



Global Environment Facility

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Dear Council Member,

World Bank as the Implementing Agency for the project entitled: ***India: SLEM/CPP-Sustainable Rural Livelihood Security through Innovations in Land and Ecosystem Management under the India: SLEM/CPP - Sustainable Land and Ecosystem Management Partnership PROGRAM***, has submitted the attached proposed project document for CEO endorsement prior to final approval of the project document in accordance with World Bank procedures.

The Secretariat has reviewed the project document. It is consistent with the proposal approved by Council in November 2007 and the proposed project remains consistent with the Instrument and GEF policies and procedures. The attached explanation prepared by World Bank satisfactorily details how Council's comments and those of the STAP have been addressed.

If by June 09, 2009, I have not received requests from at least four Council Members to have the proposed project reviewed at a Council meeting because in the Member's view the project is not consistent with the Instrument or GEF policies and procedures, I will complete the Secretariat's assessment with a view to endorsing the proposed project document.

We have today posted the proposed project document on the GEF website at www.TheGEF.org. If you do not have access to the Web, you may request the local field office of UNDP or the World Bank to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,

Attachment: Project Document
Copy to: Country Operational Focal Point, GEF Agencies, STAP, Trustee



GEF

REQUEST FOR CEO ENDORSEMENT/APPROVAL

PROJECT TYPE: FULL SIZE PROJECT

THE GEF TRUST FUND

Submission Date: April 2009

Re-submission Date:

PART I: PROJECT INFORMATION

GEFSEC PROJECT ID: 3470

GEF AGENCY PROJECT ID: P112060

COUNTRY(IES): India

PROJECT TITLE: Sustainable Rural Livelihoods Security through Innovations in Land and Ecosystem Management

GEF AGENCY(IES): World

Bank

OTHER EXECUTING PARTNER(S): Department of Agriculture, Union Ministry of Agriculture and Union Ministry of Environment and Forests

GEF FOCAL AREA(S): Land Degradation, Biodiversity, Climate Change

GEF-4 STRATEGIC PROGRAM(S): Land Degradation SPI and 3; Biodiversity SP4 and 5; Climate Change Adaptation

NAME OF PARENT PROGRAM/UMBRELLA PROJECT: SUSTAINABLE LAND AND ECOSYSTEM MANAGEMENT COUNTRY PARTNERSHIP PROGRAM/NATIONAL AGRICULTURAL INNOVATION PROJECT

Expected Calendar	
Milestones	Dates
Work Program (for FSP)	Nov 2007
GEF Agency Approval	May 2009
Implementation Start	July 2009
Mid-term Review (if planned)	July 2011
Implementation Completion	July 2013

A. PROJECT FRAMEWORK (Expand table as necessary)

Project Objective: Strengthen institutional and community capacity for sustainable land and ecosystem management through approaches and techniques that combine innovative and indigenous techniques for restoring and sustaining the natural resource base, including its biodiversity, while taking account of climate variability and change

Project Components ***	Indicate whether Investment, TA, or STA**	Expected Outcomes	Expected Outputs	GEF Financing*		Co-financing*		Total (\$)
				(\$)	%	(\$)	%	
1. Approaches and techniques for sustainable management of degraded coastal land and water being applied for enhancing livelihood security of farming communities in disadvantaged	INV/TA	Land management recommendations on sustainable management of degraded coastal soil and water for livelihood improvement	<ul style="list-style-type: none"> Improved land and water management practices applied on 500 ha of degraded coastal land; Productivity in 90 ha of saline land enhanced through land shaping; Innovative SLEM 	2,360,000	9	25,000,000	91	27,360,000

coastal regions			<p>approaches and techniques in agriculture and aquaculture demonstrated on 65 ha;</p> <ul style="list-style-type: none"> • Increase in crop intensity by 20-30% in targeted agricultural land; • 30-35% increase in productivity in targeted farm land through agriculture, aquaculture and allied activities; 					
2. Conserve and sustainable use local biodiversity (plant, animal and fish) for agricultural intensification and livelihood security	INV/TA	Strengthened policies and institutional capacity for land use planning resulting in enhanced livelihood security based on sustainable use of local biological resources.	<ul style="list-style-type: none"> • Enhanced knowledge of crop landraces, animal breeds and fish species through characterization of available cultivated gene pool (800-900 accessions); • Improved genetic stock of farm animals: rams (60), bucks (60) cattle bulls (10), buffalo bulls (10) and through AI in cattle and buffaloes (12000); • 3000 landholders practicing sustainable land management practices for optimizing biodiversity 	1,990,000	7	25,000,000	93	26,990,000

<p>3. Enhance capacity to respond to climate change and variability in drought and flood prone areas, realizing new opportunities for livelihood sustainability</p>	<p>INV/TA</p>	<p>Functioning coping mechanism for climate variability and change</p>	<ul style="list-style-type: none"> • Best practice notes, operational guidelines and other teaching and capacity building tools related to coping mechanisms for climate change and variability based on (i) improved soil and water management practices. (ii) better adapted crops and crop varieties, (iii) better adapted livestock species and races, and (iv) integrated resource management systems finalized; • 22 Number of village resource centers promoting training and capacity building on adaptation to climate change and variability for 2200 number of farmers; • Establish Early Warning System for drought prediction to be used by farmers and other stakeholders 	<p>2,580,000</p>	<p>8</p>	<p>30,000,000</p>	<p>92</p>	<p>32,580,000</p>
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4. Sustainable land and ecosystem management approaches and techniques mainstreamed into guidelines and policies of public and private institutions	INV/TA	Tested and verified SLEM approaches and techniques under implementation through public and private institutions	<ul style="list-style-type: none"> At least 30 public and private organizations applying SLEM practices and policies to combat land degradation, increase utilization of indigenous biodiversity and adapt to climate variability and change 					See note at the bottom of the page ¹
5. Project management				410,000	5	8,000,000	95	8,410,000
Total Project Costs				7,340,000		88,000,000		95,340,000

* List the \$ by project components. The percentage is the share of GEF and Co-financing respectively to the total amount for the component.

** TA = Technical Assistance; STA = Scientific & technical analysis.

*** The project will have three sub-projects corresponding to the three focal areas covered under the SLEM CPP: land degradation, biodiversity conservation in productive landscape, and enhancing farmer's resilience through adaptation to climate variability.

A detailed budget for the GEF allocations to each component is attached as well as a table explaining in more detail the allocations of the co-financing.

B. FINANCING PLAN SUMMARY FOR THE PROJECT (\$)

	<i>Project Preparation*</i>	<i>Project</i>	<i>Agency Fee</i>	<i>Total at CEO Endorsement</i>	<i>For the record: Total at PIF</i>
GEF	NIL	7,340,000	734,000	8,074,000	11,000,000
Co-financing	NIL	88,000,000		88,000,000	100,000,000
Total	NIL	95,340,000	734,000	96,074,000	111,000,000

* Please include the previously approved PDFs and PPG, if any. Indicate the amount already approved as footnote here and if the GEF funding is from GEF-3. Provide the status of implementation and use of fund for the project preparation grant in Annex D.

C. SOURCES OF CONFIRMED CO-FINANCING, INCLUDING co-financing for project preparation for both the PDFs and PPG.

(expand the table line items as necessary)

<i>Name of co-financier (source)</i>	<i>Classification</i>	<i>Type</i>	<i>Amount (\$)</i>	<i>%*</i>
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¹ The costs for this component will be covered through the three components and thus no additional amount is required for this purpose

Project Government Contribution	Government	In-Kind	60,000,000	68.2
World Bank (NAIP)	Multilateral Agency	Loan	25,000,000	28.4
Others	Impl. Agency	In Kind	3,000,000	3.4
Total Co-financing			88,000,000	100%

* Percentage of each co-financier's contribution at CEO endorsement to total co-financing.

D. GEF RESOURCES REQUESTED BY FOCAL AREA(S), AGENCY(IES) OR COUNTRY(IES)

<i>GEF Agency</i>	<i>Focal Area</i>	<i>Country Name/ Global</i>	<i>(in \$)</i>			
			<i>Project Preparation</i>	<i>Project*</i>	<i>Agency Fee</i>	<i>Total</i>
World Bank	Land Degradation	India	NIL	2,460,000	246,000	2,706,000
World Bank	Biodiversity	India	NIL	2,190,000	219,000	2,409,000
World Bank	Climate Change	India	NIL	2,690,000	269,000	2,959,000
Total GEF Resources				7,340,000	734,000	8,074,000

E. PROJECT MANAGEMENT BUDGET/COST

<i>Cost Items</i>	<i>Total Estimated person weeks</i>	<i>GEF (\$)</i>	<i>Other sources (\$)</i>	<i>Project total (\$)</i>
<i>Local consultants*</i>		nil		
<i>International consultants*</i>		nil		
<i>Office facilities, equipment, vehicles and communications**</i>		210,000	7,000,000	7,450,000
<i>Travel**</i>		200,000	1,000,000	1,200,000
Total		410,000	8,000,000	8,650,000

* Provide detailed information regarding the consultants in Annex C.

** Based on experience from initiatives financed over the co-financing component of the project, an amount of 410,000 of GEF funds have been allocated for project management. These funds will be managed by the Project Implementation Unit and cover initial set-up costs for the GEF financed initiatives and subsequent operational costs including support related to IT activities including updating software and hardware for the duration of the project. The funds for travel will be used for field supervision and implementation support and that will be carried out by the National Director of ICAR, the National Coordinator, Finance and Procurement personnel and other experts visiting the project areas that are distantly located and widely spread in remote project areas.

F. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

<i>Component</i>	<i>Estimated person weeks</i>	<i>GEF(\$)</i>	<i>Other sources (\$)</i>	<i>Project total (\$)</i>
<i>Local consultants*</i>	nil			
<i>International consultants*</i>	nil			
Total				

* Provide detailed information regarding the consultants in Annex C.

G. DESCRIBE THE BUDGETED M&E PLAN: The institutional structure of the M&E process will follow the overall organizational and governance structure of the parent project - the

National Agricultural Innovation Project (NAIP). The proposed Sustainable Rural Livelihoods Security through Innovations in Land and Ecosystem Management Project uses a complementary strategy for implementation which recognizes the importance of monitoring the benefits through a set of project indicators. In line with planned outcomes of the NAIP, the additional financing from GEF will support the development and implementation of innovations in agriculture through collaboration among farmers, private sector, civil society, and public sector organizations. The GEF support will finance projects that address land degradation, biodiversity and adaptation to climate change. The GEF will also support improved access to existing technologies that enable application of adaptation strategies to climate change.

Thus, project monitoring and evaluation (M&E) will be carried out as three separate but distinct efforts. First, concurrent monitoring will be the responsibility of the National Coordinator² assisted by a Project M&E Consultant who will be responsible for day-to-day M&E operations. Second, Project Monitoring and Evaluation (PME) cells or Consortium Monitoring Units (CMUs) will be established for each sub-project and be responsible for regular monitoring and reporting on the sub-project's physical and financial inputs and outputs. Third, an independent entity will be charged with carrying out comprehensive outcome-focused impact evaluations of the entire project at three stages: baseline, Mid-Term Review (MTR) and at project completion.

Institutional Structure for M&E

- ***At the National Level*** the primary responsibility for monitoring, evaluation and reporting rests with the National Coordinator assisted by an M&E consultant. The M&E consultant will design an on-line Project Monitoring & Tracking System (PMTS) for each sub-project. The M&E Consultant will be responsible for providing M&E related information, both data and process related information to the Project Implementation Unit (PIU) as well as to the National Steering Committee (NSC) and the Project management Committee (PMC).
- ***At the Level of implementing Consortium*** (activities) a Monitoring Unit (CMU) will be established for each sub-project. The CMU will report directly to the Consortium Implementation Committee (CPI) and the Team Leader. The annual work program will be developed in consultation with the National Coordinator at the PIU for approval by the Chairperson of the Consortium (or sub-project) Advisory Committee (CAC).
- ***M&E of Outcomes and Results*** a results-based M&E system has been developed for the NAIP and that system will be applied also to the GEF funded sub-projects. It is based on the following four components:
 - The Results Framework prepared for each sub-project and attached to this document as annex A;
 - A well-defined M&E strategy regarding information requirements, tools and methodologies for data collection, analysis and reporting;

² Please refer to part III for further explanations of posts and the project management structure

- A comprehensive M&E plan with clear roles and responsibilities with respect to data gathering and progress reporting; and
- Internal and external periodic assessments and evaluations, which include base-line studies, beneficiary assessments, mid-term evaluations, ex-post evaluations and impact evaluations.

Reporting Arrangements

The PIU will submit to the Ministry of Environment and Forest, to the Ministry of Agriculture (MOEF) and to the World Bank as the GEF Implementing Agency: (a) updated indicators of project performance compared to annual and end of-project targets; (b) successes and problems encountered during the reporting period with suggested remedial actions; and (c) social and environmental impacts of the project. In addition the PIU will submit to the World Bank and to MOEF up-to-date physical and financial expenditure data compared to annual and end-of-project targets.

- **Mid-year assessment** of the progress for each sub project of activities will be undertaken by the CAC. A Peer Review Team comprising external experts will undertake an MTR and an evaluation at the completion of each sub-project.
- **Annual Reports:** Draft annual reports will be prepared for each sub-project by respective CMU. The advisory committee for each sub-project will appoint a Project Review Team (PRT) and organize an annual workshop to discuss the report. On the basis of inputs from each sub-project the National Coordinator (NC) will then compile an overall annual report. At the same time, the M&E Consultant under the guidance of the NC will prepare a report covering all the NAIP operations. At the release of the overall annual reports, a two day annual workshop will be organized. Based on these sessions, a comprehensive annual report will be compiled by the ND and submitted to the PMC for review and comments. The report will then be made available on relevant websites (ICAR/ SAU) and submitted to the MOEF, the Ministry of Agriculture and to the World Bank.
- **Mid-term Reports:** Mid-term report will include (but is not limited to) the following information:
 - (a) Trends towards meeting the project global environmental objective
 - (b) Production aspects and best practices derived through project activities.
 - (c) Environmental and social aspects.
 - (d) Lessons learned and proposed mid-course corrections and re-direction of activities
- **Final Report for each sub-project:** A completion report at the end of the activities presenting and discussing the results and achievements of the project and its impact on promoting technologies, approaches and policies, changes of the farmers practices, behavioral changes. The innovations in technology and SLEM approaches introduced as a result of implementation of each sub-project will be brought out. The report will be submitted within two months of the completion of the sub-project. All reports will be examined for completeness to ensure that documents in support of achievements/claims are included as well as all necessary budgetary and expenditure

plans. The leader of each sub-project may be asked to provide clarifications/explanations and make amendments/modifications.

Management Process Indicators

Management processes will be monitored through the annual progress reports provided for each sub-project. In reviewing these reports, the focus will be on the decision-making processes in the advisory committee for each sub-project and cover such things as the extent to which the Consortium retains or strengthens its inclusiveness, the internal procedures for overcoming differences of opinion and conflict management, and the quality and timeliness of financial management and procurement.

M&E Process

Each sub-project will go through roughly three phases: (i) an initial phase of six months for pre-project activities in which the focus will be on needs analysis, orientation and sensitization of stakeholders, and verification of targets, output and outcome indicators; (ii) project implementation *per se*; and (iii) a final phase of six months for post-project activities in which reports containing information on outputs, outcomes, dissemination, and success will be brought out; and in which planning for follow-up activities (continuation/further expansion/commercialization) will be finalized.

PART II: PROJECT JUSTIFICATION

A. PROJECT RATIONALE AND THE EXPECTED MEASURABLE GLOBAL ENVIRONMENTAL BENEFITS: In the last ten years agriculture in India has undergone considerable change. National food self sufficiency has been achieved, although many poor households are still at risk and more so as a consequence of the recent increases in food prices. About 80% of the 260 million people living below the poverty line in rural areas depend on agriculture for their livelihood. At the same time, the natural resources and ecological foundations essential for sustained advances in the agricultural productivity are rapidly shrinking and declining under anthropogenic and socio-economic pressures and climate change. India's National Action Plan to Combat Desertification (UNCCD-NAP) of 2001 attributes desertification (land degradation) to a number of factors including climate variations and human activities. Man-made causes include: expansion of agriculture and unsustainable agricultural practices such as over-cultivation, nutrient inputs, poor irrigation practices, deforestation and overgrazing. Such unsustainable resource management practices are often induced by population pressure, social conflicts and disruption of social systems, inappropriate government policies and poverty. Poor people affected by desertification often need to draw on their limited assets in order to survive, which accentuates their poverty. This generates a vicious cycle linking deteriorating natural resources to deteriorating livelihoods as people encroach further on fragile soils, sparse vegetation and limited water resources to meet their basic needs for food, shelter and livelihood. In order to generate additional income and employment for the poor and halt and reverse land degradation and biodiversity loss, the role of agriculture is critical. A scenario analysis shows that with the limited scope for area expansion, the main source of

agricultural growth combined with control of land degradation and loss of, primarily agricultural biodiversity, will have to come through enhanced productivity. This, already substantial challenge for the agricultural sector, is further aggravated by the additional stress that will be put on agricultural and biological systems as a result of climate change.

How the Project Seeks to Address the Issue

The proposed GEF support is based on the lessons learned that a multi-sectoral approach to land management is required. The Sustainable Rural Livelihoods Security through Innovations in Land and Ecosystem Management Project will strengthen the Indian Council of Agricultural Research (ICAR) in its role as a catalyst of change in the national agricultural innovation system. Through the ICAR managed, and the IDA supported National Agricultural Innovation Project (NAIP), the specific GEF support will mainstream sustainable land and ecosystems management into the development and implementation of innovations in agriculture through collaboration among farmers, private sector, civil society and public sector organizations. Following the procedures developed under the NAIP, three consortia have been selected for the implementation of project initiatives in the three focal areas: land degradation, biodiversity and adaptation to climate change, focusing on specific tasks aiming at agricultural transformation and sustainable rural livelihood security; land degradation in degraded coastal lands, biodiversity conservation and agricultural intensification, and enhanced adaptive capacity to climate change in drought and flood prone areas. A summary of each sub-project is attached as Annex [A].

The core objective of the activities, addressed through these three focal areas of GEF is the sustained improvement in the incomes and well-being of farm families in the mainly rain-fed, hilly and mountain, dryland, tribal dominated and coastal areas which have so far been left behind in the development process. Through this geographical and subject matter focus, the project will address the areas that are most at risk with regard to resource degradation in the form of land degradation and loss of biodiversity as well as with regard to vulnerability to climate variability and change specifically in the poorest regions of the country and the farmers and farming systems where poverty is linked to natural resource degradation and which are the weakest in terms of resources to address this threat. This focus is based on the recognition that profitable and sustainable land use and ecosystem practices are the principal means for protecting India's significant environmental assets and alleviating poverty in the largest and poorest segments of the Indian society. The final selection of sites and subject matters that the three consortia were made by applying a set of eligibility and screening criteria (covering policy, institutional and technical aspects related to land degradation, biodiversity and climate change) that were developed by ICAR and applied in the National Agricultural Innovation Project (financed by IDA) to assess the viability of competing consortia and their proposals. The type of activities that will be supported through the three sub-projects will cover technical as well as policy and institutional aspects related to land degradation, biodiversity and climate change. Each sub-project, within its specific focal area, will develop and support locally adapted land use and water management practices, as well as technologies like crop rotation, agro-forestry, conservation agriculture, land management, water harvesting and participatory water management in balance with profit, environmental and community needs. The project will also addresses policy issues with the aim of improving incentives for enhanced productivity and sustainable land management and to

guarantee sustainability of innovations. Economic and marketing aspects are important considerations given that the target areas and groups of the project are among the most disadvantaged in the country. In order to pave the way for efficient scaling of results, emphasis has been given to capitalizing on existing channels for service delivery and access to information rather than creation of new structures. In order to link into such channels and local structures, the project has established formal relations with local development organizations (mainly NGOs) and with local government authorities during the preparatory phase. Through such cooperation with local organizations, support will be provided for the development of approaches for community development and empowerment of local communities to meet the challenges facing them with regard to managing their natural resource base sustainably and productively. Each selected consortia therefore includes representatives from both the public and private sector with documented experience and expertise in these subject matters. Communities will be actively involved in defining and developing approaches for improved management systems and through this direct interaction and cooperation between service providers and beneficiaries, the approach to scaling of results will be optimized.

In selecting the three activity areas to be supported with GEF resources, the selection criteria have included GEF specific ones related to local and global benefits (see further below) so as to ensure that strategic objectives specified for the three focal areas related to the respective activities have been met. Further, the potential for scaling of results from the work of the consortia have been an important selection criterion.

The Sustainable Rural Livelihoods Security through Innovations in Land and Ecosystem Management Project is a component project of SLEM-CPP. Lessons learned in this project will thus have an avenue for efficient scaling up and knowledge dissemination at national level. Through other sub-projects under the SLEM-CPP and, not least through Indian institutions both at union and state level, through the active involvement of the private sector, and through other development partners that will participate in the SLEM-CPP, lessons learned will have a wide audience willing and able to benefit from them to the maximum. The enabling institutional framework environment established to support policy change through SLEM CPP includes the ICFRE which is the technical facilitation organization selected by MOEF for the SLEM-CPP. In addition, the project will use the existing knowledge dissemination network established under the NAIP to reach out to relevant partners.

Expected Global Environmental Benefits

The three sub-projects are each focusing mainly on its related focal area. Each one of them has, however, benefits that go beyond its own, more narrow focal area definition. The land degradation related activities will focus on coastal areas and land degradation caused by floods and intrusion of sea water. Both these causes of land degradation are becoming more pronounced through the affects of climate change and thus, the initiative responds both to current challenges and future more aggravated challenges of similar kind. The lessons learned through the land degradation initiative will be applicable not only in other parts of Indian coastal regions but also to coastal regions in other countries that are facing similar challenges. The focus on efforts to upscale the results will ensure that benefits are not

localized but that larger geographical areas as well as population groups become beneficiaries. As the land degradation initiative will aim at improved water management and introducing next-to year round agricultural production, an overall decreasing trend in the severity of land degradation (measured through percentage increase in Net Primary Productivity (NPP) is expected as well as an improved protection of ecosystem functions and processes, including carbon stocks in soil, plants and biota (measured through percentage increase in carbon stocks (soil and plant biomass), and percentage availability of fresh water and Rain-use Efficiency (RUE)).

