REQUEST FOR CEO ENDORSEMENT

PROJECT TYPE: FULL-SIZED PROJECT
TYPE OF TRUST FUND: LDCF

For more information about GEF, visit TheGEF.org

PART I: PROJECT INFORMATION

Project Title: *Strengthening agro-climatic monitoring and information systems to improve adaptation to climate change and food security in Lao PDR*			
Country(ies):	Lao People's Democratic Republic (Lao PDR)	GEF Project ID:[1]	5462
GEF Agency(ies):	FAO	GEF Agency Project ID:	620833
Other Executing Partner(s):	Ministry of Natural Resources and Environment (MONRE), Department of Meteorology and Hydrology (DMH), Ministry of Agriculture and Forestry (MAF), Department of Planning and Cooperation (DOPC)	Submission Date: Resubmission Date:	14 March 2016 30 May 2016
GEF Focal Area (s):	LDCF – Climate Change	Project Duration(Months)	48
Name of Parent Program (if applicable): ➢ For SFM/REDD+ ☐ ➢ For SGP ☐ ➢ For PPP ☐	N/A	Project Agency Fee ($):	520,548

A. FOCAL AREA STRATEGY FRAMEWORK[2]

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Grant Amount ($)	Cofinancing ($)
CCA2: Increasing Adaptive Capacity: Increase adaptive capacity to respond to the impacts of climate change, including variability, at local, national, regional and global level	Outcome 2.1: Increased knowledge and understanding of climate variability and change-induced threats at country level and in targeted vulnerable areas Outcome 2.2: Strengthened adaptive capacity to reduce risks to climate-induced economic losses Outcome 2.3: Strengthened awareness and ownership of	Output 2.1.1: Risk and vulnerability assessments conducted and updated Output 2.1.2: Systems in place to disseminate timely risk information Output 2.2.1: Adaptive capacity of national and regional centers and networks strengthened to rapidly respond to extreme weather events Output 2.3.1: Targeted population groups participating in	LDCF	3,718,526	11,980,000

[1] Project ID number will be assigned by GEFSEC.
[2] Refer to the Focal Area Results Framework and LDCF/SCCF Framework when completing Table A.

	adaptation and climate risk reduction processes at local level	adaptation and risk reduction awareness activities			
CCA3: Adaptation Technology Transfer: Promote transfer and adoption of adaptation technology	Outcome 3.1: Successful demonstration, deployment, and transfer of relevant adaptation technology in targeted areas	Output 3.1.1: Relevant adaptation technology transferred to targeted groups	LDCF	1,500,000	3,900,000
		Project Sub-total	LDCF	5,218,526	15,880,000
		Project Management Cost (5%)	LDCF	260,926	250,000
		Total project costs	LDCF	5,479,452	16,130,000

B. PROJECT FRAMEWORK

Project Objective: To enhance monitoring, analysis, communication and use of agro-meteorological data and information for decision making in relation to agriculture and food security at national and provincial levels.

To improve monitoring and analysis of agricultural production systems by strengthening Land Resources Information Management System (LRIMS) and Agro-Ecological Zoning (AEZ) to support agriculture policies and adaptation to climate change in agriculture.

Project Component	TA/ INV	Expected Outcomes	Expected Outputs	Trust Fund	Grant Amount ($)	Confirmed Co-financing ($)
Component1: Strengthening agro-climatic monitoring, analysis, communication and use of data and information for decision making in agriculture and food security	TA	1.1: Improved agro-meteorological monitoring, communication and analysis facilities established at national and provincial level ***Target:*** *- A fully renewed CAgMD connected with all AWS and database;* *- 15 meteorological stations covering four major plains and production areas will be installed in 15 districts.* *- IT infrastructure communication facilities to link all new monitoring infrastructure with DMH and from DMH to users at national, provincial and local levels is established*	1.1.1: Agro-meteorological station networks improved/re-habilitated with both conventional and automatic weather stations to increase coverage in the major agricultural production areas 1.1.2: Improved data coding and communication facilities upgraded to enhance connectivity of Department of Meteorology and Hydrology (DMH) with provincial level sub-units and users at all levels 1.1.3: Laboratory for agro-meteorological	LDCF	2,440,659	8,420,000

		1.2: Institutional and technical capacity strengthened to facilitate data sharing, archiving, analysis and interpretation of agro-meteorological information products to users at all levels ***Target:*** *- Endorsed SOPs, guidebooks (at least 7);* *- At least 165 staff of DMH and MAF are trained (at least 30% women partecipation);* *- Learning materials relevant to climatology and agro-meteorology, communication and application of climate and agrometeorological information developed.*	analysis, instrument calibration and geospatial climate data access, monitoring, processing facilities established and functioned at DMH, Vientiane. 1.2.1: Standard Operating Procedures (SOPs) for climatology and agro-meteorology division of DMH and guidelines for installation of instruments and observation, data coding and maintenance developed and staff trained (at least 65 technical staff trained) 1.2.2: Development and delivery of training packages relevant to climatology and agrometeorology, communication and application of climate and agrometeorological information by users.			
Component 2: Strengthening institutional and technical capacity for monitoring and analysis of agriculture production systems and development of Land Resources Information Management Systems	TA	2.1: Integrated Land Resources Information Management System (LRIMS) and High resolution Agro-Ecological Zones (AEZ) and agriculture production Systems at Risk (SAR) developed based on agricultural resources (climate, land, soil, water and crops) ***Targets:*** *- Land Resources Information Management*	2.1.1 Land Resources Information Management System (LRIMS) and customized applications designed, developed, tested and delivered with computing facilities for monitoring and assessment of land suitability 2.1.2 Available data and information on land, soil, water,	LDCF	2,137,986	5,000,000

(LRIMS) and Agro-Ecological Zoning (AEZ) .		*System (LRIMS) for evaluating country-wide land-use suitability and modelling land responses to agricultural policies;* *- GIS portal to allow stakeholders access to information and organizes the flow of information on land resources and agricultural information;* *- National Agro-Ecological Zone (NAEZ) and portal to provide modelling framework for local assessments of crop potential, potential yields, and yield gaps for multiple crops under different input levels and climate scenarios;* *- At least 10 scenarios for integration into policies plans and strategies delivered, and at least 4 policies/plans/strategies endorsed from the GOL* 2.2: Technical capacity developed for sustained operation and use of LRIMS, SAVA, AEZ and agriculture production Systems at Risk for policy formulation and adaptation planning in agriculture sector ***Target*** *- 13 trainings on LRIMS, SAVA, NAEZ and agriculture production systems at risk for policy formulation and adaptation planning in agriculture sector (at least 100 staff trained with at least 30% women participation from 5 GOL institutions).*	crops and socio-economics synthesized and National-Agro-Ecological Zoning (NAEZ) and Information Portals developed, tested and delivered 2.1.3 Impact scenarios of water availability, crop yield and socio-economics for all major agro-ecological zones assessed and adaptation strategies developed and integrated into the information systems 2.2.1 Training resources on LRIMS, Agro-Ecological Zoning, SAVA scenario development and selection of main indicator sets as well as their relationships in a single integrate system (NaFSAR) developed and training programme conducted 2.2.2 Training resources on assessment of impact scenarios and adaptation strategies developed based on revised LRIMS, SAVA, NAEZ and integrated into the major agriculture development policies and plans			
Component 3: Knowledge management, dissemination	TA	3.1: Knowledge and information sharing for local application, agriculture and food	3.1.1: Local application of climate information and location specific	LDCF	639,881	2,460,000

and application of information and lessons learned for decision-making; and monitoring and evaluation		security planning and programming and project outcomes/outputs monitored and evaluated to ensure sustainability ***Targets*** *- 20 FFS with climate component implemented with at least 500 farmers trained* *- FFS curriculum with climate forecast information and relevant adaptation practices developed and tested.* *-At least 6 knowledge sharing workshops organized and information sharing meetings conducted.* *- M&E plans established for on-going use within each partner institution (DALaM & DMH)* *-6 M+E workshops conducted and periodic and mid-term and final M+E reported.*	adaptation strategies facilitated through Farmer Field Schools (FFS) in close coordination with climate adaptation in wetland areas (CAWA) project activities. 3.1.2: Knowledge and information sharing workshops conducted and best practices, key lessons disseminated via publications, project websites and others to facilitate wider awareness and utilization in other climate sensitive sectors 3.1.3: Project M&E system established to monitor activities, outputs systematically at all levels (national, provincial and local) and outcomes evaluated			
				Subtotal		5,218,526	15,880,000
				Project management Cost (PMC)[3]	LDCF	260,926	250,000
				Total project costs		5,479,452	16,130,000

C. SOURCES OF CONFIRMED COFINANCING FOR THE PROJECT BY SOURCE AND BY NAME ($)

Please include letters confirming cofinancing for the project with this form.

