1. Project Data

Summary project data	
GEF project ID	3882
GEF Agency project ID	604144, GCP/IND/181/GFF
GEF Replenishment Phase	GEF 4
Lead GEF Agency (include all for joint projects)	FAO
Project name	Reversing Environmental Degradation and Rural Poverty through Adaptation to Climate Change in Drought Stricken Areas in Southern India: A Hydrological Unit Pilot Project Approach
Country/Countries	India
Region	Asia
Focal area	Climate Change
Operational Program or Strategic Priorities/Objectives	Strategic Pilot on Adaptation
Executing agencies involved	Bharathi Integrated Rural Development Society (BIRDS) was executing agency. Others: India's Ministry of Environment and Forests (MoEF), Indian Council for Forest Research and Education (ICFRE)
NGOs/CBOs involvement	Community Climate Adaptation Committees were CBOs established by the project, as direct beneficiaries. Other stakeholders: M. S. Swaminathan Research Foundation, International Crop Research Institute for Semi Arid Tropics, Madras School of Economics, Central Research Institute for Dry land Agriculture, Acharya N.G. Ranga Agricultural University, World Wide Fund for Nature, Centre for Economic and Social Studies, National Geophysical Research Institute, GoAP Departments of Rural Development, Agriculture, Horticulture and Animal Husbandry, and Groundwater, University of Hyderabad, Osmania University, Action for Food Production, Agriculture Man and Ecology Foundation.
Private sector involvement	None reported.
CEO Endorsement (FSP) /Approval date (MSP)	April 21, 2010
Effectiveness date / project start	December 6, 2010 (TE p. 57)
Expected date of project completion (at start)	October 2012
Actual date of project completion	June 30, 2014 (TE p. 57)

Project Financing			
		At Endorsement (US $M)	**At Completion (US $M)**
Project Preparation Grant	GEF funding		
	Co-financing		
GEF Project Grant		0.91	0.91
Co-financing	IA own- FAO	1.3	1.3
	Government		
	Other multi- /bi-laterals		
	Private sector		
	NGOs- BIRDS	1.554	1.554
Total GEF funding		0.91	0.91
Total Co-financing		2.854	2.854
Total project funding		3.76	3.76

Terminal evaluation/review information	
TE completion date	June 2014
Author of TE	Kalyani Kandula, Sunder Subramanian
TER completion date	December 1, 2015
TER prepared by	Dania Trespalacios
TER peer review by (if GEF IEO review)	Molly Watts

2. Summary of Project Ratings

Criteria	Final PIR	IA Terminal Evaluation	IA Evaluation Office Review	GEF IEO Review
Project Outcomes	S/HS	NR	NR	**HS**
Sustainability of Outcomes	Low Risk	NR	NR	**L**
M&E Design	NR	NR	NR	**S**
M&E Implementation	NR	NR	NR	**S**
Quality of Implementation	HS	NR	NR	**MS**
Quality of Execution	S	NR	NR	**S**
Quality of the Terminal Evaluation Report	--	--		**MS**

3. Project Objectives

3.1 Global Environmental Objectives of the project:

The Global Environmental Objective is to contribute to knowledge building and experiences in integrating climate change adaptation for sustainable land and water management in drought-prone areas Andhra Pradesh, India. (PD p.3) Some districts in Andhra Pradesh are prone to frequent droughts, which threaten agricultural production and the livelihoods of rural communities. Climate change is expected to bring decreased and more variable rainfall, increased water scarcity, and declines in crop yields. Communities have limited knowledge of the local impacts of climate change, and thus a weak capacity to cope with the potential impacts and adapt to these changes. The project will help build community skills and tools to integrate climate adaptation into sustainable land and water management practices. Through grass-roots environmental action, the project will contribute to the rehabilitation and protection of critical ecosystems, improve soil carbon sequestration, and raise agricultural productivity. (PD p. 13)

3.2 Development Objectives of the project:

The Development Objective of this project is to strengthen the knowledge and capacity of communities to adapt to the impacts of climate change in seven drought-prone districts of Andhra Pradesh, India. (PD p. 3, 13) The main outcomes expected of this project are the following; farmers and community based organizations (CBO) will make informed decision on land and water management, based on scientific and local knowledge, taking into account impacts of climate variability and change; farmers acquire skills for managing climate risks through participation in climate change schools; adaptation technologies and practices are piloted and best practices are identified; and adaptation tools and practices are documented and disseminated to support scaling-up. (PD p.3)

3.3 Were there any **changes** in the Global Environmental Objectives, Development Objectives, or other activities during implementation?