The sub-project focusing on adaptation to climate change will focus on drought prone areas in central and northwestern India and in flood prone areas in eastern India. In addition to developing strategies for natural resource management that are better adapted to current climate variability and future climate conditions in both drought and flood conditions, the initiative will evolve a technology for early warning which will have a potential significant impact on improving the planning capacity in the agricultural sector.

The initiative focusing in biodiversity will concentrate on three agro-ecosystems; temperate hill and mountain systems, semi-arid rainfed systems and a tropical climate system. Through its emphasis on developing commercially viable production lines based on indigenous species and varieties of agro-biodiversity (including fish), the outcome of the activities seeks to secure the continued existence of such agro-biodiversity for future generations and as a future gene pool which will be available not only in the Indian context but for the global community. The combination of the initiative's socio-economic objective of securing a sustainable livelihood for the participating communities with the global objective of securing the gene pool for future generations is at the core of this initiative. The same can be said for the other two sub-projects and as recognized most explicitly in the land degradation focal area, reaching sustainable global objectives is only possible if they are combined with reaching also local ones.

The activities promoting policy mainstreaming across the three sub-projects reinforce the outcomes of NAIP and the SLEM CPP and contribute to achieving the global objective of the proposed project. The project outcomes and performance monitoring indicators are presented in Annex [B].

B. CONSISTENCY OF THE PROJECT WITH NATIONAL PRIORITIES/PLANS: The proposed project responds to Government's of India objectives as expressed in India's National Policy on Agriculture (NPA) which accords high priority to generation and transfer of agricultural technologies and reforms in the delivery system. The policy recognizes the role of the private sector in agricultural research and innovations; it emphasizes human resource development, post-harvest management and value addition. The XIth National Development Plan of the Government has placed high priority on rising agricultural productivity to achieve an annual agricultural growth of more than 4.1 percent. The XIth Plan acknowledges that this goal cannot be achieved with the ongoing shrinking and degradation of the country's natural resources and commits to conservation, harnessing and developing of natural resources. The plan further acknowledges that in order to be effective, sustainable land and ecosystem management has to be seen by stakeholders to be contributing directly to poverty reduction at household and community levels, in addition to maintaining land quality and ecosystem

integrity. To achieve such growth requires investments in research & development, extension services, as well as interventions that improve the policy and institutional environment within which agricultural producers, traders and processors operate. The project is further firmly based in the analysis and recommendations presented in other key policy documents related to land degradation, biodiversity conservation and climate change. India's National Action Plan to Combat Desertification (UNCCD-NAP) of 2001 attributes desertification (land degradation) to a number of factors as explained above, including climate variations and human activities. India's National Environmental Policy (NEP) of 2006 mentions the nexus of environmental degradation with poverty as well as with economic growth as India's key environmental challenges. India's Initial National Communication to the UNFCCC (2004) further underlines the importance of addressing the poverty/land degradation/biodiversity/climate change nexus. And India's National Policy and Macro level Action Strategy on Biodiversity (India's BASP) emphasizes the importance of sustainable use of biodiversity as an important strategy for its preservation. It makes references to the National Conservation Strategy, the Policy Statement on Environment and Development, to the National Forest Policy and the National Wildlife Action Plan as other strategic and policy statements that are also underlining the importance of sustainable use as a conservation approach. The project is consistent and will contribute to the Bank's strategic development objectives of the Country Assistance Strategy (CAS) (Report No. 46509-IN) which points to the challenges to sustainable development from the rising demands on already scarce and often degraded natural resources which if not addressed would impact negatively human livelihoods and growth prospects.

C. CONSISTENCY OF THE PROJECT WITH [GEF STRATEGIES](#) AND STRATEGIC PROGRAMS: With regard to the Land Degradation Focal Area, this project is primarily consistent with Strategic Programs 1 and 3 through its focus on the low potential and highly degraded areas that are also home to the most disadvantaged groups in the Indian society and threatened by climate change. With regard to the Biodiversity Focal Area, the project will support efforts to integrate agro-biodiversity conservation and sustainable use objectives into the actions of primarily the agricultural sector (SP4). It will also support identification of potential opportunities for fostering markets for biodiversity goods and services (SP5) and this is indeed an underlying approach of the project. The project is supportive of, in particular goals 2.1, 3.1 and 4.1 of the CBD 2010 targets. With regard to adaptation to climate change, apart from having one intervention specifically focusing on this focal area, the other two initiatives are aligned with adaptation to climate change and have that as an important component of their objectives.

D. COORDINATION WITH OTHER RELATED INITIATIVES: The project will contribute to the World Bank's strategic development objectives with regard to agriculture and rural development sectors and is consistent with its lending support for enhancing rural livelihoods and accelerating rural growth based on a sustainable utilization of the natural resource base. It responds to the intentions that are expressed in the CAS that the Bank will assist in strengthening the agricultural research and extension system, with efforts to promote demand-driven, decentralized public agricultural research and extension systems, greater public-private partnerships, and closer linkages with various domestic and international sources of technologies and knowledge. The project focus is in line with the increasing Bank

support to India focusing on expanding the knowledge base of climate change and variability impacts and adaptation in agriculture. Further, this project is part of the SLEM-CPP and national level coordination of projects under the partnership will be carried out through the established arrangements with MoEF and ICFRE. ICFRE will thus be responsible for mainstreaming and facilitating the scaling up of lessons learned from projects in the partnership. In order to allow for this mainstreaming and upscaling process to proceed efficiently, each project under the SLEM-CPP will submit progress and evaluation reports to ICFRE which will, in turn stay in close contact with each one of them in order to be able to carry out its mandate effectively.

E. INCREMENTAL REASONING OF THE PROJECT: Already at the outset of planning the World Bank's support to the National Agricultural Innovation Project (NAIP), it was foreseen to include a GEF financed component under the project. The GEF incremental contribution to the project is its focus on combining environmental concerns with productivity objectives. The GEF support is focused on areas selected to give the maximum return in terms of lesson learned. The biodiversity focused project is thus focused on three distinct agro-ecosystems, while the climate change initiative focuses on two typical and highly sensitive situations with regard to climate variability and change. The focus of the land degradation initiative is chosen so that it will give the maximum return also with regard to adaptation to climate change. As the project is part of the SLEM CPP, there is a built in system for ensuring that lesson learned are discussed in a wide audience and translated into policy and guidelines that can be tested and further improved upon by institutions, at state and union level as well as by civil society. The incrementality of the project is in its significant potential to strengthen the sustainability of the project outcomes of NAIP, which would be multiplied by the policy improvements as result of the anticipated policy impact of SLEM Country Partnership in its three main aspects: land management, biodiversity and enhanced resilience to climate change.

F. RISKS, INCLUDING CLIMATE CHANGE RISKS, THAT MIGHT PREVENT THE PROJECT OBJECTIVE(S) FROM BEING ACHIEVED AND OUTLINE RISK MANAGEMENT MEASURES: The risks related to this project are related to (i) the ability of the lead consortia for each initiative to develop close and highly efficient cooperative arrangements with partner organizations at the operational sites, (ii) the ability to engage local communities in the work so that they become the owners of the interventions and innovations thereby securing their sustainability, (iii) with regard to the biodiversity initiative, its success hinges very much on finding markets for the produce that can be generated on the basis of local agro-biodiversity. An important reason for the gradual decline in the use of "traditional" biodiversity is, after all that, for example high yielding varieties of crops have been superior to traditional land races and been economically beneficial to farmers. (iv) with regard to the adaptation initiative, the effort to evolve a technology for early warning system is to take a calculated risk as it cannot be foreseen how successful the technique itself will be but also how it can be disseminated and become a useful management tool at village and farm level. In particular, the time factor (the limited project period) is an important factor in this respect. The project is anchored in a reputable national organization, with a solid reputation for quality work which is engaged in the implementation of the National Agriculture Innovations Program financed by and IDA credit and supervised by the Bank. It has in place an M&E structure that will be able to

identify problems at an early stage and resources to assist in addressing them promptly and efficiently. Within the implementation framework of NAIP, a dedicated senior staff -- National Coordinator -- will be engaged to follow the GEF supported project to ensure its successful implementation.

G. COST-EFFECTIVENESS AS REFLECTED IN THE PROJECT DESIGN: The GEF funding has been targeted to well defined activities that will be managed through a system that has experience and significant resources to ensure quality in the implementation of activities. Investing the GEF funds through such a system, will ensure quality control and cost effectiveness. The very fact that this project is a component of a much larger program with substantial resources from IDA, both financial and human, is a guarantee that the initiatives that will be supported with GEF funds will be able to benefit from insights and lessons learned from these other resources. The cost effectiveness of the GEF project will be enhanced by the availability of resources for augmentation of the efforts to mainstream SLM under the ongoing Bank projects which in parallel will continue to finance rural and agricultural innovations. Consequently, the lessons learned from this project will be fed into this larger context and in this way have a considerable outreach, which it could not achieve on its own. The upscaling possibilities that this project offers are therefore significant. The alternative of setting up a system for managing a project of this kind would involve considerable expenses and the costs, in time as well as in financial and human resources in doing so might not have been justified. The project will benefit from the institutional infrastructure established under the NAIP which will mitigate early-stage implementation delays. With regard to each of the consortia implementing project activities, the cost-effectiveness of each of their proposals has been one of the criteria taken into account in selecting them for the GEF financing.

PART III: INSTITUTIONAL COORDINATION AND SUPPORT

A. PROJECT IMPLEMENTATION ARRANGEMENT: The implementation arrangements for the project will follow the procedures that have been put in place for the umbrella project, the National Agricultural Innovation Program (NAIP) which is implemented by the Indian Council for Agricultural Research (ICAR). The implementation arrangements are based on a decentralized model where each sub-project of activities will be implemented by consortia that have been selected on a competitive basis. Each consortium will be responsible for timely implementation of field activities in compliance with the Bank requirements and overall NAIP governance structure. This structure will ensure closer integration of GEF project by using the NAIP oversight and reporting framework and thus ensuring smooth and effective implementation and compliance to safeguards and fiduciary provisions.

Governance and oversight bodies

- ***A National Steering Committee*** (NSC) of key stakeholders selected from National Agricultural Research Systems has been established by the ICAR to serve as the national apex body responsible for overseeing *all aspects of the National Agricultural Innovation Project (NAIP)*. The NSC sets policies and provides guidance to ensure the timely achievement of the main goals of the project.
- ***Consortium Advisory Committees*** (CACs) are responsible for setting priorities, for local level oversight, for monitoring implementation, and for approving any required

modifications in the implementation program for each set of activities. The CACs principally provides guidance to the Consortium Implementation Committees (see below).

Implementation Entities and Advisory Bodies

- ***A Project Management Committee*** (PMC) has direct executive responsibilities for the overall management of NAIP including the GEF-financed activities and thus for the effective and efficient implementation of the entire project, resource management and use, and monitoring and evaluation (M&E). The PMC also serves as the link with the Subject Matter related Divisions of ICAR - for technical liaison, and for resolving any management issues. The PMC will be supported by the Project Implementation Unit (PIU).
- ***The Project Implementation Unit*** (PIU) is fully integrated within ICAR implementation framework. It is headed by the National Director and has the responsibility for the coordination and facilitation of *implementation of the entire NAIP (including the GEF funded activities)*. The PIU reports to the Project Management Committee (PMC). The PIU includes four National Coordinators (NCs) one of whom is responsible for component 3 of the NAIP entitled “Livelihood Systems R&D” and under which the GEF funded project will be implemented The PIU also comprises expertise in Administration, Finance, Procurement, M&E, MIS and Social and Environmental safeguards aspects. The responsibilities of the PIU includes:
 - a. Providing logistic support for the project’s governance, management and advisory committees and groups and preparing their respective meeting schedules and agendas (in consultation with the chairs of respective committees and advisory groups);
 - b. Reviewing relevant reports and other materials, drafting recommendations, minutes of meetings, and contracting and administering special studies, reviews, etc. as advised by relevant committees;
 - c. Managing technical, financial, procurement and administrative matters of the NAIP and overseeing the implementation of the NAIP sub-projects and activities.

The responsibilities of the respective National Coordinator include:

- Supervise and keep track of all activities approved under GEF funding. This includes arranging for evaluation of status and strengthening of the quality of implementation with the help of TAGs in accordance with the Project Operations Manual and NAIP guidelines, monitoring the output, outcome and impact indicators. He/she will also facilitate training, if required, to improve implementation.

- Ensure efficient M&E and implementation of activities for making system-wide impact. This will include serving as *ex-officio* member/secretary of the respective TAGs and the organization of the Annual Workshop, ensuring wide participation of stakeholders and beneficiaries, communication with TFO selected by MOEF and established for overall implementation of the SLEM-CPP under which umbrella this project will be implemented.
 - Facilitate releasing of funds to various implementation consortia and entities for executing sub-projects.
 - Facilitate and oversee the hiring and execution of consultancies and special studies.
 - Assist in the execution and implementation of activities of the PIU, as directed by the ND.
 - Collate and synthesize reports pertaining to the respective areas of responsibility and executing such administrative and financial responsibilities and powers as delegated by the PMC and the ND.
- **Technical Advisory Groups** are responsible for reviewing and facilitating and synthesizing “peer reviews” involving scientific and technical assessments to be passed on. TAG members will participate in the Annual Workshops. They will also assist in monitoring progress and quality of implementation especially during MTRs and in case substantial modifications (or cancellations) are required. The TAG system has been used in selecting the three GEF-funded sub-projects and, as with regard to other proposals the TAG called on referees to examine and assess the proposals before it issued its final recommendation to the approval body. Based on the lessons learned from the GEF activities the TAG will strengthen the sustainability criteria for new proposals.
 - **Consortium Implementation Committees (CICs)**. The consortia responsible for field implementation will have an implementation committee which will be responsible for day-to-day coordination, management of implementation, including for M&E. Each consortium will have a leader and a co-leader whose responsibilities are set out below:

The responsibilities of the consortium leader are:

- (a) Oversee implementation of sub-project activities and provide intellectual leadership;
- (b) Manage relationship, conflicts, disputes among members of the consortium;
- (c) Report regularly on progress including through e-reporting to the ICAR-PIU;
- (d) Ensure that procurement and financial management complies with the World Bank fiduciary requirements;
- (e) Ensure communication, awareness generation, knowledge management and dissemination
- (f) Develop and maintain Project Management Systems (PMS).

The responsibilities of the consortium co-leader are:

- (a) Provide intellectual leadership for implementation of specific project activities in compliance with Project Operations Manual;
- (b) Manage relationships amongst members of the consortium including conflict resolution;
- (c) Report to the CPI and the ICAR PIU (e.g. on financial and technical matters);
- (d) Assist in complying with Bank fiduciary requirements;
- (e) Recording lessons learned, coordinate knowledge management and dissemination.
- (f) Develop and maintain communication and awareness plan and MIS within his/her component.

- ***Sustainability***

NAIP is envisaged as an integral part of the agricultural R&D system of the country. It will not build a parallel system but rely on existing institutions and organizations in and around the sector. Hence, already the management and M&E system that has been put in place for NAIP and for the GEF project alike ensures the sustainability of the outcomes of the activities. In addition to this, the link between the GEF-funded activities and the SLEM CPP program provides an additional avenue through which the results and experiences of these activities will be mainstreamed and scaled up. The sustainability and likelihood of mainstreaming can also be judged by how consortium partners continue to work together beyond the project period. As the major opinion makers and decision makers from both private and public sectors will be involved in the implementation structure of the NAIP, it is highly likely that successful consortia will be sustained and that the approach, if proven successful, will be mainstreamed. To put this into practice the project will have two interim evaluations, after 18 and 36 months. If these evaluations are positive, ICAR would start providing funds from its own resources to maintain successful consortia. The lessons learned from the proposed project will be recorded and further expanded through the ICAR system for prompting agricultural innovations in rural development. The GEF project -- although small and incremental to the NAIP financing -- has significant potential to influence the national SLM policy by linking local with global benefits.

PART IV: EXPLAIN THE ALIGNMENT OF PROJECT DESIGN WITH THE ORIGINAL PIF:


The project is in total alignment with the original PIF as endorsed by the GEF CEO on 4th October 2007. The cost differences at project appraisal are a result of detailed activity planning during appraisal. Contingencies of 7% are calculated on the baseline cost of activities under the sub-projects where variations could occur during implementation. At the time of the appraisal the monthly accumulated inflation for March 2009 based on the CIP index was 7.81 % as reported by the statistical unit of the Indian Ministry of Labor. Therefore, allocation for price and physical contingencies was deemed appropriate. There is a difference in the total cost of the project at appraisal in comparison to the amount quoted at PIF for two reasons: a) only those those sub-projects approved by ICAR based on the merits to contribute to the global project objectives were selected for funding; and b) consequently,

the amount of co-financing from NAIP has been slightly reduced. The overall project size was reduced in agreement with the GoI and the reduced GEF amount is reflected in the MoEF endorsement letter.

The SLEM Country Partnership Program is now further developed and it is evident that the projects will address land degradation, biodiversity and climate change challenges that India is facing in a comprehensive and synergetic manner. The function of the scaling up and mainstreaming project under the SLEM CPP, will ensure that the experiences gained in these projects will be utilized to replicate and upscale promising technologies and innovations. The proposed project is focusing on areas where the lessons learned could add significant value to the partnership program.

PART V: AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for CEO Endorsement.

Agency Coordinator, Agency name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
Steve Gorman <i>GEF Executive Coordinator The World Bank</i>		April 15, 2009	Malcolm Jansen <i>Regional GEF Coordinator (SAR) World Bank</i>	202 458- 2748	Mjansen@worl dbank.org

ANNEX A: PROJECT DESCRIPTION

A brief description of the three sub-projects of activities contributing to the strategic objectives of the India Sustainable Rural Livelihoods Security through Innovations in Land and Ecosystem Management Project in the three GEF focal areas and the SLEM CPP overall objective follows below:

(1) Land degradation: Promoting strategies for sustainable management of degraded coastal land and water for enhancing livelihood security of farming communities

The activities under this sub-project will support the translation of innovative applied research into sound agricultural practice aiming to address the constraints to agricultural productivity due to degraded soils and water of the coastal areas with primary concern for the landless, marginal and small farmers in ten selected locations representing two of the most disadvantaged coastal areas of the country viz. the coastal Sundarbans, the delta region of the river Ganga in the state of West Bengal and in North-mid & South of Andaman island.

The objectives will be reached through galvanizing augmented efforts from different value chain partners to apply in practice (i) enhancement of the productivity of degraded land and water resources of the coastal region through integrated approaches for sustainable resources use; (ii) enhancement of livelihood security and employment generation for the poor farming communities of the coastal region; and (iii) empowerment through capacity building and skill development of stakeholders including men and women farmers.

The major interventions proposed for GEF grant financing are: (i) landscaping for improving drainage efficiency, rainwater harvesting leading enhanced productivity of low-lying degraded land including tsunami affected land; (ii) cultivation of multiple and diversified crops, including horticultural crops, of varieties adapted for degraded saline and tsunami affected lands; (iii) integrated cultivation of crops and fish (freshwater and brackish water fish); (iv) improved irrigation system for efficient water utilization in horticultural and plantation crops; (v) promotion of composting including vermin-composting, green manuring, etc. for enhancing productivity of agriculture and aquaculture; (vi) introduction of low cost farm machineries for drudgery reduction and economic farm operations; (vii) nursery raising for horticultural crops and fish seeds; (viii) introduction and improvement in livestock/poultry management including nutrition and disease management; (ix) introduction of mushroom cultivation and bee-keeping; (x) introduction of protected cultivation for high value crops; (xi) establishment of rural technology centers in villages at project sites; and (xii) skill and capacity building of farmers and other stakeholders.

(2) Biodiversity: Harmonizing biodiversity conservation and agricultural intensification through integration of plant animal and fish genetic resources for livelihood security in fragile ecosystems.

Activities under this sub-project will be implemented in three districts, namely, Chamba in Himachal Pradesh (Hill and Mountain agro-ecosystem with temperate climate), Udaipur in Rajasthan (Irrigated and rainfed agro-ecosystem in Arawali hills with semi-arid climate) and

Adilabad in Andhra Pradesh (Deccan Plateau and Sahyadri Hills with tropical climate). These districts represent distinct agro-ecosystems with specific bio-resource components of plants, animals and fish.

The objective of the activities will be reached through (i) assessment, documenting and valuation of on-farm biodiversity and genetically important crop population, animal breed and farming systems important for livelihood and food security; (ii) assessment of economic potential of target species vis-a-vis cost and effect of conservation in given socio-economic and ecological context; (iii) development of an information management system to facilitate planned interventions for conservation, sustainable utilization of target species/populations and enhanced market access; (iv) adding value to target species/populations through technological interventions for enhanced rural livelihood security and on-farm benefits; and (v) capacity building in agro-biodiversity management for livelihood security.

The major interventions which will be supported under the proposed grant financing are as follows: (i) identification and improvement of landrace material and production systems through farmers' participation; (ii) implementation of "adding value" initiatives for animal genetic resources through exploiting germplasm of indigenous breeds of livestock and through health management practices; (iii) implementation of "add value" options for fish genetic resources through propagation of indigenous fish species for conservation and stock enhancement; (iv) development of an information management system to facilitate planned interventions for conservation and sustainable utilization of targeted species/populations; (v) capacity building in agro-biodiversity management for livelihood security through organization of grass-root level trainings; (vi) empowerment of farm communities through documentation, and validation of local varieties through characterization and registration; (vii) putting in place a management system for genetic resources of agro-biodiversity aiming at diversification and benefit sharing using local resources, community seed banking, marketing etc.; and (viii) developing a replicable model for livelihood security based on sustainable use of agro-biodiversity and agricultural intensification. These activities will feed in into the development of a national action plan for on-farm conservation of genetic diversity.

(3) Adaptation to climate change: Enhancing community adaptive capacity to cope with climate change and variability in drought and flood prone areas.

