REQUEST FOR CEO ENDORSEMENT/APPROVAL

PROJECT TYPE: Medium-sized Project
THE GEF TRUST FUND

GEF

Submission Date: 5 February 2010
Re-submission Date: 23 March 2010

PART I: PROJECT INFORMATION

GEFSEC PROJECT ID: 3882
GEF AGENCY PROJECT ID: 604144
COUNTRY(IES): India
PROJECT TITLE: Reversing Environmental Degradation and Rural Poverty through Adaptation to Climate Change in Drought Stricken Areas in South India: A Hydrological Unit Pilot Project Approach
GEF AGENCY(IES): Food and Agriculture Organization (FAO)
OTHER EXECUTING PARTNER(S): Bharathi Integrated Rural Development Society (BIRDS)
GEF FOCAL AREA(S): Climate Change (CC)
GEF-4 STRATEGIC PROGRAM(S): Climate Change (CC) - Strategic Pilot on Adaptation (SPA)
NAME OF PARENT PROGRAM/UMBRELLA PROJECT: India Sutainable Land and Ecosystem Management Programme (SLEM)

Expected Calendar	
Milestones	**Dates**
Work Program (for FSP)	N/A
GEF Agency Approval	April 2010
Implementation Start	May 2010
Mid-term Review (if planned)	January 2012
Implementation Completion	May 2013

A. PROJECT FRAMEWORK (Expand table as necessary)

Project Objective: To strengthen knowledge and capacities of communities to respond to climate change impacts on land and water resources in Pilot Hydrological Units in Andhra Pradesh, and to establish a knowledge base for large-scale interventions in 650 habitations[1] in Andhra Pradesh, for adaptation in relation to sustainable land and water management.

Project Components	Investment, TA, or STA**	Expected Outcomes	Expected Outputs	GEF Financing*		Co-financing*		Total ($)
				($)	%	($)	%	
1. Information tools for decision making and local institutional capacity development	TA, STA	Farmers and Community Based Organisations (CBO) make informed decisions on land and water management taking into account impacts of climate variations based on scientific and local knowledge. CBOs have capacities to integrate climate variability adaptation measures in Sustainable Land and Water Mangement (SLWM)	Completed study on local and scientific knowledge on impacts of climate variability/change on natural resources in Andhra Pradesh based on: (i) at least 450 farmers interviewed with balanced representation of gender and vulnerable groups/sectors in at least 9 pilot HU; and (ii) review of scientific historic data and predictions on climate variability and impact indicators. Local monitoring system of climate variability and its impacts operating in at least 9 CBOs in pilot HU collecting data on at least 3 key indicators At least 9 CBOs have	242,866	24	775,458	76	1,018,324

[1] Habitation is a place where people live. Using terms like "village" and Gram Panchayat" is avoided as they are revenue and political units, respectively. A village may have one or more habitations. Gram Panchayat may consist of one or more villages.

			established climate change adaptation committees At least 100 CBO leaders and members trained in climate variability monitoring and adaptation measures integrated in SLWM At least 9 CBOs participate in identification of adaptation measures with agricultural scientists and at least 7 CBOs have a local climate change adaptation plan					
2. Pilots on adaptation measures integrated in SLWM practices in farming systems in drought prone areas	TA, Invest-ments	Farmers have acquired skills in managing climate variability and testing adaptation technologies in farming systems through participation in Climate Change Schools (CCS). Adequate adaptation technologies and practices identified based on pilot testing in drought prone areas Average crop yields, water harvested or water saved, soil moisture availability and/or organic carbon content maintained or increased in pilot areas 5 years after project ends.	CCS curriculum developed At least 7 CCS functioning and at least 350 female and male farmers attending the schools At least 3 pilots are producing results on the adaptation performance of alternative technologies and practices At least 7 CBOs and 50 female and male farmers have participated in pilot testing of adaptation technologies and practices At least 3 manuals on best adaptation technologies and practices	440,010	22	1,559,326	78	1,999,336
3. Platform for scaling up climate change adaptation measures suitable for drought prone areas	TA, STA	adoption of a package of methods, tools and institutional approaches in support of District and State level natural resource management initiatives to address the impacts of drought	Platform website with at least 100 visitors per month giving access to project results and products (CCS Curriculum, field testing methods, adaptation technology and practices manuals, and institutional approaches) At least 3 dissemination workshops with at least 150 participants.	135,901	35	247,628	65	383,529
4. Project management				90,314	25	271,151	75	361,465
Total Project Costs				**909,091**		**2,853,563**		**3,762,654**

* 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.

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

(expand the table line items as necessary)

Name of co-financier (source)	*Classification*	*Type*	*Amount ($)*	*%**
FAO	GEF Agency	Cash (project)	1,300,000	45
FAO	GEF Agency	Cash (project preparation)	25,000	1
BIRDS and its Partners	NGO	In- kind	1,553,563	54
Total Co-financing			**2,878,563**	**100%**

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

C. FINANCING PLAN SUMMARY FOR THE PROJECT ($)

	*Project Preparation**	*Project*	*Agency Fee*	*Total at CEO Endorsement*	*For the record: Total at PIF*
GEF	0	909,091	90,909	1,000,000	1,000,000
Co-financing	25,000	2,853,563		2,878,563	2,577,270
Total	**25,000**	**3,762,654**	**90,909**	**3,878,563**	**3,577,270**

* 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.

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

GEF Agency	*Focal Area*	*Country Name/ Global*	*(in $)*			
			Project Preparation	*Project*	*Agency Fee*	*Total*
FAO	CC-SPA	India	0	909,091	90,909	1,000,000
Total GEF Resources			0	909,091	90,909	1,000,000

* No need to provide information for this table if it is a single focal area, single country and single GEF Agency project.

E. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

Component	*Estimated person months*	*GEF ($)*	*Other sources ($)*	*Project total ($)*
*Local consultants**	478	722,206	881,061	1,603,267
*International consultants**	0	0	0	0
Total	478	722,206	881,061	1,603,267

* Provide detailed information regarding the consultants in Annex C.

F. PROJECT MANAGEMENT BUDGET/COST

Cost Items	*Total Estimated person months*	*GEF ($)*	*Other sources ($)*	*Project total ($)*
*Local consultants**	547	90,314	137,848	228,163
*International consultants**	0	0	0	0
*Office facilities, equipment, vehicles and communications***		0	113,303	113,303
*Travel***		0	20,000	20,000
Total	344	90,314	**271,151**	**361,465**

* Provide detailed information regarding the consultants in Annex C.

** Provide detailed information and justification for these line items.

G. DOES THE PROJECT INCLUDE A "NON-GRANT" INSTRUMENT? yes ☐ no ☒

H. BUDGETED M&E PLAN:

Monitoring and evaluation of progress in achieving project results and objectives will be done based on the targets and indicators established in the project Logical Framework (Annex A). The project Monitoring and Evaluation Plan has been budgeted at USD 85 000. Monitoring and evaluation activities will be incorporated in the BIRDS monitoring of the co-financing Andhra Pradesh Farmer Managed Groundwater Systems (APFAMGS) project and will follow FAO standard procedures and GEF guidelines. The monitoring and evaluation system will also facilitate learning and generation of knowledge necessary for the preparation of follow-on phases for the scaling-up of adaptation measures in drought prone areas. Beside the project monitoring and evaluation system, local monitoring of climate variability and its impacts will be established in at least 9 CBOs as part of component 1 budgeted at USD90 000 and monitoring of on-the-ground impact of adaptation pilots, budgeted at USD 60 000, will be conducted as part of component 3.

Indicators:
Considering that the main focus of the project is capacity building via training and pilot testing and local institutional strengthening, the project indicators are mainly process and institutional indicators capturing tools developed (monitoring system of climate variability and its impacts; climate change adaptation plans; curriculum for Climate Change Schools (CCS); and manuals on best adaptation technologies) and levels of created capacities (CBOs with operating climate change adaptation committees and leaders/members trained in integration of adaptation measures in SLWM practices; farmers graduating from CCS and participating in pilot testing of adaptation measures; and pilots producing results on the adaptation performance of alternative technologies and practices). On-the-ground impact indicators (average crop yields; improved annual groundwater balance; volume of water harvested or water saved through usage of water harvesting and saving devices/methods; soil moisture availability; and/or organic carbon content) will, however, also be monitored in relation to each pilot testing of adaptation measures. With the participation of farmers, a baseline will be established in the case of each pilot to allow for this monitoring essential to evaluate the adaptation performance of the technologies and practices under trial.

Mid-term review:
A mid-term review will be undertaken at the beginning of the second year of project implementation. The review will determine progress being made towards achievement of objectives, outcomes, and outputs, and will identify corrective actions if necessary. It will, *inter alia*:

a) review the effectiveness, efficiency and timeliness of project implementation;
b) analyze effectiveness of implementation and partnership arrangements;
c) identify issues requiring decisions and remedial actions;
d) identify lessons learned about project design, implementation and management;
e) highlight technical achievements and lessons learned; and
f) propose any mid-course corrections and/or adjustments to the implementation strategy as necessary.

Some critical issues to be emphasized in the review will be: (i) the level of participation of female as well as male farmers in monitoring activities of climate variability, and its impacts and the local sustainability of those activities; (ii) the level of understanding among CBO members of alternative adaptation measures and how to integrate them in SLWM; (iii) representation of gender and vulnerable groups/sectors in CCS and their level of capacities and skills in climate variability management and testing of adaptation measures; (iv) farmers involvement in pilot testing of adaptation technologies and practices and replicablility of results; (v) and effectiveness of dissemination measures.

The Terms of Reference (TOR) for the mid-term review will be prepared in close consultation with the Project Management Unit (PMU), the FAO Project Task Manager placed at the FAO Office in India and the FAO Lead Technical Unit and the GEF Unit. The TOR will be discussed with and endorsed by the project partners.

Monitoring responsibilities and information sources:
Monitoring of project progress and outcomes will be a central function of the PMU and will be supported at the country level by the FAO Project Task Manager. Specific monitoring tasks will be defined in the Annual Work Plan (AWP).