Sources of Co-financing	Name of Co-financier (source)	Type of Cofinancing	Cofinancing Amount ($)
Bilateral Cooperation	JICA	Cash/In kind	4,900,000
Bilateral Cooperation	ADB	Cash/ In kind	5,230,000
NGO/ Research Centre	CDE	In kind	4,500,000
Government	MAF/ MONRE	Cash/ In kind	1,000,000
GEF agency	FAO	Cash/ In kind	500,000
Total Co-financing			16,130,000

D. TRUST FUND RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY[1]

[3] PMC should be charged proportionately to focal areas based on focal area project grant amount in Table D below.

GEF Agency	Type of Trust Fund	Focal Area	Country Name/ Global	(in $)		
				Grant Amount (a)	Agency Fee (b)[2]	Total c=a+b
FAO	LDCF	CCA	Lao PDR	5,479,452	520,548	6,000,000
Total Grant Resources				5,479,452	520,548	6,000,000

[1] In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table. PMC amount from Table B should be included proportionately to the focal area amount in this table.
[2] Indicate fees related to this project.

F. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

Component	*Grant amount ($)*	*Co-financing ($)*	*Project total ($)*
International consultants* (incl Project Coordinator)	705,000	1,782,462	2,487,462
Local consultants*	604,800	1,900,939	2,505,739
Total	1,309,800	3,683,401	4,993,201

G. DOES THE PROJECT INCLUDE A "NON-GRANT" INSTRUMENT? No

PART II: PROJECT JUSTIFICATION

A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN OF THE ORIGINAL PIF

A.1 National Strategies and Plans:

1. The project remains fully aligned with relative national strategies and plans, as described in the PIF.

A.2 GEF focal area and/or fund(s) strategies, eligibility criteria and priorities:

2. No change in relation to the PIF.

A.3 The GEF agency's comparative advantage:

3. No change in relation to the PIF.

A.4 The baseline project and the problem that it seeks to address

4. No change in relation to the PIF.

A.5 Incremental/ additional cost reasoning

5. There are no significant changes to the overall incremental/ additional cost reasoning relative to that presented in the PIF. However, the following adjustments have been made to the components, outcomes, and outputs:

6. The feedback from the validation meeting recognised the increased requirements for monitoring and evaluation. Consequently, M&E is distributed through the three components to ensure effective resourcing. Component 3 focuses on the application of the climate information and has incorporated the local application of climate information and specific adaptation strategies through both the Farmer Field Schools (FFS) and the knowledge and information sharing. This includes the close collaboration with the GEF CAWA (climate adaptation in wetland areas) project.

7. Output 1.1.4 has been incorporated within the Output 1.1.3, with the development of the geospatial analysis facility including a remote sensing and GIS unit. This brings together the technical components for the support of the climate information capture and analysis.

8. Output 1.2.3 (*Technical capacity in communication of climate information*) from the PIF has been incorporated in the Output 1.2.2 *(Development and delivery of training packages relevant to climatology and agrometeorology*) that provides the technical capacity in in climatology and agroclimatology as well as the communication of climate information. The same rationale has placed the Output 1.2.4 from the PIF to output 3.1.1 which provides for the dissemination of the climate and forecast information at local (farmer field school) level that brings together the agricultural production under climate change with the information sharing on climatology and seasonal forecasts. This makes a more consistent and more effective allocation between the agroclimate data collection and information generation and its dissemination and integration into planning and strategy development.

9. Output 2.2.3 (The location specific adaptation strategies) has been removed and the activity incorporated in the Output 3.1.1. This takes the Farmer Field Schools (FFS) more logically into the domain of the knowledge sharing and information within Component 3.

10. Component 3 was focused on just M&E within the PIF; this has been extended to include a new output in Component 3 (moved from Component 1 – 1.2.4). As indicated above, this coordinates and focuses dissemination of the climate knowledge and information and the application of the product outputs from both components 1 and 2 at local level under a single component. It provides for knowledge sharing with the FFS (output 3.1.1) and the series of dissemination workshops (output 3.1.2). This approach also capitalizes on the GEF-funded CAWA project to support implementation through the facilitated access to the communities and farmer field schools in order to provide effective and efficient access to agricultural communities.

11. Outputs 2.1.1, 2.1.2, and 2.1.3 have been reworded and shortened to provide greater clarity of the stages in development from: system specification, development and testing of systems (2.1.1), data collation, collection and management (2.1.2) through to impact scenario development (2.1.3). These outputs better integrate the role of stakeholders in specification stages and in the operation of the application. The outputs 2.1.2 also respond to the findings of the PPG / verification in identifying the data gaps in terms of suitable national land cover data. This change also allows clarification of the system components and frameworks that are brought together to provide for the agricultural production scenarios that are tested within Output 2.1.3 and which support integration into policy and adaptation plans. Similarly, the changes to the explanations in outcome 2.1 lead on to the stages of the technical capacity development outputs and activities (under Outcome 2.2).

12. Output 3.1.2 (regarding the mainstreaming of climatic, LRMS, and AEZ information) has been integrated into Output 2.2.2, which combines the process of training with the integration into plans at the national and provincial levels.

A.6 Risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and measures that address these risks:

13. The risk analysis presented in the PIF remains valid.

Risk	Level	Mitigation
Unavailability of data for development of information products and impact assessment	Medium	Availability of data is the major weakness that the project is aiming to address. However, there are activities embedded into the project framework to compile and quality check all available data for use as part of the project especially for impact assessment and adaptation planning. Additional data sets will be accessed from International specialized institutions and also from FAO databases (e.g. GAEZ).
Weak technical expertise at the national level	Medium	The issue of unavailability of requisite human resources will be mitigated by recruitment of international consultants who will work closely with in-country counterparts and by targeted capacity building activities. Training activities of local personnel will also be part of all aspects of the work and the relevant institutions will be encouraged to expand the staff base if it is weak in particular areas.
Technical constraints pertaining to the functioning of the LRIMS and Lao PDR AEZ information portals	Medium	The project envisages disaggregation of data relevant to Lao PDR from the global AEZ. Thus, customization of the products specific to Lao PDR will reduce the data volume and improve the speed of access by various stakeholders for interpretation of information. The data and map format will be designed based on the locally available ICT protocols, number of potential clients. The data and information portals are expected to be linked with other similar on-going government endorsed initiatives (e.g. production of topo-maps by National Geographic, Ministry of Home Affairs, Lao Agriculture Land Information System funded by Japan International Cooperation Agency (JICA), Food Security Information Systems by Association of South-East Asian Nations (ASEAN), Agricultural Land Management funded by Korea; Forest Monitoring and Watershed Management project supported by Finland; Environmental Management Support Programme (EMSP) supported by the Ministry of Foreign Affairs and Finland). The above projects already have components and activities closely linked to development of large data sets and maps as in LRIMS and AEZ. Initial consultations have been conducted with the relevant partners to ensure synergies and complementarities. The data and information portals will be in the public domain and will be widely accessible.
Weak information technology and telecommunications infrastructure at the national level to ensure linkages	Medium	Cost-effective solutions for each particular situation will be used e.g. satellite based measurements. Where feasible automatic weather stations reporting over the mobile telecoms network will be preferred. The proposed restructuring of communication systems by the Ministry of Posts and Telecommunication through e-governance Phase I and Phase II projects.
Insufficient institutional capacity in organization and management of specialized technologies	Medium	The proposed project will contribute to the efforts of the Ministry of Environment and Natural Resources (MONRE) and Ministry of Agriculture and Forestry (MAF) to develop sustainable approaches to maintaining the technologies and human resources needed to operate them, including through continuing skills acquisition. The Government will ensure that the support from this project is coordinated with efforts from co-financing projects.