Activities under this sub-project will be implemented in three to four villages in eight districts of Madhya Pradesh, Haryana, Orissa, and Maharashtra. The districts and villages have been selected in cooperation with local development agencies and local government institutions in order to target communities where the introduction of innovative technologies can make an important contribution to improving the livelihoods of poor families now adversely impacted by droughts and floods.

The objective of these activities will be achieved through (i) identification of current and future risks to livelihoods due to climatic variability and change; (ii) development of drought indices to facilitate early warning system (EWS) for drought & promoting its use in adaptation by farmers and other stakeholders; (iii) development of community based

sustainable rural livelihood strategies to minimize adverse climatic impact in drought as well as in flood prone vulnerable districts; and (iv) capacity building of stakeholders on technological adaptation and strategies for alternate livelihoods to cope with climate variability and change.

The project will provide resources for the following major interventions: (i) introduction of drought/heat tolerant seeds; (ii) new and tested technological intervention (laser leveling, sprinkler/drip irrigation, nursery raising etc.) to enhance adaptation to climate change; (iii) develop community based drought preparedness plans; (iv) develop watershed/catchment management action plans including land and water resources development, common property resource regeneration to enhance adaptation to climate change; (v) introduction and improvement in livestock, including local poultry, management through better health care and better production systems; (vi) introduction of flood-tolerant improved seeds (rice/pulses/oilseed/fodder plants); (vii) introduction of diversified crops (vegetables, flowers, oil seeds, fiber crops, fodder crops, spices, fruits), crop rotations, integrated natural resource management (related to inclusion of common property resources in the adaptation process) and integrated pest management; and (viii) development of integrated flood and drought early warning and information system.

The three sub-projects will contribute to Mainstreaming SLEM approaches and techniques will materialize into policy guidelines targeting public and private institutions. This activity will ensure that public and private organizations understand, adopt and apply SLM practices and policies to combat land degradation, integrate conservation of indigenous biodiversity for value addition in the farming systems, and enhance the resilience of local farming through technological transfers and adaptation to climate variability and change based on indigenous farming practices.

Sub Project 1: Land Degradation

Strategies for Sustainable Management of Degraded Coastal Land and Water for Enhancing Livelihood Security of Farming Communities

Background:

The coastal regions of India are traditionally disadvantaged and characterized by low livelihood security of the farmers. The ecology of the coastal regions is highly fragile and vulnerable to further degradation due to anthropogenic activities. The farming communities are dominated by underprivileged classes of people who are the poorest of the poor in the country and low agricultural productivity combined with high unemployment among the rural people are characteristic features of the area.

Degraded soils and poor water quality, together with climatic adversities contribute to the poor livelihood security and low agricultural productivity. Lack of irrigation water in non-monsoon months and drainage congestion in monsoon months add fuel to the fire of degraded soils and poor water quality. These conditions are, in coastal areas, caused by phenomena like flooding of saline water following storms or tsunami waves (as in Andamans), by a shallow brackish ground water table and by the influence of sea water in delta regions such as the Ganga (Sundarbans), Mahanadi, Godavari and in the deltas of other major rivers. The degraded soils and water of the coastal region are further endangered by sea level rise following global warming. The majority of the coastal regions receive high rainfalls, concentrated over a few monsoon months and a large quantity of this fresh water is wasted as run-off water into the sea. It also creates widespread water-logging in low-lying agricultural fields which makes up the majority of the agricultural land.

All these constraints, water-logging, drainage congestion, lack of irrigation water during the dry season, soil salinity and saline groundwater, etc. have turned almost the entire coastal region of the country into a mono-cropped area growing traditional rice with very poor yield during the monsoon season. The lands remain fallow during the rest of the year. It has been tested and convincingly demonstrated that a source of good quality irrigation water can be made available for the dry months if the rainwater that now goes waste into the sea can be harvested. This will increase crop production in the area and will also minimize the effect of land and water degradation. An ample supply of brackish water resources is also available in the coastal region, which may be utilized judiciously, either alone or in conjunction with harvested rain water for increasing productivity of the land and water. With proper planning and management of the vast natural resource of the coastal region it is thus possible to considerably increase the agricultural productivity in the degraded soils of this region. An increase in the productivity of the land will enhance the livelihood security and will generate employment opportunities for numerous unemployed men and women farmers.

The project will address the constraints to agricultural productivity due to degraded soils and water of the coastal areas with primary concern for the landless, marginal and small farmers in ten selected locations representing two of the most disadvantaged coastal areas of the country viz. the coastal Sundarbans, the delta region of the river Ganga in the state of West Bengal and in North-mid & South of Andaman island. The excess rainwater will be harvested in dugout farm ponds and channels made for land shaping to create irrigation resources for the dry months. Multiple crops and their improved varieties will be grown throughout the year to replace the traditional mono-cropping of rice in kharif

(the monsoon season). Agriculture/aquaculture farming system will be introduced to improve the productivity of soil and water and increase farm income. These measures will generate more employment and will provide alternate/multiple options of farming activities, thus reducing the risk involved in farming and enhance livelihood security. Land shaping in low-lying areas will also reduce drainage congestion and the negative effects of degraded soil and water on agricultural crops. Improved land shaping will provide opportunities for undertaking multiple crop cultivations around the year in the area and for introducing agriculture/aquaculture farming (including paddy-cum-fish culture) for enhancement of livelihood security and income of the farmers. Additional allied farming activities like, animal rearing/health care (including nutrition and disease management), bee keeping, mushroom cultivation, etc. will be taken up and will provide additional income and employment for all farmers but in particular for the marginal, landless and women farmers. Attempts will also be made to reduce drudgery of the farmers, particularly the woman farmers. Training will be provided to the farmers and other stakeholders for capacity building and for engaging in improved technologies. Throughout the entire project period environmental issues related to soil and water will be monitored and audited to ensure sustainability of the interventions/technologies. Successful interventions will be made available to other similar coastal agro-ecosystem of the country.

Major Interventions Proposed:

- Land shaping for improving drainage efficiency, rainwater harvesting leading enhanced productivity of low-lying degraded land including tsunami affected land;
- Cultivation of multiple and diversified crops, including horticultural crops, of varieties adapted for degraded saline and tsunami affected lands;
- Integrated cultivation of crops and fish (freshwater and brackish water fish);
- Improved irrigation system for efficient water utilization in horticultural and plantation crops;
- Promotion of composting including vermin-composting, green manuring, etc. for enhancing productivity of agriculture and aquaculture;
- Introduction of low cost farm machineries for drudgery reduction and economic farm operations;
- Nursery raising for horticultural crops and fish seeds;
- Introduction and improvement in livestock/poultry management including nutrition and disease management;
- Introduction of mushroom cultivation and bee-keeping;
- Introduction of protected cultivation for high value crops;
- Establishment of rural technology centers in villages at project sites; and
- Skill and capacity building of farmers and other stakeholders.

Development Outcomes Contributing to Global Objective:

- Sustainable enhancement of the productivity of degraded land and water resources of the coastal region through integrated approaches
- Enhancement of livelihood security and employment generation for the poor farming communities of the coastal region
- Empowerment through capacity building and skill development of stakeholders including men and women farmers.
- Lessons derived for policy improvements and publicly disseminated

Monitorable Results/Impacts:

- Information and knowledge on natural resources and livelihood of farmers in the coastal regions of the country.
- Improved farming system models for degraded coastal land including Tsunami affected lands.
- Improvement in crop intensity by 20-30%
- 30 to 35 % increase in profitability of farmers in integrated farming system involving agriculture, aquaculture and allied activities.
- Enhancement of employment generation by 25-30%
- Increase in per capita food availability 15-20%
- Reduction of migration of labourers 20-25%
- Significant improvement in nutritional status of farm families
- Increase in income of women farmers by 30%
- Drudgery reduction of women by 15-20%.
- Significant improvement in soil health and productivity.
- Impact studies of diversified production system module on soil, water and ecology of the coastal region
- Eco-friendly and sustainable technologies for employment generation, enhanced rural livelihood security and socio-economic status through efficient use of natural resources of the coastal region

Operational Area:

The project activities will operate in the backward regions of Sundarban (South 24 Parganas and North 24 Parganas districts) of West Bengal, and Andaman Islands (North and Middle Andaman and South Andaman districts).

Sub-Project 2: Biodiversity

Harmonizing biodiversity conservation and agricultural intensification through integration of plant, animal and fish genetic resources for livelihood security in fragile ecosystems

Background:

The link between agriculture and biodiversity has changed over time. The vegetations and cropping patterns have also changed substantially. The predominant pattern in agricultural development over the last several decades have focused on increasing yields and this has significantly reduced the agro-biodiversity. Evidence indicates that such changes can decrease sustainability and productivity of farming systems. Loss of diversity also reduces the availability of genetic resources for future. The traditional crop landraces/folk varieties, natural populations of many species of crop wild relatives, livestock breeds and fish genetic resources are increasingly at risk. Necessary conservation and enhancement initiatives are, therefore, needed in diversity rich areas to prioritize species for conservation, monitor key species' status, improve the use of these valuable resources in supporting production systems and ensure that communities in these areas obtain full benefits from the use of these resources.

Conservation of agricultural biodiversity in production systems through protected areas is often inadequate because of high degree of human management required. Further, when on-farm conservation research has identified genetically important populations of crops, animal breeds and fish genetic resources and farming systems that are priorities for conservation, it may be appropriate to assess different options for “adding value” to these populations, or in other words increasing the benefits that farmers get from cultivating diverse local crops, maintaining animal breeds and managing aquatic resources in a given social, economic and ecological context. By understanding their importance in farming systems, farmers may be motivated to continue cultivating/maintaining local crops, livestock breeds and aquatic diversity resulting in on-farm conservation provided these results in enhanced livelihood security on a sustainable basis. An important component of on-farm research will, therefore, be to investigate which strategies can be used to add value to local diversity and support farming systems associated with high genetic diversity. The proposed activities for harmonizing biodiversity conservation and agricultural intensification through integration of plant, animal and fish genetic resources for livelihood security in fragile ecosystems” set out to do this.

The project will operate in three districts, namely, Chamba in Himachal Pradesh (Hill and Mountain agro-ecosystem with temperate climate), Udaipur in Rajasthan (Irrigated and rainfed agro-ecosystem in Arawali hills with semi-arid climate) and Adilabad in Andhra Pradesh (Deccan Plateau and Sahyadri Hills with tropical climate). These districts represent distinct agro-ecosystems with specific bio-resource components of plants, animals and fish. These disadvantaged districts also have specific problems due to their demographic pattern, production systems, fragmented and small land holdings; poor soil fertility and rainfed farming systems which are not remunerative. The socio-economic conditions of farm families are very poor; they have limited access to technological and financial resources and lack proper market support. In order to enhance the livelihood security of these farming communities, the project will seek to link conservation and use of traditional crops, livestock breeds and fishes with their economic development. Agricultural activities will be reoriented towards better

use of local resources and on evolving farming systems which can provide enough quantity and quality of food and economic security to the rural poor and encourage them to conserve and enhance diversity in their traditional production systems. An integrated farming system model will be developed with the farmer as a focal point for judicious utilization and conservation of plant, animal and fish genetic resources and with well-designed technological interventions with the aim of increasing production, “adding value” to the farm produce and accord paramount importance to the marketing system so as to enhance the livelihood security and empowerment of local people.

The three partner organizations in the project (NBPGR, New Delhi; NBAGR, Karnal, and NBFGR, Lucknow) are mandated with management of respective genetic resource at national level. They will address various resource availability issues in their mandated areas with a particular focus on the amount and distribution of genetic diversity in traditional production systems, its uniqueness, usefulness and perceived threats of extinction. Partner institutions in the three project areas, in cooperation with select prominent stakeholders in respective regions will be involved in assessing and addressing different options for “adding value” with the aim of increasing the benefits farmers can get from local diversity. Ten selected villages (1000 farm families) in three districts will be included in identifying genetically important populations of crop landraces, animal breeds and fish resources and in developing strategies which can be used to add benefits to local diversity and support farming systems with high genetic diversity.

The potential methods for “adding benefits” to farmers through integrating plant, animal and fish genetic diversity will be studied. These methods, which are associated with maintaining high genetic diversity over time and with enhancing the benefits to farmers, include:

- a. Improving the landrace material and production system (through farmers’ participation, strengthening farmers’ seed management, agro-ecosystem health etc.), increasing farmers’ access to a diversity of varieties (community biodiversity registers and gene banks, seed exchange networks, linking farmers’ seed supply systems to the formal sector, incorporating local crop resources into agricultural extension packages, diversity fairs etc.), and increasing consumer demand for products using a diversity of varieties (adding value through processing, organic farming etc.).
- b. Similarly the “adding value” initiatives for animal genetic resources include genetic improvement of local livestock through use of superior germplasm of extant indigenous breeds of livestock, health management practices through prophylactic vaccination as well as de-worming and improving the nutrient utilization of locally available feed and fodder resources.
- c. “Add value” options for fish genetic resources include propagation assisted rehabilitation of indigenous fish varieties for conservation and stock enhancement; integrated fish farming model with rabbitary, poultry and vermin-composting; promotion of trout farming, ornamental fish breeding and cultures of exotics and indigenous species.
- d. Development of an information management system to facilitate planned interventions for conservation and sustainable utilization of targeted species/populations.
- e. Capacity building in agro-biodiversity management for livelihood security through organization of grassroots level trainings for awareness generation on agro-biodiversity conservation and use, providing post-harvest management and marketing support for agriculture, livestock and fisheries through creation of self-help and cooperative groups.

It is worthwhile to highlight that new approaches to agricultural research and development are being tried in various places around the world, and virtually all of them emphasize a much better harnessing and management of biological resources than has prevailed in the past. Under this project, efforts will

be made to incorporate greater biodiversity within agricultural production systems. How agriculture can be intensified while enhancing biodiversity conservation is the critical question that this project will address. Benign policies and practices that enhance agricultural productivity as well as biodiversity conservation are possible. Careful analysis and evaluation of various socio-economic, environmental and scientific issues is essential so that agricultural activities can be reoriented towards better use of local resources and their sustainable management in agro-ecosystems. A model approach on linking biodiversity conservation with livelihood security will be developed under this project, which can be suitably replicated in other agro ecosystems.

The activities that will be undertaken will complement the livelihood security issues addressed by other projects and will have long lasting effects. An agro-ecosystems approach, with focus on genetic resource conservation and implementation of other biodiversity-enhancing methods in farms, such as integrated ecological, pest, nutrient/soil management etc. will be adopted. Agricultural policies that promote monoculture based industrial farming models and uniform technology packages will be minimized. Further, the intellectual property rights for local communities who have knowledge of traditional values and uses of agro-biodiversity will be protected.

Major Interventions Proposed:

- Identification and improvement of landrace material and production systems through farmers' participation;
- “Adding value” initiatives for animal genetic resources through exploiting germplasm of indigenous breeds of livestock and through health management practices;
- “Add value” options for fish genetic resources through propagation of indigenous fish species for conservation and stock enhancement;
- Development of an information management system to facilitate planned interventions for conservation and sustainable utilization of targeted species/populations;
- Capacity building in agro-biodiversity management for livelihood security through organization of grassroot level trainings;
- Empowerment of farm communities through documentation, and validation of local varieties through characterization and registration;
- Putting in place a management system for genetic resources of agro-biodiversity aiming at diversification and benefit sharing using local resources, community seed banking, marketing etc.; and
- Developing a replicable model for livelihood security based on sustainable use of agro-biodiversity and agricultural intensification.

Outputs Contributing to Global Objective:

- Assessment, documentation and valuation of on-farm agro-biodiversity for livelihood and food security. Assessment documentation and valuation of on-farm biodiversity for livelihood and foods security
- Assessment of economic potential of target species vis-a vis cost and effect of conservation
- Development of an information management system to facilitate planned intervention for conservation, sustainable utilization of targeted species/population and enhanced market access
- Adding value to targeted species/population through technological interventions for enhancing rural livelihood security

- Increased capacity in agro-biodiversity management for livelihood security.
- Lessons learned derived and public disseminated

Results /Impacts

- Documentation and characterization of all crop landraces available in cultivated gene pool and wild relatives of crop; animal breed/genetic groups; tissue and voucher specimen banking, species validation through taxonomic and molecular profiles (800-900 accessions) and intra-specific variability in prioritized indigenous fishes (3 species, genotyping of 300-400 accessions for 6-8 micro satellite loci and mt DNA cyt.b.)
- Improved performance of animal genetic resources through dissemination of superior germplasm of rams (60), bucks (60), cattle bulls (10), buffalo bulls (10), AI (12000) in cattle/buffaloes.
- Post harvest processing for value addition in identified novel landraces for commercialization/marketing.
- Sperm cryopreservation protocol development of prioritized fish species for *ex situ* and *in situ* conservation (3 species; protocol development and testing with hatching, validation with freezing for one year).
- Increasing consumer demand for local agricultural biodiversity and adding value options through animal breed improvement, feeding management and health care practices.
- Marketing of animal products: Milk and milk products, wool and wool products, etc. processing; organic farming etc.).
- Empowerment of communities (6000 farm families) through grass root trainings (60) and awareness generation through biodiversity fair, breed show, and livestock competition, demonstration of improved fish culture practices and integrated aquaculture.
- Capacity building through trainings on agro-biodiversity management for extension workers state department officials and other stakeholders.
- Increase in productivity (40%), employment (15-20%) and income of farm families (25%).

Operational Area:

The project activities will operate in Himachal Pradesh (Hill and Mountain agro-ecosystem with temperate climate), in Rajasthan (Irrigated and rainfed agro-ecosystem in Arawali hills with semi-arid climate) and in Andhra Pradesh (Deccan Plateau and Sahyadri Hills with tropical climate). These districts represent distinct agro-ecosystems with specific bio-resources namely plants, animals and fish.

Sub-Project 3: Adaptation to Climate Change

Strategies to enhance adaptive capacity to climate change in vulnerable regions

Background:

This project aims to tackle the climate change adaptation problems of drought (in drought and heat prone areas of central and northwestern India) and floods (in floods prone areas of eastern India) and the decreasing resilience of rural households to deal with climate variability and change, and to realize new opportunities for livelihood sustainability.

During the initial years of climate change research, the focus was on examining the causes of climate change. There is increased stress now on anticipating the potential impacts of climate change and process to contain the rate of change across various geographical scales, sectors and locations.

India like many other countries recognizes adaptation as an important component of its climate change response strategy and is exploring adaptation options in several sectors for the purpose of securing the livelihoods of the people. Agriculture *vis a vis* livelihoods is particularly sensitive to climate conditions, and is among the most vulnerable sectors to the risks and impacts of global climate change. Adaptation in agriculture is dependent on climate change components and other non-climatic components such as economic conditions, technology, socio-political environment etc. Simulation modeling studies have been done to assess the impact of climate change on crop production in different parts of India (Aggarwal and Mall 2002). Lal et al. (1995), have reported that yields of soyabean in India would vary between - 22 to 18 % under different climate scenarios considering +2 and +4 °C change in temperature and a ± 20 and ± 40 % change in precipitation. Some studies showed that higher temperatures and longer growing seasons could result in increased biotic stresses (pest populations, new weed species etc.) in northwest India. Several researchers have observed that there is an average 0.68°C temperature increase per century in India, and have reported an increasing trends in annual mean temperature with warming being more pronounced during the post monsoon and winter seasons.

The anticipated climatic change during the 21st century will further intensify the hydrological cycle, with rainy seasons becoming shorter but more intense in some regions. Climate change scenario for the period of 2040 to 2060 without changing the LUP showed a nearly 19% increase in rainfall and a high potential in the increase in runoff water (double compared to control, Goain & Rao, 2003). Floods in these areas will become severe and longer in duration, which could lead to drops in food production and endanger the livelihoods of vulnerable people.

Socio-economic impacts arising from climate change impacts on water is likely to include shortage of water in drought prone areas and floods in river basins, food insecurity, poor health, extreme events and damage to infrastructure.

Because of the strategic importance of agriculture to food security and the national economy and its sensitivity to temperature increase and water availability, this sector has assumed significance and high priority in climate change related studies. Climate change scenarios and observed and projected climate impacts for India are based on IMD's (Indian Meteorological Department) and the IPCC-Climate Change team's of India studies, both of which have paid limited attention to integrating traditional and contemporary climate and weather forecast systems although a synergy of a scientific

approach and folk wisdom could provide cost effective, compatible, easily accessible and implementable forecast system for people.

This project is based on the challenge that climate change poses for livelihood security. It is based on a knowledge based natural resources management approach and will build resilience to climate impacts into resource-based livelihoods in drought affected districts of Madhya Pradesh and Haryana and flood affected districts of Orissa and Maharashtra.

A methodology will be evolved to use Remote Sensing technique for monitoring and assessing drought for real time Early Warning System. A unified composite drought index will be developed which will completely and comprehensively explain the phenomenon of drought having appropriate weighted indices for rainfall, soil moisture and crop condition. Suitable agro-advisory system will be developed using expert knowledge, drought EWS and weather- water-soil-crop continuum inconsistency maps for the project areas.

The selection of interventions will be based, in part, on knowledge and experiences of local level success stories of sustainable livelihood measures with a potential to increase community resilience to climate shocks (mainly drought & floods). They could be assessed, further developed and utilized for the purpose of adaptation to climate change. Interventions at farm level will include technological adaptations with respect to cropping systems, early warning systems, promotion of different land and water use options and assistance with changes in diversification or intensity of production systems.

The project will be implemented in three to four villages in eight districts of Madhya Pradesh, Haryana, Orissa, and Maharashtra. The districts and villages have been selected in cooperation with local development agencies and local government institutions in order to target communities where the introduction of innovative technologies can make an important contribution to improving the livelihoods of poor families now adversely impacted by droughts and floods. A cluster development approach will be adopted for achieving success in outcomes as well as process. There are three main phases of the project. Initial six months will be for baseline surveys, PRAs, developing rapport with the communities and creating peoples organization. The climate change components will also be looked into in details during this period. The second phase includes execution of identified interventions of the project and it will be operational through NGO partners familiar with local conditions and trusted by the communities. The last phase will be mainly of strengthening linkages developed during the project for ensuring its sustainability.