Farmer and communities will also be involved in the monitoring and evaluation process. Various processes are used to actively engage community members in monitoring and evaluating their learning as part of the capacity building process. The Climate Change Schools (CCS) approach is build on learning from a continuous monitoring process, where participants observe, analyze, reflect, reach decisions, and take action based on the performance of indicators in the field. Also, the crop-water budgeting exercise that the farmers will organize at the end of each cropping season will create a platform to evaluate the relevance of their learning from participation in the Climate Change Schools.

Monitoring information sources will be evidence of outputs (reports, website, CCS curriculum, lists of participants in training activities, manuals etc.). The congruence of outcomes with project objectives will be confirmed through physical inspection and/or surveying of activity sites and participants will be carried out in order to assess. This latter task would often be undertaken by the PMU supported by the FAO Project Task Manager. Under the guidance of the PMU and the FAO Project Task Manager collection of baseline data will be carried out by project staff and compiled into a bass document for each adaptation pilot in accordance with the indicators established to monitor on-the-ground impacts and adaptation performance of the technologies and practices tested. By the end of each pilot testing data to monitor the development in the performance and impact indicators will be collected by project staff. However, in some cases it will only be possible to evaluate on-the-ground impacts 5-10 years after project termination.

Reporting:
Specific reports that will be prepared under the M&E program are: (i) project inception report; (ii) quarterly project implementation reports (QPIRs); (iii) quarterly project progress reports (PPRs); (iv) project implementation review (PIR); (v) technical reports; (vi) co-financing reports; and (vii) terminal report.

Project Inception Report:
After FAO approval of the project an inception workshop will be held. Immediately after the workshop, BIRDS will prepare a project inception report in consultation with the FAO Project Task Manager and other project partners. The report will include a narrative on the institutional roles and responsibilities and coordinating action of project partners, progress to date on project establishment and start-up activities and an update of any changed external conditions that may affect project implementation. It will also include a detailed First Year Annual Work Plan and Budget (AWP/B) divided into monthly timeframes detailing the activities and progress indicators that would guide implementation during the first year of the Project. As part of the AWP/B, a detailed project budget for the project's first full year of implementation will accompany the inception report and include all monitoring and supervision requirements. The draft report will be circulated to FAO and the Project Steering Committee for review and comments before its finalization.

Quarterly Project Implementation Reports
The FAO Project Task Manager, with inputs from BIRDS Project Management Unit (PMU) via a Project Progress Report (see below) will prepare quarterly reports which entail regular review of the project to compare approved work plans with actual performance, and to take corrective action as required. The QPIR is used to identify constraints, problems or bottlenecks that impede timely implementation and take appropriate remedial action. These reports will be submitted one month after the end of each quarterly reporting period (31 March, 30 June, 30 September and 31 December). The reports are submitted to the GEF Unit/Investment Centre Division.

Project Progress Reports
BIRDS PMU will submit to the FAO Project Task Manager, biannual project progress reports. The FAO Project Task Manager will review the reports and submit them to the Lead Technical Unit (LTU) the GEF Coordinator in

the Investment Centre Division (TCI).These reports will be submitted no later than one month after the end of each semester reporting period (30 June and 31 December).

Project Implementation Review
The FAO Project Task Manager, with inputs from BIRDS PMU, will prepare an annual Project Implementation Review (PIR). The PIR will be submitted to the FAO Lead Technical Unit (LTU) and the GEF Coordinator in TCI for review and approval. The GEF Unit will submit the final report to the GEF Secretariat.

Technical Reports
Technical reports will be prepared based on the systematic monitoring of output and outcome indicators identified in the project Results Framework. The drafts of any technical reports must be submitted by BIRDS PMU to the FAO Project Task Manager, LTU and the GEF Coordinator for review and clearance, prior to finalization and publication. Copies of the technical reports will be distributed to the Project Steering Committee and other project partners as appropriate. These will also be posted on the FAO FPMIS.

Co-financing Reports
BIRDS will be responsible for collecting the required information and reporting on in-kind co-financing provided by the NGO and farmers. BIRDS will provide the information in a timely manner and will transmit such information to FAO. The report is to be considered as part of the annual PIR and as input to the mid-term review.

Terminal Report
Within two months of the project completion date BIRDS will submit to FAO a draft Terminal Report, including a list of outputs detailing the activities taken under the Project, "lessons learned" and any recommendations to improve the efficiency of similar activities in the future. A final project review mission is expected to take place in the beginning of 2013.

PART II: PROJECT JUSTIFICATION

A. THE ISSUE, HOW THE PROJECT SEEKS TO ADDRESS IT, AND EXPECTED GLOBAL ENVIRONMENTAL BENEFITS:

Climate Variability:
The geographical boundary of the proposed Medium Sized Project is the State of Andhra Pradesh, in the Republic of India. Almost all regions of India, including Andhra Pradesh, receive most of their rainfall during south-west monsoon (June to September), making the people and the economy critically dependent on it. It is observed, however, that some areas in the State of Andhra Pradesh experience high climate variability including decrease in rainfall under the monsoon period, making them chronically drought prone. The effect of droughts is further accentuated when draughts are occurring in two to three consecutive years. Eight districts in the State of Andhra Pradesh targeted by this project viz., Anantapur, Kadapa, Kurnool, Chittoor (in the Rayalaseema region), Mahbubnagar, Nalgonda, Ranga Reddy (in Telangana region) and Prakasam (in Coastal Andhra region) are declared as drought-prone by the Government of India (GoI).

Spatial patterns of trends of rainfall in Indian have been studied by Department of Hydrology, Indian Institute of Technology (IIT) Roorkee, and the Central Water Commission (CWC). The study revealed that the probability of occurrence of drought is 13% for Telangana and 18% for Rayalaseema. Probability of occurrence of two consecutive droughts is 2% in case of Telangana while it is 1% for Rayalaseema. The Agro met-Cell, Agricultural Research Institute (ARI), Acharya N. G. Ranga Agricultural University (ANGRAU), Hyderabad has also carried out research to understand the climate variability in Andhra Pradesh. The research findings in case of proposed project districts are: in the last 20 years (1988 to 2007) the dependable rainfall decreased during month of June; a drastic reduction in dependable rainfall is observed during month of July; dependable rainfall in October decreased; increasing trend of temperature (0.2-0.3^{o}C) is noticed over a period of 40 years in Telangana districts; and region historical record of heat shows that Prakasam and Mahbubnagar districts are more prone to heat waves than other districts.

Impacts of climate variability:
Climate variability and change exacerbates land degradation globally, with severe implications in drought prone regions. The negative impacts of drought affect millions of people depending on agriculture for food production and income and employment generation. The relationship between rainfall and economic performance in Andhra Pradesh is brought out in the World Bank (WB) study titled: *Overcoming Drought – Adaptation Strategies for Andhra Pradesh, India (2006).* The study found that the effect of climate variability (in the form of drought) causes loss in the value of crop production output for five major crops (rice, maize, sorghum, groundnut and sunflower). In the case of rice the yield loss as percentage of yields in normal years was 8-14% in a minor drought year, 19-32% in a moderate drought year, and 29-62% in a severe drought year. The study observed that the *impact of drought is highly variable and localized.* Large variations are observed across time, locations and crops, depending on drought severity. The highest Average Annual Loss (AAL) owing to climate variability was found in Kurnool and Anantapur districts with 6% closely followed by Mahbubnagar and Kadapa districts, while AAL of Chittoor and Nalgonda is close to 5%, and for Prakasam AAL is 3%.

Another obvious impact of drought and increased temperature is the increased evapo-transpiration which in turn reduces the soil-moisture availability and organic carbon content affecting crop yields and contributing to land degradation in particular if combined with inadequate agriculture technologies. The National Commission on Agriculture has estimated that 175 million ha in India is under some form of degradation. It is further estimated that about 7% of the total geographical area and 12.31% of cultivable area of Andhra Pradesh is categorized as "degraded" (National Remote Sensing Agency, 2005). The economic cost of land degradation is estimated at about 1.2% of the State Gross Domestic Product (SGDP) and 3.63% of SGDP from Agriculture (Reddy, 2003). As a result of land degradation, the net area sown in Andhra Pradesh has declined from 41% of the total geographical area in 1990-91 to 37% in 2004-05 (Andhra Pradesh Human Development Report, 2007).

Droughts together with over exploration of water resources also impacts ground water levels. Ground water is used through out the state of Andhra Pradesh for irrigation and household consumption. In an estimate made by the Andhra Pradesh Ground Water Department in 2007, 9% of the ground water in the state area is categorized as over-exploited, while 6% was classified as critical and 15% as semi-critical. Totally, About 30% of groundwater basins are in semi-critical to over-exploited stage of development and ground water levels are declining in many districts. Environmental impacts could be far-reaching due to the inter-connectedness of the aquifers and interactions between the aquifers and the surface waters. Modeling efforts indicate that dry-season surface water flows could decline with up to 75% if historical patterns of drought and over exploration continue. This would again have serious impact on land degradation.

Looking at projections of climate change impacts for the future the scenarios look more positive going from the current situation of 3-6 % average annual loss in yields to increase in yields with the exception in the case of rice. This might reflect the uncertainties still related to such projections at the local level but it also reflects the opportunities for adaptation strategies if local climate change impacts are better understood and responded to. The WB study used Hadley Regional Model 2 to derive projected climate change for the year 2050. Two simulations of climate change were generated based on these results. Both scenarios assumed an increase in temperature and carbon dioxide; and decrease in number of rainy days. The second assumed more severe reduction in rainfall during the early monsoon months. All four rain-fed crops (groundnut, sorghum, sunflower and maize) showed *increase* in yields under scenario 1. With the exception of sunflower, there were only small changes in the case of scenario 2. Rice showed a *decrease* in yield by 8-9%. Also insect borne diseases, particularly viral diseases may become an important problem, under climate change scenarios.

Project approach to adaptation:
Understanding the local impacts of climate variability via monitoring of key indicators on the ground and building capacities and knowledge on alternative adaptation measures in local communities is crucial for future conservation of land and water resources and sustainability of crop production. Adapting to climate change will entail adjustments and changes at every level – from community to national and international. Communities must build

their resilience, including adopting appropriate technologies while making the most of traditional knowledge, and diversifying their livelihoods to cope with current and future climate stress. Local coping strategies and traditional knowledge need to be used in synergy with research findings. The choice of adaptation interventions depends on local circumstances.