There were **no changes** to the Global Environmental and Development Objectives. (TE p. ix)

4. GEF IEO assessment of Outcomes and Sustainability

Please refer to the GEF Terminal Evaluation Review Guidelines for detail on the criteria for ratings. Please justify ratings in the space below each box.

4.1 **Relevance**	Rating: **Satisfactory**

The project outcomes are consistent with the GEF 4 Climate Change focal area objectives, including Strategic Program 6, "Management of land use, land-use change and forestry as a means to protect carbon stocks and reduce GHG emissions", and long term objective 8, "to support pilot and demonstration projects for adaptation to climate change". The ultimate contribution of this project is to develop the adaptive capacity of the communities in the target areas. The project will support the GEF climate change focal area by establishing a knowledge base for large-scale adaptation interventions that are replicable.

The proposed project is under the umbrella of the GEF supported India Sustainable Land and Eco- system Management (SLEM) Country Partnership Program, led by India's Ministry of Environment and Forests. The program was approved by the GEF Council in November 2007, with the purpose of promoting sustainable land management and biodiversity use. This project would collaborate with other projects under the SLEM program, including the World Bank-led National Agricultural Innovation Project, and Uttarakhand Decentralized Watershed Management Project; and the UNDP-led SLEM in Drylands in Madhya Pradesh. (PD p. 11-12)

The project would contribute to India's national priorities and goals by strengthening the capacity of communities to better understand and adapt to the effects of climate change. The project is in line with India's National Agriculture Policy (2000), which aimed for the sustainable development of agriculture, and with India's Eleventh Five-Year Plan (2007-2012), which recognized the increasing dangers of environmental degradation and climate change and called for prioritizing adaptation and integrating environmental concerns into planning and development activities across all sectors. The project is also in line with India's National Environmental Policy of 2006, and with India's National Action Plan on Climate Change of 2008, which focused on promoting understanding of climate change adaptation and mitigation. The project also supports the priority areas identified in the National Medium Term Priority Framework (2009-2012), particularly the focus on piloting innovative approaches in agriculture and rural development in partnership with the government, NGOs and the private sector. (PD p.8)

Finally, the project would coordinate its activities with existing initiatives, including the India Sustainable Land and Eco-system Management Country Partnership Program, the World Bank project Andhra Pradesh Drought Adaptation Initiative (AP-DAI), India's National Agricultural Innovation Project, and Acharya N.G. Ranga Agricultural University's Andhra Pradesh Water Management Project. (PD p. 10-13)

4.2 **Effectiveness**	Rating: **Highly Satisfactory**

The TE does not provide an explicit rating for the project's effectiveness, but does report thoroughly on the project's achievements, and compares them to the specific outputs and indicators initially expected from the Project Document. The project achieved and at times

exceeded all of its indicator targets, and successfully met its Global Environmental and Development objectives, with no shortcomings to note. Thus, effectiveness is rated Highly Satisfactory.

The main goal of this project was to build the capacity of local communities to adapt to climate change in rural areas, via three main project outcomes: the development of information tools for decision making and institutional capacity development; the integration of pilot activities in to local land and water management practices; and the development of a platform for scaling up climate change adaptation measures suitable for drought prone areas. The TE and the final PIR report that the project successfully achieved all of its expected outputs, and exceeded expectations in some of its deliverables. (PIR 3rd 2013 p. 15, TE p. ix, 37, 38)

Regarding outcome 1, all three planned outputs were achieved. The project completed the study on local climate variability knowledge and impacts, established and operationalized a Participatory Climate Monitoring (PCM) system run by farmers, and established 9 Community Climate Adaptation Committees (CCAC) in the target hydrological unit areas. The project has been successful in developing PCM as a key information tool to aid in decision making on adaptation by communities. The TE reports that the CCACs established by the project demonstrate ownership of the PCM systems, have identified various adaptation practices for sustainable land and water management, and have developed climate change adaptation plans.

Regarding outcome 2 on integrating pilot adaptation measures into sustainable land and water management (SLWM) practices, both planned outputs were achieved. The project established Farmer Climate Schools that equipped farmers with skills in climate variability and adaptation technologies and practices, and successfully tested these new skills and technologies in pilot projects. As a result, manuals on climate adaptation in four agro-climatic zones have been developed.

Finally, with regards to outcome 3, the Development of a platform for climate change adaptation measures suitable for drought prone areas; adoption of methods, tools and institutional approaches that support natural resource management in areas prone to drought, the planned output was achieved. The project developed a platform for scaling up climate change adaptation measures suitable for drought prone areas, including the development of various knowledge products (manuals on adaptation technologies, curriculum for farmer training, strategy papers), and successfully disseminated this platform and its tools though district and state level meetings.