Outcomes Contributing to Global Objective:

- Current and future risks to livelihoods due to climatic variability and change identified
- Drought indices to facilitate early warning system (EWS) for Drought developed for promoting its use in adaptation by farmers and other stakeholders
- Community based sustainable rural livelihoods strategies to minimize adverse climatic impact in drought as well as flood prone vulnerable districts developed and under implementation
- Increased capacity of stakeholders on strategies for alternate livelihoods strategies to cope with climate variability and change
- Lessons learned for policy improvements derived and publicly disseminated

Results/Impacts

- Number of food secure households increased
- Increased production (25%) and income (50%) of 3000 farm families
- Increase in per capita availability of food grains by 25 per cent
- Livestock productivity enhancement (15%)
- Improvement in animal health and increase in 10-15% milk production
- Reduction in post harvest losses (10%)
- Improvement in local water resources including ground water and soil health
- Reduced migration of poor farm families to other states in search of job during off season (10-15 %).
- Significant improvement in the nutritional status, particularly among farm women and children.
- Drudgery reduction of farm women by 30% and save 25% time and money
- Village resources Centers established will promote knowledge empowerment and entrepreneurship development.

Major Interventions Proposed:

- Introduction of drought/heat tolerant improved seeds;
- New and tested technological intervention (laser leveling, sprinkler/drip irrigation, nursery raising etc.) to enhance adaptation to climate change;
- Develop community based drought preparedness plans;
- Develop watershed/catchment management action plans including land and water resources development, common property resource regeneration to enhance adaptation to climate change;
- Introduction and improvement in livestock, including local poultry, management through better health care and better production systems;
- Introduction of flood-tolerant improved seeds (rice/pulses/oilseed/fodder plants);
- Introduction of diversified crops (vegetables, flowers, oil seeds, fiber crops, fodder crops, spices, fruits), crop rotations, integrated natural resource management (related to inclusion of common property resources in the adaptation process) and integrated pest management; and
- Development of integrated flood and drought early warning and information system.

Operational Area:

The project will be implemented in eight districts of Madhya Pradesh, Haryana, Orissa, and Maharashtra and target communities adversely impacted by drought in Madhya Pradesh and Haryana, and by floods in Orissa and Maharashtra.

ANNEX B: PROJECT RESULTS FRAMEWORK

Sustainable Rural Livelihoods Security through Innovations in Land and Ecosystem Management

Project Development Objective	Result/Outcome Indicators	Use of Result Information
Strengthen institutional and community capacity on sustainable land and ecosystem management approaches and techniques for restoring and sustaining the natural resource base, including its biodiversity, while taking account of climate variability and change	<ul style="list-style-type: none"> • Over 10,000 ha of agricultural land under sustainable land management practices; • 2500 farmers have adopted coping mechanisms for climate variability and change 	<ul style="list-style-type: none"> • At supervisory and mid-term assessments, review performance of project planning and implementation and make recommendations for future interventions
Intermediate Results	Results Indicators for Each Component	Use of Outcome Monitoring
<p>Land Degradation Sub-Project: Approaches and techniques for sustainable management of degraded coastal land and water being applied for enhancing livelihood security of the farming communities of disadvantaged coastal regions</p>	<ul style="list-style-type: none"> • Improved land and water management practices applied on 500 ha of degraded coastal land; • Productivity in 90 ha of saline land enhanced through land shaping; • Innovative SLEM approaches and techniques in agriculture and aquaculture demonstrated on 65 ha; • Increase in crop intensity by 20-30% in targeted agricultural land; • 30-35% increase in productivity in targeted farm land through agriculture, aquaculture and allied activities; 	Measure progress at regular supervision and yearly monitoring and data collection occasions and adjust intervention practices according to need.
<p>Biodiversity Sub-Project: Conserve and sustainably use local biodiversity (plant, animal and fish) for agricultural intensification and livelihood security.</p>	<ul style="list-style-type: none"> • Enhanced knowledge of crop landraces, animal breeds and fish species through characterization of available cultivated gene pool (800-900 accessions); • Improved genetic stock of farm animals: rams (60), bucks (60) cattle bulls (10), buffalo bulls (10) and through AI in cattle and buffaloes (12000); • 3000 landholders practicing sustainable land management practices for optimizing biodiversity; 	Measure progress at regular supervision and yearly monitoring and data collection occasions and adjust intervention practices according to need.
<p>Adaptation to Climate Change: Enhance capacity to respond to climate change and variability in drought and flood prone areas, realizing new</p>	<ul style="list-style-type: none"> • Best practice notes, operational guidelines and other teaching and capacity building tools related to coping mechanisms for climate change and variability based on (i) 	Measure progress at regular supervision and yearly monitoring and data collection occasions and adjust intervention practices

opportunities for livelihood sustainability.	<p>improved soil and water management practices. (ii) better adapted crops and crop varieties, (iii) better adapted livestock species and races, and (iv) integrated resource management systems finalized;</p> <ul style="list-style-type: none"> • X Number of village resource centers promoting training and capacity building on adaptation to climate change and variability for Y number of farmers; • Establish Early Warning System for drought prediction to be used by farmers and other stakeholders; 	according to need.
SLM Policy Mainstreaming and linkage to SLEM-CPP: Sustainable land and ecosystem management approaches and techniques mainstreamed into guidelines and policies of public and private institutions	At least 30 public and private organizations applying SLEM practices and policies to combat land degradation, increase utilization of indigenous biodiversity and adapt to climate variability and change.	At supervisory and mid-term assessments, review effectiveness of SLEM approaches and techniques and make recommendations for future interventions

Arrangements for Results Monitoring for the Project
Sustainable Rural Livelihoods Security through Innovations in Land and Ecosystem Management

Outcome Indicators	Target Values				Data Collection and Reporting		
	Baseline YR 1	YR2	YR3	YR4	Frequency of Reports	Data Collection Instruments	Responsibility for Data Collection
Project Development Objective							
Over 10,000 ha of agricultural land under sustainable land management practices	Identification of target groups and land; definition of proposed interventions and initiation of interventions	Increase to 20% of target value	Increase to 60% of target value	Increase to 100% of target value	Baseline, 6 monthly and final evaluation report	Evaluation protocols and through field surveys	External consultants under super vision of National Director/ National Coordinator
2500 framers have adopted coping mechanisms for climate change and variability	Identification of interventions and target group and initiations of activities	Increase to 20% of target value	Increase to 60% of target value	Increase to 100% of target value	Baseline, 6 monthly and final evaluation report	Evaluation protocols and through field surveys	External consultants under super vision of National Director/ National Coordinator
Sub-Project One: Approaches and techniques for sustainable management of degraded coastal land and water being applied for enhancing livelihood security of the farming communities of disadvantaged coastal regions							
Result/Outcome Indicators	Baseline YR 1	YR2	YR3	YR4	Frequency of Reports	Data Collection Instruments	Responsibility for Data Collection
Improved land and water management practices applied on 500 ha of degraded coastal land	Identification of target groups and land; definition of proposed interventions and initiation of interventions	Increase to 20% of target value	Increase to 60% of target value	Increase to 100% of target value	Baseline, 6 monthly and final evaluation report	Evaluation protocols and through field surveys	External consultants under super vision of Dr B K Bandyopadhyaya (CPI)
Productivity in 90 ha of saline land enhanced through land shaping	Identification of target groups and land and initiation land shaping	Increase to 50% of target value	Increase to 100% of target value	Continued productivity enhancement	Baseline, 6 monthly and final evaluation report	Evaluation protocols and through field surveys	External consultants under super vision of Dr B K Bandyopadhyaya (CPI)
Innovative SLEM approaches and techniques in agriculture and aquaculture demonstrated on 65 ha	Identification of target groups and land and initiation interventions	Increase to 50% of target value	Increase to 100% of target value	Continued refinement of approaches and techniques	Baseline, 6 monthly and final evaluation report	Evaluation protocols and through field surveys	External consultants under super vision of Dr B K Bandyopadhyaya (CPI)
Increase in crop intensity by 20-30% in targeted	Establishment of baseline	Reaching 20 % of target value	Increase to 60% of target	Increase to 100% of target	Baseline, 6 monthly and final	Evaluation protocols and	External consultants under super vision of

agricultural land			value	value	evaluation report	through field surveys	Dr B K Bandyopadhyaya (CPI)
30-35% increase in productivity in targeted farm land through agriculture, aquaculture and allied activities	Establishment of baseline	Reaching 20% of target value	Increase to 60% of target value	Increase to 100% of target value	Baseline, 6 monthly and final evaluation report	Evaluation protocols and through field surveys	External consultants under super vision of Dr B K Bandyopadhyaya (CPI)
Sub-Project Two: Conserve and sustainably use local biodiversity (plant, animal and fish) for agricultural intensification and livelihood security							
Result/Outcome Indicators	Baseline YR 1	YR2	YR3	YR4	Frequency of Reports	Data Collection Instruments	Responsibility for Data Collection
Enhanced knowledge of crop landraces, animal breeds and fish species through characterization of available cultivated gene pool (800-900 accessions)	20% of inventory completed	75% of inventory completed	100% of inventory completed		6 monthly progress reports and final report	Through structured questionnaires in target areas	External consultants under super vision of Dr S K Pareek, CPI
Improved genetic stock of farm animals: rams (60), bucks (60) cattle bulls (10), buffalo bulls (10) and through AI in cattle and buffaloes (12000);	Breeding program initiated and 20% completed	Breeding program initiated and 50 % completed	Breeding program initiated and 80 % completed	Breeding program initiated and 100% completed	6 monthly progress reports and final report	Through structured questionnaires in target areas	External consultants under super vision of Dr S K Pareek, CPI
3000 landholders practicing sustainable land management practices for optimizing biodiversity	Identification of interventions and target group and initiations of activities	Increase to 20% of target value	Increase to 60% of target value	Increase to 100% of target value	Baseline, 6 monthly and final evaluation report	Evaluation protocols and through field surveys	External consultants under super vision of Dr S K Pareek, CPI
Sub-Project Three: Enhance capacity to respond to climate change and variability in drought and flood prone areas, realizing new opportunities for livelihood sustainability							
Result/Outcome Indicators	Baseline YR 1	YR2	YR3	YR4	Frequency of Reports	Data Collection Instruments	Responsibility for Data Collection
Best practice notes, operational guidelines and other teaching and capacity building tolls related to coping mechanisms for climate change and variability based on (i) improved soil and water management practices. (ii) better adapted crops and crop varieties, (iii)	Identification of interventions and target groups and initiations of activities	At least 10 techniques and approaches leading to improved coping mechanisms tested and under dissemination	At least 10 additional techniques and approaches leading to improved coping mechanisms tested and under dissemination	At least 25 techniques and approaches leading to improved coping mechanisms tested and under dissemination	6 monthly progress reports and final report	Evaluation protocols and through field surveys	Project Team and external consultants under super vision of Dr S K Bandyopadhyaya (CPI)

better adapted livestock species and races, and (iv) integrated resource management systems finalized;							
22 Number of village resource centers promoting training and capacity building on adaptation to climate change and variability for 2200 number of farmers	Identification of resource centers and initiations of activities	Increase to 20% of target value	Increase to 60% of target value	Increase to 100% of target value	Baseline, 6 monthly and final evaluation report	Evaluation protocols and through field surveys	External consultants under super vision of Dr S K Bandyopadhyaya (CPI)
Establish Early Warning System for drought prediction to be used by farmers and other stakeholders	Study initiated	Ongoing	Ongoing	Study completed and drought indices developed	Annual monitoring review	Modules of indices developed	Project Team
Mainstreaming SLM: Sustainable land and ecosystem management approaches and techniques mainstreamed into guidelines and policies of public and private							
Result/Outcome Indicators	Baseline YR 1	YR2	YR3	YR4	Frequency of Reports	Data Collection Instruments	Responsibility for Data Collection
At least 30 public and private organizations applying SLEM practices and policies to combat land degradation, increase utilization of indigenous biodiversity and adapt to climate variability and change.	Identification of potential partner organizations	Initiation of documentation and coordination with partner organizations	SLEM mainstreamed in 10 organizations	SLEM mainstreamed in 30 organizations	6 monthly progress reports and final evaluation report	Through interviews and surveys with partner organizations	Project and SLEM Program leadership and external project evaluators

ANNEX C: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

ANNEX D: CONSULTANTS TO BE HIRED FOR THE PROJECT: NOT APPLICABLE

<i>Position Titles</i>	<i>\$/ person week</i>	<i>Estimated person weeks</i>	<i>Tasks to be performed</i>
For Project Management			
Local			
International			
For Technical Assistance			
Local			
International			

ANNEX D: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS

A. EXPLAIN IF THE PPG OBJECTIVE HAS BEEN ACHIEVED THROUGH THE PPG ACTIVITIES UNDERTAKEN.

N.A.

B. DESCRIBE IF ANY FINDINGS THAT MIGHT AFFECT THE PROJECT DESIGN OR ANY CONCERNS ON PROJECT IMPLEMENTATION.

N.A.

C. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES AND THEIR IMPLEMENTATION STATUS IN THE TABLE BELOW: N.A.

<i>Project Preparation Activities Approved</i>	<i>Implementation Status</i>	<i>GEF Amount (\$)</i>				<i>Co-financing (\$)</i>
		<i>Amount Approved</i>	<i>Amount Spent To-date</i>	<i>Amount Committed</i>	<i>Uncommitted Amount*</i>	
	(Select)					
	(Select)					
	(Select)					
	(Select)					
	(Select)					
	(Select)					
	(Select)					
Total						

* Uncommitted amount should be returned to the GEF Trust Fund. Please indicate expected date of refund transaction to Trustee.



Applying the GEF Tracking Tools in GEF-4

Note: Given changes in the GEF’s biodiversity strategy in GEF-4, a slightly modified Tracking Tool for this strategic objective has been developed. Please use this tool for all GEF-4 funded projects that fall under this strategic objective.

Objective: To measure progress in achieving the impacts and outcomes established at the portfolio level under the biodiversity focal area. The following targets and indicators are being tracked for all GEF-4 projects submitted under Strategic Objective Two and the associated Strategic Programs

Impact and Outcome Indicators for Strategic Objective Two and Associated Strategic Programs

Strategic Objective	Expected Long-Term Impacts	Indicators
To mainstream biodiversity conservation in production landscapes/ seascapes and sectors	Conservation and sustainable use of biodiversity incorporated in the productive landscape and seascape	<ul style="list-style-type: none"> • Number of hectares in production landscapes/seascapes under sustainable management but not yet certified¹ • Number of hectares/production systems under certified production practices that meet sustainability and biodiversity standards • Extent (coverage: hectares, payments generated) of payment for environmental service schemes
Strategic Programs for GEF-4 under Strategic Objective Two	Expected Outcomes	Indicators
4. Strengthening the policy and regulatory framework for mainstreaming biodiversity	<ul style="list-style-type: none"> • Policy and regulatory frameworks governing sectors outside the environment sector incorporate measures to conserve and sustainably use biodiversity 	<ul style="list-style-type: none"> • The degree to which polices and regulations governing sectoral activities include measures to conserve and sustainably use biodiversity as measured through the GEF tracking tool

¹ This indicator will measure the coverage of management systems in production landscapes and seascapes that are in a transition process to certified production practices.

GEF-4 Tracking Tool for GEF Biodiversity Focal Area Strategic Objective Two:
Mainstreaming Biodiversity Conservation in Production Landscapes/Seascapes and Sectors

Strategic Programs for GEF-4 under Strategic Objective Two	Expected Outcomes	Indicators
5. Fostering markets for biodiversity goods and services	<ul style="list-style-type: none"> • Markets created for environmental services • Global certification systems for goods produced in agriculture, fisheries, forestry, and other sectors include technically rigorous biodiversity standards 	<ul style="list-style-type: none"> • Number and extent (coverage: hectares, payments generated) of new payments for environmental service schemes created • Published certification systems that include technically rigorous biodiversity standards

Rationale: Project data from the GEF-4 project cohort will be aggregated for analysis of directional trends and patterns at a portfolio-wide level to inform the development of future GEF strategies and to report to GEF Council on portfolio-level performance in the biodiversity focal area.

Structure of Tracking Tool: Each tracking tool requests background and coverage information on the project and specific information required to track the indicator sets listed above.

Guidance in Applying the Tracking Tool: The tracking tools are applied three times: at CEO endorsement², at project mid-term, and at project completion.

In GEF-4, we expect that projects which fall clearly within Strategic Objectives and support specific Strategic Programs under each Strategic Objective hence only one tracking tool will need to be completed.

On *very rare occasions*, projects make substantive contributions to more than one strategic objective. In these instances, the tracking tools for the relevant strategic objectives should be applied. It is important to keep in mind that the objective is to capture the full range of a project’s contributions to delivering on the targets set for each of the strategic priorities. The GEF Implementing Agency/Executing Agency will guide the project teams in the choice of the tracking tools. Please submit all information on a single project as one package (even where more than one tracking tool is applied).

Multi-country projects may face unique circumstances in applying the tracking tools. The GEF requests that multi-country projects complete one tracking tool per country involved in the project, based on the project circumstances and activities in each respective country. The completed forms for each country should then be submitted as one package to the GEF. Global projects which do not have a country focus, but for which the tracking tool is applicable, should complete the tracking tool as comprehensively as possible.

The tracking tool does not substitute or replace project level M&E processes, or GEF Implementing Agencies’/Executing Agencies’ own monitoring processes. Project proponents and managers will likely be the most appropriate individuals to complete the Tracking Tool, in collaboration with the project team, since they would be most knowledgeable about the project.

² For Medium Sized Projects when they are submitted for CEO approval.

Staff and consultants already working in the field could also provide assistance in filling out the Tracking Tool.

Submission: The finalized tracking tool will be cleared by the GEF Implementing Agencies and Executing Agencies before submission. The tracking tool is to be submitted to the GEF Secretariat at three points:

- 1.) With the project document at CEO endorsement³;
- 2.) Within 3 months of completion of the project's mid-term evaluation or report; and
- 3.) With the project's terminal evaluation or final completion report, and no later than 6 months after project closure.

I. Project General Information

1. Project Name: Sustainable Rural Livelihoods Security through Innovations in Land and Ecosystem Management
2. Project Type (MSP or FSP): FSP
3. Project ID (GEF):
4. Project ID (IA):
5. Implementing Agency: World Bank
6. Country(ies): India

Name of reviewers completing tracking tool and completion dates:

	Name	Title	Agency
Work Program Inclusion	Per Ryden; Dr. A.P. Srivastava;	Consultant National Coordinator	World Bank ICAR
	Dr. S K Pareek	Principal Scientist and CPI	National Bureau of Plant Genetic Resources(ICAR)
Project Mid-term			
Final Evaluation/project completion			

7. Project duration: **Planned** __4__ years **Actual** _____ years

8. Lead Project Executing Agency (ies): Indian Council of Agricultural Research

9. GEF Strategic Program: Biodiversity combined with Land Degradation and Special Program for Adaptation

X Strengthening the policy and regulatory framework for mainstreaming biodiversity (SP 4)

X Fostering markets for biodiversity goods and services (SP 5)

10. Production sectors and/or ecosystem services directly targeted by project:

³ For Medium Sized Projects when they are submitted for CEO approval.

10. a. Please identify the main production sectors involved in the project. Please put “**P**” for sectors that are primarily and directly targeted by the project, and “**S**” for those that are secondary or incidentally affected by the project.

Agriculture __P__(including livestock)_____

Fisheries __P_____

Forestry __S_____

Tourism __S_____

Mining __S_____

Oil __S_____

Transportation __S_____

Other (please specify) _____

II. Project Landscape/Seascape Coverage

11. a. What is the extent (in hectares) of the landscape or seascape where the project will directly or indirectly contribute to biodiversity conservation or sustainable use of its components? An example is provided in the table below.

Targets and Timeframe	Foreseen at project start	Achievement at Mid-term Evaluation of Project	Achievement at Final Evaluation of Project
Project Coverage			
Landscape/seascape⁴ area <u>directly</u>⁵ covered by the project (ha)	4000 ha		
Landscape/seascape area <u>indirectly</u>⁶ covered by the project (ha)	500000 ha		

Explanation for indirect coverage numbers:

___The GEF project is a component of a larger project. Its impact will go beyond the boundaries of its own operational area through cooperation with partner organizations and through the mainstreaming and upscaling mechanisms that are built into the SLEM as a Country Partnership Program as through the upscaling mechanisms that the lead executing agency for the project has put in place.

11. b. Are there Protected Areas within the landscape/seascape covered by the project? If so, names these PAs, their IUCN or national PA category, and their extent in hectares.

⁴ For projects working in seascapes (large marine ecosystems, fisheries etc.) please provide coverage figures and include explanatory text as necessary if reporting in hectares is not applicable or feasible.

⁵ Direct coverage refers to the area that is targeted by the project’s site intervention. For example, a project may be mainstreaming biodiversity into floodplain management in a pilot area of 1,000 hectares that is part of a much larger floodplain of 10,000 hectares.

⁶ Using the example in footnote 5 above, the same project may, for example, “indirectly” cover or influence the remaining 9,000 hectares of the floodplain through promoting learning exchanges and training at the project site as part of an awareness raising and capacity building strategy for the rest of the floodplain. Please explain the basis for extrapolation of indirect coverage when completing this part of the table.

GEF-4 Tracking Tool for GEF Biodiversity Focal Area Strategic Objective Two:
Mainstreaming Biodiversity Conservation in Production Landscapes/Seascapes and Sectors

	Name of Protected Areas	IUCN and/or national category of PA	Extent in hectares of PA
1.	N.A.		
2.			
3.			
4...			

Note: This project is on-farm conservation and IUCN criteria is not applicable

11. c. Within the landscape/seascape covered by the project, is the project implementing payment for environmental service schemes? If so, please complete the table below. An example is provided.