The World Bank study on drought prone areas of Andhra Pradesh recommends the following adaptation strategies: adjustment in sowing dates, improvement in agronomic practices and breeding of plants more resilient to variability of climate; changes in cropping sequence for optimization of irrigation water and agricultural land use; relocation to more productive areas; creating alternate livelihood options and reducing dependence on agriculture; credit for transition to adaptation technologies; greater insurance coverage for the farm; improved communication of climate changes and options to adapt to them; and changes in policies and institutions, e.g., incentives for resource conservation and use efficiency.

The GEF project will support the building of capacities to understand local climate variability impacts and alternative adaptation measures in community based organizations (CBO) in target districts in Andhra Pradesh. The project has been designed to do so building on and complementing successful experiences in developing local capacities in sustainable management of groundwater resources achieved by the Andhra Pradesh Farmer Managed Groundwater Systems (APFAMGS) project which will co-finance the GEF project. The APFAMGS project is a partnership project supported by FAO and executed by a national Non Governmental Organization (NGO), Bharathi Integrated Rural Development Society (BIRDS), through a network of nine partner NGOs. The project is successfully empowering CBOs to manage ground water resources, a domain which is seemingly 'technical and scientific', through interventions reinforcing the internal strength and coping mechanism of farmers and exploring stable solutions to the issues of groundwater depletion and its adverse consequences on land degradation. The project is following a series of steps to make the invisible groundwater resource system fully understood by the farmers and thereby enabling them to take appropriate actions.

The capacity building approach used by the APFAMGS project is based on the successful FAO promoted Farmer Field Schools (FFS) approach which has been developed to mainstream the concept of Integrated Pest Management (IPM). It is based on an "experiential learning cycle", where a group of farmers are encouraged to assemble at regular intervals to go through a pre-determined number of FFS sessions in the fields of the farmers to identify a problem, consider different options for problem solving and implement the best option. The method of interaction is non-formal using visuals, models, fables and other tools. FAO adapted this approach to develop a methodology for conducting annual Crop Water Budgeting workshops led by farmers and other sessions covering all the topics of Farmer Managed Groundwater Systems in one full hydrological cycle/year. These new field schools named Farmer Water Schools (FWS) with an established set of sessions, session guides, and Non Formal Education tools, have already shown great success in allowing farmer groups to gain the necessary skills and knowledge to be able to manage their aquifer systems in a sustainable manner contributing to land conservation.

Given this current level of effort and success with establishing the FWS approach, the MSP GEF project will provide the incremental financing to broaden the scope from aquifer management to a Strategic Pilot on Adaptation (SPA) in Sustainable Land and Water Management (SLWM) practices. Further the GEF financing will lay the ground for scaling-up to seven drought prone districts in Andhra Pradesh. FWS involves farmers understanding of certain climatic variables (rainfall, water levels, discharge rates, stream flow patterns, etc) but does not include variables to monitor and understand medium and long term impacts of climate viability on land and water resources. With the MSP GEF project the scope of FWS will be further expanded to cover the aspects related to adaptation to climate variability through Climate Change Schools (CCS).

The GEF project objective is to strengthen knowledge and capacities of communities to respond to climate variability impacts on land and water resources in Pilot Hydrological Units in Andhra Pradesh, and to establish a knowledge base for large-scale interventions in 650 habitations in Andhra Pradesh for integrating adaptation measures in SLWM practices. To reach this objective the project will use highly participatory methodologies with a balanced representation of gender and vulnerable groups where farmers through their involvement in project activities are encouraged to become active researchers and evaluators paving the way for the creation of sustainable

learning environments in CBOs. The project activities to achieve the objective have been organized in the following components:

Component 1: *Information tools for decision making and local institutional capacity development.* The aim of this component is to give farmers and CBOs the necessary knowledge, capacities and tools to understand climate variability and assess the related vulnerability of land, water and crop production and identify adaptation measures to be integrated in SLWM practices. In order to develop tools with local relevance, the component activities will focus on combining scientific historical data and models predicting climate change and its impacts with local knowledge on climate variability and its impacts on land, water and crop production. The variables included in building the local knowledge base on vulnerability and identification of adaptation measures will include: conditions of land degradation and soil fertility; water availability, usage and annual groundwater recharge; and crop yields, changed growth cycles, and pests and diseases change in gestation periods. In the development of local institutional capacities the project will build on the existing CBOs in 7 pilot Hydrological Units (HU)[2].

The component will finance (scientific) technical assistance for: (i) conducting a study on local and scientific knowledge on climate change/variability and its impacts on land, water and crop production in Andhra Pradesh documenting farmers understanding of climate variability combined with available scientific data and model based predictions; (ii) establishing local farmers led monitoring system of key indicators of climate variability and its impacts on land, water and crop production; (iii) creating a database on climate change and its impacts systematically updated by farmers in at least 9 CBOs in pilot HU; (iv) establishing climate change adaptation comities in at least 9 CBOs and training of at least 50 CBO leaders and representatives in climate variability monitoring and adaptation measures integrated in SLWM practices; and (v) identification of local adaptation measures and development of local Climate Change Adaptation Plans for at least 7 CBOs.

Component 2: *Pilots on climate variability adaptation measures integrated in SLWM practices in farming systems in drought prone areas.* This component will support farmers in acquiring skills in managing climate variability and testing adaptation technologies in farming systems. Adaptation pilots will allow for the assessment of the adaptation performance of alternative technologies and practices identified in the local Climate Change Adaptation Plans developed under component 1. The pilots will be selected based on areas highly affected by drought and land degradation and socio-economic needs.

The component will finance inputs and technical assistance to support the: (i) development of curriculum for CCS with focus on managing climate variability in drought-prone areas as part of SLWM including methods on identification and field testing of adaptation measures; (ii) establishment of at least 7 CCS with at least 350 female and male farmers attending; (iii) at least 3 pilots testing technologies and practices and generating assessments of adaptation performance; and (iv) at least 3 manuals on best adaptation practices and technologies.

Component 3: A *Platform for scaling up climate change adaptation measures suitable for drought prone areas.* The aim of this component is to systemize project results and products and create a knowledge hub, or platform, from which the results will be projected. The dissemination and scaling up will include institutional and learning approaches to climate variability management as part of SLWM, and best adaptation practices and technologies in farming systems.

This component will finance technical assistance for: (i) systemizing project results and products (CCS Curriculum, field testing methods, adaptation technology and practices manuals, and institutional approaches) and making them

[2] When rain falls on the ground and flows downward, it is called as first order stream. When two or more first order streams meet, a second order stream is formed. Similarly, two or more second order streams join together to form a third order stream. First and second order streams do not have defined flow paths and tend to change their movement, depending on the place where rain falls. Third order stream has a defined flow path, over a period of hundreds of years, and clearly marked on topographic maps. APFAMGS identifies third order stream as the outlet point of a natural drainage system and refers to it as "Hydrological Unit" or "HU". From the outlet point of a third order stream, the area of the drainage basin is demarcated as the area of HU. HUs often have local names and naming of a HU is done based on the interaction with the community.

public accessible on a platform website; (ii) at least 3 dissemination workshops with at least 150 participants; and (iii) preparation of media materials, meetings with media representatives, and media field visits.

The project will generate **Global Environmental Benefits** by mitigating climate change risk affecting existing efforts in Andhra Pradesh to combat drought and land degradation through water and land resource management. Protection of critical ecosystems in the dry land project area is critically dependent on judicious use of depleting water resources, decreasing stress on the over-exploited aquifer systems. While the APFAMGS project has raised the baseline in terms of groundwater management and associated land management practices in key drought-prone areas of Andhra Pradesh, the project has also revealed a changing set of environmental and socio-economic conditions caused by climate variations putting new pressure on land and water resources. Integrating adaptation measures in SLWM practices is crucial for the sustainability of the achievements made the last decade. While it is acknowledged, that climate change and variability are having increasing impacts on a global and regional scale, the concrete local impacts on water, land and farming systems are still not understood and managed by the affected farmers and adaptation strategies and measures are still to be piloted. The project will support such pilots and the creation of self-sustaining local learning cycles allowing for adaptive management of land and water resources in farming systems.

Thus the project will support the achievement of global environmental benefits through reversing the current land degradation trends which are negatively affecting critical ecosystem services - soil carbon sequestration, soil water holding capacity, and agricultural productivity. Through an innovative approach to farmer driven grass-root level environmental action, which takes into account the effects of climate variability and change, the project will result in rehabilitation and protection of critical ecosystems, improved soil carbon sequestration while also raising agricultural productivity.

Within the seven drought prone districts of Andhra Pradesh, the APFAMGS project is working in 63 Hydrological Units (HU) in 638 habitations with a population of 614,621, covering a total geographical area of 490,636 ha. While 9 HU's spread over 150 habitations (106,214 ha. covering a population of 119,914) will essentially be the pilot areas, findings and experience will be spread across all 638 habitations, within the project period. Further, it is expected that in the subsequent years the entire geographical area (11,758,024 ha.) covering a population of 23,338,983 in seven drought-prone districts will eventually replicate the pilot's learning. These districts represent 4 agro-climatic zones viz., Scarce Rainfall Zone (Kurnool and Anantapur), Southern Zone (Kadapa and Chittoor), Southern Telangana Zone (Mahbubnagar and Nalgonda), and Krishna Zone (Prakasam).

B. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH NATIONAL PRIORITIES/PLANS:

The Republic of India signed the United Nations Framework Convention on Climate Change (UNFCCC) on 10 June, 1992 and ratified it on 1 November 1992. UNFCCC entered into force on 21 March, 1994. India acceded to the Kyoto Protocol on 26 August 2002. India became a signatory to the United Nations Convention to Combat Desertification (UNCCD) on 14 October, 1994 and it came into effect on 17 March, 1997. The GEF project is consistent with the implementation of both UN conventions and their action plans in India.

National Communications and Action Plan on Climate Change
India submitted its Initial National Communication (INC) to the UNFCCC in June 2004. The institutional network established under the preparation of the INC has continued developing analysis and studies such as the greenhouse gas (GHG) inventory for the base year 1994 including various sectors of the economy, and assessments of impacts and vulnerability due to climate change. India is now in the process of preparing its Second National Communication (SNC).