The TE states that the biggest accomplishment of the project was the successful demonstration of the integration of climate change adaptation in sustainable land and water management through innovative farmer driven grass-root level environmental action. The project contributed to improved soil carbon sequestration, raised agricultural productivity, and protected critical ecosystems. The TE states that overall, the project seems to have achieved its Development Objective and significantly contributed to 'strengthening the knowledge and capacities of communities to respond to climate variability and change impacts in pilot HUs in seven drought-prone districts of Andhra Pradesh'. (TE p. xi, 31)

The TE reports that the project exceed the targets for several of the expected outputs: there were 130 farmers involved in SLWM pilots, compared to the target of 50; non-pilot hydrological units were involved in 3 SLWM pilots; 7 climate variability and 5 climate impact indicators were monitored, against the target of 3 key indicators; 47 Farmer Climate Schools were

organized, much more than the initial target of 7; and 4 agro-climatic zone specific manuals on climate adaptation were completed, instead of 3. (TE p. 38)

Thanks to the formation of CCACs and the Farmer Climate Schools, farmers in the project areas now actively engage in decision-making on crop management using PCM data, soil fertility and moisture measurements, and, groundwater data. Farmers have pilot tested various adaptation technologies and practices, including water harvesting/storage, water conservation, intercropping and border cropping, mulching, integrated pest management/non-chemical pest management, and fodder cultivation. These interventions have resulted in reduced input costs and sustained yields. There is also increased awareness of adaptation measures beyond the project implementation areas, and as a result, there is increasing demand from non project areas for establishment of PCM stations. (TE p. xii)

A key feature of the project has been the close involvement of stakeholder communities through the CCACs; for example, the land for the PCM stations has been donated by individual farmers, the daily PCM data collection and dissemination is done by volunteer farmers, and the Farmer Climate Schools are conducted by trained 'farmer resource persons'. The project has institutionalized the continuance of various core project activities- such as PCM data collection, operation and maintenance of the PCM equipment, periodic CCAC meetings- through agreements with each of the CCACs, and the establishment of a CCA fund. (TE p. xii) The TE notes that, even within its short 3.5-year time frame, the project's contribution to India's knowledge base on participatory climate monitoring and community adaptation is significant. (TE p. xiv)

4.3 **Efficiency**	Rating: **Satisfactory**

The TE does not provide a rating for project efficiency, but reports that the project was cost effective and that it demonstrated "responsive" financial management, and argues that the complexity of the project's deliverables merited its extended time frame. The TE notes that the project was able to successfully complete all planned intervention elements within agreed budgetary frameworks, thus suggesting that the project was cost effective. (TE p. xiii, xv) The TE also notes that the project's financial resources management was responsive to the project results framework: in line with the issues, problems and risks noted during implementation, some of the original allocations were altered as per the provisions in the Project Document and in consultation with the FAO. (TE p. xiii)

According to the Project Document, the project was to start on November 2009, and finish three years later in October 2012. However, the project was approved and begun in December 2010, and was granted an extension to finish in June 2014. (GEF PMIS, TE p.57) The TE explains that projects that are "breaking new ground" need "time to learn by doing", and thus the original 3 year time frame was "a challenge", implying that it was not appropriate for the expected deliverables. The TE calls for an additional year of implementation to allow room for "consolidation, stabilization and systematic withdrawal". (TE p. xiv) The TE notes that two notable project elements slipped back from their original due dates: a baseline report was completed in 2013 instead of 9 months after project start; and participatory climate monitoring activities began in July 2012, instead of the end of 2011. (TE p. 38)

The TE concludes that, given that actual project implementation was delayed, that overall project expenditure has been within the final budgeted numbers, and that the project has been

able to achieve virtually all of its planned outcomes and outputs, the project has a very high degree of efficiency. (TE p. 47) Considering the TE's justification for an extension, and the otherwise general efficiency of financial and project management, project efficiency is rated satisfactory.

4.4 **Sustainability**	Rating: **Likely**

The TE does not provide explicit sustainability ratings, but does describe the challenges to the project's sustainability. (TE p. xiv, 49, 56) The Project Document also provides information regarding the potential risks to sustainability, and the project design's answer to these risks.

Financial Sustainability- Likely
The TE reports that the project established a Climate Change Adaptation fund to ensure that the Climate Change Adaptation Committees would continue to work on participatory monitoring, data collection, maintenance of monitoring equipment, and meet periodically. (TE p. xiv, 49) This provision was not specified by the Project Document, and goes beyond the majority of GEF projects in its concern for sustainability after project completion.