Targets and Timeframe	Foreseen at Project Start		Achievement at Mid-term Evaluation of Project		Achievement at Final Evaluation of Project	
Coverage	Extent in hectares	Payments generated (US\$)	Extent in hectares	Payments generated (US\$)	Extent in hectares	Payments generated (US\$)
Environmental Service						
There is now no immediate payment foreseen						

III. Management Practices Applied

12.a. Within the scope and objectives of the project, please identify in the table below the management practices employed by project beneficiaries that integrate biodiversity considerations and the area of coverage of these management practices. Please also note if a certification system is being applied and identify the certification system being used. Note: this could range from farmers applying organic agricultural practices, forest management agencies managing forests per Forest Stewardship Council (FSC) guidelines or other forest certification schemes, artisanal fisherfolk practicing sustainable fisheries management, or industries satisfying other similar agreed international standards, etc. An example is provided in the table below.

Specific management practices that integrate BD	Name of certification system being used (insert NA if no certification system is being applied)	Area of coverage foreseen at start of project	Achievement at Mid-term Evaluation of Project	Achievement at Final Evaluation of Project

GEF-4 Tracking Tool for GEF Biodiversity Focal Area Strategic Objective Two:
Mainstreaming Biodiversity Conservation in Production Landscapes/Seascapes and Sectors

Community level seed network	Existing extension system	2000 ha		
Improvement management of plant, animal and fish resources	Existing extension system, if any.	2000 ha		
Processing and value addition	N.A.	2000 ha		
Organic farming	Existing Government system, if any.	200 ha		
Vermi-composting	N.A.	200 ha		
Better nutritive feed to animal	Existing extension system, if any.	200 ha		

IV. Market Transformation

13. **For those projects that have identified market transformation as a project objective**, please describe the project's ability to integrate biodiversity considerations into the mainstream economy by measuring the market changes to which the project contributed. The sectors and subsectors and measures of impact in the table below **are illustrative examples, only**. Please complete per the objectives and specifics of the project.

Name of the market that the project seeks to affect (sector and sub-sector)	Unit of measure of market impact	Market condition at the start of the project	Market condition at midterm evaluation of project	Market condition at final evaluation of the project
Local markets in the village /Block/district and also in bigger cities	Quantity of the produce Market prize and income generated	No market		

V. Policy and Regulatory frameworks

For those projects that have identified addressing policy, legislation, regulations, and their implementation as project objectives, please complete the following series of questions: 14a, 14b, 14c.

An example for a project that focused on the agriculture sector is provided in 14 a, b, and c.

14. a. Please complete this table at **CEO endorsement for each sector** that is a primary or a secondary focus of the project. Please answer YES or NO to each statement under the sectors that are a focus of the project.

Sector	Agriculture	Fisheries	Forestry	Tourism	Other (please specify)	Other (please specify)
Statement: Please answer YES or NO for each sector that is a focus of the project.						
Biodiversity considerations are mentioned in sector policy	YES					
Biodiversity considerations are mentioned in sector policy through specific legislation	NO					
Regulations are in place to implement the legislation	NO					
The regulations are under implementation	NO					
The implementation of regulations is enforced	NO					
Enforcement of regulations is monitored	NO					

GEF-4 Tracking Tool for GEF Biodiversity Focal Area Strategic Objective Two:
Mainstreaming Biodiversity Conservation in Production Landscapes/Seascapes and Sectors

14. b . Please complete this table at **the project mid-term for each sector** that is a primary or a secondary focus of the project. Please answer YES or NO to each statement under the sectors that are a focus of the project.

Sector	Agriculture	Fisheries	Forestry	Tourism	Other (please specify)	Other (please specify)
Statement: Please answer YES or NO for each sector that is a focus of the project.						
Biodiversity considerations are mentioned in sector policy	YES					
Biodiversity considerations are mentioned in sector policy through specific legislation	YES					
Regulations are in place to implement the legislation	NO					
The regulations are under implementation	NO					
The implementation of regulations is enforced	NO					
Enforcement of regulations is monitored	NO					

14. c. Please complete this table at **project closure for each sector** that is a primary or a secondary focus of the project. Please answer YES or NO to each statement under the sectors that are a focus of the project.

Sector	Agriculture	Fisheries	Forestry	Tourism	Other (please specify)	Other (please specify)
Statement: Please answer YES or NO for each sector that is a focus of the project.						
Biodiversity considerations are mentioned in sector policy	YES					
Biodiversity considerations are mentioned in sector policy through specific legislation	YES					
Regulations are in place to implement the legislation	YES					
The regulations are under implementation	YES					
The implementation of regulations is enforced	NO					
Enforcement of regulations is monitored	NO					

All projects please complete this question at the project mid-term evaluation and at the final evaluation, if relevant:

14. d. Within the scope and objectives of the project, has the private sector undertaken **voluntary** measures to incorporate biodiversity considerations in production? If yes, please provide brief explanation and specifically mention the sectors involved.

An *example* of this could be a mining company minimizing the impacts on biodiversity by using low-impact exploration techniques and by developing plans for restoration of biodiversity after exploration as part of the site management plan.

VI. Other Impacts

1. Please briefly summarize other impacts that the project has had on mainstreaming biodiversity that have not been recorded above.

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Report No:

(DRAFT FINAL)

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT PAPER

FOR

PROPOSED ADDITIONAL FINANCING

**IN THE AMOUNT OF
(US\$7.34 MILLION EQUIVALENT)**

TO THE

GOVERNMENT OF INDIA

FOR A

**SUSTAINABLE RURAL LIVELIHOODS SECURITY THROUGH
INNOVATIONS IN LAND AND ECOSYSTEM MANAGEMENT**

**Sustainable Development Unit
South Asia Regional Office**

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CURRENCY EQUIVALENTS
(Exchange Rate Effective)

Currency Unit = India Rupee
Rupees (Rs.) 48.50 = US\$1
US\$ = SDR 1

FISCAL YEAR
July 1 - June 30

ABBREVIATIONS AND ACRONYMS

CACs	Consortium Advisory Committees
CAS	Country Assistance Strategy
ESMF	Environmental and Social Assessment and Management Framework
EWS	Early Warning System
FM	Financial Management
GEF	Global Environmental Facility
ICAR	Indian Council for Agricultural Research
ICFRE	Indian Council of Forest Research and Education
M&E	Monitoring & Evaluation
MoA	Ministry of Agriculture
MoEF	Ministry of Environment and Forests
MTR	Mid Term Review
NAIP	National Agricultural Innovation Project
NARS	National Agricultural Research System
NC	National Coordinator
NGO	Non-Governmental Organization
NPP	Net Primary Productivity
NSC	National Steering Committee
PAD	Project Appraisal Document
PIF	Project Identification Form
PIU	Project Implementation Unit
PMC	Project Management Committee
PRT	Project Review Team
R&D	Research & Development
RPC	The Research Program Committee
RUE	Rain-use Efficiency
SAU	State Agricultural University
SLEM CPP	Sustainable Land and Ecosystem Management Country Partnership Program
SLM	Sustainable Land Management
TFO	Technical Facilitation Organization

Vice President:	Isabel Guerrero
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Task Team Leader:	Adriana Damianova

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PROJECT PAPER DATA SHEET

Date: March 3, 2009 Country: India Project Name: Sustainable Rural Livelihoods Security through Innovations in Land and Ecosystem Management Project ID: P112060	Team Leader: Adriana J. Damianova Sector Director/Manager: John Stein/K. Kemper Country Director: Roberto Zagha Environmental Category: B, Partial Assessment				
Borrower: Department of Economic Affairs, Ministry of Finance, Government of India, New Delhi 110001 Responsible agency: Ministry of Agriculture, Indian Council of Agricultural Research, Department of Agricultural Research and Education, Krishi Bhawan, New Delhi 110001					
Revised estimated disbursements (Bank FY/US\$m)					
FY	2010 (July– June)	2011 (July – June)	2012 (July – June)	2013 (July- June)	
Annual	1.20	2.29	2.43	1.42	
Cumulative	1.20	3.49	5.92	7.34	
Current closing date: June 2012					
Revised closing date: June 30, 2013					
Does the restructured or scaled-up project require any exceptions from Bank policies? Have these been approved by Bank management? Is approval for any policy exception sought from the Board?					<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> Yes <input checked="" type="radio"/> No

Project development objectives/outcomes.

The GEF additional financing to the on-going India National Agricultural Innovation Project (NAIP) aims at enhancing its sustainability by mainstreaming conservation of global public goods. In line with the original outcomes of the NAIP, the additional financing will support the development and implementation of innovations in agriculture through collaboration among farmers, private sector, civil society, and public sector organizations. Overall the proposed GEF financing is complementary and incremental to the NAIP financing envelope in that it will focus on approaches and techniques for sustainable management of degraded coastal land and water, on conserving and sustainably using local biodiversity (plant, animal and fish) for agricultural intensification and livelihood security, and on enhancing capacity to respond to climate change and variability in drought and flood prone areas. The GEF support will finance activities focusing on addressing land degradation, biodiversity and adaptation to climate change through improved land and resources management. The GEF support will also pilot operationalization of adaptation strategies to climate change in local farmers' practices.

The NAIP development objective is to contribute to sustainable transformation of Indian agricultural sector from an orientation of primarily food self-sufficiency to one which a market orientation is equally important for poverty alleviation and income generation.

The global development objective is an additional and important element for deriving global benefits of the entire project. Thus the global objective will support strengthening the institutional and community capacity on sustainable land and ecosystem management through approaches and techniques that combine innovative and indigenous techniques for restoring and sustaining the natural resource base, including its biodiversity, while taking into account of climate variability and change. Thus this objective is fully consistent with the original project objective as the additional funding will finance complementary activities to those of the on-going National Agricultural Innovation Project (NAIP).

The outcome of the proposed additional financing project will be measured on the basis of the following performance indicators: (i) measurable increase in land area under sustainable land management practices; (ii) measurable number of farmers having adopted coping mechanisms for climate variability and change; (iii) measurable number of farmers conserving and sustainably using biodiversity for agricultural intensification and livelihood security; (iv) 30-35% increase in productivity in targeted farms; (v) policies and practices to combat land degradation, increase utilization of indigenous biodiversity and adapt to climate variability and change adopted by at least 30 public and private organizations. Performance will be monitored periodically through well defined indicators by implementation specialists.

Does the scaled-up or restructured project trigger any new safeguard policies: No

For Additional Financing			
<input type="checkbox"/> Loan <input type="checkbox"/> Credit <input checked="" type="checkbox"/> Grant For Loans/Credits/Grants: Total Bank financing (US\$m): US\$7.34 Proposed terms – GEF Grant			
Financing Plan (US\$m.)			
Source	Local	Foreign	Total
GEF ¹	7,340,000	0.0	7,340,000

¹ The GEF grant of US\$7.34 million does not include the GEF Implementation Agency Fee which is over and above this amount.

I. INTRODUCTION

1. This Project Paper seeks the approval of the Executive Directors to provide an additional GEF Grant financing in the amount of US\$7.34 million (equivalent) to the India National Agricultural Innovation Project (NAIP) P092735, Credit number (Cr. 4161-IN and 4162-IN) dated July 24, 2006.

2. The proposed additional financing of US\$ 7.34million (equivalent) from the Global Environmental Facility (GEF) for India Sustainable Rural Livelihoods Security through Innovations in Land and Ecosystem Management will support the development and implementation of innovations in agriculture through collaboration among farmers, private sector, civil society, and public sector organizations. This GEF project has been included in the pipeline of projects under the Sustainable Ecosystem and Land Management Country Partnership Program (SLEM CPP) and approved by GEF Council on November 17, 2007. The project is complementary to the NAIP financing envelope in that it focuses on promoting approaches and techniques for sustainable management of degraded coastal land and water, on conserving and sustainably using local biodiversity (plant, animal and fish) for agricultural intensification and livelihood security, and on enhancing capacity to respond to climate change and variability in drought and flood prone areas. The GEF support is incremental to the original project and will finance activities that address specifically land degradation, biodiversity and adaptation to climate change. The GEF support will also pilot local operationalization of adaptation strategies to climate change. GEF supported activities are incremental to the project activities under Components 2, 3 and 4.

3. The additional financing follows the same project implementation structure as in the NAIP project. No major design changes have been proposed. The GEF additional financing will strengthen the Indian Council of Agricultural Research (ICAR) in its role as a catalyst for change in the national agricultural system and integration of sustainable land management, biodiversity conservation in productive landscapes and reducing agricultural vulnerability through adaptation of farming practices to climate variability.

II. BACKGROUND AND RATIONALE FOR ADDITIONAL FINANCING

Background:

4. About 80% of the 260 million people living below the poverty line in rural areas of India depend on agriculture for their livelihood. At the same time, the natural resources and ecological foundations essential for sustained advances in the agricultural productivity are rapidly shrinking and declining under anthropogenic and socio-economic pressures and climate change.

5. A number of factors lead to this deteriorating situation. Expansion of agriculture combined with unsustainable agricultural and natural resource management practices such as

over-cultivation, nutrient inputs, poor irrigation practices, deforestation and overgrazing, often induced by population pressure, social conflicts and disruption of social systems, as well as inappropriate government policies and poverty. Poor people affected by a deteriorating resource base often need to draw on their limited assets in order to survive, which accentuates their poverty.

6. A vicious cycle is thus generated linking deteriorating natural resources to deteriorating livelihoods as people encroach further on fragile soils, sparse vegetation and limited water resources to meet their basic needs for food, shelter and livelihood. In order to generate additional income and employment for the poor and halt and reverse land degradation and biodiversity loss, the role of agriculture is critical. A scenario analysis shows that with the limited scope for area expansion, the main source of agricultural growth combined with control of land degradation and loss of, primarily agricultural biodiversity, will have to come through enhanced productivity. This, already substantial challenge for the agricultural sector, is further aggravated by the additional stress that will be put on agricultural and biological systems as a result of climate change.

NAIP Project Objectives and Scope:

7. The National Agricultural Innovation Project (NAIP) was approved in July 2006 with an amount of US\$200 million IDA credit. The general objective of the project is to contribute to the sustainable transformation of the Indian agricultural sector from food self-sufficiency to a market orientation in support of poverty alleviation and income generation. The specific objective is to accelerate the collaborative development and application of agricultural innovations between public research organizations, farmers, private sector and other stakeholders. The three main components of the project are the following: (1) ICAR as the catalyzing agent for management to change in the Indian NARS; (2) Research on production to consumption systems; and (3) Research on sustainable rural livelihood security.

NAIP performance to date:

8. The NAIP is playing a key role in bringing pluralism in the National Agricultural Research System (NARS) as about 40% of the implementing institutes are outside the ICAR-State Agricultural University (SAU) system. The ICAR is effectively using NAIP to integrate non-traditional partners in the NARS, particularly for harnessing the research skills which are not available in the ICAR-SAU system. The approved sub-projects aim at addressing national agricultural research and development priorities, including food and nutritional security, agricultural diversification, livestock and fisheries production, genetic resource enhancement and bio-prospecting, natural resource management, post-harvest management and value addition, policy analysis and marketing.

9. The main focus of the ICAR PIU so far has been on approval of sub-projects. A total of 108 consortia projects have been approved against the PAD target of 50 for Components 2, 3 and 4. In addition, 19 sub-projects have been approved under Component 1. The average size of a consortium sub-projects is about one-third of what was anticipated at appraisal. About 65% of the funds for sub-projects have been committed against the target of 100% at this stage of the project. From Call 1 to Call 3, the quality of sub-projects and the diversity of consortia partners have improved and the time taken for completing the approval process has

been considerably reduced. On completion of processing of Call 3, about 90% of the funding for sub-projects will be awarded. The thrust of the parent project will now shift to improving implementation of the already approved sub-projects and overall impact of the development program.

10. Overall implementation progress is behind schedule and disbursement is picking up slowly. The main reasons for low disbursement are slow implementation of Component 1, delays in operationalizing the approved sub-projects and slow procurement. Of the 18 projects in the Agriculture and Rural Development portfolio of the Bank in India, NAIP has relatively low disbursement ratio of 2% (normal 16.6%) in FY 2008 (July 2007-June 2008). If funds in the Special Account are excluded, only 4.4 % of the Credit proceeds have been disbursed in 36% of elapsed time.

11. The NAIP project has been rated Moderately Satisfactory on implementation and achievement of development objectives, and has met all relevant World Bank disbursement, procurement and fiduciary obligations. The key project data is detailed in Table 1 below:

Table 1: Key Project Data

Key Project Data		Current Ratings and Flags		
			Last	Now
Credit No.	Cr. 41610 & 41620	Development Objectives	S	S
Board Approval	04/18/2006	Implementation Progress	MS	MS
Effectiveness Date	09/18/2006	Problem Flags	FM	FM
Closing Date	12/31/2012	Component 1	MS	MS
Approved Credit Amount	200.0 million USD	Component 2	S	S
Exchange Rate Adjusted Credit Amount	209.0 million USD	Component 3	S	S
% Disbursed	14%	Component 4	S	S

Rationale for Additional Financing:

12. Enhancing the sustainable development objective of NAIP through promoting sustainable land management was originally included in NAIP. Annex 17 of the PAD: Proposal for Investments by GEF in NAIP describes the global benefits from mainstreaming Sustainable Land Management (SLM) in agriculture innovations. In 2006 the prospects of obtaining GEF-4 financing (blended with IDA) before Board approval had diminished due to GEF institutional changes and procedural delays in project processing. Consequently, the proposed GEF grant financing for NAIP was pursued as a supplemental project under the pipeline of SLEM CPP, for which the PIF for the proposed GEF project have been approved by the GEF Council in November 2007 and included in the work program. The additional financing will help enhance the sustainability of selected NAIP activities focusing on agricultural transformation by bringing in a stronger focus on sustainable land management. The GEF support will finance projects that address land degradation, biodiversity conservation and adaptation to climate change. It will also support improved access to existing technologies that enable application of adaptation strategies to climate change. In this context project initiatives fall under NAIP component 2, 3 and 4 and are incremental for preventing land degradation with focus on sustainable land management of degraded coastal

areas while enhancing livelihood security of farming communities. The biodiversity activities aim to harmonize biodiversity conservation and agricultural intensification. The adaptation to climate change is under the GEF strategic pilot initiative to operationalize adaptation to climate change and enhance the adaptive capacity of people in drought and flood prone areas.

13. The core objective which will be addressed through activities in these three focal areas of GEF is the sustained improvement in the incomes and well-being of farm families in the mainly rain-fed, hilly and mountain, dry land, tribal dominated and coastal areas which have so far been left behind in the development process. Through this geographical and subject matter focus, the project will promote SLEM in areas that are most at risk with regard to resource degradation in the form of land degradation and loss of biodiversity as well as with regard to vulnerability to climate variability and change. The additional funding will specifically target the poorest regions of the country and the farmers and farming systems where poverty is linked to natural resource degradation and which are the weakest in terms of resources to address this threat. This focus is based on the recognition that profitable and sustainable land use and ecosystem practices are the principal means for protecting India's significant environmental assets and alleviating poverty in the largest and poorest segments of the Indian society.

14. Furthermore, this project is also part of the GEF financed Country Partnership Program on Sustainable Land and Ecosystem Management (CPP SLEM). Through this partnership it is linked into the larger partnership effort through a bottom up approach that builds on a number of operations promoting SLEM to trigger policy improvements. At the partnership program level the GEF project will liaise with the Indian Council for Forestry Research and Education in Dehradun, which on behalf of the Ministry of Environment and Forest has the specific task of synthesizing and packaging, for a number of different target groups (public as well as civil society organizations), the lessons learned from the individual partnership projects and translate them into policy advice and operational guidelines for application at national level.

III. PROPOSED CHANGES

15. The additional GEF financing in the amount of US\$7.34 million *does not entail any changes* in the implementation arrangement of NAIP. NAIP objectives remain as well as the project management, financial management, procurement, and environmental and social arrangements. The GEF support will expand the scope of NAIP by including three sub-projects in land degradation, biodiversity, and adaptation to climate change and thus enhance the ability of the parent project to generate additional global benefits as defined by the project global objective.

16. The indicative co-financing plan for the proposed activities is presented below:

Table 2: Financing Plan at Appraisal

Category	Overall project financing envelope		
	GEF Grant (US\$ Million)	IDA Co-financing(US\$ Million)	Total
1. Harmonizing biodiversity conservation and agricultural intensification**	1.99	25.0	26.99
252. Sustainable management of degraded coastal land and water **	2.36	25.0	27.36
3. Enhancing community adaptive capacity to cope with to climate change impacts**	2.58	30.0	32.58
4. ICAR Project Management	0.41	8.0	8.41
TOTAL	7.34	88.0	95.34

Note: **Contingencies of 7% have been included

17. Following the procedures developed under NAIP, three sub-projects have been selected for implementation in line with project activities under component 2, 3 and 4. The sub-projects will focus on support to agricultural transformation and sustainable rural livelihood security; land degradation in degraded coastal lands, biodiversity conservation and agricultural intensification, and enhanced adaptive capacity to climate change in drought and flood prone areas.

18. The final selection of activities and subject matters of the sub-projects were made by applying a set of eligibility, screening criteria and scoring evaluation system (covering policy, institutional and technical aspects related to land degradation, biodiversity and climate change). These were developed by ICAR under the NAIP to assess the viability of competing proposals.

19. The type of activities that will be supported through the three sub-projects will cover technical as well as policy and institutional aspects related to land degradation, biodiversity and climate change. Each sub-project, within its specific focal area, will develop and support locally adapted land-use and water management practices, as well as technologies like crop rotation, agro-forestry, conservation agriculture, land management, water harvesting and participatory water management in balance with profit, environmental conservation and community needs. Through application of agricultural innovation the project aims at producing new skills and transfer technology in these areas to help bring new knowledge to the next level of application thus generating more value in protection of global goods and contributing to local benefits. Economic and marketing aspects are important considerations

given that the target areas and groups are among the most disadvantaged in the country. The knowledge generated through the implementation of the sub-project activities will enrich the policy development beyond the scope of the GEF project focusing on improving incentives for enhanced productivity and sustainable land management and to guarantee sustainability of agricultural innovations. The latter is fully aligned with India SLEM Country Partnership objective to maintain and restore globally significant ecosystem function and services through enhanced local capacity and disseminate knowledge for scaling up successful SLEM practices.