The Prime Minister formally launched India's National Action Plan on Climate Change (NAPCC) on 30 June, 2008. Climate change for India is projected to be the most serious threat to sustainable development, with adverse impacts expected on the environment, human health, food security, economic activity, natural resources and physical infrastructure. Climate change in drought prone areas in India is projected to have a major impact on all the natural resources including land, soil, water, biomass and thereby agriculture and living conditions.

The NAPCC identified several components supporting climate change *adaptation* in agriculture such as: development of drought and pest resilient crops; improving methods to conserve soil and water; 20% improvement in water use efficiency through improved management and pricing; stake holder consultation; training, workshops and demonstration exercise for farming communities; sharing of agro-climatic information and dissemination; financial support to farmer to over come climate related stresses; and region specific contingency plans based on vulnerability and risk scenarios. To improve the information and knowledge base for action-taking the NAPCC identifies: to create regional data bases of soil, weather, genotypes, land use patterns and water resources; research and development in off-season crops, aromatic plants, green house crops, pasture development, livestock, agro-forestry and agro-processing; collation and dissemination of block level data on agro-climatic variables, preparation of state level agro-climatic atlases including land use and socio-economic features; and strengthening of observation networks for data gathering and assimilation, including measures to enhance access to and availability of relevant data.

As part of implementation of NAPCC, the Government of India has brought about a number of changes that promotes sustainable development of land, soil, crop, and water prioritizing the interests of small and marginal farmers. The following eight National Missions will be pursued as key components of the strategy for sustainable development: (1) Solar Energy, (2) Enhanced Energy Efficiency, (3) Sustainable Habitat, (4) Conserving Water, (5) Sustaining the Himalayan Ecosystem, (6) creating a "Green India", (7) Sustainable Agriculture, and (8) establishing a Strategic Knowledge Platform for Climate Change. The GEF project is consistent with the identified adaptation measure in the NAPCC and missions 4, 7 and 8 by focusing on improving the local understanding and knowledge base for decision-making on adaptation to climate variability and piloting adaptation measures integrated in SLWM in highly vulnerable drought-prone areas.

National planning and policies

The project is also aligned with environmental and climate change adaptation measures in India's policies and national planning. Sustainability considerations have always been integral to Indian culture, and have now become intrinsic to the environmental policy and national planning process. The Tenth Five-Year Plan (2002–07) as well as the National Environmental Policy (NEP) of 2006 link economic development and poverty with environmental degradation. As the poor are dependent on natural resources for their livelihoods, they are highly vulnerable to natural calamities, environmental degradation, and ecological disasters.

The Eleventh Five-year Plan (2007-2011) recognizing the increasing dangers of environmental degradation and accumulation of evidence of global warming and the associated climate change. The Eleventh Plan also recognizes the need to prioritize the process of *adaptation*, considering that even optimal mitigation response will not be able to address the unavoidable effects of climate change. Development itself is seen as the most important adaptation measure as a stronger economy can provide enhanged capacities to adapt technologies, and production practicies. Adaptation measures listed in the eleventh plan are: productivity improvement, and water use efficiency of agricultural crops; incorporating adaptation response mechanisms into all relevant programs, including health, watershed management, agricultural technologies and practices; strengthening of forecasting systems, early warning systems, and understanding of processes which indicate actual local impacts.

The National Water Policy (NWP), 2002, recognizes water as part of a larger ecological system that has to be safeguarded for sustaining all life forms. Participatory approach in water Management by involving users and all stakeholders, in an effective and decisive manner, in various aspects of planning, design, development and management processes is prioritized. Necessary legal and institutional changes have been identified at various levels for providing adequate space for different stake holders especially women.

The National Policy for Farmers, 2007, has moved away from mere production and productivity to the human dimension, economic well being of farmers. The definition of farmers is expanded to include all categories of persons engaged in the sector so that they can access all benefits of the Policy. The policy guarantees access to productive asset to poor farmers. Income per Unit of Water is given the critical thrust rather than mere production numbers.

The project is also aligned with the Indian National Food Security Mission 2008 which is a serious attempt to ensure long term food security through improved ecological sustainability of agriculture production. The push is to look beyond the areas endowed with canal networks to those areas where the environment is under threat and soil, land, water, and crops are vulnerable to degradation and disasters both natural and manmade.

Finally, in relation to combating land degradation and implementing the UNCCD the project is responding to national priorities and plans in watershed management and development as a means to prevent land degradation and recuperate degraded areas. The land degradation issue is addressed by Watershed Development Programs, implemented by different Departments at the Centre, and in the States. The Department of Agriculture and Cooperation implements the National Watershed Development Projects for Rain-fed Areas (NWDPRA) and the Ministry of Rural Development implements the Drought Prone Area Program (DPAP), the Desert Development Program (DDP), and the Integrated Wasteland Development Program (IWDP). Under the National Rain-fed Area Authority (NRAA), the Department of Rural Development of the Government of Andhra Pradesh (GoAP) is presently developing 3257 watersheds in the state.

C. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH GEF STRATEGIES AND STRATEGIC PROGRAMS:

The proposed project will contribute to the GEF Climate Change Strategic Pilot on Adaptation (CC-SPA) with the goal to *expand the range of experiences with adaptation in order to improve global understanding of the challenges brought on by climate change, including variability.* The focus of the CC-SPA financed activities should be on ensuring resilience of GEF activities to adverse impacts of climate change in the focal areas which delivers global environmental benefits. The project will contribute to this goal and focus by mitigating the adverse impacts on the global environmental benefits that India has gained the last decades in combating Land Degradation through water and land management in drought-prone areas. Thus the project is consistent with the CC-SPA by integrating climate change risk management into sustainable land management, planning, and adaptation of production systems to better cope with climate variability and change.

The project will enhance the capacities of farming communities on a scientific basis to understand climate variability impacts and adaptation options in their management of land and water resources and create a suitable environment for scaling up viable innovative technologies and practices, thus supporting GEF strategic programs LD-SP1 (Supporting sustainable agriculture and rangeland management) and LD-SP3 (Investing in innovative approaches in SLM). The project is also consistent with the GEF program providing support for capacity building needs of governments and local institutions in a cost effective manner. In consistence with GEF practices the project has recognized the need to build capacity of principle stakeholders (local communities) within projects as an effective means for sustainable capacity development.

The experiences and lessons from capacity building activities and the adaptation pilots supported by the project should be applicable in a wide context and component 3 will lay the grounds for the scaling-up process. GEF will be able to use the experiences from the India SPA to develop good practices and estimates of the costs of adaptation to better mainstream adaptation into the full range of GEF activities in particular in relation to activities concerning resource poor drought affected regions. Being a GEF implementation agency and part of the larger United Nations (UN) system, FAO is expected to take project learning to the regional and sub-regional level, so that planning and coordinated actions may be called for at that level. FAO has a range of tools to support this. FAO Fosters technical and policy-relevant discussions on climate change issues through its Regional Commissions, conferences, stakeholder forums and wide range of collaborative partnerships on global issues and key programs. FAO is involved in managing climate change related databases and data harmonization, e.g. through the Global Forest Resources Assessment (*www.fao.org/forestry/fra*), the Global Terrestrial Observation System (*www.fao.org/gtos*), the Global Land Cover Network (*www.glcn.org*), and agro-climate databases (*www.fao.org/nr/climpag*). FAO shares knowledge related to climate change and the agricultural sectors through publications, Web sites, e-newsletters, discussion forums, audiovisuals and national activities during World Food Day (*www.fao.org/getinvolved/worldfoodday*). FAO is fostering communication strategies and tools to support climate change adaptation in rural areas through the "Communication for Sustainable Development Initiative".

D. JUSTIFY THE TYPE OF FINANCING

GEF project resources will be provided as a grant considering the capacity building nature of the project and the poverty among farmers in the highly vulnerable and drought prone project area. Further, the project is supporting pilot technologies and practices still not proven to increase income generation, thus there is still no certainty among local beneficiaries that their implementation will allow for repay of credits. However, to obtain sustainability of grant resource investments farmers will be requested to provide labor to pilot testing of adaptation measures and participate actively in monitoring and research activities.

E. OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES:

Climate change issues interface, strongly, with different disciplines and expertise and therefore can meaningfully be dealt with in an interdisciplinary and multi-agencies collaborative framework. Considering the inevitability of this framework the project envisages strengthening and building strong collaborative linkages with various agencies endowed with their respective areas of expertise and opportunities. The most important coordination will be with the APFAMGS project which will co-finance the GEF project as described in section II.A above. Both projects will be implemented by BIRDS and its Local NGO partners whom will assure coordination and maximization of synergies. In the following the coordination with three other important related initiatives is described.

India Sustainable Land and Eco-system Management (SLEM) Country Partnership Program supported by GEF

The present project is proposed under the umbrella of the India Sustainable Land and Eco-system Management (SLEM) Country Partnership Program of the Ministry of Environment and Forest (MoEF), approved by GEF Council in November 2007. The purpose of the SLEM programme is to promote sustainable land management and use of biodiversity as well as to maintain the capacity of ecosystems to deliver goods and services while taking into account adaptation to climate change. SLEM draws GEF resources from three focal areas: CC-SPA, Land Degradation (LD) and Biodiversity (BD). The present project conforms to the SLEM CC-SPA component – adaptation to climate change. The project will contribute to the expected output 2 of the outcome 1 of SLEM, which envisages a certain number of farmers practicing coping practices for climate change variability. The project will also contribute to expected output 2 under outcome 2, which among other things expects that a certain number of public and private agencies integrate adaptation coping strategies into sector planning.

The project will be implemented in close collaboration with other technical assistance, capacity-building and investment initiatives falling under the SLEM Programme coordinated by the MoEF to facilitate mutual learning and sharing of lessons and good practices. The most relevant initiatives for the present GEF project are: The World Bank lead - National Agricultural Innovation Project; the Uttarakhand Decentralized Watershed Management Project; and the UNDP lead – SLEM in Drylands in Madhya Pradesh. A National Steering Committee (NSC) for the SLEM Programme with representation of all key stakeholders participating in the planning and implementation of the Program is being set up to facilitate coordination and synergies. The NSC will include government organizations at union and state level and non-governmental as well as civil society organizations.