Risk	Level	Mitigation
Recent changes in institutional structures and duplication of efforts by various national departments	High	There is a major rearrangement of Ministries and Departments are currently taking place. Detailed consultations have been already conducted with both MONRE and MAF and agreed with the stakeholder analysis and roles and responsibilities were agreed. However, additional consultations will be undertaken during the PPG stage.

A.7 Coordination with other relevant GEF-financed initiatives:

14. Close collaboration will be established with a number of other project activities to ensure complementarity, especially with the first two components of the proposed LDCF project (agro-meteorological monitoring infrastructure and technical capacity building and institutional strengthening and the development of agroecological zones and on assessment adaptation strategies in agriculture development.

15. UNDP and NAFRI have just completed the implementation of a GEF LDCF project on **"Improving the Resilience of the Agriculture Section in Lao PDR to Climate Change Impacts" (IRAS)**. The project was implemented in 2 provinces and four districts on a pilot basis and had four components: knowledge sharing, capacity building, community based adaptation interventions and adaptation learning. There were components related to climate change impact assessment and land suitability assessment. Although this project ended prior to the commencement of this project there are common elements that this project can build upon.

16. FAO is assisting the Lao Government to prepare a GEF LDCF project on **Climate Adaptation in Wetlands Areas (CAWA) in Lao PDR.** Close coordination is expected between the CAWA project and the proposed LDCF project and is expected to be very strong as the lead executing partners for both the projects are from the Ministry of Natural Resources and Environment (MONRE). The aim within Component 3 is to collaborate closely with the CAWA project in developing the local level implementation and capacity development.

17. The project will collaborate with a number of other ongoing national and regional projects:

18. Asian Development Bank (ADB) is supporting the Government of Lao PDR by funding two projects **Greater Mekong Sub-region: Flood and Drought Management and Mitigation Project** – Lao People's Democratic Republic (April 2013 – March 2019) and the **Greater Mekong Sub-region East-West Economic Corridor Agriculture Infrastructure Sector Project** (November 2013 – June 2022).

19. The main aim of the GMS Flood and Drought Risk Management and Mitigation Project is to reduce the impact and economic losses resulting from floods and droughts in the greater Mekong sub-region. The project's output 1 is closely related to the GEF-LDCF project component 1.

20. The Greater Mekong Sub-region East-West Economic Corridor Agriculture Infrastructure Sector Project under output 2 aims to increase capacity of farmers is aimed to improve the capacity of farmer groups to manage and use agriculture infrastructure efficiently, which will be aligned with component 2 of the GEF-LDCF project focusing on adaptation strategies at the provincial, district and local level.

21. In addition, this GEF project will also ensure effective coordination with a number of other Lao PDR focused projects operating in the agricultural ministries, including the following initiatives:

22. Japanese International Cooperation Agency (JICA) is funding the project on **Improvement of Equipment and Facilities on Meteorological and Hydrological Services in The Lao PDR.** The

main objective of the project is to improve the meteorological and hydrological forecasts/warnings of the Department of Meteorology and Hydrology (DMH). The key activities of JICA project includes implementation of training and installation of Automatic Weather and Water Level Observation Systems to monitor meteorological and hydrological phenomena and to improve the accuracy, frequency and lead time of weather and flood forecasts, which will be complemetary to Component 1 of the GEF-LDCF project.

23. The Centre for Development and Environment (CDE) is managing the project on **LAO Decide Info, Promoting information sharing, integration, analysis and coordination of information systems and portals among the Government agencies.** Component 2 of the GEF-LDCF project will be aligned with this CDE project.

B. ADDITIONAL INFORMATION NOT ADDRESSED AT PIF STAGE

B.1 Describe how the stakeholders will be engaged in project implementation

24. Key stakeholder groups have been identified through the PPG stage, through national and local level consultations. Within the project the specific roles and responsibilities of the stakeholders were agreed and elaborated. The following mechanisms will be used to ensure the engagement of the stakeholders at all levels within the project implementation:

    a) **Project Steering Committee (PSC):** this will be chaired by the Minister of Natural Resources and Environment and will include MAF, MONRE, DMH, DALAM, NAFRI and other relevant government institutions and will include selected NGOs and development partners. The PSC will meet twice a year and it will allow its participants to provide overall oversight to project progress and the achievement of planned results.

    b) **Provincial Project offices** will be established comprising MONRE DMH and Provincial District MAF offices at Savannakhet and Champassak Provinces, to support provincial and district level activities and with the 17 provincial DMH stations to support the provincial levels capacity development. The provincial coordinators will be responsible for coordinating and mobilising farmer's groups and responsible for linking to the provincial and district level stakeholders.

    c) The coordination will be primarily supported by the **Component Management Units (CMUs)** that incorporate the project component managers and project staff and will organise stakeholders meetings, workshops, and training programs for capacity building. Coordination will be established with the existing weather and climate monitoring and early warning systems and with the other information systems and portals and related programmes and projects identified within the PPG.

    d) **Community level committees** will be established with Farmers Groups, Water User Groups and Fisheries management committees and will collaborate with the GEF/LDCF project on Climate Adaptation in Wetland areas (CAWA). These committees will be established in Savannakhet and Champassak Provinces as pilot implementing areas. The committees will be representative of the agricultural communities within the study areas representing gendered networks from farmer and local and most vulnerable groups and provincial governance networks.

25. The project partners are key stakeholders and will directly support the Provincial offices. The development of the LRIMS application is a stakeholder driven process, with stakeholder engagement to develop the functional specification and application interfaces. Stakeholder engagement will also support the development of the scenarios created and tested with the NAFSAR framework to provide policy level support and feedback mechanisms. The impact scenarios and the adaptation strategies

tested within Output 2.1.3 will be developed through stakeholder meetings to specify scenarios and socio-agricultural domain weighting workshops for relative significance to food insecurity domains. International and national level non-governmental organizations working in Lao PDR in climate change adaptation, disaster risk reduction and early warning systems will form part of the stakeholder group.

26. Training requirements have been established within the PPG at the organizational level, but the capacity development audit within the project with further define the capacity development requirement and programme for MAF / MONRE / DALaM / DDMCC / DMH.

B.2 Describe the socioeconomic benefits to be delivered by the project at the national and local levels, including consideration of gender dimensions, and how these will support the achievement of global environmental benefits (GEFTF/ NPIF) or adaptation benefits (LDCF/ SCCF).

27. The adaptation benefits of the project are related to the capacity of the project to provide a socio-environmental context for the potential impacts of climate variability and climate change which can feed into the development of scenarios, plans and policies relating to agriculture, food security and natural resource management in Lao PDR. The project will provide through LRIMS substantive insight into the distribution of agricultural populations that are vulnerable to climatic variability and change with reference to access to livelihood resources.