Sociopolitical Sustainability - Likely
The TE states that the key challenge to the sustainability of the project's achievements in the future is assuring the continued involvement of the Climate Change Adaptation Committees (CCAC) in participatory monitoring of climate variability and impacts; and sustaining the process of planning, testing, adopting and promotion of adaptation measures. The project addressed this risk by establishing a Climate Change Adaptation fund, and developing agreements with the Committees in each of the project areas, so that participatory monitoring, data collection, maintenance of monitoring equipment, and periodic Committee meetings would continue. (TE p. xiv, 49) The TE reports that there is anecdotal evidence of increasing demands from non-project areas for similar interventions, and comments that this is reflective of the strong relationships the project has been able to build with stakeholders in the project area, including with district administrations and relevant government officials. (TE xiv) The 9 Climate Change Adaptation Committees that were established by the project continue to engage in and promote the activities and ideas begun during the project, with continuing support from the project's partner NGOs. (TE p. 57) The TE also reports that a key feature of the project has been the close involvement of the stakeholder communities through the CCACs, and claims that the project has institutionalized the continuance of various core project activities, such as PCM data collection and periodic CCAC meetings, through agreements with CCACs and setting up of a CCA fund. (TE p. xii) It seems that stakeholder ownership is robust and likely to continue after project end.

Sustainability of Institutional Frameworks and Governance - Likely
The project works within the existing legal and governmental structure of India and of the province of Andhra Pradesh, and is highly coordinated with existing initiatives and related projects. There is no indication in the TE that institutional governance poses a risk to the sustainability of project outcomes. The Project Document notes that institutional frameworks among farming communities are subject to adverse changes of government policy that may slow down project activities. To control this risk, the project worked to ensure that farming communities were convinced of the project benefits, and therefore would act of their own accord and for their own benefit. (PD p. 16)

Environmental Sustainability - Likely
The TE does not discuss whether or not there are potential environmental risks to the sustainability of project outcomes. The TE does assert that the project will contribute to the rehabilitation and protection of critical ecosystems. (TE p. 20) The project document warns that climate change projects were made using low resolution models, and thus there is a risk that these projections may not be relevant at the local project level, and that communities may be misled into developing unsuitable adaptation measures. To address this risk, the project combined scientific and historical data with local knowledge on climate variability and impacts in order to develop relevant adaptation tools. (PD p. 16)

5. Processes and factors affecting attainment of project outcomes

5.1 Co-financing. To what extent was the reported co-financing essential to the achievement of GEF objectives? If there was a difference in the level of expected co-financing and actual co-financing, then what were the reasons for it? Did the extent of materialization of co-financing affect project's outcomes and/or sustainability? If so, in what ways and through what causal linkages?

The GEF provided approximately $900,000, which was complemented by co-financing from the FAO and the executing agency BIRDS of $2,854,000. All of the expected co-financing was delivered. It is reasonable to assume that without such a substantial amount of co-financing above the GEF financing amount, this project would not have been possible in its current form.

5.2 Project extensions and/or delays. If there were delays in project implementation and completion, then what were the reasons for it? Did the delay affect the project's outcomes and/or sustainability? If so, in what ways and through what causal linkages?

According to the Project Document, the project was to start on November 2009, and finish three years later in October 2012. However, the project began in December 2010, and was granted an extension to finish in June 2014. (GEF PMIS, TE p.57) The TE does not specify what the reasons for this delayed start were, but it is clear that the delay did not affect the achievement of project outcomes or their sustainability.

5.3 Country ownership. Assess the extent to which country ownership has affected project outcomes and sustainability? Describe the ways in which it affected outcomes and sustainability, highlighting the causal links:

The TE reports that all key levels of government participated in the project – National, State and District. (TE p. 38-39) The Project Steering Committee established a forum for various key stakeholders in the national and state governments to be associated with the project and to facilitate linkages with government programs. These stakeholders include: Ministry of Environment and Forests, Central Ground Water Board; State Government Departments of Rural Development, Agriculture, and Forest, and the district level line departments, and the Agriculture and Rural Development departments. (TE p. xiii, xv) The TE reports that the project built strong relationships with stakeholders in the project area, including with district administrations and relevant government officials, especially with Agriculture Department personnel. (TE p. xiv) The TE also reports that considerable effort was taken to ensure involvement of women in the project, especially in participatory climate monitoring data collection and recording, and as participants in the Farmer Climate Schools. (TE p. 49) This evidence seems to imply that stakeholder participation and ownership has been key to the

successful achievement of the project's outcomes, and the sustainability of these beyond project completion.