Andhra Pradesh Drought Adaptation Initiative (AP-DAI) funded by the World Bank

The AP-DAI project is supporting: awareness building on climate change/variability; development and testing of approaches to cope with the affects of climate change; adaptation of on-going drought-related programs and activities in selected drought prone districts of AP; and development of institutional mechanisms to cope with affects of climate change at local, district and state government level. The major difference between the AP-DAI project and the GEF project is that the former finance physical infrastructure like pipelines to minimize drought impacts while the GEF project will concentrate on building up local capacity and skills not only to monitor, assess and understand the implications of climate variability on farming systems but also to take preventive measures in land and water management practices. The units of interventions are also different in that the GEF project will

work with Hydrological Units and the AP-DAI project works at village level. While the strength of AP-DAI lies in the agriculture interventions and addressing social equity issue in access to water resources, the GEF project will be centered around "demystifying science and technology" for enabling communities to take on the natural resource management task themselves.

Coordination between the two initiatives is important to avoid overlaps and maximize synergies such as up-scaling successful pilots resulting from the AP-DAI project in the GEF project area where farmers can benefit from the physical inputs financed by the AP-DAI project. AP-DAI can at the same time take advantage of the presence of strong and skilled local institutions built around groundwater management and integration of adaptation measures in SLWM practices. The coordination will take place through the institutional framework suggested in figure 1. The Department of Rural Development has set up a Project Convergence Secretariat (PCS), which has the function of briefing the GoAP on successful initiatives of the AP-DAI project for possible mainstreaming in the regular programs. BIRDS has already established working relationship with PCS and proposed that the same mechanism can also be used to bring-in the experiences of GEF-FAO Adaptation Project.

National Agricultural Innovation Project (NAIP) of GoI
The overall objective of NAIP is "to facilitate the accelerated and sustainable transformation of Indian agriculture in support of poverty alleviation and income generation through collaborative development and application of agricultural innovations by the public organizations in partnership with farmers groups, the private sector and other stakeholders". The GEF project can take advantage of NAIP's promotion of working with farmer groups and other stakeholders (NGOs), and bring in the envisaged blending of scientific research with farmer's traditional knowledge to cope with climate variability.

Global warming is identified as important issue for sustainable agriculture by NAIP. NAIP emphasizes the need for understanding effects of global warming and developing adaptation and mitigation strategies. Component 4 (Basis/Strategic Research in Frontier Areas of Agricultural Sciences) of NAIP addresses this issue. Part of the NAIP execution strategy is to set up partnerships with public sector institutions, farmers' organizations, self-help groups, Non Governmental Organization and the private sector. The GEF project will supplement the NAIP efforts and a meaningful partnership will be built between BIRDS (and its network of NGOs) and Institutions involved in implementation of NAIP, at local, district, state and national levels. The two projects will benefit each other in farmer capacity building and the GEF Project will facilitate beneficial use of NAIP components by the farming community in the project area.

Further to these initiatives the project will also be coordinated with the Andhra Pradesh Irrigation and Livelihood Improvement Project (GoAP) in the cases where they intervene in the same area, sharing lessons learned, and seeking to maximize synergies.

F. DISCUS THE VALUE-ADDED OF GEF INVOLVEMENT DEMONSTRATED THROUGH INCREMENTAL REASONING:

Baseline scenario:
The Government of India and various State Governments have established a number of land and water management initiatives with significant budget outlays. In most cases, these initiatives are pushed through existing delivery mechanisms.

The National Rain-fed Area Authority (NRAA), the Department of Rural Development of the Government of Andhra Pradesh (GoAP) is presently investing in 3257 watersheds. The Department of Irrigation and Command Area Development (I&CAD) of the GoAP is implementing a World Bank funded project titled "Andhra Pradesh Community Based Tank Management Project (APCBTMP)". Another project in the pipeline with WB funding is "Andhra Pradesh Water Sector Improvement Project (APWSIP). Funded by a loan from the Japan Bank of International Cooperation (JBIC), I&CAD is also implementing the "Andhra Pradesh Irrigation and Livelihood Improvement Project (APILIP)".

These public investments (as in the case of the AP-DAI project) are focusing on physical inputs (around 95% of resources) and there is only very low allocations (around 5% of resources) for community capacity building, institutional strengthening, and documentation and dissemination of lessons learned and best practices. The lack of pilot experiences and local understanding of climate variability impacts and adaptation measures are also causing weak integration of adaptation measures in these investments. Thus in the baseline scenario there will be no systematic development of capacities of communities in drought prone regions to adapt to climate change/variability, with an opportunity to replicate the model in other regions and countries.

In the baseline scenario the APFAMGS project will continue to support communities in building capacities in understanding and managing groundwater and land resources through Farmer Water Schools and technical assistance. However, in the near future, the concept will not be developed further into the CCS approach and assist local communities in managing climate variability risks and integrating adaptation measures in SLWM practices. Thus the achievements gained in combating land degradation the last decade will be vulnerable to climate variations risks.

The NAIP will promote enhanced understanding of the effects of global warming and developing adaptation and mitigation strategies under its component 4. But on-the-ground experiences with pilot implementation of adaptation technologies and practices tailored to drought-prone areas will be gained at a slower speed and these experiences and tools for managing climate variability risks will not be backed up by local capacity building giving farmers the knowledge and tools to manage local climate variability risks. The AP-DAI will provide some experiences with pilot testing of adaptation technologies and awareness building at village level. However, these interventions will not be supported by a bottom-up approach to capacity building at hydrological unit level facilitating local SLWM among a group of resource users and integrating systematic monitoring of local impacts of climate variability and testing of adaptation measures.

GEF Alternative:
The GEF Alternative scenario is designed to develop a methodology to build the capacities of communities in drought prone regions to adapt to climate change/variability and replicate the model in other regions and countries.

Through component 1 the GEF financing will be incremental to the baseline investments in watershed infrastructure in drought-prone areas by supporting local capacity building processes for better understanding climate change risks and impacts and adaptation measures integrated in SLWM practices. Component 1 will also be incremental to the capacity building activities supported by the APFAMGS project by broadening the agenda from community groundwater management to empowering communities and their organisations with the necessary knowledge and skills to adapt to climate change. The GEF alternative will promote an innovative approach to land and water management blending the traditional farmer coping mechanisms with findings of scientific research. This will not only result in the economic benefit of the people residing in drought prone areas, but also in documentation and dissemination of practical methods of empowering communities to make informed decisions in the changing circumstances caused by climate change.

The GEF alternative supported in component 2 will be incremental to the national efforts supported by NIAP by finance the generation of pilot experiences with adaptation technologies and practices tailored to drought prone areas in partnerships between farmers and researcher involving the former in testing and the learning cycles. In addition to the AP-DAI project, the results will not only be tested adaptation technologies and practices. More important the CCS approach will build farmers capacities to continue testing and learning cycles and manage climate variability risks integrated in their SLWM practices.

Finally, the GEF financing implemented in component 3 will enable the creation of a platform for systematic scaling-up of adaptation best practices, tools, and local institutional approaches generated by the project and other projects and programmes. The Program Convergence Secretariat (PCS), housed in the Department of Rural Development, will play a crucial role in uptake of the project learning into regular government programs. GEF funding will also enable a regional and global uptake of emerging lessons in community knowledge empowerment and integration of climate variability adaptation measures in SLWM practices.

G. INDICATE RISKS, INCLUDING CLIMATE CHANGE RISKS, THAT MIGHT PREVENT THE PROJECT OBJECTIVE(S) FROM BEING ACHIEVED AND OUTLINE RISK MANAGEMENT MEASURES:

Table A describes risks foreseen, assumptions made, a rating of each risk, and their mitigation measures.

Table A: Risks/Assumptions, rating and mitigation strategy

Risk	Rating	Risk Mitigation Strategy
The Project assumes a functional partnership between the communities, government and NGOs and builds on the expectation that the communities will seek to maximize benefits and services over a long period. Although there will be ample scope and space for each of these actors to play their own roles, any serious shift in the government policies may change the relations among these actors.	Medium	The risk will be mitigated through the current decentralization process where the governments are delegating the governance to the lowest level in the country (Panchayat) including financial delegation.
If the institutional framework among farming communities is subjected to any adverse change of government policy, then there will be a risk of slowdown of project activities.	Low	Since farming communities do act on their own and in their own space, if they are convinced of the project benefits, it is anticipated that this risk will be minimal. Additionally, making scientific information available at farmers' level is turning out to be a major motivator for the farming community.
Climate change projections are made using low resolution models. There is a risk that the projections may not be relevant at the local level and communities can be misled into developing and using unsuitable adaptation measures.	Medium	Component 1 activities will focus on combining scientific historical data and climate models predictions with local information/knowledge on climate variability impacts in order to develop tools and adaptation measures with local relevance.

H. EXPLAIN HOW COST-EFFECTIVENESS IS REFLECTED IN THE PROJECT DESIGN:

The project will be highly cost effective since it is building on an already developed local capacity building approach and established local natural resource management institutions. The well established FFS approach adapted to CCS will facilitate the creation of self sustaining local learning cycles managed by farmers and disseminated among farmers. The APFAMGS project, which the design of the GEF project is build on, has trained more than 9,000 farmers in scientific data collection, analysis and dissemination, among whom some are now being recruited by government as farmer trainers.

By supporting the CBOs in managing various tools for decision-making related to climate variability, identifying adaptation measures and developing local Adaptation Plans, the project will allow farmers to tap into funds from the various on-going government schemes implemented by different agencies (Department's of Agriculture, Horticulture, Irrigation, Revenue, Rural Development, Forestry and Rural Employment Guarantee Scheme, etc.) to support investments in infrastructure (water saving equipment, soil and plant protection structures) and inputs (seeds, plantation, organic inputs).

The project management will also be highly cost effective due to the fact, that the project will be implemented by BIRDS in partnership with local partner NGOs which are already implementing the co-financing APFAMGS project allowing for shared project management costs.

The project will directly work with 9 HU covering a pilot area of 106,204 ha which gives a cost of US$ 9/ha in relation to the invested GEF resources. Considering that findings and experiences will subsequently be spread over all the HU (490,636ha) where the APFAMGS project is working the cost is as low as US$ 2/ha.