28. The project is focused on increasing the availability and quality of agrometeorological information across Lao PDR. This is delivered through a series of activities that provide direct support through training and training of trainers, extension of the programme to district and provincial levels and through a series of farmer field schools direct support to farmers to use the enhanced information. The project also offers direct benefit to Ministry Departments (MAF and MONRE) staff at national, provincial and district levels. Given the national coverage of the project the provision of improved information on agrometeorologist and land resource management (bulletins, data products and decision support tools) to agricultural strategist and planners legitimately has the potential to indirectly support all smallholders and farmers across the country.

29. At the national level, the strengthening of agro-climatic monitoring and information systems will provide input to the development of long term national planning of food security. Customized data and information on climate, land resources, Agro-Ecological Zones and production systems at risk is expected to enhance the integration of climate change concerns into national agricultural policies, plans and programmes. As such, a key ministry that will benefit from this endeavor will be MONRE and MAF through strengthening of their knowledge base, understanding of the socio-economic context of climatic change, access to information and ability to communicate to the users at different levels. Improved coordination between DMH and MAF for sharing of information can lead to improved products and services at a national planning level and provincial support services level. It is then possible that these institutions can start using information and products for proactive and better informed decision making.

30. At the local level, agro-climatic information, disseminated correctly and acted on appropriately, can provide economic benefits through reducing losses of agricultural produce, infrastructure and disruption to livelihoods. Support to the communication facilities and strengthened transmission of data and weather and climate information products supports the linkage to provincial and farmer level users. This has further effects on people's health and wellbeing and thus affects communities and social structures. Communities will immediately benefit through warnings related to agriculture, water and flood management etc. Many of the beneficiaries will be women, especially within the agriculture sector where they often make up the majority of smallholder farmers, yet are most vulnerable to food insecurity.

31. The indigenous populations and civil society organizations (CSOs) will also be engaged during the project implementation particularly through the pilot adaptation strategies. There may also be other benefits to developing the communication systems associated with climate information services. The agriculture sector likely represents some of the largest clients for agro-meteorological advisories and tailored forecasts. Together with the Land Resources Information Management Systems (LRIMS) and climate change impact assessments and climate and socio-economic data base, multiple environmental benefits are also expected.

32. Training within the life of the project will target c 637 trainees (within the component 1 and 2), although it is anticipated that a number of individual trainees effectively trained will be c 340 (based on some trainees attending multiple courses to build multi-disciplinary capacity). This includes c 60 trainees on land resource management, 50 on agromet at national/ministry department levels (MAF/MONRE) and 155 at provincial and district level officers promoting sustainable agricultural management through training of trainers. 75 provincial staff will be targeted for training at local meteorological network stations. The focus on Training of Trainers explicitly aims to provide capacity for replication and extension of the learning and capacity to use the enhanced information; supporting use in agricultural decision making on crop choices and enhanced resilience within and beyond the pilot sites.

33. It is anticipated that within the project timescales this benefit is more immediately realized within the pilot areas. The project engages users at an early stage to seek to ensure information outputs are tailored to those required by the beneficiaries. Direct access beneficiaries on information at district level within the two pilot sites, based on collaboration with the CAWA programme (in Xe Champone (Savannakhet) and Beung Kiat Ngong (Champasack) during the project are estimated to be 1,280 smallholder families (8,400 members) (based on the estimates of numbers attending community workshops), across 20 villages. Farm households within the two pilot areas are 79% (c 107,000 Farm HH) and 71% (75,000 Farm Households) respectively and reflect the national predominance of agricultural livelihoods (76%), mostly as smallholders so the project has the potential to reach c180,000 HH within adjacent communities. Targeted roll-out within an additional 40 village, proposed by the CAWA project, to which SAMIS is allied, will facilitate access an additional 6,400 families (42,000 members) that offers the target area for subsequent ToT delivery. Assuming the ToT (Training of Trainers) replicate training delivery in further Farmer Field Schools with 3 sessions per year/trainer/30 farmer HHs reached over 5 years this would reach 33,750 HH - benefiting c 221,400 members.

34. Based on the estimated number of climate-vulnerable farmers within the two provinces (Savannakhet and Champasack) c 1,100,000 and the estimation of beneficiaries within 5 years from the end of the project (c 221,400) circa 20% of the climate-vulnerable farmers within the two provinces (or 15.3% of total pop) will benefits from the project. Extending the estimation for entire Lao PDR where the number of climate-vulnerable farmers (smallholders < 2ha) is estimated about 71% of the total agriculture holding (c 3,036,000) (source: FAOSTAT), consequently about 7.3% (221,400 HH) of Lao PDR's smallholders (< 2ha) (5.1% of total rural population and 3.3% of total country population (based on FAOSTAT projection of 2015)) are estimated to benefit within 5 years from the end of the project.

35. The pilot areas are within the Mekong Corridor Agro-ecological Zone, which has the most intensive crop production in the country but the enhanced information products are equally relevant in more marginal crop areas to improve adaptive agriculture given that the products have a national coverage. CDE (2014) estimate that 81% of women contribute to agricultural export so that there is likely to be an equal share of female beneficiaries.

B.3 Explain how cost-effectiveness is reflected in the project design

36. The additional costs associated with loss of development benefits due to climate change and increased climate variability has close synergies and complementarity with the baseline project interventions.

This means the activities of the partners in the baseline cover most of the basic development issues but some of the key considerations to climate change and increasing climate variability have not been effectively considered.

37. The Project follows on from previous collaboration between FAO and Lao PDR. The Project will build on the lessons learned from the FAO project GCP/RAS/247/EC linking decision making to improve food security in selected greater Mekong sub-region countries. The present Project builds on the specific implementation arrangements developed during the detailed consultations. This includes development of technical capacity in the MONRE and MAF at national, provincial and district levels.

38. Several alternative approaches were considered for cost-effectiveness. These alternatives included combination of institutional and technical capacity development. The Project aims to minimize the mobilization of international experts. This will reduce the costs associated with travel and consultancy. International experts will be hired on specific topics for which local experts are not available. Utilization of existing hosting for the information portal is envisaged, to capitalize on existing facilities and technical support skills and reduce potential for duplications.

39. For component 1 evaluation of the costs of the approaches was based partly on the assessment of the costs of the met stations and the longer term maintenance and support for infrastructure. The estimates were compared for different suppliers and compared with the adoption of low cost stations/ solutions. It was considered that the desire to supply the data to IMO standards, and to better achieve sustainability was to use well-established stations, a maintenance arrangement and the calibration laboratory to ensure quality data outputs and capacity to maintain these. These together with the parallel implementations of equivalent stations from JICA and ADB funding ensured value-added benefits of achieving standardizations across the network.

40. For component 2 the validation meetings with the DMH/MAF confirmed the viability of the use of NAEZ and LRIMS as effective modelling environment to achieve the desired outcomes. FAO's agro-ecological zoning (AEZ) methodology is considered as the main system for land resource assessment (within UN System). AEZ is in use since 1978 and is being improved systematically and now it is a standardized framework used worldwide. Alternative database and modelling approaches and portal were considered. The development of a portal has been also considered but reviewed in favor of use of existing and well tested systems like LRIMS. It is a fact that both methodologies, AEZ and LRIMS, are used and tested through many projects implemented by FAO.

C. DESCRIBE THE BUDGETED M&E PLAN

41. The monitoring and evaluation plan will serve two functions: first, periodic assessment of project implementation and performance of activities and, second, evaluation of their outcomes in terms of relevance and effectiveness. Both will contribute to improved decision making and management, by keeping the project on track towards achieving the human development and global environmental goals/objectives and by feeding knowledge from experiences and lessons learnt into planned activities.

