutritional security of the family, diversified income and occupational patterns, reduction in drudgery for women are the positive impacts generated as a result of project activities. Effective dissemination and wide spread adoption of these interventions would result in sustainable livelihood security among the targeted rural community. Farm mechanization and development of CPRs might trigger negative impacts like unemployment and social conflicts. These interventions targeting the farming community might also result in the unequal access of the available inputs & knowledge. Also, promoting of advanced technologies generally will have some incremental cost & lack of availability or dependence on external resources. These negative impacts arising due to the developmental activities will be carefully mitigated through effective impartial institutional mechanisms; Community participation will be ensured across all levels of decision making.

The basic premise of the proposed project is to generate location-specific knowledge and better understanding of complex farming system approaches in partnership with NARS, CG Centres, NGOs and Civil Societies. This, in turn, would lead to new products (technologies, institutions, management or policy recommendations), and will have impact on livelihoods at local level. The project proposes to address farmers' centric livelihood security based on farmers' resources and perspective. The farmers' participation will be ensured right from planning and implementation to marketing and final achievement of target to make it sustainable and acceptable to cross section of society with special focus on small and marginal farmers, share croppers and landless agricultural labourers. At each cluster level, local alliance is proposed to have a linkage with wider group of constituency and stakeholders beyond the selected site for free flow of ideas, exchange of views, publicity of the work, strengthen linkages and wider dissemination of the work and dialogue process. These Local Alliances will federate into the Regional Level Alliance. Involvement of State agencies, district authorities, and existing rural institutions will be sought right from planning, design and site selection, implementation, capacity building and upscaling.