PART III: INSTITUTIONAL COORDINATION AND SUPPORT

A. INSTITUTIONAL ARRANGEMENT:

The Ministry of Environment and Forest (MoEF) is the focal point Ministry for GEF and responsible for the preparation of and leading the implementation of Government policies related to sustainable land management, biodiversity conservation and climate change. The MoEF and the GEF Empowerment Committee are also responsible for coordination among GEF Agencies at national and programme levels and for addressing operational level issues related to GEF-funded operations.

The day-to-day management and monitoring of the SLEM Programme, which the presented GEF project is part of, will be undertaken by the Indian Council of Forestry Research and Education (ICFRE), a subordinated office of the MoEF, as the Technical Facilitation Organization (TFO). The Additional Secretary of the MoEF will chair the National Steering Committee (NSC) for the coordination of the Program (see part II E). The NSC will support the creation of synergies in the application of a multi-sector approach to land management, related biodiversity conservation and climate change/adaptation issues in several States of India covered by the Program. The NSC will in particular: (i) endorse the annual work plan and budgets of SLEM projects; (ii) review and comment on a consolidated technical progress report on the implementation of the SLEM Programme prepared by the TFO on the basis of progress reports obtained from each SLEM project; (iii) review progress of the implementation of the Mainstreaming and Up-scaling Project managed by the TFO; and (iv) discuss and endorse national and state level policies and strategy recommendations prepared by the TFO and an action plan for their integration into the relevant agencies. The NSC will meet twice a year with one meeting at the end of the calendar year focusing on work plans and progress of the program and one meeting primarily focusing on policy and strategy issues. As the program gains momentum it is expected, however, that policy and strategy issues will feature on the agenda on both meetings. Through its inclusive membership it is expected that each partner's comparative advantage is fully exploited, that activities are well coordinated and that the views of all stakeholders are fully taken into account.

In addition to the TFO, the Desertification Cell within the MoEF has been identified as the main focal point for communication on this specific Project. The Cell of the MoEF will actively participate in the project level meetings in all aspects of project planning and implementation and liaising with the FAO. This cell will nominate person/s as member/s of the Project Steering Committee (see below) at the project level.

The State Government of Andhra Pradesh (GoAP) has set-up a Project Convergence Secretariat (PCS) in the Department of Rural Development. The PCS has a mandate to guide the various projects in the state and take pro-active role in up scaling successful pilots or initiatives and integrate them into the larger regular programs of the state. The PCS is another important partner in the project and will be a member of the Project Steering Committee and The GoAP Commissioner for Rural Development will also be invited to Chair the meetings. The PCS will be updated on a quarterly basis by the Project Manager about the progress of the project. Support services will be utilized from all the relevant GoAP departments including Agriculture, Horticulture, Irrigation, Groundwater and ICFRE based at Hyderabad. Suitable authorities of these departments will be invited to attend PSC meetings to review the project progress and advise the executing agencies.

The project partners will seek directions from the Director of the Drought Prone Area Program. All the project's activities including training and on-ground activities will be executed under the supervision and guidance of the concerned government authorities and departments. Further, relevant research findings of Regional Agricultural Research Stations (RARS) and other relevant institutions will be integrated in project training, capacity building and

pilot activities to support their dissemination to farmers. Finally, a good relationship already exists between the project partners and the District Collector[3] who will be briefed regularly on project activities and progress.

B. PROJECT IMPLEMENTATION ARRANGEMENT:

The Food and Agriculture Organization (FAO) will be the GEF Agency for the project. FAO will provide supervision and technical guidance services during the project execution. Administration of the GEF grant will be in compliance with the rules and procedures of FAO, and in accordance with the agreement between FAO and the GEF Trustee.

As the GEF agency for the project, FAO will:

- Manage and disburse funds from GEF in accordance with the rules and procedures of FAO;
- Enter into a Letter of Agreement with BIRDS as the national executing agency for the provision of services to the project;
- Oversee project implementation in accordance with the project document, work-plans, budgets, agreements with co-financiers and the rules and procedures of FAO;
- Provide technical guidance to ensure that appropriate technical quality is applied to all activities concerned integrating of climate change adaptation measures in SLWM.

A Project Task Manager will be appointed by FAO in the FAO office in India to supervise and provide technical guidance to the project supported by the FAO Natural Resource Department and the multidisciplinary Project Task Force which will be constituted within FAO. BIRDS will report directly to the FAO Project Task Manager. The FAO Project Task Manager will review all reports and submit them to the Lead Technical Unit (LTU), the Land and Water Division (NRL) of the Natural Resource and Environment Department (NR) and the GEF Coordinator in the Investment Centre Division (TCI). The FAO Representative in India, working in close consultation with the FAO Project Task Manager, will be responsible for the management of the GEF resources and all aspects in the agreement between FAO and BIRDS as the project execution agency. Disbursement of funds for the provision of goods and services to the project will be carried out by the FAO Representative in accordance with the provisions of the Letter of Agreement that will be signed between FAO and BIRDs and upon clearance and approval of financial statements and expenditure reports by the FAO Finance Division and GEF Unit and Project Progress Reports by the LTU.

Additionally, the FAO Project Task Manager, in consultation with the LTU, the GEF Unit and concerned divisions at FAO, will: (i) revise and give no-objection to annual work plans and budgets; (ii) review procurement and subcontracting material and documentation of processes and obtain internal approvals; (iii) conduct project supervision missions; (iv) prepare quarterly project financial and monitoring reports (QPIRs, see section I H above); and (iii) participate in the SLEM Program NSC and the Project Steering Committee.

The FAO Representative (FAOR) in India will be responsible for the final approval of all project progress and financial statements, procurement plans and disbursement requests.

Executing Agency

Bharathi Integrated Rural Development Society (BIRDS) will be the project executing agency responsible for execution of project activities, day-to-day monitoring and financial management in accordance with FAO rules and procedures and GEF requirements as established in the agreement with FAO and with project execution, technical and administration guidelines. BIRDS will enter into a Letter of Agreement with FAO allowing for purchase of services needed to execute the project. It is expected that the BIRDS Executive Director will dedicate 50% of his time to the project coordination and execution. BIRDS is a non profit NGO selected for the project execution considering that the NGO and its partner NGOs is also executing the co-financing APFAMGS project in the project area. BIRDS has the last decade been leading the implementation of new innovative approaches to support farmers

[3] The District Collector is the Chief Executive Officer at the district level on behalf the Government of Andhra Pradesh. All the government departments are responding to him at the district level. He chairs the meetings of the District Development Board and reviews all the developmental projects at the district level.

in establishing self-learning cycles and take on the sustainable management of water and land resources. Evaluations of the APFAMGS project are showing that BIRDS coordinates and manages the execution under high technical quality. BIRDS and its network of partner NGOs will bring this proven expertise to the execution of the GEF project. Recognizing its engagement in the poor rural population and its network of partner NGOs allowing for local involvements with beneficiaries, BIRDS has received and executed funds from a range of international and national donors including UNDP, Action Aid India, the Government of Andhra Pradesh, and GTZ.

BIRDS has proven technical, fiduciary and administrative capacity to execute the project and manage the funds including in the areas of financial, procurement, and project risk management and has the technical and financial staff needed to execute the project following FAO and GEF policies and standards.

Project Partners will submit quarterly statements of expenditure and annual financial audit statements to BIRDS. BIRDS will consolidate these statements and prepare statements of expenditure and annual financial audit statements and submit to FAO.

Project Management Unit

BIRDS will set up a Project Management Unit (PMU) responsible for the day-to-day project operation. The PMU will consist in a Project Manager, an accountant, and an administrative assistant financed by GEF resources. In addition the co-financing will provide a financial officer, an accountant, an administrative officer and assistants for field Data Collection & Monitoring to support project management. For the implementation of project activities the project manager will have the support from a team of local consultants including the following experts: (i) climate change modeling specialist; (ii) soil management specialist; (iii) organic agriculture specialist; (iv) irrigation management specialist; (v) climate change adaptation specialist; (vi) integrated pest management specialist; (vi) dry-land agriculture specialist; and (vii) local institution and gender specialist.

The primary responsibility of the PMU will be to ensure the effective implementation of project components detailed out in the project document. This will be achieved by: (i) preparing and coordinating the implementation of the Annual Work Plans and Budget (AWP/B); (ii) implementing a system to monitor project outputs and outcomes and perform all monitoring and reporting tasks as described in section 5 of the project document; (iii) preparing and obtaining approval from the FAO Project Task Manager for all documentation needed to hire consultancy services and for the limited acquisition of equipment necessary to provide the services, ensuring procurement processes comply with FAO rules and regulations, and supervising and monitoring contracts; (iv) preparing all documentation for subcontracting local partner NGOs, including verification of compliance with eligibility criteria (see below) and obtaining approval from the FAO Project Task Manager for each subcontract, monitoring and administering subcontracts, including transfer of installments subject to submission of progress and financial reports by subcontractors and adherence to financial, administrative and technical guidelines; (v) maintaining accounting and financial controls, including adequate support documentation filing systems for verification by FAO and external auditors and assuring compliance with all FAO monitoring and financial reporting requirements as established in the Letter of Agreement between FAO and BIRDs; (vi) preparing and submitting for approval by the FAO Project Task Manager/FAOR disbursement requests and corresponding justification of expenditures based on an updated AWP/B; (vii) acting as secretariat to the Project Steering Committee; and (viii) handling all day-to-day project issues and requirements and ensure a high degree of national and local inter-institutional collaboration.

Partner NGOs at field level

BIRDS will use its network of suitable partner NGOs based at the field to collaborate in the execution tasks at the district level. The selection of the 8 participating Partner NGOs[4] has been made for the co-financing APFAMGS project and was based on the following criteria: (i) registered under Societies Registration Act with permission to receive funds under the Foreign Contribution Regulation Act (FCRA) of Government of India; (ii) technical

[4] Centre of Applied Research and Extension (CARE, Mahboobnagar district), Collective Activity for Rejuvenation of Village Arts and Environment (CARVE, Prakasam district), Development Initiatives and People's Action (DIPA, Prakasam district), Gram Vikas Samstha (GVS, Chittoor district), People's Activity and Rural Technology Nurturing Ecological Rejuvenation (PARTNER, Kadapa district), Society For Sustainable Agriculture And Forest Ecology (SAFE, Prakasam district), Social Awareness for Integrated Development (SAID, Nalgonda district), Star Youth Association (SYA, Anantapur district).

experience with work at the community level for at least 10 years, of which at least 5 years should be in the field of land and water management; (iii) professional qualified staff; (vi) proven track record of financial credibility and adequate financial and monitoring systems and capacities and transparent procurement procedures complying with FAO requirements and national laws; and (v) capacity to deliver timely and accurate financial and project progress reporting. for the execution of activities under the GEF project.