42. Monitoring will take place at two levels: project execution and project performance.

43. **Project Execution**: Monitoring at project execution level will involve collection of information on actual implementation of project activities compared to those scheduled in the work plan, including the delivery of quality outputs in a timely manner, identify problems and constraints (technical, human resource and financial), make clear recommendations for corrective actions, identify lessons learned and best practices.

44. Day-to-day monitoring of implementation progress will be the responsibility of the Chief Technical Advisor (CTA), who reports directly to the Project Steering Committee and FAO. It is envisaged that the CTA will utilize a M&E system (project management information system) that will be designed and agreed in PY1. They will be supported through the project component managers reporting. The

system will allow the CTA to identify key milestones and outputs from each of the main components of the project as defined in the work plan.

45. **Project Performance:** Performance evaluation will assess the project's success in achieving its outcomes. Project performance will be monitored closely by FAO and by the Project Steering Committee through semi-annual project progress reports (PPRs), annual project implementation reviews (PIRs), technical reports, Co-financing reports and technical supervision missions. The overall achievement of the project's outcomes will be evaluated through an independent mid-term review and at the end of the project through an independent terminal evaluation (see section 4.6).

46. The table below provides a summary of the main M&E reports, responsible parties and timeframe.

Summary of the main M&E, reports, responsible parties, timeframe and costs.

Type of M&E Activity	Responsible Parties	Time-frame	Budgeted costs
Inception Workshop, annual planning meetings, final project workshop	PMU, CMUs, supported by the LTO/LTU, BH	Inception workshop within three months of project start up, annual workshops as per the schedule and work plan agreed and final workshop a month before closure of the project	Total six workshops/planning meetings @ US$ 2,500/event. Total cost works out to US$ 15,000.
Defining key monitoring indicators, evaluation and baseline survey for impact evaluation (questionnaire design, survey, travel expenses)	PMU and external experts. The project team and LTO/LTU to provide support to design the survey questionnaire.	Within three months from start of the project	US$ 15,000
Mid-term Evaluation (Including questionnaire design, survey and compilation)	External Consultant in consultation with the project team and other partners (includes consultation with relevant institutions, travel expenses and report writing)	After completion of two years of implementation	US$ 25,000 for independent consultants and associated costs. In addition the agency fee will pay for expenditures of FAO staff time and travel
Final impact evaluation (Including questionnaire design, survey and data compilation)	FAO evaluation unit and the project team. In addition a detailed ex-post analysis will be made based on the survey and consultations..	At the end of project implementation	US$ 45,000 for external, independent consultants and associated costs.
Supervision visits and rating of progress in PPRs and PIRs	LTO, other participating units	Annual or as required	The visits of the LTO/LTU will be paid by GEF agency fee. The visits of the NPD and PCM will be paid from the project travel budget

Type of M&E Activity	Responsible Parties	Time-frame	Budgeted costs
Monitoring by the national, provincial and district level offices for implementation of the project	DMH, DALaM in close collaboration with concerned provincial offices. PMU/CMU will coordinate the monitoring in collaboration with the technical experts.	Twice in a year	US$ 17,330 (50% for each – DMH and DALaM)
Project M & E reports (includes project progress reports, co-financing reports, terminal reports)	CMU, with inputs from PCM and other partners. The project implementation report by CMU supported by the LTO/LTU and cleared and submitted by the GCU to the GEF Secretariat.	Semi-annual/annual or as required	US$ 8,670 (as completed by PMU/CMUs)
Terminal Report	PMU/CMUs, LTO/LTU, TCS Report Unit	At least two months before the end date of the Execution Agreement	US$ 10,000.
Total Budget			**US$ 136,000**

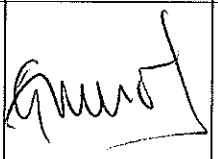
PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT(S) ON BEHALF OF THE GOVERNMENT(S):): (Please attach the Operational Focal Point endorsement letter(s) with this form. For SGP, use this OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE *(mm/dd/yyyy)*
Mr. Khampadith Khammounheuang	Director General of the Environmental Quality Promotion Department	Ministry of Natural Resources and Environment	04/24/2013

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for CEO endorsement/approval of project.

Agency Coordinator, Agency Name	Signature	Date	Project Contact Person	Telephone	Email Address
Gustavo Merino Director, Investment Centre Division Technical Cooperation and Programme Management FAO Viale delle Terme di Caracalla 00153, Rome, Italy		30 May 2016	Trevor Self Technical Officer Khanhmany Khounphonh Deputy Director General of DMH	+39 0657055795 +856-21-215010	Trevor.Self@fao.org
Jeffrey Griffin Senior Coordinator, FAO GEF Coordination Unit. Investment Centre Division.				+3906 57055680	GEF-Coordination-Unit@fao.org

ANNEX A: PROJECT RESULTS FRAMEWORK

Component 1: Strengthening agro-climatic monitoring, analysis, communication and use of data and information for decision making in agriculture and food security

Expected Outputs	Indicators	Baseline	Annual milestones				End project target	Means of verification	Assumptions
			Year 1	Year 2	Year 3	Year 4			
Outcome 1.1: Improved agro-meteorological monitoring, communication and analysis facilities established at national and provincial level	A fully renewed CAgMD within DMH functioning with clear roles and responsibility	Very old systems and no climate and agromet services to meet the needs of farmers	Prepara-tion and planning for establish-ment of systems	Delivery of facilities and instru-ments	Capacity develop-ment and testing	Fully functional unit	A fully renewed CAgMD connected with all AWS and database	Continuous functioning after completion of the project	MONRE and DMH is willing and capable of absorbing the new technology
Output 1.1.1: Agro-meteorological station networks improved/re-habilitated with both conventional and automatic weather stations to increase coverage in the major agricultural production areas	Number of new automated stations and rehabilitated manual stations	0	-	15 new 6 rehab	-	-	15 new 6 rehab (total of 51 stations overall in combination with other baseline projects)	stations functional, with data effectively transmitted	Sufficient and updated-staff capacities
Output 1.1.2: Improved data coding and communication facilities upgraded to enhance connectivity of Department of Meteorology and Hydrology (DMH) with provincial level sub-units and users at all levels	Number of AWS stations connected with Early Warning System Unit Formal collaboration with Ministry of tele-communications	All manual stations and no real-time data transfer and use for weather forecasts No formal collaboration with the Ministry of telecom and private communication service providers	- -	15 2	- -	- -	All 15 (total 51) stations connected to EWS centre and receive real-time data (second year) At least 2 MOUs signed by DMH to facilitate communications	Use of data from AWS for weather forecasts Printed and signed copies of the MOU	DMH enter into MOU with telephone services to enhance connectivity and all sensors are working properly
Output 1.1.3: Laboratory for agro-meteorological analysis, instrument calibration and geospatial climate data access, monitoring, processing facilities established and functioned at DMH, Vientiane.	New facility (Building) for CAgMD with laboratory for calibration tools in working condition, spare parts for sensor maintenance	Very old building and no instrumentation or calibration laboratory in DMH 0	1 -	-	- -	- -	New office facility running within DMH (Climatology Division) and availability of calibration tools and procedures for all essential sensors	Established laboratory and new instrumentation facility	DMH provides additional staff support (in-charge of the laboratory and agreed TOR to maintain all AWS