20. In order to pave the way for efficient scaling-up of results, emphasis has been given to capitalizing on existing project channels for service delivery and access to agricultural technology rather than creation of new implementation structures. In order to link into such channels and local structures, each component has established formal relations with local development organizations (mainly NGOs) and with local government authorities during the preparatory phase. Through such cooperation, support will be provided for the development of approaches for community development and empowerment of local communities to meet the challenges which they are facing with regard to managing their natural resource base sustainably and productively. Each selected consortia implementing sub-projects therefore includes representatives from both the public and private sector with documented experience and expertise in these subject matters. Communities will be actively involved in defining and developing approaches for improved management systems and through this direct interaction and cooperation between service providers and beneficiaries, the approach to up-scaling of results will be optimized.

21. A brief description of the project activities contributing to the strategic objectives in the three GEF focal areas and aligned with SLEM CPP objective follows below:

(A) Land degradation: Strategies for sustainable management of degraded coastal land and water for enhancing livelihood security of farming communities

22. The activities under this sub-project will support the translation of innovative applied research into sound agricultural practice aiming to address the constraints to agricultural productivity due to degraded soils and water of the coastal areas with primary concern for the landless, marginal and small farmers in ten selected locations representing two of the most disadvantaged coastal areas of the country viz. the coastal Sundarbans, the delta region of the river Ganga in the state of West Bengal and in North-mid & South of Andaman island.

23. The objectives will be reached through galvanizing augmented efforts from different value chain partners to apply in practice (i) enhancement of the productivity of degraded land and water resources of the coastal region through integrated approaches for sustainable resources use; (ii) enhancement of livelihood security and employment generation for the poor farming communities of the coastal region; and (iii) empowerment through capacity building and skill development of stakeholders including men and women farmers.

24. The interventions proposed for grant financing are: (i) landscaping for improving drainage efficiency, rainwater harvesting leading enhanced productivity of low-lying

degraded land including tsunami affected land; (ii) cultivation of multiple and diversified crops, including horticultural crops, of varieties adapted for degraded saline and tsunami affected lands; (iii) integrated cultivation of crops and fish (freshwater and brackish water fish); (iv) improved irrigation system for efficient water utilization in horticultural and plantation crops; (v) promotion of composting including vermin-composting, green manuring, etc. for enhancing productivity of agriculture and aquaculture; (vi) introduction of low cost farm machineries for drudgery reduction and economic farm operations; (vii) nursery raising for horticultural crops and fish seeds; (viii) introduction and improvement in livestock/poultry management including nutrition and disease management; (ix) introduction of mushroom cultivation and bee-keeping; (x) introduction of protected cultivation for high value crops; (xi) establishment of rural technology centers in villages at project sites; and (xii) skill and capacity building of farmers and other stakeholders.

(B) Biodiversity: Harmonizing biodiversity conservation and agricultural intensification through integration of plant animal and fish genetic resources for livelihood security in fragile ecosystems.

25. Activities under this sub-project will be implemented in three districts, namely, Chamba in Himachal Pradesh (Hill and Mountain agro-ecosystem with temperate climate), Udaipur in Rajasthan (Irrigated and rainfed agro-ecosystem in Aravali hills with semi-arid climate) and Adilabad in Andhra Pradesh (Deccan Plateau and Sahyadri Hills with tropical climate). These districts represent distinct agro-ecosystems with specific bio-resource components of plants, animals and fish.

26. The objective of the sub-project will be reached through (i) assessment, documenting and valuation of on-farm biodiversity and genetically important crop population, animal breed and farming systems important for livelihood and food security; (ii) assessment of economic potential of target species vis-a-vis cost and effect of conservation in given socio-economic and ecological context; (iii) development of an information management system to facilitate planned interventions for conservation, sustainable utilization of target species/populations and enhanced market access; (iv) adding value to target species/populations through technological interventions for enhanced rural livelihood security and on-farm benefits; and (v) capacity building in agro-biodiversity management for livelihood security.

27. The interventions which will be supported under the proposed grant financing are as follows: (i) identification and improvement of landrace material and production systems through farmers' participation; (ii) implementation of "adding value" initiatives for animal genetic resources through exploiting germplasm of indigenous breeds of livestock and through health management practices; (iii) implementation of "add value" options for fish genetic resources through propagation of indigenous fish species for conservation and stock enhancement; (iv) development of an information management system to facilitate planned interventions for conservation and sustainable utilization of targeted species/populations; (v) capacity building in agro-biodiversity management for livelihood security through organization of grass-root level trainings; (vi) empowerment of farm communities through documentation, and validation of local varieties through characterization and registration; (vii) putting in place a management system for genetic resources of agro-biodiversity aiming

at diversification and benefit sharing using local resources, community seed banking, marketing etc.; and (vii) developing a replicable model for livelihood security based on sustainable use of agro-biodiversity and agricultural intensification. These activities will feed in into the development of a national action plan for on-farm conservation of genetic diversity.

(C) Adaptation to climate change: Enhancing community adaptive capacity to cope with climate change and variability in drought and flood prone areas.

28. Activities under this sub-project will be implemented in three to four villages in eight districts of Madhya Pradesh, Haryana, Orissa, and Maharashtra. The districts and villages have been selected in cooperation with local development agencies and local government institutions in order to target communities where the introduction of innovative technologies can make an important contribution to improving the livelihoods of poor families now adversely impacted by droughts and floods.

29. The objective will be achieved through (i) identification of current and future risks to livelihoods due to climatic variability and change; (ii) development of drought indices to facilitate early warning system (EWS) for drought & promoting its use in adaptation by farmers and other stakeholders; (iii) development of community based sustainable rural livelihood strategies to minimize adverse climatic impact in drought as well as in flood prone vulnerable districts; and (iv) capacity building of stakeholders on technological adaptation and strategies for alternate livelihoods to cope with climate variability and change.

30. The sub-project will provide resources for the following interventions: (i) introduction of drought/heat tolerant seeds; (ii) new and tested technological intervention (laser leveling, sprinkler/drip irrigation, nursery raising etc.) to enhance adaptation to climate change; (iii) develop community based drought preparedness plans; (iv) develop watershed/catchment management action plans including land and water resources development, common property resource regeneration to enhance adaptation to climate change; (v) introduction and improvement in livestock, including local poultry, management through better health care and better production systems; (vi) introduction of flood-tolerant improved seeds (rice/pulses/oilseed/fodder plants); (vii) introduction of diversified crops (vegetables, flowers, oil seeds, fiber crops, fodder crops, spices, fruits), crop rotations, integrated natural resource management (related to inclusion of common property resources in the adaptation process) and integrated pest management; and (viii) development of integrated flood and drought early warning and information system.

31. Mainstreaming SLEM in policy development using the project knowledge system built on the three sub-project activities promoting sustainable land and ecosystem management approaches and techniques will materialize into policy guidelines targeting public and private institutions. This activity will ensure that public and private organizations understand, adopt and apply SLEM practices and policies to combat land degradation, integrate conservation of indigenous biodiversity for value addition in the farming systems, and enhance the resilience of local farming through technological transfers and adaptation to climate variability and change based on indigenous farming practices.

Implementation Schedule

32. The NAIP planned closing date is June 30, 2012. The proposed implementation completion date of the activities under the additional grant financing is June 30, 2013. The additional time to complete GEF activities will be necessary due the seasonal nature of field based activities and time to complete the project ICR. The additional six months are unlikely to impact the ability of NAIP to deliver of the original scope of activities as planned. The GEF project has budget provisions to cover the project management cost. During the project mid-term review an assessment of the optimal project management arrangements to complete GEF activities beyond the NAIP closing date will be undertaken. The additional grant financing is expected to become effective by Q2 of FY2010.

33. Table 3, below, presents cost by categories of expenses of the budget allocations to be financed under the proposed project:

Table 3: Activity Costs at Appraisal

Activity costs	Disb. Cat.	Foreign	Local	Cost by Focal Area in US \$ million			Total
				Land degradation	Biodiversity	Climate change	
		%					
Capital Expenditure for Sub-Project Inputs							
1) Construction of Rural Technology centers and related minor facilities for Training, Seminars and Dissemination	W	0%	100%	0.08	0.10	0.04	0.22
2) Equipment and fixtures(required for data collection from farmers field to decide input/ interventions required, analysis, presentation and compilation of results, knowledge dissemination etc)	G	0%	100%	0.20	0.11	0.31	0.63
3) Furniture for Rural Technology Centers and training	G	0%	100%	0.01	0.00	0.01	0.02
4) Library Books/Journals/ Databases and reference materials for training	G	0%	100%	0.01	0.01	0.02	0.04
5) Demonstration Activities with Farmers and Verification of Results of Field Work (including inputs, consortia operational costs & institutional charges for implementing sub-projects)	TA	0%	100%	1.35	0.81	1.42	3.58
6) Computer Hardware & Bulk Software Required for Management of Data and Preparation of Training Material	G	0%	100%	0.03	0.05	0.10	0.19
Sub Total				1.68	1.09	1.90	4.68

Recurrent costs for Field Implementation of Sub-projects							
7) Contractual Services required for day to day management of various interventions at farmers field, data collection, analysis etc	S	0%	100%	0.24	0.40	0.17	0.82
8) Workshops, seminars etc (for mass awareness, review of progress etc)	TW	0%	100%	0.01	0.02	0.03	0.06
9) Human Capacity Building and trainings on cutting edge technologies for stakeholders	TW	0%	100%	0.11	0.12	0.15	0.38
10) Field Travel Costs	TA	0%	100%	0.10	0.13	0.10	0.33
11) Hiring of Vehicle for field supervision	IOC	0%	100%	0.05	0.09	0.06	0.20
12) Repair And Maintenance Cost i) Works ii) Equipments	IOC	0%	100%	0.01	0.00	0.00	0.01
Sub Total				0.52	0.77	0.51	1.80
Total Baseline Cost				2.21	1.86	2.41	6.48
Contingencies 7% on Total Baseline				0.15	0.13	0.17	0.45
Project Management Cost	IOC	0%	100%	0.10	0.20	0.11	0.41
Grand Total				2.46	2.19	2.69	7.34

IV. CONSISTENCY WITH CAS

34. The project is consistent and will contribute to the Bank's strategic development objectives of the Country Assistance Strategy (CAS) (Report No. 46509-IN). Challenges to sustainable development from the rising demands on already scarce and often degraded natural resources if not addressed would impact negatively human livelihoods and growth prospects. Most environmental indicators exhibit negative trends, suggesting that growth is having a negative impact upon the country's natural resources. There is a danger that resources depleted for current growth jeopardize future development prospects. The proposed project activities are aligned with the objective of two of the CAS pillars: (i) achieving rapid inclusive growth and (ii) ensuring development is sustainable. The project is also will contribute to achieving several goals of the 27 national targets under India's XIth Five Year Plan (2007-2012) in that it will assist in strengthening the agricultural research and extension system, with efforts to promote demand-driven, decentralized public agricultural research and extension systems, greater public-private partnerships, and closer linkages with various domestic and international sources of technologies and knowledge. The project focus is in line with the increasing Bank support to India focusing on expanding the knowledge base of climate change and variability impacts and adaptation in agriculture.

V. APPRAISAL OF SCALED-UP PROJECT ACTIVITIES

Economic:

35. The economic and financial analysis of the NAIP project points out that past returns on investment in Indian public agricultural research systems has been high and that is no reason why this should not continue to be the case through the NAIP project. In the case of the GEF additional financing, it could be expected that return on investment could be even higher than for more mainstream agricultural research as the focus is on disadvantaged groups in area which currently are very low in productivity. The start is thus from a very low base which is a good starting point for generating good return on investment. The focus on marginal areas and disadvantaged groups represents of course also a higher risk factor and, in particular the adaptation to climate change component might be considered a higher risk than the other two components. The fact that India now has a strong focus on spreading the economic development to areas that hitherto have been left behind in the development process should be a guarantee for a sustained effort on the objectives defined for the GEF financed additional component. This, in combination with a rigorous M&E system designed to continuously monitor and correct project intervention efforts maximizes the possibilities for generating a high economic return on this additional investment.

Technical:

36. As pointed out in the NAIP project, it is well accepted that a strong science and technology system can make important contributions to sustainable and equitable agricultural development. This requires, however, that the research and development (R&D) process is inclusive in terms of the approach that is applied, the subject matters that are addressed and the geographical areas that are targeted. The green revolution resulted in spectacular productivity increases but was also limited to high potential areas and a rather limited target group with better opportunities to afford investments. In the case of the GEF additional financing, the focus is now on the most marginal areas as well as some of the most marginalized rural population groups. The R&D approach to be pursued is also very inclusive and, in line with the approach that has been designed for NAIP project, the end-user is just as important a participant in the R&D process as scientists, extension workers and civil society partners in the process. This all-inclusive approach also leads to a shift in focus from the more traditional commodity focused research model to an R&D process that is more farming system, or ecosystem based and thus seeks to maximize the output from the farm as an economic entity as well as from the ecosystem within which farms operate. This means that common property resources and forest resources under the management regime of forest departments will also be brought into the process of seeking holistic solutions which in turn brings in landless and other marginalized people into the process.

Institutional:

37. There are no major institutional issues. The implementation arrangements for the project will follow the governance structure that have been put in place for the NAIP and thus be implemented by the Indian Council for Agricultural Research (ICAR). That is, a decentralized model will be applied and each block will be implemented by consortia that have been selected on a competitive basis. A number of structures and bodies have been set

up under NAIP for facilitating and ensuring smooth and effective implementation which will be employed under the proposed GEF activities. These are below:

Box 1: Institutional Framework for Implementation

Governance and Selection Bodies

A National Steering Committee (NSC) of key stakeholders selected from National Agricultural Research Systems has been established by the ICAR to serve as the national apex body responsible for overseeing all aspects of NAIP. The NSC sets policies and provides guidance to ensure the timely achievement of the main goals of the project. The NSC will principally provide guidance to the Project Management Committee (see below).

The Research Program Committee (RPC) has the responsibility for objective and transparent assessment and selection of activities proposed for grant funding by consortia. The RPC has thus been the final authority in the selection of the three GEF funded components and related consortia. The RPC will also be involved in Annual Review Workshops and in Mid-Term Reviews (MTRs).

Consortium Advisory Committees (CACs) are responsible for setting priorities, for local level oversight, for monitoring implementation, and for approving any required modifications in the implementation program. The CACs principally provides guidance to the Consortium Implementation Committees (see below).

Implementation Entities and Advisory Bodies

A Project Management Committee (PMC) has direct executive responsibilities for the overall management of NAIP including the GEF-financed activities and thus for the effective and efficient implementation of the entire project, resource management and use, and monitoring and evaluation (M&E). The PMC also serves as the link with the Subject Matter related Divisions of ICAR - for technical liaison, and for resolving any management issues. The PMC will be supported by the Project Implementation Unit (PIU).

The Project Implementation Unit (PIU) is fully integrated within ICAR. It is headed by the National Director and has the responsibility for the coordination and facilitation of implementation of the entire NAIP (including the GEF funded components). The PIU reports to the Project Management Committee (PMC) and a National Coordinator responsible for, i.e. the GEF funded components is based in the PIU. The PIU also comprises expertise in Administration, Finance, Procurement, M&E, MIS and Social and Environmental aspects.

SLEM CPP program level: MoEF through ICRFE - a TFO established for the purpose of implementation and oversight of entire Program pipeline will be part of the governance structure. Representative of ICRFE will participate in the annual review meetings on the progress of GEF financed activities. Representatives of the ICFRE will visit annually the implementing sites with the NAIP NC assigned for the GEF activities. ICFRE will prepare an assessment of the progress.

Reporting Arrangements and M&E Process:

38. The ICAR PIU will submit to the Ministry of Environment and Forest (the national GOI agency responsible for the SLEM-CPP), and to the Ministry of Agriculture (which is oversight agency for NAIP) and to the World Bank, as the trustee and a GEF Implementing Agency a semi-annual and Annual reports. This will include: (a) based on agreed indicators progress on project performance reporting on annual and end-of-project targets; (b) successes and problems encountered during the reporting period with suggested remedial actions; and (c) social and environmental impacts of the project. In addition the PIU will submit to the World Bank and to MoEF through ICFRE up-to-date physical and financial expenditure data compared to annual and end-of-project targets based on agreed formats.

Box 2: Project Monitoring and Reporting

Half-yearly assessment of progress for block activities will be undertaken by the Consortium Advisory Committee. A Peer Review Team comprising external experts will undertake a Mid-Term Review and an evaluation at the completion of each component.

Annual Reports: Draft annual reports will be prepared by the Consortium Monitoring Unit. The advisory committee for each component of NAIP will appoint a Project Review Team (PRT) and organize an annual workshop to discuss the report. On the basis of inputs from each component the National Coordinator (NC) will then compile an overall annual report for the GEF financed activities. The overall review process will follow the agreed process under NAIP. The report will be made available on relevant websites and submitted to the ICFRE, the Ministry of Agriculture and the World Bank.

Mid-term Reports: Mid-term report for the GEF financed activities will include (but is not limited to) the following information: (i) trends towards meeting the global objective; (ii) activity implementation aspects; (iii) Environmental and social safeguards aspects; and (iv) lessons learned, mid-course corrections and re-direction. The reports will be submitted to ICFRE, Ministry of Agriculture (MoA) and the World Bank.

Final Report for each sub-project: A completion report will present and discuss the results and achievements of the project in terms of achieving its global objective and impact of project activities. The report will provide information and concrete examples how the technologies, approaches and policies promoted by the GEF activities influenced the farmers livelihoods, behavior and local land management practices. The innovations in technology and SLEM approaches introduced as a result of implementation of each component will be brought out. The report will be submitted within two months of the completion of each sub-project. All reports will be examined for completeness to ensure that documents in support of achievements/claims are included as well as all necessary budgetary and expenditure plans. The leader of each component may be asked to provide clarifications/explanations and make amendments/modifications.

Management Process Indicators: Implementation of GEF activities will be monitored through semi-annual reports provided for each sub-component by the PIU. ICRFE on behalf of the MoEF will take part in reviewing these reports. The review among other issues will focus will be on the decision-making processes in for each block and cover such things as the extent to which the consortium retains or strengthen its inclusiveness, the internal procedures for overcoming differences of opinion and conflict management, and the quality and timeliness of financial management and procurement.

The M&E Process: Each sub-project will go through roughly three phases: (i) an initial phase of six months for pre-project activities in which the focus will be on needs analysis, orientation and sensitization of stakeholders, and verification of targets, output and outcome indicators; (ii) project implementation *per se*; and (iii) a final phase of six months for post-project activities in which reports containing information on outputs, outcomes, dissemination, and success will be brought out; and in which planning for follow-up activities (continuation/further expansion/commercialization) will be finalized.

Link to SLEM CPP:

39. The Sustainable Rural Livelihoods Security through Innovations in Land and Ecosystem Management Project (the GEF additionality) is one of the seven projects of India SLEM-CPP. The national level monitoring, institutional coordination and policy harmonization will be carried out by the Indian Council of Forest Research and Education (ICFRE) on behalf of MoEF. ICFRE will be responsible for mainstreaming and national dissemination of lessons learned for scaling up of SLEM practices from projects under

SLEM-CPP. This will include policy advice as well as guidelines and approaches with regard to planning and implementing natural resources based economic activities. A number of different media will be used including, printed material, videos, workshops, seminars and different e-learning techniques. Lessons learned will have a wide audience willing and able to benefit from them to the maximum. In order to allow for this mainstreaming and up-scaling process to take place efficiently, individual project under SLEM-CPP will submit progress and evaluation reports to ICFRE at the time of the submission of the progress reports to the project oversight structures. In turn individual projects will make best efforts to maintain communication with ICFRE in order to provide the necessary information on lessons learnt.

Procurement:

40. The activities under the proposed additional financing will follow the established procurement arrangements of the NAIP project, which is being satisfactorily implemented. An assessment of the borrower's capacity to implement procurement under the NAIP has been carried out by an accredited procurement staff. A full time procurement officer in the PIU will be the nodal point for all procurement related matters in the NAIP and GEF activities and will function as the main nodal person to guide and advise the implementing consortia on procurement procedures. An Operation Manual for the GEF financed activities has been drafted and will be completed prior to negotiations (Annex B).

Financial management:

41. The financial management arrangements i.e. procedures for fund flow, accounting, internal control framework, financial reporting and auditing for the proposed additional financing will be the same as those followed in the NAIP. These arrangements are established and working well on the ground in NAIP generating timely accounts, FMRs and Annual Audited Financial Statements. The current FM Rating for the Parent Project (NAIP) is "Moderately Satisfactory".

42. The GOI will open a separate Special Account with RBI to receive the GEF grant. There will be a separate budget line for the proposed GEF Grant under the budget head for NAIP. The Project head quarter of ICAR at Delhi (PIU) will open a separate bank account for the proposed grant. Funds will be released by the PIU ICAR directly to each consortium member as is done for the parent Project. If a consortium member under the GEF Project already has a separate bank account for the parent Project, the same bank account will be used for the GEF Grant. In case the consortium partner is not a participating agency under NAIP, then the agency will open a separate bank account for the GEF Project. However, separate ledger accounts will be maintained for the GEF Project by each consortium partner so that money received and expenditures incurred under the GEF Project can be easily identified. Audit arrangements will be the same as in NAIP with an annual external audit and periodical internal audits (Annex C).

Environmental and social safeguards:

43. The Environmental and Social Assessment and Management Framework (ESMF) prepared for the NAIP project will be applied to all activities planned under the activities for

additional financing. There are no new safeguard policies triggered. The NAIP project has been classified as a Category 'B' project. Same category will apply for the proposed additional financing. Given that the interventions essentially relate to the development and dissemination of appropriate agricultural and ecosystem related technologies, the impacts are expected to be mostly positive. However, it might occur that temporary inadvertent adverse effects may arise during implementation. A Safeguards Management Framework and a Checklist of Impacts likely to occur has been prepared and applied to NAIP activities. The M&E system has been developed and implemented under NAIP to capture implementation situations of various environmental and social parameters at an early stage and allow for adaptive management and corrective measures to be taken before any significant negative effects result. Environment and Social Assessment specialist in the ICAR PIU is responsible to oversee the environmental and social aspects and compliance to safeguards requirements for all sub-projects. The safeguards notes for the three sub-projects have been reviewed by ICAR and will be posted on the NAIP website.