The partner NGOs will enter into a contract agreement with BIRDS for the provision of services to the project in the implementation of project activities as described in the Project Document. The compliance with the above mentioned selection criteria must be documented and reconfirmed before any subcontract can be approved by FAO. The partner NGOs will be required to provide quarterly progress and financial reports and transfer of instalments will be subject to results obtained and approval by the Project Manager. The PMU local consultants team will support the partner NGO teams in successful implementation of activities. They will guide the partner NGO teams in collecting relevant data, help in preparation of material for training programs, and introduce relevant local specific technologies adapting water, land and crop management to climate change impact.

The partner NGOs will coordinate with the government programs at district level to obtain technical support and leverage resources from those programs for the benefit of the communities. The partner NGOs will be required to work in close coordination with the Office of the District Collector.

Community Based Organizations (CBOs)

At the hydrological unit (HU) level, CBOs will be the main direct beneficiaries of the capacity building provided by the project and they will be involved in the development and application of measures in adaptation. The CBOs are representing populations highly affected by drought and land degradation. They have already an established working relationship with the selected partner NGOs and they have been involved in the project design. They will enter into a Memorandum of Understanding with the district level partner NGO stipulating their involvement in project activities, monitoring and the elaboration of the Annual Work Plan.

Informal education and training partner

BIRDS will partner with World Education, Inc. an international non-profit agency based in Boston, USA. World Education (WE) provides training and technical assistance in non-formal education across a wide variety of sectors. World Education has worked closely with BIRDS and its partners in the Andhra Pradesh Farmer Managed Groundwater Systems (APFAGMS) Project to design the Farmer Water School methodology – a basic set of processes that facilitate farmer learning and decision making on the use of scarce water resources. Building upon these practices, World Education will provide assistance in the design of Community Climate Change Schools to work with all farmers (water user and non-water users). There will be no contract between BIRDS and World Education since the latter will not receive any GEF funds for their services.

World Education's approach involves use of experiential learning process to train farmers on how to conduct their own experiments so that they may develop appropriate methods to increase productivity in their farming systems while simultaneously reducing environmental degradation. World Education will collaborate with local NGOs and farming communities to provide them with technical support and institutional strengthening to ensure that they can build the capacity of farmers' groups to access information, conduct research, and advocate for changes in local agricultural practices. World Education has worked closely with FAO, in several Asian countries, to promote sustainable agriculture and natural resource management with rural farming communities.

Project Steering Committee

At the project level, a Project Steering Committee (PSC) will be constituted with stakeholders at the national and state level to guide project implementation. The PSC will be chaired by the GoAP Commissioner for Rural Development. The PSC will consist of members from FAO, MoEF (GoI), Ministry of Water Resources (MoWR), GoI, Department of Rural Development (GoAP), Department of Panchyat Raj (GoAP), Department of Agriculture (GoAP), and BIRDS. The Project Manager will act as Secretary and the Executive Director of BIRDS (EA) will be the Convener. Additionally, members of CBOs and reputed citizens, representatives of agencies working on climate change adaptation will be invited to attend PSC meetings, as and when the situation demands. The PSC will meet twice a year.

The PSC will be the policy setting body for the project and will also have the responsibility for endorsing the Annual Work Plan and Budget (AWP/B), Based on the Annual Project Implementation Review (APR) from the previous year's technical activities and achievement of outputs. Once endorsed by the PSC, the AWP/B will be submitted to FAO. The PSC will be responsible for providing general oversight of the execution of the Project and will ensure that all inputs and processes required for the implementation of project activities agreed upon under the GEF project document are adequately prepared and carried out. In particular, it will:

- Provide overall guidance to the Project Management Unit (PMU) in the execution of the project;
- Ensure all project outputs are in accordance with the Project Document;
- Review, amend if appropriate, and approve the draft Annual Work Plan and Budget of the project for submission to FAO; and
- Facilitate the "mainstreaming" of relevant project findings and recommendations into national policy.

The PMU of the project will act as Secretariat to the PSC and be responsible for providing PSC members with all required documents in advance of PSC meetings, including the APR and draft AWP/B. The PMU will prepare written minutes of all PSC meetings and be responsible for logistical arrangements related to the holding of such meetings.

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

The project design is in alignment with the original PIF. However, under the further development of the project components the activities to be supported have been reorganized and component titles have been adjusted accordingly to achieve a more logical organization and structure of the project. Output and outcome indicators have been further developed to allow for results based management as detailed in the project Logical Framework and Part I H above. Also the project amount has been slightly increased to include the US$ 50,000 not spent on a PPG as foreseen in the government endorsement letter.

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.	
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ANNEX A: PROJECT RESULTS FRAMEWORK

Project Strategy	Objectively Verifiable Indicators			Sources of Verification	Assumptions
	Indicator	**Baseline value**	**Target value and date**		
Global Environmental Objective: Establish a knowledge base for large-scale intervention on climate change adaptation					
Project Development Objective (Impact): Knowledge and capacities of communities in pilot Hydrological Units in Andhra Pradesh, India are strengthened to respond to climate change impacts	**Impact Indicators:** No Hidrological Units (HU) where CBOs incorporate monitoring of climate variability and adaptation measures in Sustainable Land and Water Management (SLWM) practices; average crop yields; and soil moisture availability and organic carbon content	Communities in pilot HUs discuss ways and means of sustaining groundwater resources; make informed decisions on groundwater utilization; have institutionalized hydrological monitoring, crop-water budgeting and farm level action; and Governmental and Non Governmental agencies at national and international level take advantage of the learning from farmer managed groundwater systems approach. However, there is no knowledge on and monitoring of climate change and its impacts on land, water and crop production and integration of adaptation measures in SLWM practices.	CBOs in 63 HU are incorporating adaptation measures in SLWM; Average crop yields, water harvested or water saved, soil moisture availability and/or organic carbon content maintained or increased in pilot areas 5 years after project ends.	Midterm review and Final evaluation Pilot monitoring reports of on-the-ground impact of adaptation pilots	There is a functional cohesion between communities, government and NGOs Institutional framework among farming communities is bereft of adverse change of policy of government Rural populations are capable of understanding, monitoring and taking action to counter climate change impact
Outcome 1: Information tools and local institutional capacities developed for farmers and CBOs to make informed decisions on land and water management based on scientific and local knowledge, taking into account impacts of climate variations					
Output 1.1: Completed study on local and scientific knowledge on impacts of climate variability/change on natural resources in Andhra Pradesh	Sample size (distributed by gender, vulnerable groups/sectors) and number of sample locations and variables included in farmer survey. Review of scientific historic data and predictions on climate variability	There is no documented and integrated understanding of local and scientific knowledge on impacts of climate variability/change on natural resources in Andhra Pradesh	At least 450 farmers interviewed with balanced representation of gender and vulnerable groups/sectors in at least 9 pilot HU covering key indicators on climate viability and its impact. Farmers understanding of climate change in	Final study document and climate change impact database	

	and impact indicators		pilot HUs documented and combined with available scientific data, 9 months from project start.		
Output 1.2: Local monitoring system of climate variability and its impacts operating	Number of CBOs in HUs conducting systematically monitoring and number of indicators monitored and incorporated in climate change databases accessible by CBOs	There is no systematic monitoring of climate variability and its impacts	At least 9 CBOs in pilot HU are collecting data on at least 3 key indicators by the end of the second project year	Data collected by farmers and climate change database systematically updated	
Output 1.3: CBOs with capacities to integrate climate variability adaptation measures in Sustainable Land and Water Mangement (SLWM)	Number of CBOs that have established climate change adaptation committees Number of CBO leaders and representatives trained in climate variability monitoring and adaptation measures integrated in SLWM Number of CBOs participating in identification of adaptation measures with agricultural scientists Number of CBOs with a local climate change adaptation plan	The CBOs have been trained in and are managing ground water resources in 9 HU in Andra Pradesh. However, climate viability impacts are not well understood and included in an integrated SLWM approach. The baseline for all the included indicators is cero.	At least 9 committees 6 months after project start At least 100 leaders and representatives trained by the end of year two At leas 9 CBOs have participated and identified measures 18 months after project start At least 7 CBOs have adaptation plans 18 months after project start	Committee meeting minutes Lists of participants in training workshops Report on identified SLWM measures and technologies Adaptation Plans signed by CBO leaders	

Outcome 2: Pilots on SLWM including climate variability adaptation in farming systems in drought prone areas					
Output 2.1: Farmers acquire skills in managing climate variability and testing adaptation technologies in farming systems through participation in Climate Change Schools (CCS)	Curriculum developed for CCS with focus on adaptation in drought-prone areas including methods on identification and field testing of adaptation measures Number of functioning CCS Number of farmers attending CCS and disseminating best experimental practices for adaptation measures	Farmers knowledge and skills focused on hydrological parameters only	Curriculum developed 18 month after project start At least 7 CCS functioning by the end of the project At least 350 female and male farmers attending by the end of the project	CCS Curriculum Training Calendar Training Report Feedback Form Data Record Ballot Box Test NFE tools/models Press clippings	
Output 2.2: Pilot testing of alternative adaptation technologies and practices in SLWM	Number of pilots testing technologies and measures included in local climate change adaptation plans CBOs and farmers participating in pilot testing Number of best adaptation practices and technology manuals	No adaptation technologies and practices have been tested and no manuals exist	At least 3 pilots produce results on adaptation performance of technologies and practices by the end of the project At least 7 CBOs and 50 female and male farmers have participated by the end of the project At least three manuals elaborated by the end of the project		

Outcome 3: A platform for land based climate change adaptation measures suitable to drought prone areas developed; adoption of a package of methods, tools and institutional approaches in support of District and State level natural resource management initiatives to address the impacts of drought.					
Output 3.1: Project lessons, results, and products (CCFS Curriculum, field testing methods, adaptation technology and practices manuals, and institutional approaches) documented and disseminated	Project lessons, results and products available on platform website Number of website visitors Numbers of and participants in dissemination workshops	No platform for land based adaptation measures suitable to drought prone areas exists in India	One platform website operating by the end of the project with 100 visitors per month. At least 3 dissemination workshops with at least 150 participants have been held by the end of the project	Project website, reports, manuals, database on climate variability and its impact indicators, workshop reports and lists of participants	