Expected Outputs	Indicators	Baseline	Annual milestones				End project target	Means of verification	Assumptions
			Year 1	Year 2	Year 3	Year 4			
	A climate data analysis access and analysis facility with necessary hardware and software.	(only 3 PCs available with the climatology division for storing data)		15 systems for local met stations and 10 for CAgMD			High performance computing systems for data archival and analysis established with at least 5 nodes for the data entry personnel and connected to EWS and also equipped to receive data from AWS	New computer systems and database available communicated to users	DMH actively collaborates with regional and international centres and regional and global centres are willing to share their products
	Number of near-real time NWP products accessible	4	-	5 new	-	-	5 new (9 total)	New products with improved Agroclimatic and agromet information	
	Comprehensive climate-atlas prepared using available data	No climate atlas available	-	-	1	-	A climate atlas available	A printed climate atlas	
Outcome 1.2: Institutional and technical capacity strengthened to facilitate data sharing, archiving, analysis and interpretation of agro-meteorological information products to users at all levels	Improved and new climate and agromet products available with users	No system in place to communicate and receive feedback from users	Roles and responsibilities defined & staff training (Phase 1)	Staff training (Phase 2)	Staff training (Phase 2)	Staff training (Phase 2)	Endorsed SOPs, guidebooks (at least 7) and staff of DMH and MAF trained (at least 400)	Printed Operating procedures and guidebooks and training reports	The DMH is adopting the SOPs and guidebooks and nominates relevant staff for the training
Output 1.2.1: Standard Operating Procedures (SOPs) for climatology and agro-meteorology division of DMH and guidelines for installation of instruments and observation, data coding and maintenance developed and staff trained (at least 65 technical staff trained)	Standard Operating Procedure for CAgMD	No SOP for CAgMD	-	1	-	-	SOP for Climatology and Agrometeorology Division endorsed and approved by DMH	Printed SOPs available and implemented by DMH	DMH is expected to endorse the SOPs and guidelines during the project period and allows the staff to be trained
	Number of guidelines	4 existing guidelines	-	1	4	2	At least 5 guidelines updated and 2 new guidelines developed and printed	Printed guidelines available and distributed to all staff at different levels	
	Number of staff trained	No regular trainings within DMH	-	20	45	-	At least 65 technical staff trained (at least 25 women)	Trained staff capable of using the guidelines	

Expected Outputs	Indicators	Baseline	Annual milestones				End project target	Means of verification	Assumptions
			Year 1	Year 2	Year 3	Year 4			
Output 1.2.2: Development and delivery of training packages relevant to climatology and agrometeorology, communication and application of climate and agrometeorological information by users	Number of trainings organized and integrated into DMH's regular activities	No formal training programmes	1	3	2	2	At least 4 formal training programmes organized	Training needs assessment and training reports available	DMH takes ownership of all training activities and allows the staff to attend the trainings
	Number of staff trained in each of the training programmes	About 5 staff trained, through international sponsored events	20	40	20	20	At least 100 technical staff out of 205 trained (at least 30% women)	Printed training manuals	
	Number of training manuals prepared and printed	No Lao specific training manuals available	1	3	2	2	At least 4 Lao-specific training manuals	Training reports & trained staff applying new knowledge	DMH nominates staff, identifies relevant experts from other ministries, and formally requests that MAF nominate staff for trainings at national, provincial, and district levels
	Number of print and media staff trained	No training to print and media staff	-	25	25	-	At least 50 print and media reporters trained		
	Number of staff at inter-ministerial level trained	No training on use of climate information for policy integration	-	2	2	-	At least 50 national personnel trained	Report, presentations, publications, available/delivered.	
	Number of MAF staff trained on forecast application	No application trainings	-	3	3	2	At least 200 MAF staff trained on forecast application (50 TOT at national, 150 provincial, and district; at least 45 women)	Training logs, report, presentations, publications, available/delivered.	

Component 2: Strengthening institutional and technical capacity for monitoring and analysis of agriculture production systems and development of Land Resources Information Management Systems (LRIMS) and Agro-Ecological Zoning (AEZ)

Expected Outputs	Indicators	Baseline	Annual milestones				End project target	Means of verification	Assumptions
			Year 1	Year 2	Year 3	Year 4			
Outcome 2.1: Integrated Land Resources Information Management System (LRIMS) and High resolution Agro-Ecological Zones (AEZ) and agriculture production	Number of information systems available	No dedicated information systems for agriculture	Assess-ment and scoping	Design and develop-ment phase	Implemen tation phase	Evaluation phase	At least 2 new systems developed and delivered	Infrastructure and information systems	Lao PDR is capable of absorbing the new technology and capable of running on a

Expected Outputs	Indicators	Baseline	Annual milestones				End project target	Means of verification	Assumptions
			Year 1	Year 2	Year 3	Year 4			
Systems At Risk (SAR) developed based on agricultural resources (climate, land, soil, water and crops)									sustainable basis
Output 2.1.1: Land Resources Information Management System (LRIMS) and customized applications designed, developed, tested and delivered with computing facilities for monitoring and assessment of land suitability	Number of dedicated systems available for LRIMS Number of customized application software delivered	No dedicated system available with DALAM No customized application software available	Feasibility -	Data collection and synthesis -	Analysis and development At least 2 customized software	Evaluation of LRIMS system Testing of the software packages	LRIMS for Lao PDR available At least 2 customized application software delivered	New systems in operation LRIMS installed and working	DALAM has the mandate and sufficient staff to constantly update and maintain the system
Output 2.1.2: Available data and information on land, soil, water, crops and socio-economics synthesized and National-Agro-Ecological Zoning (NAEZ) and Information Portal developed, tested and delivered	Number of categories of data available in the database National AEZ developed and available for use Data and information portal hosted by relevant institution	Data available in paper form and fragmented within MAF No AEZ methodology adopted GIS unit exists but spatial information system is not available with DALaM	Digitization of data sets 0 (model parameterization) -	Integration of data into the information systems 0 (analysis) 1	Testing and evaluative 1 (model synthesis & integration) -	Refining 0 (evaluation) -	At least 5 major categories of data integrated into the database National AEZ methodology adopted and used 1 (spatial information system functioning and accessible)	Database with retrieval facility Functional NAEZ used as a decision support system Functional spatial information system and relevant knowledge products	DALAM or relevant agency within MAF has the institutional and technical capacity to sustain the information systems with necessary budget resources after completion of the project
Output 2.1.3: Impact scenarios of water availability, crop yield and socio-economics for all major agro-ecological zones assessed and adaptation strategies developed	Number of agro-ecological zones having scenarios of physical, biophysical and socioeconomics Number of policy/planning	Agro-ecological zoning did not consider a comprehensive/ multiple datasets	Analysis for development of agro-ecological zones -	Development of impact scenarios 2	Validation of agro-ecological zones data and information 1	Delivery of information products 1	Impact scenarios available for at least 7 major production zones prioritized by MAF	Database on impact scenarios Documents referring to the	Relevant agency within MAF is capable of maintaining the scenarios and relevant database Policy and planning