Expected Outcomes

44. The project is expected to provide significant outcomes in technical terms, in terms of policies and guidelines for an ecosystem approach to sustainable land management in the context of adaptation to climate change, combating land degradation and sustainable use of agricultural biodiversity. All these combined will result in improved livelihoods for some of the most disadvantaged groups in the Indian rural society. The outcomes have been defined as four distinct products: (i) land management recommendations on sustainable management of degraded coastal soil and water for livelihood improvement; (ii) strengthened policies and institutional capacity for land use planning resulting in enhanced livelihood security based on sustainable use of local biological resources; (iii) functioning coping mechanism for climate variability and change; and (iv) tested and verified SLEM approaches and techniques under implementation through public and private institutions. These outcomes are supported by several quantifiable outputs, including, but limited to: (i) over 10,000 ha of agricultural land under sustainable land management regimes; (ii) 2500 farmers having adopted coping mechanisms for climate change and variability; (iii) 30-35% increase in productivity in targeted farm land through agriculture, aquaculture and allied activities; (iv) 3,000 land holders in four villages benefiting from practicing sustainable land management practices for optimizing biodiversity; (v) at least 30 public and private organizations applying SLEM practices and policies to combat land degradation, increase utilization of indigenous biodiversity and adaptation techniques in agriculture based livelihoods to climate variability and change. **Annex A** provides a summary of the project results framework.

VI. BENEFITS AND RISKS

45. The GEF additional financing will support activities in three GEF focal areas: adaptation to climate change, land degradation, and biodiversity. Each one of them has, however, benefits that go beyond its own, more narrow focal area definition. The land degradation activities will focus on coastal areas and land degradation caused by floods and intrusion of sea water. Both these causes of land degradation are becoming more pronounced

through the affects of climate change and thus, the initiative responds both to current challenges and future more aggravated challenges of similar kind. The lessons learned through the land degradation initiative will be applicable not only in other parts of Indian coastal regions but also to coastal regions in other countries that are facing similar challenges. The focus on efforts to upscale the results will ensure that benefits are not localized but that larger geographical areas as well as population groups become beneficiaries. As the land degradation initiative will aim at improved water management and introducing next-to year round agricultural production, an overall decreasing trend in the severity of land degradation (measured through percentage increase in Net Primary Productivity (NPP) is expected as well as an improved protection of ecosystem functions and processes, including carbon stocks in soil, plants and biota (measured through percentage increase in carbon stocks (soil and plant biomass), and percentage availability of fresh water and Rain-use Efficiency (RUE).

46. The support focusing on adaptation to climate change will focus on drought prone areas in central and northwestern India and in flood prone areas in eastern India. In addition to developing strategies for natural resource management that are better adapted to current climate variability and future climate conditions in both drought and flood conditions, the initiative will evolve a technology for early warning which will have a potential significant impact on improving the planning capacity in the agricultural sector.

47. The support focusing in biodiversity will concentrate on three agro-ecosystems; temperate hill and mountain systems, semi-arid rain-fed systems and a tropical climate system. Through its emphasis on developing commercially viable production lines based on indigenous species and varieties of agro-biodiversity (including fish), the component seeks to secure the continued existence of such agro-biodiversity for future generations and as a future gene pool which will be available not only in the Indian context but for the global community. The combination of the initiative’s socio-economic objective of securing a sustainable livelihood for the participating communities with the global objective of securing the gene pool for future generations is at the core of this initiative. The same can be said for the other two components and as recognized most explicitly in the land degradation focal area, reaching sustainable global objectives is only possible if they are combined with reaching also local ones.

Risks and Risk Mitigation

Table 3: Risks and Mitigation

Risks	Mitigation Efforts	Risk rating
<p>Project management: Limited ability of the lead institution of each consortium to develop close and highly efficient cooperative arrangements with partner organizations in their respective initiatives.</p>	<p>The M&E structure that will allow for the identification of problems at an early stage. ICAR is responsible for facilitating the cooperative arrangement and has the authority to assist in addressing them promptly and efficiently. A dedicated senior staff will be engaged to follow the GEF supported project to ensure its successful implementation.</p>	<p>Moderate</p>

Implementation: Limited ability of each consortium to engage local communities in the work and develop ownership of the interventions.	The project planning process involves extensive consultation with the local communities. The communities will be responsible for the implementation of the plans. The M&E system will ensure that the community interests/concerns are reflected in the plans in a comprehensive manner.	Moderate
Market constraints: With regard to the biodiversity initiative, limited demand or market for products generated on local agro-biodiversity	Extensive market research and product development suitable for the demand.	High
Stakeholders buy-in: With regard to the adaptation initiative, drought early warning system is at nascent stage with limited proven success	The early warning systems builds on on-going work conducted in other states/institutions and their lessons will be applied. The work on the warning system will likely be continued by ICAR and the consortium beyond the duration of the GEF additional financing.	High
Financial management: The Project has a decentralized structure. Implementation rests with various agencies spread across the country. Coordination and oversight and ensuring uniformity will be a challenge. Due to the multiplicity of spending units fund flow management will be a challenge. There may be delays Delays in compiling and submitting FMRs/SOEs to the Bank	The existence of PIU in as a coordinating agency will make implementation easier. The Financial Management Software will ensure uniformity and ready availability of information for decision-makers. Internal audit will also strengthen the oversight function of the management. Capacity building through training in FM will be conducted by PIUF following the financial management manual developed for NAIP will also uniformity Funds will flow directly from PIU to the spending unit and not through intermediaries. Funds transferred through Bank electronic clearance system to avoid delays. Standard timelines for processing requests for fund release laid down. As per arrangements agreed for NAIP, PIU, ICAR will not release funds unless expenditure statements for earlier releases are submitted. This will be complemented by periodic follow-up and sensitization by PIU on the timelines of these two activities	High High Medium
Safeguards ESMF is in place but implementation is inadequate due to capacity constraints at	The institutional arrangements to implement ESMF and ensure coordination and monitoring of the environmental and social aspects among all implementing partners are in place. This includes several MDTs comprising technical officers and	Moderate

GP level	facilitators for social mobilization and designated environmental specialist at the Head office at CPD. Safeguards aspects will be monitored during each supervision mission.	
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**VII. FINANCIAL TERMS AND CONDITIONS FOR THE
ADDITIONAL FINANCING**

48. The financial terms of the additional grant financing from the Global Environmental Facility will be the standard conditions made by the World Bank to Grants. Project conditionality will remain the same as for the original credit C4162-IN and C4161-IN for “National Agricultural Innovation Project” in terms of implementation requirements.

List of Annexes

Annex A: Project Results Framework

Annex B: Summary of Procurement Assessment

Annex C: Summary of Financial Management Assessment

Annex D: Governance Accountability Action Plan

Annex E: List of NAIP projects

ANNEX A: PROJECT RESULTS FRAMEWORK

Sustainable Rural Livelihoods Security through Innovations in Land and Ecosystem Management

Project Development Objective	Result/Outcome Indicators	Use of Result Information
Strengthen institutional and community capacity on sustainable land and ecosystem management approaches and techniques for restoring and sustaining the natural resource base, including its biodiversity, while taking account of climate variability and change	<ul style="list-style-type: none"> • Over 10,000 ha of agricultural land under sustainable land management practices; • 2500 farmers have adopted coping mechanisms for climate variability and change 	<ul style="list-style-type: none"> • At supervisory and mid-term assessments, review performance of project planning and implementation and make recommendations for future interventions
Intermediate Results	Results Indicators for Each Component	Use of Outcome Monitoring
Land Degradation Block: Approaches and techniques for sustainable management of degraded coastal land and water being applied for enhancing livelihood security of the farming communities of disadvantaged coastal regions	<ul style="list-style-type: none"> • Improved land and water management practices applied on 500 ha of degraded coastal land; • Productivity in 90 ha of saline land enhanced through land shaping; • Innovative SLEM approaches and techniques in agriculture and aquaculture demonstrated on 65 ha; • Increase in crop intensity by 20-30% in targeted agricultural land; • 30-35% increase in productivity in targeted farm land through agriculture, aquaculture and allied activities; 	Measure progress at regular supervision and yearly monitoring and data collection occasions and adjust intervention practices according to need.
Biodiversity Block: Conserve and sustainably use local biodiversity (plant, animal and fish) for agricultural intensification and livelihood security.	<ul style="list-style-type: none"> • Enhanced knowledge of crop landraces, animal breeds and fish species through characterization of available cultivated gene pool (800-900 accessions); • Improved genetic stock of farm animals: rams (60), bucks (60) cattle bulls (10), buffalo bulls (10) and through AI in cattle and buffaloes (12000); • 3000 landholders practicing sustainable land management practices for optimizing biodiversity; 	Measure progress at regular supervision and yearly monitoring and data collection occasions and adjust intervention practices according to need.
Adaptation to Climate Change: Enhance capacity to respond to climate change and variability in drought and flood prone	<ul style="list-style-type: none"> • Best practice notes, operational guidelines and other teaching and capacity building tools related to coping mechanisms for climate 	Measure progress at regular supervision and yearly monitoring and data collection occasions and

<p>areas, realizing new opportunities for livelihood sustainability.</p>	<p>change and variability based on (i) improved soil and water management practices. (ii) better adapted crops and crop varieties, (iii) better adapted livestock species and races, and (iv) integrated resource management systems finalized;</p> <ul style="list-style-type: none"> • X Number of village resource centers promoting training and capacity building on adaptation to climate change and variability for Y number of farmers; • Establish Early Warning System for drought prediction to be used by farmers and other stakeholders; 	<p>adjust intervention practices according to need.</p>
<p>SLEM Policy Mainstreaming and linkage to SLEM-CPP: Sustainable land and ecosystem management approaches and techniques mainstreamed into guidelines and policies of public and private institutions</p>	<p>At least 30 public and private organizations applying SLEM practices and policies to combat land degradation, increase utilization of indigenous biodiversity and adapt to climate variability and change.</p>	<p>At supervisory and mid-term assessments, review effectiveness of SLEM approaches and techniques and make recommendations for future interventions</p>

Annex B: Procurement Arrangements

A. General

1. Procurement for the proposed project would be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" dated May 2004; revised October. 2006 and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004, revised October. 2006 and the provisions stipulated in the Legal Agreement. Main procurements to be undertaken under different components are briefly described below. For each contract to be financed by the GEF Grant, different procurement methods, consultant selection methods, estimated costs, prior review requirements, and time frame are agreed between the Grant Beneficiary and the Bank and stipulated in the Procurement Plan. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.
 - 1.1 The GEF additional financing to the on-going National Agricultural Innovation Project (NAIP) aims at enhancing its sustainability dimension by mainstreaming conservation of global public goods and will support the development and implementation of innovations in agriculture through collaboration among farmers, private sector, civil society, and public sector organizations. It does not entail any changes in the content and implementation arrangements of NAIP. The National Coordinator responsible for component 3 [under NAIP] entitled 'Livelihood Systems R&D' would be overall responsible for its implementation.
2. **Procurement under the Additional Financing:** GEF additional financing shall be implemented under four components briefly described below along with the main goods and services to be procured under each component. The four major components are: (i) Sustainable Management of Degraded Coastal Land and Water; (ii) Biodiversity Conservation and Agricultural Intensification; (iii) Enhancing Adaptive Capacity to Climate Change; and (iv) Project Incremental Management.
 - 2.1 **Sustainable Management of Degraded Coastal Land and Water:** The activities under this component will support translation of innovative applied research into sound agricultural practice aiming to address the constraints due to degraded soils and water of the coastal areas with primary concern for the landless, marginal and small farmers in ten selected locations representing two of the most disadvantaged coastal areas of the country - the coastal Sundarbans, the delta region of the river Ganga in West Bengal and in North-mid & South of Andaman island. This component envisages procurement of IT equipment, equipment for data collection and analysis, furniture, books, journals, facilities for training and dissemination of rural technology, workshops and seminars for villagers, capacity building on technology for the farmers, demonstration activities and monitoring of field results.
 - 2.2 **Biodiversity Conservation and Agricultural Intensification:** The activities under this component will support harmonizing biodiversity conservation and agricultural

- intensification through integration of plant animal and fish genetic resources for livelihood security in fragile ecosystems. It will be implemented in three districts, namely, Chamba in Himachal Pradesh, Udaipur in Rajasthan and Adilabad in Andhra Pradesh. This component envisages procurement of IT equipment, equipment for data collection and analysis, furniture, books, journals, workshops and seminars for villagers, capacity building on technology for the farmers, demonstration activities and monitoring of field results.
- 2.3 **Enhancing Adaptive Capacity to Climate Change:** The activities under this component will support enhancing of community adaptive capacity to cope with climate change and variability in drought and flood prone areas. It will be implemented in three to four villages in eight districts of Madhya Pradesh, Haryana, Orissa, and Maharashtra targeting communities where the introduction of innovative technologies can make an important contribution to improving the livelihoods of poor families adversely impacted by droughts and floods. This component envisages procurement of IT equipment, equipment for data collection, analysis and dissemination, furniture, books, journals, facilities for training and dissemination of rural technology, workshops and seminars for villagers, capacity building on technology for the farmers, demonstration activities and monitoring of field results.
- 2.4 **Project Incremental Management:** This component aims at project management, monitoring and capacity building. This component envisages hiring of a Project M&E Consultant, establishment of Consortium Monitoring Units for each sub-project, contract staff and other incremental operating costs. There is a provision to hire an independent entity for carrying out outcome based impact evaluations at three stages: baseline, mid term and at project completion.
3. **Procurement of Works:** Minor works under sub-projects are envisaged.
4. **Procurement of Goods and Equipment:** Goods and equipment procured under this project would mainly include: purchase of office equipment, equipment for data collection, analysis and dissemination, office furniture, books, journals, materials for technology adaptation and training. Most of the procurement of goods and equipment would be of small value and would follow Shopping or NCB depending upon the value of the contract. The estimated contract value is more than US\$ 30,000 or equivalent will follow NCB method. If the estimated contract value is less than US\$ 30,000, shopping methods will be followed. The DGS&D rate contract is an acceptable method in substitute for Shopping. ICB procurement of goods is not envisaged at this stage.
5. **Direct Contracting:** Satellite Imagery, aerial photographs, maps and research data, books, periodicals, manuals, software, proprietary items, seeds, plants, fertilizers etc. and petty items costing less than US\$100 may be procured following direct contracting procedures. Items costing US\$5,000 or more proposed under direct contracting procedures would require prior approval from the Bank.

6. **Force Account:** Small works which meet requirement of Para 3.8 may be carried out following force account procedures. Farm development works are expected to be carried out following force account procedures. The works estimated to cost US\$ 10,000 or more proposed under force account procedures would require prior approval from Bank.

7. **Selection of Consultants:** Selection of Consultant would include hiring of International Consulting firms, national consultants and individual consultants for implementing the components. Except as otherwise provided QCBS will be the preferred method. Other methods of selection of consultants such as QBS, FBS, LCS and CQ shall follow the Bank Guidelines for Selection and Employment of Consultants and shall be limited to USD 100,000 or equivalent in each case. Single Source Selection for consultancies identified and included in the Procurement Plan, such contract will be equivalent to US\$ 50,000 or equivalent in each case. For Single Source Selection method Para 3.9 and 3.10 of the Consultant Guidelines will be followed. Short lists of consultant firms for services estimated to cost less than US\$ 500,000 or equivalent per contract may comprise entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

8. **Sub-projects:** Sub-project funded under NAIP and GEF additional financing will be implemented by various consortia under components 2, 3 and 4 of the project. ICAR will sign an MOU with each sub-project consortia which will follow the format used by NAIP. Following GEF CEO approval of the grant the MOUs for the three GEF sub-projects will be signed with ICAR and submitted the Bank. The following four broad criteria will cover their working and procurement arrangements in the project.
 - (i) The consortia will be selected on the criteria agreed in the PIP
 - (ii) The consortia must meet the reporting deliverables as agreed in the PIP;
 - (iii) The financing plan setting out the benchmarks/milestones against which funds will be released must be respected
 - (iv) The procurement procedures agreed for NAIP will be followed.

9. **Training and Workshop:** Trainings will basically cover dissemination of rural technology to communities, farmers and villagers.

10. **Operating Cost:** This will mainly include incremental and operating cost for hiring of vehicles, purchase of consumables, repairs of equipments, purchase of stationery, publication, production of short films and documentaries, meeting costs etc.

11. **Prior Review Threshold:**

The threshold for prior review contract will be reflected in the Procurement Plan. The initial thresholds are US\$ 200,000 and above for goods and equipment and works and US\$ 100,000 and above for consultancies involving firms. The threshold for individual consultants is US\$ 50,000 and above.

12. **Post Review:** All contracts not covered under prior review will be subject to post award review. For this review, a sample of the contracts awarded shall be selected annually on a random basis and post award review conducted by the bank or its representatives. The post review contracts to be reviewed will be 15% of the total post review contracts concluded during the given period of time.

B. Assessment of the agency’s capacity to implement procurement

13. **Procurement Capacity:** Since this Project will be implemented under Component 3 of NAIP, the implementation arrangements as agreed under NAIP (after assessment of the procurement capacity under NAIP), would also apply to this additional GEF financing.
14. **Procurement Arrangements:** Procurement Arrangements, Risks and Mitigation Measures, Reporting and Disclosure Requirements, Record Keeping, Complaint Handling, Monitoring etc would be as agreed under NAIP. No additional conditionality related to procurement is envisaged.
15. **Risks related to procurement and Mitigation Plan**

The following table lists perceived procurement related risks and the mitigation plan.

Perceived Risk	Action Completion	Mitigation measures
1. No uniform procurement procedure and SBD’s across the country.	1. During project implementation phase	1. Bank Procurement Guidelines, SBD’s will be used by all the implementing/procuring agencies to have uniformity in procurement under the project. Also for uniformity and capacity building guidelines, templates, standard bidding documents, standard evaluation reports shall be prepared and shared with the PIUs.
2 Documentation Maintenance	2. During project implementation phase	2. At the beginning of the project a brief over view of the documents to be maintained and filed would be discussed with PIU. Subsequently during project implementation, the record keeping and documentation regarding procurement will be monitored.
3. Probability of staff handling procurements being transferred	3. During project implementation phase	3. Agree with the PIA that the trained procurement staff will normally not to be transferred during the project period
4. Capacity Building & training	4. During project implementation phase	4. Joint project launch workshop which covers review of procurement plans and responsibilities and periodical training as a capacity building measures by the Bank. Joint project launch workshop which covers review of procurement plans and responsibilities and periodical training as a capacity building measures by the Bank Provide Procurement staff with training (e.g. at NIFM, ASCI etc) and follow up with refreshers if required..

5. Contract Management	5. Every quarter after the project is declared effective.	5. A quarterly report of all the ongoing contracts a detailed status report including contract management issues such as delays, payment, etc will be submitted to the Project Director and reviewed by him. and also submitted to the Bank
6. Establish a Complaint redressal mechanism.	6. Every quarter after the project is declared effective	6. A quarterly report of all complaints received and action taken will be submitted to the Project Director and reviewed by him and submitted to the Bank

16. **Others:** NAIP shall ensure that the Project is carried out in accordance with the provisions of the World Bank Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits (revised October 2006).

C. Procurement Plan

17. The project seeks to achieve its objectives through the consortium concept common to all components (i.e. except the capacity building component). The selection of activities proposed for GEF grant funding by consortia was based on transparent assessment and well defined procedures. As per the original NAIP procurement requirements for sub-projects under component 1, 2 and 3 respective proposals included draft procurement plans. Due to lapse of time since selection was completed the sub-project consortia will submit an updated procurement plan during the first three months of grant effectiveness. Thereafter, the Annual Plan approved by NAIP National Steering Committee will include an updated Procurement plan for 12 months activities.

D. Frequency of Procurement Supervision

18. In addition to the prior review to be carried out by Bank, general review of procurement will be undertaken during full fledged bi-annual supervision missions.
19. The project risk for procurement is MODERATE.

E. Details of the Procurement Arrangements Involving International Competition

20.1 Goods, Works, and Non Consulting Services

- (a) List of contract packages to be procured following ICB and direct contracting: Not applicable.

20.2 Consulting Services

- (a) List of consulting assignments with short-list of international firms: Not Applicable.

ANNEX C: FINANCIAL MANAGEMENT

1. Financial management arrangements for the proposed additional financing is considered adequate to report project resources and expenditures and meet the fiduciary requirements of the Association. The same FM arrangements as developed and implemented under the NAIP and documented in the NAIP FM Manual will be followed for this operation.
2. The GOI will open a separate Special Account with RBI to receive the initial deposit under the GEF grant and thereafter the grant will be disbursed to this Account by way of reimbursements of expenditures already incurred against documented claims and SOE. A uniform reimbursement rate of 100% will apply across all project components and activities under this Grant. Funds will be disbursed against the same composite expenditure category as in NAIP comprising Goods, Works, Services, Training and Incremental Operating Costs.
3. The funds for this operation will be made available to ICAR through the Ministry of Agriculture under the Plan Budget. The GEF grant funds will be budgeted for as a separate line item under NAIP in ICAR's plan budget. The Project head quarter of ICAR at Delhi (PIU) will open a separate bank account for the proposed grant. Funds will be released by the PIU directly to consortium partner. However, the lead agency of the consortium will have to approve the release before PIU releases the fund. Release of funds to each consortia member will be as per the MOU between ICAR and the lead agency of the consortium which will specify the schedule of payments (initial advance and the subsequent installments) and the milestones to be achieved to qualify for each next installment.
4. If a consortium member under the GEF Project already has a separate bank account for the parent Project, the same bank account will be used for the GEF Grant. In case the consortium partner is not a participating agency under NAIP, then the agency will open a separate bank account for the GEF Project. However, separate ledger accounts will be maintained for the GEF Project by each consortium partner so that money received and expenditures incurred under the GEF Project can be easily identified
5. As and when a consortium is formed, each consortium member will have to get their Financial Management Systems assessed and certified by one of the CA firms from the PIU roster² or a CA Firm³, before funds start flowing to the consortium. The CA firm will certify that the Financial Management System of the consortium members is compliant with the requirements laid down in the financial management manual. This condition will be documented in the ICAR'S agreement with each consortium. This arrangement is in

² PIU will identify a roster of A Category Audit Firms empanelled with the C&AG.