ANNEX B: RESPONSES TO GEF SECRETARIAT REVIEW

Review Criteria	Questions	Secretariat Comment at PIF/Work Program Inclusion	Team Response
Project Design	8. Is the project design sound, its framework consistent & sufficiently clear (in particular for the outputs)?	By CEO endorsement, it is important that the M&E framework identifies clear indicators to capture the on-the-ground impact of the project, not only in terms of improved knowledge levels of farmers and institutional improvements, but also in terms of real reductions in the vulnerability of agricultural output and local water resources	Although it is difficult to measure in the project lifetime, clear indicators (average crop yields; improved annual groundwater balance; volume of water harvested or water saved through usage of water harvesting and saving devices/methods; soil moisture availability; and/or organic carbon content) to capture on-the-ground impact of the project adaptation pilots have been proposed and included in the project Logical Framework (Annex A above). These indicators and their baseline will be finally established during the design of each pilot.
	10. Is the project consistent and properly coordinated with other related initiatives in the country or in the region?	By CEO endorsement, the complementarity with World Bank (AP-DAI) project must be fully clarified. The following points should be made clear from this comparison: 1. That activities and outputs are not duplicating each other, 2. That the collective effort of adaptation in Andhra Pradesh is coordinated in a way so as to maximize cost-effectiveness and the comparative advantage of each agency, and 3. That there is clear institutionalized framework for coordinating activities and exchanging information between the two projects.	Two meetings with APDAI implementing agency clearly brought out the complementarities of the two projects. The AP-DAI project will finance physical infrastructure like pipelines to minimize drought impacts while the GEF project will concentrate on building up local capacity and skills not only to monitor, assess and understand the implications of climate variability/change on farming systems but also to take preventive measures in terms of land and water management to minimize its effects. Details of complementarities and coordination arrangements are described in Part II E above. The Project Convergence Secretariat (PCS) set up by the State Government of Andhra Pradesh (GoAP) in the Department of Rural Development will ensure mutual learning not only between the two projects, but also the Department of Rural Development, Government of Andhra Pradesh.
Justification for GEF Grant	15. Is the value-added of GEF involvement in the project clearly demonstrated through incremental reasoning?	This project, as it is dealing specifically with farmer training/capacity building in relation to climate change risks, is clearly incremental. A more detailed incremental cost analysis is expected by CEO endorsement.	A detailed incremental analysis has been carried out and the reasoning is presented in Part II F above.

ANNEX C: CONSULTANTS TO BE HIRED FOR THE PROJECT

Position Titles	*$/ person month*	*Estimated person month*	*Tasks to be performed*
For Project Management			
Local			
Project Manager	1,635	36	Overall management of project implementation and Reporting to FAO/GEF. Responsible for the timely implementation of all tasks assigned to the PMU including preparing and coordinating the implementation of the Annual Work Plans and Budget, implementing a system to monitor project outputs and outcomes, preparing TOR and all documentation for contracting of consultants and subcontracting local partner NGOs, and monitoring and administering these contracts, handling all day-to-day project issues and requirements and ensure a high degree of national and local inter-institutional collaboration.
Accountant	467	36	Keeping the records of the GEF fund disbursement by BIRDS and utilization by the sub-contracted partner NGOs. Tracking the fund flow and reporting to the Finance Officer regularly.
Cashier / Administrative assistant	292	36	Disbursement of cash /cheques to the relevant agencies and individuals. Looking after banking transactions and statutory requirements. Coordinating with Accountant on a regular basis to compile financial statements required to be submitted to FAO. Assist in preparation and implementation of General Administration guidelines. Reporting on irregularities. Facilitate random checks of FAO officers to BIRDS and its partner NGOs.
Driver	226	18	Providing Logistical support to Project Manager and visitors. Maintaining project vehicles and log books.
For Technical Assistance			
Local			
Finance officer	841	36	S/he will Participate in field reviews to ensure that funds are spent properly, activities are implemented cost-effectively and as planned. Conduct or contribute to comprehensive internal audits with emphasis on financial aspects, project programme or operational reviews that evaluate and report on the soundness and adequacy of procedures and internal controls designed to ensure that the resources of the Organization are properly utilized and safeguarded. Review and evaluate the system of management controls and support their effectiveness in the light of present operations. Prepare or contribute to the preparation of work plans & budgets, financial reports and Audit programmes, and draft related reports. Link expenditure and results monitoring.
Field officer	467	36	S/he will be responsible for recruitment of members of field team in consultation with BIRDS; coordination of team at PNGO level; guiding the field team in planning, implementation monitoring and review of activities; linkage development with various support agencies and compilation of team reports and reporting to BIRDS on program, finance and administrative matters.
3 Field facilitators	210	108	S/he will be responsible for formation and strengthening of CBOs at habitation level in areas not covered by a partner NGO; conducting village assembly; conducting climate

			change schools; supporting habitation level CBOs trainings; facilitating monthly CBO meeting; documentation of case studies of individuals and groups in respect of climate change adaptation activities; linkage development and resource mobilization.
Climate change Modelling specialist	2,800	2	S/he will be responsible for providing inputs in the bench-mark document (output 1.1) for the section on results of climate change modeling studies in the project area and its implications in terms of change in temperature, rainfall and monsoon.
Soil Management specialist	2,800	7	S/he will be responsible for coordinating all the activities related to understanding of the soil characteristics in the project area and advising the project staff and farmers in implementation of pilots on Adaptation technologies and practices for alternative management of land and water resources (output 2.2).
Organic Agriculture specialist	2,800	3	S/he will be responsible for identifying suitable options of organic agriculture in the project area and coordinating all the related field activities in implementation of pilots on Adaptation technologies and practices for alternative management of land and water resources (output 2.2).
Irrigation Management specialist	2,800	4	S/he will be responsible for identifying suitable options of irrigation management in the project area and coordinating all the related field activities in implementation of pilots on Adaptation technologies and practices for alternative management of land and water resources (output 2.2).
Climate change adaptation specialist	2,800	8	S/he will be responsible for identifying suitable climate change adaptation methods in the project area, in consultation with other specialists, and developing a package of options for implementation of pilots on Adaptation technologies and practices for alternative management of land and water resources (output 2.2).
Integrated Pest Management specialist	2,800	2	S/he will be responsible for identifying suitable methods of integrated pest management in the project area and coordinating all the related field activities in implementation of pilots on Adaptation technologies and practices for alternative management of land and water resources (output 2.2).
Dry land Agriculture specialist	2,800	8	S/he will be responsible for identifying suitable options of dry-land agriculture in the project area and coordinating all the related field activities in implementation of pilots on Adaptation technologies and practices for alternative management of land and water resources (output 2.2).
Institutions & Gender specialist	2,800	6	S/he will be responsible for guiding the subject experts and other staff involved in community mobilization in evolving a sustainable and gender balanced institutions aiming at climate variability/change adaptation (output 1.3).
* Contract - Bench Mark survey of local and scientific knowledge on climate change/variability impacts in the project area	1,852	6	Will carry out a Bench Marks Survey in all the villages benefiting from the project to gather and systematize information on farmers' knowledge on climate variability and its impact on land and water resources and crop production. It will also yield information on: livelihood issues, social conflicts, prices of commodities, income levels, food and nutrition, health, water availability, crop yields, soil nutrients, pest attacks, energy resources and consumption. The Bench Marks Survey will document the current local understanding of climate change impacts due to raising temperature over the years, erratic rainfalls, surface and groundwater levels, bio-diversity status,

			changing cropping and farming systems, market impacts on livelihoods, emission of green house gases due to burning of fossil fuels etc. The data collected will be compiled in the form of a Bench-mark document for each of the pilot HUs.
* Contract - Mid term review	4,900	2	An independent mid-term review (MTR) will be undertaken at the beginning of the third year of project implementation. The MTR will determine progress being made towards the achievement of outcomes and will identify corrective action, as needed; including a review and analysis of the updated capacity development monitoring scorecard. The MTR will focus on: a) the cost-effectiveness, efficiency and timeliness of project implementation and performance; b) highlight issues requiring decisions and actions; and c) present initial lessons learned about project design, implementation and management. Finding of this review will be incorporated as recommendations for enhanced implementation during the reminder of the project's term.
* Contract -Website creation	2,778	1	Design and development of website for the Project including information and communication needs Analysis, Design, Development, Deployment, Testing, Bug fixing and Integration.
* 8 Contracts with partner NGOs for execution of activities with community based organizations	1,803	288	The execution of the project activities at the field level will be carried out by PNGOs which enter into an agreement with BIRDS. The field level coordination with the government programs and tapping finances from those schemes for the benefit of the communities, will be facilitated by the Chief Functionaries of these PNGOs. The project will establish functional linkages between the CBOs and the different Government Departments for raising support both in terms of finances and expertise.

* the contracts are not based on a unit cost for $/person month. They are based on a lump sum/month including all specialists, transport and material

JUSTIFICATION:

Local consultants: The Project Management Unit needs to be equipped with the consultants of higher level to provide guidance to the field level consultants and executing agencies. While the project execution is best done under an able leader, here the Project Manager, other local consultants of PMU bring in their experience in their respective areas of specialization to assist the Project Manager. The execution of project activities at the field level is through the local NGOs. For the specific purpose of the project implementation, the NGO needs to put together a team consisting of a team leader (Field Coordinator) and Professional Staff (multi-disciplinary) to provide professional guidance to Village Coordinators, who actually supervise execution of project activities. Support staff will provide necessary assistance both at PMU and TA levels and will be hired as per the need.

Office facilities, equipment, vehicles and communications: While existing facilities, equipment, vehicles and communications with the Executing Agencies will be used for the purpose of the project implementation, unusable equipment, vehicles and other facilities will be replaced with newer once, with partial project funding.

Travel: As the project design incorporates lot of travel at the field and national level, sufficient funds are allotted for domestic travel. However, some funding is allotted for international travel to take care of participation in International events to share project experience with global audience.

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

N/A No PPG has been requested for this project