Expected Outputs	Indicators	Baseline	Annual milestones				End project target	Means of verification	Assumptions
			Year 1	Year 2	Year 3	Year 4			
	processes used the climate change impact scenarios	Low resolution scenarios are being used for NAPA, National Communication and relevant land suitability classifications					New scenarios used for 3rd national communication and relevant documents	scenarios produced from the project	processes actively seek to have new scenarios
	Number of vulnerability and risk analysis and reports that use LRIMS and NAEZ information	Currently available risk and vulnerability mapping products are with low resolution	Information collected	Models and scenarios developed	Vulnerability and risk analysis	Maps, databases, reports produced	New vulnerability and risk profiles available with high resolution	New vulnerability and risk profiles showing scenario data produced from the project	
Outcome 2.2: Technical capacity developed for sustained operation and use of LRIMS, SAVA, AEZ and agriculture production Systems at Risk for policy formulation and adaptation planning in agriculture sector	MAF/ DALaM staff trained to maintain and provide or apply LRIMS/ NAEZ information (gender disaggregated)	0 female 0 male	-	15 female 35 male	15 female 35 male	-	100 staff (30 female; 70 male) trained	Training manuals and reports	MAF and DALaM nominate relevant staff for training and retains them
Output 2.2.1: Training resources on LRIMS, Agro-Ecological Zoning, SAVA scenario development and selection of main indicator developed and training programme conducted	Number of training programmes organized	No training organized on the topics relevant to the component	-	5	8 -	4	At least 17 trainings organized two each for LRIMS&NAEZ	Training reports of MAF	MAF commits to sustain the core technical capacity and collaborates with other ministries and departments to update relevant databases and information portals
	Number of staff from MAF/ MONRE trained	Very few staff from NAFRI trained on crop modelling	-	25	25	-	At least 50 core staff from MAF/MONRE trained	Nomination letters from MAF/MONRE	
	Number of training manuals available for further use	No standard training packages available	-	1	1	-	At least two standard manuals available for further use	Printed training manuals	
Output 2.2.2: Training resources on assessment of impact scenarios and adaptation strategies developed based on revised LRIMS, SAVA, NAEZ and integrated into the major	Number of relevant adaptation strategies identified and documented	Individual adaptation practices are identified and demonstrated	-	10	10	5	25	A document of adaptation strategies	The policy process actively seek new strategies considering food and
	Number of MAF staff trained on	Staff trained depending on their	-	25	25	-	At least 50 national level MAF staff trained to integrate new information into	Training reports of MAF	

Expected Outputs	Indicators	Baseline	Annual milestones				End project target	Means of verification	Assumptions
			Year 1	Year 2	Year 3	Year 4			
agriculture development policies and plans	new/innovative adaptation strategies	role in projects (project based training)					at least 4 major agricultural policies and plans (at least 40% of participants are women)	Policies and plans with new adaptation strategies	nutrition security
	Number of policies and plans prioritized the new adaptation strategies	Matrix of adaptation strategies aligned with national Agriculture policies are not available	-	2	2	-	4		

Component 3: Knowledge management and dissemination of information and lessons learned for local application, planning, monitoring and evaluation

Expected Outcomes/outputs	Indicators	Baseline	Annual milestones				End project target	Means of verification	Assumptions
			Year 1	Year 2	Year 3	Year 4			
Outcome 3.1: Knowledge and information sharing for local application, agriculture and food security planning and programming and project outcomes/outputs monitored and evaluated to ensure sustainability	Trainings and workshops delivered	No relevant Workshops on climate change adaption	4	6	6	3	19	Trainings and workshops delivered.	Institutions have relevant information and knowledge for local application, agriculture and food security planning and programming
	Number of training materials, products, publications, guidelines, books, handbooks, flyers, web-sites, etc.	Limited products, guidelines, publication and information related to climate change adaption issues.	1 web-site	5 training materials	5 training materials, public-ations, maps	5 training materials, publica-tions, maps, guide-lines	16	Maps, databases, analysis, training materials, publications, guidelines, etc available and disseminated to all relevant institutions and agencies.	
	Framework for knowledge-sharing and packaging of lessons learned and experiences developed/ improved	Obsolete or no sharing and dissemination of knowledge and information platform available	-	-	-	1	1	Knowledge exchange portal that supports information exchange at both local and national levels operational	

Expected Outcomes/outputs	Indicators	Baseline	Annual milestones				End project target	Means of verification	Assumptions
			Year 1	Year 2	Year 3	Year 4			
Output 3.1.1: Local application of climate information and location specific adaptation strategies facilitated through Farmer Field Schools (FFS) in close coordination with climate adaptation in wetland areas (CAWA) project activities	Number of FFS organized and implemented	No FFS in relation to climate change adaptation ongoing	-	10	10	-	20 FFS with climate component implemented	FFS facilitation records maintained at district level	Close collaboration with CAWA established and cost of implementing FFS budgeted in CAWA project
	Number of facilitators trained (gender disaggregated)	0	-	10 total 3 female 7 male	10 total 3 female 7 male	-	20 total 6 female 14 male	Training records	
	Number of FFS climate forecast curricula available for up-scaling	No FFS curriculum with climate information available	-	1	-	-	One FFS curriculum with climate forecast information and relevant adaptation practices developed and tested	New curriculum available and printed	
Output 3.1.2: Knowledge and information sharing workshops conducted and best practices, key lessons disseminated via publications, project websites and others to facilitate wider awareness and utilization in other climate sensitive sectors	Number of knowledge and information-sharing workshops organized	No such workshops in relation to climate info services and land resources information systems	1	2	2	-	At least 5 knowledge sharing workshops organized and information sharing meetings conducted	Workshop and meeting reports	MONRE/MAF allows for free exchange of data and information
	Number of awareness raising and information sharing publications produced and disseminated	There are limited products and publications available	1	3	4	2	At least 10 publications printed and available for distribution	Printed publications	The publication carries relevant information to promote up-scaling and replication
Output 3.1.3: Project M&E system established to monitor activities and outputs systematically at all levels (national, provincial and local) and outcomes evaluated	M&E plans established for on-going use within each partner institution (DALaM & DMH)	-	-	-	2	-	At least 6 events organized	Workshop and meeting reports	
	Number of national, provincial and local level monitoring carried out by PMU and CMUs	-	2	2	2	2	At least twice in a year monitoring visits organized and feedback provided	Monitoring reports	

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

Responses to comments of GEF Council Member from U.S. (07/01/2014)

Comments	Addressed in the Project Document
Clarify how it plans to promote coordination between relevant ministries at both the national and provincial levels. We appreciate the involvement of multiple government agencies and institutions as this monitoring and information system will not only require input from various sector experts but also produce information applicable to numerous ministries and institutions;	The project defines in details the project management structure and roles and responsibilities of all partners and main stakeholders (Chapter 4.3) outlining also the collaboration strategy of the relevant ministries at both national and provincial level. Please refer the page 49 of the project document where the Project Management and Information Flow is also included. (Refer also to the paragraph **B.1 Describe how the stakeholders will be engaged in project implementation** of the CEO endorsement). Component 1 includes preparing and operationalizing the standard operating procedures (SOPs) for the Climatology and Agro-meteorology Division of DMH. This will also involve outlining institutional coordination mechanisms between the technical divisions within DMH and with the Department of Agriculture, Department of Statistics, and Department of Irrigation to facilitate sharing and communication of agro-meteorological data and information.
Outline how users will be involved both in the design of the agro-climatic monitoring and information system, and in deciding what information is produced as well as how information will be disseminated. Better results can be achieved by ensuring that climate information and associated products are user-driven and communicated to users through various innovative channels.	Establishment of LRIMS and NAEZ Systems and up-scaling of impact assessment to national level require the participation and collaboration of the government agencies and institutions involved in the project. This will integrate stakeholder meetings and feedback to determine appropriate indicators, collect and validate the relevant natural resources information and calibrate the vulnerability assessments. This activity consider detailed consultation among the ministries involved in the activity during the systems and model establishing stage and as well as preparation of a strategy/policy concerning the use of the systems/models, and share and dissemination of the information and products among the relevant ministries. Under the Component II (output 2.1.1), specification of the LRIMS and NAEZ system will be undertaken in consultation with users to ensure that subsequent development meets users' needs, e.g. one of the main functional scopes of LRIMS includes the "collaborating and sharing" and the establishment of a full suite of web services. Besides, the development of LRIMS involves the establishment of a GIS portal that provides access to GIS data and organizes the flow of information (standardized data formats with adequate metadata) on land resources and agricultural information amongst stakeholders. Outputs can then be delivered as web-based services to unlimited users, provided they can access information under set conditions and various authorizations. This central website will provide an accessible, up-to-date means of widely sharing these data for multiple uses. The dissemination of information will be through a knowledge exchange (GIS) portal (2.1.1) that supports the LDCF specific information dissemination and exchange at both local and national levels. This GIS portal will work with other national portals identified through the PPG phase to provide integrated information to broader information and best practice and strengthen existing knowledge and information hubs.
Clarify how it will communicate results, lessons learned and best practices identified throughout the project to the various stakeholders both during and after the project;	The project will apply a comprehensive framework for knowledge-sharing and packaging of lessons learned and experiences. Improvements for agro-climatic monitoring and information systems to promote adaptation will be disseminated for wider use at all levels through web-portals. The LDCF funds will be used to disseminate good practices and lessons-learned through publications and to organize policy advocacy and knowledge-sharing workshops. The adaptation strategies and practices developed based on the advanced agro-climatic monitoring and information systems will be delivered on a pilot basis for implementation at field level through other GEF/LDCF projects. At local level, climate change impact information and adaptation practices will be disseminated to the farmer groups through Farmer Field Schools. The climate information, bulletins and adaptation practices from DMH and DALaM within Components 1 and 2 will provide actionable reports to be delivered through FFS. This integrates information on agrometeorological, social and agricultural sectors and the operation of the LRIMS scenario modelling (2.1.3) to facilitate sharing and integration of data into decision support. Besides, as described in the previous paragraph, the dissemination of information will be through a knowledge exchange portal (2.1.1) that works with other national portals to provide integrated information to broader information and best practice and strengthen existing knowledge and information hubs.