6. Assessment of project's Monitoring and Evaluation system

Please justify ratings in the space below each box.

6.1 **M&E Design at entry**	Rating: **Satisfactory**

The TE does not provide a rating for M&E Design. It seems clear that the project had a M&E plan designed with a timely baseline, SMART indicators, specific time frames for evaluation activities, designated parties responsible for M&E tasks, and dedicated funding for at least some of the M&E activities. Thus M&E Design is rated Satisfactory.

The Project Document contains a chapter dedicated to monitoring, evaluating and reporting, which details a specific budget of $85,000 for M&E activities, prescribes a midterm review during the project's second year with a specific list of tasks, and delegates M&E responsibilities to specific parties, with a time frame for the completion of M&E activities. The Project Document also outlines a reporting schedule, which includes quarterly project implementation reports, progress reports, an implementation review, and a terminal report. (PD p. 22-25) The Project Document includes Annex 4, which details a supervision plan of project activities and a calendar to schedule these activities. The budget detailed in Annex 1 provides a specific allocation for a mid-term review. The TE reports that the indicators in the project results matrix appear to have been well considered and chosen; as such, there does not appear to have been any significant issues with measurement of results. (TE p. xiv)

6.2 **M&E Implementation**	Rating: **Satisfactory**

The TE does not rate the quality of M&E implementation, but there is evidence provided in the TE and the PIRs to suggest that an M&E system operated throughout project implementation which allowed the timely tracking of results and progress towards objectives, and allowed the project to adapt to real conditions. Thus, M&E Implementation is rated Satisfactory.

The TE explains that the mid-term review was planned for the beginning of the second year of project implementation. However, the review was stalled by the FAO, because the project start on the ground was delayed by 6 months, the total project life was to be 3 years, there were limited resources available for a full evaluation, and the FAO Office of Evaluation recommended that, instead of a midterm review, a Final Project Review consisting of a more limited exercise would be carried out after 3 years of project implementation. (TE p. ii, 58) The TE is the result of the "limited review exercise". (TE p. iv)

In addition to the TE, three Project Implementation Reports were used to complete this TER. All three were complete, with detailed accounts of project progress and results, with well justified ratings, and all three indicating regular planned project reviews during implementation. The TE reports that the key project instruments that enabled feedback-based planning, consistent monitoring and timely remedial action were: Annual Work Plans and Budgets; Half Yearly Progress Reports; Project Partner's Meetings; and, Plan and Review Meetings. (TE p. xiii)

The PIR from 2013 reports that an annual work plan and budgets workshop was organized to evolve the plan and budget for 2013-14; a system to monitor project outputs and outcomes was developed in the form of a project monitoring system for 2013; information sources are monitored regularly through internal reviews; two progress reports were prepared and approved; and an internal audit and field support in finance management was undertaken for finance management. (PIR, 2013 p. 5)

The TE also provides evidence that the project management unit learned and adapted project activities during the course of the project. For example, the first Farmer Climate School curriculum was broad in nature and focused on the impacts of climate variability and change and on generic adaptation measures. Based on the need for making climate adaptation more relevant and concrete, the FCS curriculum in the later two years was made crop and season specific, and included the selection and piloting of relevant SLWM measures through a 'learning-by-doing' approach. (TE p. xiii-xiv)

7. Assessment of project implementation and execution

Please justify ratings in the space below each box.

7.1 **Quality of Project Implementation**	Rating: **Moderately Satisfactory**

The implementing agency for this project was the United Nations Food and Agriculture Organization (FAO). The TE does not rate the quality of project implementation, but does provide substantial evidence to merit a rating of Moderately Satisfactory, predominantly due to a late project start, and to a project extension that should have been anticipated, according to the TE.

The FAO provided supervision and technical guidance services during project execution. (TE p. xiii). The FAO National Program Coordinator provided support through review of annual work plans and budgets, participation in the Project Steering Committee meetings, and review of project output documents. (TE p. 38) The FAO established a National Steering Committee (NSC) comprised of government, NGO and civil society stakeholders that participated in the planning and implementation of the project. (PD p. 12)

During project preparation stakeholder participation was ensured through: national consultations and workshops; meetings of the project formulation team; meetings with community leaders; workshops and technical meetings; and meetings of the FAO-APFAMGS project partners. (TE p. xi)

It is clear that the project design is robust, and that effective institutional partnerships contributed to the success of the project. The only moderate shortcomings noted were the delay in beginning the project, and the project extension, which the TE notes was merited by the complexity of the project and should have been considered from the start. Thus, the quality of project implementation is rated Moderately Satisfactory.