³ A list of CA Firms qualifying for such review is available with NAIP. These are essentially the first 100 firms in India listed by the Institute of Chartered Accountants of India.

line with the system followed in NAIP. However, if a consortium partner under the GEF Grant already implementing the NAIP Project, then the consortium partner will not be required to go through the certification process once gain.

6. The finance wing of NAIP in the PIU, ICAR comprising Director Finance and Senior Finance and Accounts Officer, both from the ICAR system together with a chartered accountant hired on contract basis will manage the finance functions for this operation at the PIU level. The Finance staffs of each consortium partner under the GEF operation will be identified and trained in FM procedures before funds are released.
7. The Internal Control Framework, Accounting and Financial reporting for this operation will be done following the same system as NAIP as documented in the Financial Management Manual. Customized off-the-shelf web enabled accounting software is currently being rolled out for the NAIP which will also be used for the proposed additional financing operation. The operation will be subject to Internal and External audit following the agreed procedures under NAIP. Annual external audit report as part of the consolidated audit report of NAIP with a separate schedule for the GEF operation will be submitted to the Bank within 6 months from the end each financial year. Quarterly unaudited financial reports will also be submitted by PIU to the Bank as part of consolidated reporting under NAIP separately identifying receipts and expenditures under the GEF Operation.

ANNEX D: GOVERNANCE AND ACCOUNTABILITY ACTION PLAN

1. The GAAP developed for the National Agricultural Innovation Project (NAIP) to which the additional GEF grant financing is proposed will apply. The institutional process applied to selection of three blocks of activities proposed for additional financing has been completed and therefore GAAP actions related to implementation will mostly apply to the execution of the GEF grant.
2. The NAIP realizes that the one tool which can make a marked influence on good governance is free and wider access to information by all concerned. Easy access to information can also ensure that the principles governing NAIP implementation are not subverted at any level by any individual. Accordingly, the project has adopted a Suo-moto disclosure of information as its guiding principle in its endeavor to ensure transparency. In addition to this, the project, in line with the requirements of the Right to Information (RTI) Act 2005, provides on-demand information as prescribed by law. Experience shows that success of a project is very closely associated with an efficient and responsive grievance redressal mechanism which is based on a responsive administration. The project intends to implement a responsive grievance handling mechanism at various levels by putting in place specific persons who shall be entrusted the responsibility for the same, with provisions of online tracking and monitoring of the deliverance on this score. The entire objective of the GAAP is to put in place systems which are transparent in functioning, information that is accessible by all, and above all a governance mechanism which delivers as per the design principles of the project

Project Design principles

3. The main principles employed to the design of the project is to promote objectivity, transparency and good governance are:
 - NAIP is envisaged as an integral part of the agricultural R&D system of the country. It does not build a parallel system, but relies on the existing institutions and organizations in and around the sector.
 - NAIP provides opportunities for public, NGOs and private partners to work together and is investing in facilitation and match making activities.
 - NAIP invests in demand-driven research (Components 2 and 3) as well as in strengthening the basic research capacity (Component 4).
 - NAIP funded consortia have been designed with stakeholder participation from the first stage onwards, and in the consortium selection process the quality of stakeholder engagement and participation has been a key important criterion.
 - Intellectual Property Rights (IPR), contractual arrangements and benefit sharing are being addressed in the working modalities of the consortia in Components 2, 3 and 4 and in the Business Development Units of Component 1.

- NAIP is funding a smaller number of much bigger sub-projects.
- Linking direct disbursement with the establishment of a computerized on-line financial management system at the PIU that is accessible to all consortium leaders and partners.
- Procurement in the NAP-funded consortia is largely based on the principles of decentralization.
- NAIP has developed a results-based M&E system
- Through the additional focus on the synergies between global environmental benefits NAIP will enhance local governance and accountability to protection of the value and productivity of natural assets.
- The GEF activities have been selected using the NAIP selection framework and in line with SLEM CPP objectives
- The outreach and learning events organized on an annual basis under the SLEM Country Partnership coordination mechanism will serve as additional venue for communication of the outcomes of GEF activities.

Risk Assessment and Mitigation Plan

4. As implementation of any activity has a certain element of risks involved in it, the project has identified some of the major risk elements which can have an adverse bearing on the success of the project. The list below is not necessarily a comprehensive one and it is likely that some more may be encountered as implementation progresses. The project realizes that Financial and Procurement Mismanagement and actions at any level of implementing partners which subverts the principles of implementation as designed in the PIP, are the key elements which can have an adverse bearing on the motivational level of the stakeholders, and thereby on participation which has a direct bearing on the success of the project. Accordingly, the project has come up with a Risk Assessment and Mitigation Plan as per the table below:

Potential Risks and Mitigation Measures

Risks identified	Mitigation measures	Timeline/Monitoring Frequency	Responsibility
Implementation of approved sub-projects/consortia			
Approved technical program of sub-projects not implemented in a timely manner (M)	<ul style="list-style-type: none"> • Regular monitoring by Consortium Implementation Committee (CIC), Consortium Advisory Committee (CAC) assisted by Consortium 	Year 1 onwards	Consortia, PIU-NAIP

	<p>monitoring unit</p> <ul style="list-style-type: none"> • Sample progress review by M&E consultant • Implementing online Project Monitoring and Tracking System (PMTS) • Timely advice on procurement and financial management issues and release of funds • Delegation of powers to CL/CPI/Co-PI, CIC and CAC 		
<p>Researchers do not have power/authority to spend sub-project funds (L)</p>	<ul style="list-style-type: none"> • Delegation of powers to CL/CPI/Co-PI, CIC and CAC • Sensitization to heads of institutions to implement delegated powers 	<p>Monitor during regular supervision missions</p>	<p>PIU-NAIP, CL, CPI</p>
<p>Lack of technical quality assurance during implementation (M)</p>	<ul style="list-style-type: none"> • Peer review by the members of TAG, RPC, Subject Matter Divisions (SMDs) of ICAR, experts, review of annual progress reports at NAIP and Component levels, World Bank Implementation Support Missions etc. 	<p>These actions will be monitored in tandem with the parent NAIP</p>	<p>Consortia and M&E Consultant, PIU, NAIP</p>
<p>Progress reports not submitted in a timely manner (M)</p>	<ul style="list-style-type: none"> • M&E consultant to compile and finalize the draft report component wise with the help of National Coordinators and finalize the annual progress report in consultation with the National Director using PMTS • Periodic 	<p>Regular monitoring as part of project supervision – Year 1 onwards</p> <p>Monitor reports on interaction with ICFRE</p>	<p>Consortia and M&E Consultant, PIU, NAIP</p>

	communications to CPIs to submit the progress reports on time		
Inability to address unforeseen implementation bottlenecks (M)	<ul style="list-style-type: none"> • Delegation of powers and quick redressal of issues through fast decisions of CAC, PIU-NAIP or even at higher levels 	Year 1 onwards	Consortia, PIU-NAIP
Procurement			
Inadequate procurement capacity at consortia/PIU level (M)	<ul style="list-style-type: none"> • Strengthening procurement staff at PIU, NAIP level • Training of staff in procurement at PIU, NAIP and consortia level • Regular training on procurement training for consortia partners 	During regular supervision and MTR	Consortia, PIU-NAIP
Lack of understanding of project procurement procedures (L)	<ul style="list-style-type: none"> • Regular training of consortia partners on procurement procedures • Development of procurement manual and posting it on the website • Developing FAQs and posting them on the website 	Year 1 onwards	Consortia, PIU-NAIP
Delayed procurement (M)	<ul style="list-style-type: none"> • Timely release of funds • Regular training right staff on procurement • Adequate staff in procurement • Re-adherence to procurement plan 	Year 1 onwards	Consortia, PIU-NAIP
Inadequate oversight at project level (L)	<ul style="list-style-type: none"> • Inspection by the PIU, NAIP on sample basis 	Year 1 onwards	Consortia

	<ul style="list-style-type: none"> • Review by CIC and CAC assisted by CMU • Preparation of procurement plan and its implementation • Regularly updating the procurement register 		
Lack of transparency in procurement decisions (M)	<ul style="list-style-type: none"> • Following the World Bank procurement procedures in inviting, opening and finalizing the bids and other prescribed procedures through wide consultation and participation 	Regular supervision	Consortia, PIU-NAIP
Weak technical quality control/verification	<ul style="list-style-type: none"> • Inspection by the PIU, NAIP central team and following the review formalities as per the world Bank procedures 	Regular supervision	Consortia, PIU-NAIP
Weak capacity for contract management (M)	<ul style="list-style-type: none"> • Frequent training of procurement staff at PIU and consortia level 	Report on capacity during regular supervision missions	Consortia, PIU-NAIP
Inadequate record of procurement (L)	<ul style="list-style-type: none"> • Maintaining an up-to-date inventory/record of procurement at consortia and PIU, NAIP level 	Year 1 onwards	Consortia, PIU-NAIP
Delayed installation and use of scientific equipment (L)	<ul style="list-style-type: none"> • Following the procurement procedures in verification of installation and use of scientific 	Year 1 onwards	Consortia

	equipment		
Financial Management			
<p>Since the Project involves many spending units spread across regions, ensuring proper FM systems and practices will be a challenge. (M)</p> <p>Use of project funds for purposes not related to the Project at the consortium level (M)</p>	<ul style="list-style-type: none"> • Financial Management Systems of the consortia partners will be certified by a qualified accountant before the first release of funds. • Periodic internal audits will flag control lapses and monitor corrective actions • Internal audit for periodic oversight • Technical monitoring by Consortium leader and PIU, ICAR through their M&E system to test reasonableness of physical progress vis-à-vis expenditures reported 	Year 1 onwards and specific attention to semi-annual reports	Consortia, PIU-NAIP
Environmental and Social Safeguards			
Inadequate capacity at PIU/consortia level for safeguards management (M)	<ul style="list-style-type: none"> • Strengthening training and sensitization on E&S safeguards at PIU/Consortia level • Helping to prepare the framework during handholding workshops 	During regular supervision mission organize field visits	Consortia, M&E Consultant, PIU-NAIP
Weak compliance with E&S management framework (M)	<ul style="list-style-type: none"> • Periodic circulars and communication to consortia partners for compliance, emphasizing E&S safeguard framework • Emphasizing compliance by the 	Year 1 onwards	Consortia, M&E Consultant, PIU-NAIP

	M&E consultant during the site visits		
Weak monitoring of E&S safeguards during implementation (H)	<ul style="list-style-type: none"> Emphasizing compliance by the M&E consultant during the site visits Close monitoring by CIC and CAC with assistance from CMU 	Year 1 onwards	Consortia, M&E Consultant, PIU-NAIP
Monitoring, Evaluation and Impact Assessment			
Inadequate M&E capacity at consortia and PIU level (M)	<ul style="list-style-type: none"> Periodic training on M&E at Consortia and PIU level Hiring M&E consultant for the project period 	Year 1 onwards and at MTR	Consortia, M&E Consultant, PIU-NAIP
Weak monitoring of the technical program of work at consortia and component level (M)	<ul style="list-style-type: none"> Strengthening monitoring by CIC, CAC, TAG, RPC, experts 	Regularly during supervision	Consortia, PIU-NAIP
Delayed and inadequate collection of baseline, mid-term and end project impact assessment data for the project (L)	<ul style="list-style-type: none"> Preparation and circulation of template on baseline survey Review and guidance on baseline survey during the site visit of M&E consultants 	Year one and MTR	Consortia, M&E Consultant, PIU-NAIP
Weak and inappropriate baseline and impact assessment at consortia level (L)	<ul style="list-style-type: none"> Preparation and circulation of template on baseline survey Review and guidance on baseline survey during the site visit of M&E 	Year 1	Consortia, M&E Consultant, PIU-NAIP

	<ul style="list-style-type: none"> consultants • Explicit session on baseline survey during M&E workshops 		
Weak follow up on M&E findings (H)	<ul style="list-style-type: none"> • Discussion and finalization of the M&E findings by PIU, NAIP and wide circulation among consortia partners • Quick action on the issues pointed out by M&E field visits 	Regularly after each supervision mission	PIU-NAIP
Poor communication capacity to disseminate project outcomes and outputs to different stakeholders and the public at large (M)	<ul style="list-style-type: none"> • Outsourcing individuals/institutions having communication capacity at PIU as well as consortia • Media planning for NAIP and its consortia 	Monitor and record ICAR's communication with ICFRE in addition to overall project communication and outreach	Consortia, PIU-NAIP
Sustainability			
Consortia partnerships are not sustained after NAIP closure (H)	<ul style="list-style-type: none"> • Building ownership during project design and implementation • Capacity building and institute tie-up with permanent institutions at the site level • Strengthen linkages with ICFRE 	Year 1 onwards	PIU-NAIP/ICAR
Weak capacity to mainstream NAIP systems to strengthen ICAR institutes, SAUs	<ul style="list-style-type: none"> • Involvement of SMDs in project proposal evaluation, monitoring 	To me implemented as part of the parent project	PIU-NAIP/ICAR

and other institutes (M)	<ul style="list-style-type: none"> Analysis of projects in the last year of NAIP to assess their progress and decide whether some more research is required, upscaling is required or can be taken up by the development department for multiplication 	Assessment at Mid-term review and end of project (ICR)	
Overall risk rating: M			

Rating: H= High; M=Medium; L=Low

- Based on the Risk Assessment, the project realizes the importance of dissemination of information to reduce the risks as outlined above. Accordingly, the project has come up with a disclosure strategy which shall ensure that every information, decision and process is available in public domain.

Right to Information Act

- The project not only aims to meet the statutory requirements as stipulated under the RTI Act but is designed on the principle that there should be an open access to all information. The project realizes that withholding of any information is generally governed by the intention of hiding information, which in turn, indicates that there has been some wrong committed somewhere. It is, therefore, imperative that all information is provided through websites and other means of mass communication so that the elements trying to subvert the principles would be on guard.
- The project has an informative website where suo-moto disclosure of all project related information, events, activities, acts and rules governing the project, components/sub-components is done. Besides the website, the project uses other means of mass communication for dissemination of information. For smooth implementation of RTI Act requirements, one senior officer of the rank of the Under Secretary in PIU, NAIP is declared as the Public Information Officer (PIO) who is responsible for providing on-demand information under the RTI. Similarly, each consortium partner institute has a designated senior officer as PIO under RTI. These officers shall ensure meeting all the statutory requirements of the Act.

Suo-Moto Disclosure

- The *Suo-moto* disclosure policy of the project envisages that all information is made available to all the concerned. To deliver this policy, the project has come up with a project web site having all information relating to the project design, the implementation

plan, procurement plan, M&E manual, financial management manual, procurement manual, E&S framework etc. The strategy is to provide every detailed information like rationale, objectives components, governance mechanisms, details of the officials implementing the project at various levels, their roles and responsibilities, powers and functions, the procedures as per the PIP, financial management, procurement procedures, etc.

Grievance Handling Mechanism

9. The project understands the need for having an efficient and responsive grievance handling mechanism which delivers results and ensures corrective actions within a specific time frame, if the project has to obtain the willing cooperation of all the concerned. Accordingly the project has designed a grievance handling system which not only ensures enquiring into the grievance/complaint within the specified time frame but also the remedial/corrective actions that need to be taken within a specified time frame and communication of results to the complainant.
10. It has been noticed that complaint enquiry/ handling is often assigned to the persons against whom the complaint is made. This violates the principles of natural justice of one being a judge in his own case. There are also numerous instances when the enquiries are influenced by external factors and are not based on objective assessment of the situation. In order to ensure that fairness and objectivity are maintained in the complaints against the functionaries at the PIU, NAIP level, it has been decided to follow the ICAR vigilance rules. The ICAR vigilance rules and procedures will be applicable at the ICAR based consortia and the mechanisms that are prescribed by other institutions who are partners in NAIP will follow their prescribed rules.

Implementation Mechanism

Suo-Moto Disclosure

11. In order to ensure that the objectives of the project in providing transparent and responsive Governance are translated into actions, the project has entrusted the responsibility of putting up Suo-moto information on the website upon the office of the National Director, NAIP. The website is updated generally once a week. At the consortium level, the Consortium Management Unit (CMU) or other designated bodies are responsible for updating of information on their websites/webpages.

Websites of NAIP and Consortia

12. The project has a website (<http://www.naip.icar.org.in>) functioning from the inception of the project. Similarly, the consortia also have their own websites and webpages. Some of the consortia websites/webpages are listed below:

<http://www.crida.ernet.in/naip/naip.html>

http://www.crida.ernet.in/naip/comp4/dss_pest.html

<http://www.pdbc.res.in/PDBC-NAIP/home.html>

<http://www.cirg.res.in/naip.php>

<http://www.circot.res.in/naip1.html>

<http://www.ndri.res.in/data.php?name=News&file=article&sid=87>

<http://www.irmra.org/naip/index.htm>

ANNEX E: LIST OF CURRENT NAIP PROJECTS

Sustainable Rural Livelihoods Security through Innovations in Land and Ecosystem Management (Component 3)

1. The above project is supplemental to the National Agricultural Innovation Project (NAIP) which is implemented by the Indian Council for Agricultural Research (ICAR). The total NAIP project has a budget of US\$250 million from IDA allocated to four components. The GEF additional financing provides incremental funding primarily to Component 3 of NAIP entitled “Sustaining Rural Livelihood Security”. Under this Component, the following 23 projects have been approved and will support 80 disadvantaged districts as indicated in the list below. An additional ten project are under review for financing as per the procedure explained in the FSP document. All projects are in a substantial way dealing with the interlinked issues of land degradation, biodiversity and climate change.
2. In addition to projects under Component 3, several projects approved under the other components of NAIP, and in particular components 2 (Value Chain) and 4 (Basic Research) are addressing issues related to land degradation, biodiversity and climate change. In addition, ICAR and other consortium partners are contributing to all these projects through engaging their regular staff in the work as well as through use of the facilities they control in many parts of the country.
3. Based on these facts it is estimated that co-financing under the different focal areas amount to US\$8 million for the Land Degradation Focal Area; US\$32 million in the area of adaptation to climate change and US\$28 million for the Biodiversity Focal Area.
4. List of approved projects under Component – 3 of NAIP:

1	Enhancement of Livelihood Security through Sustainable Farming Systems and Related Farm Enterprises in North-West Himalaya (VPKAS, Almora)
2	Livelihood Improvement and Empowerment of Rural Poor through Sustainable Farming Systems in North East India (ICAR_RC for NEH Region)
3	Sustainable Rural Livelihood Security in Backward Districts of Maharashtra (BAIF Pune)
4	Sustainable rural livelihoods through enhanced farming system productivity and efficient support systems in rainfed areas.(CRIDA, Hyderabad)
5	Developing Sustainable Farming System Models for Prioritized Micro Watersheds in Rainfed Areas in Jharkhand (BAU, Ranchi)

6	Sustainable Livelihood Improvement through Need Based Integrated Farming System Models in Disadvantaged Districts of Bihar (ICAR RC for ER)
7	Integrated Project for Research on Development Process and Sustainability of Livelihood in Disadvantaged Districts of Gujarat State (SDAU, Gujarat)
8	Livelihood and Nutritional Security of Tribal Dominated Rural Areas Through Integrated Farming System Models (MPUAT, Udaipur)
9	A Comprehensive, Multi-Enterprise Project For addressing the agrarian crisis of Wayanad District of Kerala (KAU, Kerala)
10	Integrated Farming System Modules to Ensure Sustainable Livelihood Security For 9the Peasants of Disadvantaged Districts of Central India (JNKVV, Jabalpur)
11	Farming Systems for Livelihood Security of Small and Marginal Farmers in Disadvantaged Districts of Tamil Nadu.(Annamalai University)
12	Sustainable Farming System to Enhance and to Ensure Livelihood Security of Poor in Purulia, Bankura and West Midnapore Districts of West Bengal (BCKVV, WB)
13	Nutrition, Livelihood Security through Resource and Enterprise Management in Bidar district(UAS, Dharwad)
14	Development of Sustainable Livestock Farming System for Livelihood Security in Hoshiarpur District of Punjab((GADVASU, Ludhiana)
15	Sustainable Rural Livelihood Empowerment Project for Northern Disadvantaged Districts of West Bengal(UBKV, WB)
16	Ensuring Livelihood security through sustainable farming system and related enterprises in sc/tribal dominated population of Mirzapur and Sonbhadra districts in Vindhyan region (BHU, Varanasi)
17	Improvement in livelihood security of rural people living in disadvantaged districts of U.P. through diversification in agriculture.(CSUAT, Kanpur)
18	Enhancing rural livelihood security for sustainability through rice based integrated farming in disadvantageous districts of Assam (AAU, Jorhat)
19	Sustainable Integrated farming system models for improving rural livelihood security in disadvantaged districts of Chhattisgarh (IGKV, Raipur)
20	Sustainable Rural Livelihood and Food Security to Rainfed Farmers of Orissa (OUAT, Orissa)
21	Goat husbandry based integrated approach for livelihood security in disadvantaged districts of Bundelkhand region(CIRG, Mathura)

22	Improving livelihood quality in salt-affected watersheds through sustainable agriculture (RAU, Bihar)
23	Sustainable rural livelihood security through integrated approach in Hingoli and Nanded districts of Maharashtra (MAFSU)*

*Approved by RPC, to be confirmed by PMC

Approved for GEF funding

SN	Title
1	Strategies for sustainable management of degraded coastal land and water for enhancing livelihood security of the farming communities (Proponent : CSSRI, Canningtown)
2	Harmonizing biodiversity conservation and agricultural intensification through integration of plant, animal and fish genetic resources for livelihood security in fragile ecosystems (Proponent: NBPGR, New Delhi)
3	Strategies to enhance adaptive capacity to climate change in vulnerable regions (Proponent: IARI, New Delhi)

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