Provide more information on how women will benefit from this project. This could include what efforts will be put in place to ensure that women participate in Farmer Field School programs or what will be added to ensure that their needs are reflected in the new curriculum.	Gender equality lies at the core of all processes of the project. The project will integrate the gender issue in all its aspects and its components including: technical assistance and capacity building as well as will ensure high participation of woman in the implementation of the project activities. It estimates at least 30-40% of the participants in the trainings, workshops and project implementation activities to be covered by woman. It will ensure also that gender participation and mainstreaming becomes standard practice during all the life of the project. The project will facilitate the gender equality by ensuring that women participate in Farmer Field School programme and benefit from improved agro-advisory services; as well as ensure that their needs are reflected in the new curriculum.

Responses to comments of GEF Council Member from Germany (17/01/2014)

Comments	Addressed in the Project Document
Cooperate with on-going national and regional initiatives implemented in the context of Lao-German cooperation and Germany's cooperation with regional institutions in the Lower Mekong Basin.	The project strategy is based on the cooperation with other on-going initiatives and baseline projects that address issues associated with improving agricultural production by improving monitoring of factors of agricultural production and also by strengthening institutional and technical capacities (e.g., UNDP's, WB, GEF/LDCF initiative, LAO-German and JICA cooperation projects, etc.) .This project considers enhancing the synergies with other ongoing programmes and projects (Ref. Chapter 1.2.1: Baseline projects and Investments). The project described that though the investment in the monitoring and communication infrastructure targets climatology and agro-meteorology division, overall requirement for strengthening early warning and climate information services will be considered explicitly in close collaboration with other projects and technical divisions of DMH (e.g., forecasting, hydrology, meteorology, and network maintenance). Refer to the Paragraph **A.7 "Coordination with other relevant GEF-financed initiatives"** where is described the collaboration of the project with on-going programmes
In respect of the establishement of Farmer Field Schools (FFS; component 1.2.4) the final project proposal should provide more detailed information on the concept for these schools and particularily on their long-term use and sustainability. Further, the other LDCF PIF prepared by FAO for Lao and referred to does not mention FFS but existing structures in the context of training. Also, the Department of Agricultural Extension and Cooperatives, which would have the mandate to facilitate such schools, is not listed as a stakeholder in the PIF.	The project document describes that at local level, the weather, climate, land resources, and climate-change impact information will be disseminated to farmer groups through the establishment of 20 farmer field schools (FFS) in two provinces covering two wetlands locations (Xe Champone and Beung Kiat Ngong). This activity will be closely linked to another GEF/LDCF project on "climate change adaptation in wetland areas" in two provinces (Savannakhet and Champassak).This explicitly aims not to be too prescriptive at this stage, to allow for the FFS members inputs to specification of access at farm level and for women's participation to be effectively represented, for which participatory design of the process is required to better support local ownership and uptake. This seeks to improve the outreach within the FFS and to ensure that the process of establishing the participation within the Field Schools addresses equitable participation and to ensure that women's needs are reflected in the adaptation strategies and training approaches and resources. The climate information, bulletins and adaptation practices from DMH and DALaM within Components 1 and 2 will provide actionable reports to be delivered through farmer field schools. The Department of Agricultural Extension and Cooperatives, is one of the institutions that will facilitate such schools and it is in charge of cooperation and collaboration in the development of the farmer field schools programme related to the use of the information products at local levels and development of adaptation strategies (ref. Chapter 1.4: Participants and Stakeholders).

3) Component 3 relates to knowledge management and dissemination of information and lessons learned for planning, monitoring and evaluation. Germany strongly recommends considering existing regional knowledge platforms (e.g. the Asia-Pacific Adaptation Network or the Climate Change and Adaptation Initiation of the Mekong River Commission) in order to spread information and best practices to other countries in the region, while strengthening at the same time exisiting platforms as knowledge and information hubs on adaptation.	The project will build on the lessons learned from the FAO project GCP/RAS/247/EC linking decision making to improve food security in selected greater Mekong sub-region countries. Mekong River Commission (MRC) is one of the key stakeholders of the project. MRC is involved in Mekong Integrated Water Resources Management Project especially on improving hydrological measurements. Collaboration is foreseen especially on meteorological instrumentation and also awareness raising related to climate change impacts on water resources. MRC's expertise can be drawn upon for the proposed activity on development of impact scenarios on water availability as part of this LDCF. The adaptation strategies and practices developed based on the advanced agro-climatic monitoring and information systems will be delivered on a pilot basis for implementation at field level through other GEF/LDCF projects. Besides, as described, the dissemination of information will be through a knowledge exchange portal that works with other national portals to provide integrated information to broader information and best practice and strengthen existing knowledge and information hubs. The support from co-funders is indicative of potential for integration and cooperation between regional programmes in improving the network, instrumentation, calibration and the ultimate utility and policy framework in which all of this information is used.

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS[4]

A. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES FINANCING STATUS IN THE TABLE BELOW:

PPG Grant Approved at PIF: $150,000			
Project Preparation Activities Implemented	***GEF Amount ($)***		
	Budget Approved	***Amount Spent to Date***	***Amount Committed***
Activity 1: PPG workshops and stakeholder consultations	23,491	12,400	11,091
Activity 2: Collection and synthesis of information to elaborate component 1 on strengthening agro-climatic monitoring, analysis, communication and use of data and information for decision making	28,000	19,016	8,984
Activity 3: Collection and synthesis of information to strengthen component 2 on strengthening institutional and technical capacity for monitoring and analysis of agriculture production systems and development of Land Resources Information Management Systems (LRIMS) including vulnerability mapping and Agro-Ecological Zoning (AEZ)	28,509	20,500	8,009
Activity 4: Collection and synthesis of information for component 3 on knowledge management and dissemination of information and lessons learned for planning, monitoring and evaluation	20,000	12,980	7,020
Activity 5: Detailed design of project components, result frameworks, financial plan and budget	50,000	32,447	17,553
TOTAL	**150,000**	**97,343**	**52,657**

[4] If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue undertake the activities up to one year of project start. No later than one year from start of project implementation, Agencies should report this table to the GEF Secretariat on the completion of PPG activities and the amount spent for the activities.