7.2 **Quality of Project Execution**	Rating: **Satisfactory**

The executing agency for this project was the Bharathi Integrated Rural Development Society (BIRDS). (PD p.10, TE p. ix) The TE does not rate the quality of the project execution, but does describe the quality of the project management. (TE p. 43-44) It seems BIRDS performed its role and met its responsibilities effectively, and thus the quality of project implementation is rated Satisfactory.

BIRDS previously successfully implemented the Andhra Pradesh Farmer Managed Groundwater Systems project, which included the development of a network of local NGO partners that continued to work in partnership during the implementation of this project. (TE p. xi) This partnership model brought with it the advantages of technical capacity, long-term association with the community and a proven working relationship with both the executing agency as well as with each other. The CBOs involved in the project were also in existence as Groundwater Monitoring Committees during the Groundwater project, and expanded their agenda as well as membership base to focus on climate adaptation. (TE p. xiii)

BIRDS was supported by a Project Management Unit (PMU), consultants and a network of partner NGOs. (TE p. ix) BIRDS provided the required expertise at the PMU and partner NGO levels, and delivered this expertise to the field staff using multiple channels (training, strategy papers, field visits), which helped in communicating clear deliverables and in ensuring quality across the project. (TE p. xiii) The TE reports that the financial resources of the project were managed according to the procedures described in the Project Document. The Project Management Unit submitted detailed Annual Work Plans and Budgets to FAO, including 6 monthly financial statements supported by quarterly internal audits. (TE p. 45)

The TE reports that the project faced multiple technical, operational, and sometimes complex challenges during various stages of implementation, but that these challenges were successfully addressed through systematic improvisation. (TE p. xiv) For example, the project solved the challenge of securing suitable land for climate monitoring stations by identifying waste land and common land accessible to the community, and by convincing farmers and communities to make such land available. (TE p. 49)

8. Assessment of Project Impacts

Note - In instances where information on any impact related topic is not provided in the terminal evaluations, the reviewer should indicate in the relevant sections below that this is indeed the case and identify the information gaps. When providing information on topics related to impact, please cite the page number of the terminal evaluation from where the information is sourced.

8.1 Environmental Change. Describe the changes in environmental stress and environmental status that occurred by the end of the project. Include both quantitative and qualitative changes documented, sources of information for these changes, and how project activities contributed to or hindered these changes. Also include how contextual factors have contributed to or hindered these changes.

The TE reports that the project will contribute to the rehabilitation and protection of critical ecosystems (TE p. 20), and that it contributed to improved soil organic matter. (TE p. xi)

8.2 Socioeconomic change. Describe any changes in human well-being (income, education, health, community relationships, etc.) that occurred by the end of the project. Include both quantitative and qualitative changes documented, sources of information for these changes, and how project activities contributed to or hindered these changes. Also include how contextual factors have contributed to or hindered these changes.

The TE reports that the project raised agricultural productivity, which would improve livelihoods. (TE p. xi)

8.3 Capacity and governance changes. Describe notable changes in capacities and governance that can lead to large-scale action (both mass and legislative) bringing about positive environmental change. "Capacities" include awareness, knowledge, skills, infrastructure, and environmental monitoring systems, among others. "Governance" refers to decision-making processes, structures and systems, including access to and use of information, and thus would include laws, administrative bodies, trust-building and conflict resolution processes, information-sharing systems, etc. Indicate how project activities contributed to/ hindered these changes, as well as how contextual factors have influenced these changes.

a) Capacities- The TE reports the following changes in capacity:

- The establishment of Participatory Climate Monitoring units , covering 7 key climate variability parameters, is operational in 9 hydrological units in Andhra Pradesh since July 2012. (TE p. 35)
- A KASP (knowledge, attitudes, skills, practice) study was undertaken to assess community understanding on climate variability/change, its impact, and, current adaptation practices (TE p. 34-35)
- There has been considerable diffusion of awareness of the relevance and importance of PCM mechanisms in the project areas and districts and there is anecdotal evidence of increasing demands from non-project areas to take up similar interventions. (TE p. xiv)
- Climate Change Adaptation Plans have been developed in all 9 hydrological units. The plans include season-specific and crop-specific adaptation strategies for key crop stages including pest and disease management, soil moisture and irrigation management, and, soil nutrient management. (TE p. 36)
- A Climate Change Adaptation Fund established in all 9 hydrological units in 2014 with both project and community contribution. (TE p. 36)
- Curriculum developed for Farmer Climate School, including crop-specific curricula for Kharif and Rabi seasons in 2013. 86 Farmer Resource Persons have been trained in conducting these schools- 58% are women. 1156 farmers have graduated from the Farmer Climate Schools . (TE p. 36)
- Comprehensive adaptation manuals have been developed for 4 agro-climatic zones. (TE p. 36)
- Farmers in the project areas now actively engage in decision-making on crop management using PCM data, soil fertility and moisture measurements, and, groundwater data. Farmers have pilot tested various adaptation technologies and practices, including water harvesting/storage, water conservation, intercropping and border cropping, mulching, integrated pest management/non-chemical pest management, and fodder cultivation. These interventions have resulted in reduced input costs and sustained yields. There is also increased awareness of adaptation measures beyond the project implementation areas, and as a result, there is increasing demand from non project areas for establishment of PCM stations. (TE p. xii)

b) Governance - The TE did not report changes in governance.

8.4 Unintended impacts. Describe any impacts not targeted by the project, whether positive or negative, affecting either ecological or social aspects. Indicate the factors that contributed to these unintended impacts occurring.

The TE does not provide any information on unintended impacts.

8.5 Adoption of GEF initiatives at scale. Identify any initiatives (e.g. technologies, approaches, financing instruments, implementing bodies, legal frameworks, information systems) that have been mainstreamed, replicated and/or scaled up by government and other stakeholders by project end. Include the extent to which this broader adoption has taken place, e.g. if plans and resources have been established but no actual adoption has taken place, or if market change and large-scale environmental benefits have begun to occur. Indicate how project activities and other contextual factors contributed to these taking place. If broader adoption has not taken place as expected, indicate which factors (both project-related and contextual) have hindered this from happening.

- **Scaled up- Commenced.** Interventions currently remain confined to the project areas. However, the project has taken a number of steps to lay the ground for facilitating convergence at the local, state, and district levels, including provision of technical advice to the government of Andhra Pradesh on integration of participatory climate monitoring (PCM) in Integrated watershed Management Programmes. (TE p. xvi)
- **Scaled Up- Commenced** The knowledge products as well as the large pool of trained and 'aware' stakeholders that the project has generated provide the means by which its expertise is available to other similar projects and for scaling up. Beyond government programs, the private sector is already making inroads into agriculture and allied sector programs through initiatives such as contract farming, and as such there are opportunities for to take the project interventions to scale. The project interventions have the potential to support larger climate-smart agriculture contexts in the target states as elsewhere. (TE p. xvii)
- **Mainstreamed- Adopted** The project has institutionalized the continuance of various core project activities such as PCM data collection, operation and maintenance of the PCM equipment, periodic CCAC meetings, etc. through agreements with CCACs and setting up of a CCA fund. (TE p. 55)
- **Replicated- Adopted** There is anecdotal evidence of diffusion of project interventions beyond the beneficiaries or the project (by virtue of other farmers in the vicinity proactively seeking and utilizing PCM data, adopting the SLWM practices, etc.). At the same time, while there currently appeared to be no evidence of institutional uptake and mainstreaming of project interventions, there was anecdotal evidence of government functionaries at the district level proactively advocating the interventions to farmers in non-beneficiary villages. There is also evidence of increasing demand from other hydrological units for establishment of PCM stations in their respective areas and recognition by government officials that rain gauge stations are essential at gram panchayat level, and PCM station at mandal level for identification of drought hit areas. (TE p. 56)
- **Mainstreaming- Adopted** The CCACs have demonstrated ownership of the PCM, have identified various adaptation technologies/practices in Sustainable Land and Water Management (SLWM), and have participated in development of Climate Change Adaptation Plans. (TE p. 31)
- **Replication- Established**. There is increased awareness of adaptation measures beyond the project implementation areas, and as a result, there is increasing demand from non-project areas for establishment of PCM stations. (TE p. xii)

9. Lessons and recommendations

9.1 Briefly describe the key lessons, good practices, or approaches mentioned in the terminal evaluation report that could have application for other GEF projects.

The TE lists the following lessons learned (TE p. xv, 50-51):

- Participatory Climate Monitoring (PCM)– as opposed to monitoring using automatic weather stations – actively engages the farmer in seeking and utilizing weather data. While this requires substantial inputs in community involvement and capacity building, there is more ownership of the data and appreciation of its value.
- Farmer Climate Schools help in several ways: analysis of the PCM data and its utilization for farming decisions, evaluation of selected adaptation technologies and practices by systematic examination of pilot and control farm plots, institutional building of the Climate Change Adaptation Committees. Farmer resource persons can be trained to conduct climate schools on their own, with limited external facilitation support.
- The project was built upon the foundation of FAO's Andhra Pradesh Farmer Managed Groundwater Systems project. CBOs as well as partner NGOs had a history of working together and of working on participatory hydrological monitoring, crop water budgeting, etc. This institutional readiness gave the project a head start in terms of its ability to secure community involvement and to demystify the abstract concepts of climate variability, change and adaptation into concrete action for livelihood enhancement. Having strong institutions is a necessary precondition for a participatory climate adaptation intervention.
- Mechanisms for widening the stakeholder group: The Project Steering Committee was an important mechanism that helped to bring in significant institutions – especially of the state Government – into the stakeholder group of the project.

9.2 Briefly describe the recommendations given in the terminal evaluation.

In order to support the CBOs's work on climate adaptation, augment the adaptive capacity already generated in the project's target areas, and scale up interventions to other areas, the TE recommends the following (TE p. xv-xvi, 52-54):

- Climate Change Adaptation Committee (CCAC) linkages with existing projects/schemes of the State and Central Governments: By establishing linkages with the Gram Panchayat, and with other CBOs operating at the village level, and by actively participating in the Gram Sabha, the CCACs may be able to tap resources from existing Government schemes to support the climate adaptation interventions (for example, the National Rural Employment Guarantee Act).
- Partner NGO linkages with other sources of support such as the Adaptation Fund. The National Bank for Agricultural and Rural Development (NABARD) has been accredited by the Adaptation Fund Board of UNFCCC as a National Implementing Entity in India. NGOs are eligible to submit projects directly to NABARD for accessing the Adaptation Fund and to act as Executing Entities.
- Federating CBOs: Considering that the CBOs associated with the project have a long history and are strong entities, it may be useful to federate the project's hydrological units- CCACs at larger levels – district and state. The federations will be able to negotiate with Government departments, private businesses as well as NGOs to source technical expertise, market linkages, etc., to support climate-smart agriculture; and

- Integrating capacity building on coping with/managing the outcomes of extreme events, including building linkages and mechanisms for deploying and adopting weather and index based insurance and micro-insurance measures.

The TE also states that the successful elements of the project, particularly the Participatory Climate Monitoring and the Sustainable Land Water Management Pilots, could be replicated throughout Andhra Pradesh and Telangana, and in other developmental contexts in India or elsewhere. These project elements could be valuable for augmenting existing government programs on rural livelihoods and agriculture and natural resources management. Some of the current programs that may benefit from integrating the project's approaches and interventions, and knowledge products, include:

- National Rural Livelihood Mission, Ministry of Rural Development, Government of India – especially through the GEF supported 'Sustainable Livelihoods and Adaptation to Climate Change project.
- Community Managed Sustainable Agriculture, Society for Elimination of Rural Poverty, Departments of Rural Development, Governments of Andhra Pradesh & Telangana – especially through the World Bank supported 'Rural Inclusive Growth' projects currently under preparation.
- Integrated Watershed Management Programs, Departments of Rural Development, Governments of Andhra Pradesh & Telangana. (TE p. xvi, xvii)

10. Quality of the Terminal Evaluation Report

A six point rating scale is used for each sub-criteria and overall rating of the terminal evaluation report (Highly Satisfactory to Highly Unsatisfactory)

Criteria	GEF IEO comments	Rating
To what extent does the report contain an assessment of relevant outcomes and impacts of the project and the achievement of the objectives?	The TE excellently recounts the relevant outcomes and impact of the project, and details the achievement of the project objectives, outputs, and meeting of detailed indicators.	**HS**
To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated?	The TE is internally consistent. However, there is evidence missing in various categories, including the performance of the implementing agency, the M&E design and implementation, the project costs by activity. Additionally, the TE does not provide any ratings.	**MU**
To what extent does the report properly assess project sustainability and/or project exit strategy?	The TE comments on the risks and likelihood of sustainability of the project outcomes, although there are no ratings given.	**S**
To what extent are the lessons learned supported by the evidence presented and are they comprehensive?	The lessons learned are very comprehensive, and supported by the evidence in the TE.	**HS**
Does the report include the actual project costs (total and per activity) and actual co-financing used?	The TE includes the project costs and co-financing in total, but does not include the costs per activity.	**MU**
Assess the quality of the report's evaluation of project M&E systems:	The TE does not comment substantially on M&E systems. More information is missing in this area.	**U**
Overall TE Rating		**MS**

$0.3 \times (a + b) + 0.1 \times (c + d + e + f)$ $0.3(9) + 0.1(16) = 2.7 + 1.6 = 4.3$

11. Note any additional sources of information used in the preparation of the terminal evaluation report (excluding PIRs, TEs, and PADs).

No additional sources of information were used in the preparation of this TER, other than PIRs, TE, and PD.