



Food and Agriculture
Organization of the
United Nations



Monitoring and Evaluation Plan

*Strengthening Agro-climatic Monitoring and Information Systems (SAMIS) to
improve adaptation to climate change and food security in LAO PDR
(GCP/LAO/021/LDF)*



Vientiane, LAO PDR
November 2018

*Strengthening Agro-climatic
Monitoring and Information
Systems (SAMIS) to improve
adaptation to climate change
and food security in LAO PDR
(GCP/LAO/021/LDF)*

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» Abbreviations | and acronyms

AMAT	Adaptation Monitoring and Assessment Tool
AWP/B	Annual Workplan and Budget
AWS	Automatic Weather Station
BH	Budget Holder
CAGMD	Climate and Agro-meteorology Division
CAWA	Climate Adaptation in Wetland Areas
CEO	Chief Executive Officer of GEF
DAFO	District Agriculture and Forestry Office
DMH	Department of Meteorology and Hydrology
DID	Difference-in-differences
EWS	Early Warning System
FAO	Food and Agriculture Organization of the United Nations
FFS	Farmers Field School
FPMIS	Field Project Management Information System
GCU	GEF Coordinating Unit
GEF	Global Environment Facility
HH	Household
LDCF	Least Developed Country Fund of GEF
LTO	Lead Technical Officer
MAF	Ministry of Agriculture and Forestry
M&E	Monitoring and Evaluation
MONRE	Ministry of Natural Resources and Environment
NAPA	National Adaptation Programme of Action
NPD	National Project Director
PAFO	Provincial Agriculture and Forestry Office
PIR	Project Implementation Review
PMU	Project Management Unit
PPR	Project Progress Report
PSC	Project Steering Committee
RF	Results Framework
SOP	Standard Operating Procedure
TCSR	FAO Resource Mobilization and Operations Support Service
TOR	Terms of References
USD	United States Dollar



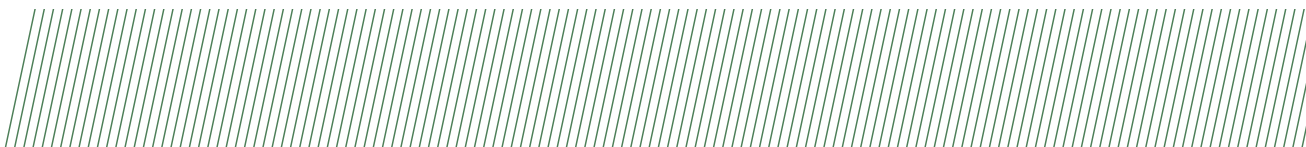
INTRODUCTION



This Monitoring and Evaluation (M&E) Plan is prepared for the project “Strengthening Agro-climatic Monitoring and Information Systems (SAMIS) to improve adaptation to climate change and food security in Lao PDR”. The project is funded by the Global Environmental Facility (GEF) under its Least Developed Country Fund (LDCF). The M&E Plan covers monitoring of project performance and evaluation of project impacts. Monitoring is used for performance evaluation through assessing success of the project in achieving its time bound targets and objectives whereas the project impacts evaluation is done through the data generated from project studies and analysis as well as baseline survey, mid-term survey and end of the project evaluation. Both project performance and impact evaluation will contribute to improve decision making and management, for keeping the project on track towards achieving the outcomes and objectives and by integrating lessons learnt into planning.

The monitoring and evaluation plan for the project will serve two functions: first, periodic assessment of project implementation and performance of activities, and second, evaluation of their results in terms of relevance, effectiveness and impact in promoting the adaptation through reducing vulnerability and increasing adaptive capacity of the smallholder farmers.

The next section presents an overview of the project along with goals, objectives, components, outcomes and outputs. The third section presents methodology that will be used for monitoring and evaluation. The fourth section presents provisions for monitoring and fifth section presents about evaluation. Finally, section six concludes the monitoring and evaluation plan.





PROJECT OVERVIEW

2

The project will enable the data sharing and information management in order to reinforce and speed up the national, provincial and local level planning and decision making in the context of Ministry of Natural Resources and Environment (MONRE) and Ministry of Agriculture and Forestry (MAF) activities. First, it will setup information infrastructures and functional and standardized agro-meteorological data analysis procedures. Secondly, it will improve monitoring and analysis of agricultural production systems by structuring an information sharing scheme including both agro-ecological and socio-economical scenario information. Agro-meteorological assessment and scenario simulation will support decision-making in relation to agriculture and food security at national, provincial and farm levels. The project will address monitoring, observation, analysis, data storage, and development of value-added information products, promote sharing, and better inform agricultural decision-making. The national, provincial, and local staff of the Department of Meteorology and Hydrology (DMH) within the Ministry of Natural Re-

sources and Environment (MONRE) and of the Department of Agricultural Land Management (DALaM) within the Ministry of Agriculture and Forestry (MAF) will be trained on agro-climatic and land resources information systems. The information systems will benefit multiple sectors and will be developed in close collaboration with other development partners working on similar areas.

In the framework of the first objective, the project will install 15 new agro-meteorological weather stations (AWS) and will rehabilitate 15 existing manual ones. In addition, high performance computing systems for data archival and analysis will be established with at least 5 nodes for the data entry personnel and connected to an early warning system (EWS) and also equipped to receive data from AWS. Three new near-real time products will be available at the DMH (seasonal, monthly, and decadal forecast) with appropriate standard operating procedures (SOP). A total of more than 200 national or local level staff will be trained in order to make the process sustainable.

The second objective will enable the preparation of a customized Land Resources Information Management System (LRIMS) and the Agro-Ecological Zoning and socio-agricultural impact scenarios available for at least seven major production zones prioritized by MAF. At least two customized application software delivered and 100 national staff will be trained. The entire process will enable to insert concern about data sharing and information management in four of policies and plans prioritizing the new adaptation strategies.

In addition, the agro-meteorology advisory will be diffused at field level. It will employ a participatory learning and doing approach through farmer field schools in Xe Champone and Beung Kiat Ngong districts to reduce the vulnerability and promote adaptive capacity to effectively respond to the impacts of climate change through the distribution of farmers' agrometeorological advisory services. In addition, the project will also conduct awareness raising in Salavan, Luangnamtha, and Vientiane Province.

The project contributes to national priorities under National Adaptation Programme of Action (NAPA), Strategy on Climate Change, Disaster Management Strategy and Plan (2003 – 2020), and to the Agricultural Development Strategy (2011 – 2020). The project focuses on GEF LDCF objectives (i) CCA-2: increasing adaptive capacity and (ii) CCA-3: adaptation technology transfer. The project is consistent with FAO Strategic Objective 2 (Increase and improve provision of goods and services from Agriculture, forestry, and fisheries in a sustainable manner) and Strategic Objective 5 (Increase the resilience of livelihoods to threats and crises). Also, it is consistent with the Country Programming Framework (CPF) priority 4 on enhanced capacity of Government and communities to adapt and mitigate climate change and reduce natural disaster vulnerabilities related to Agriculture, forestry, and fisheries. The project will be implemented for a period of three and half years (June 2017– May 2021) with a total budget of USD 5,479,452 and co-financing of USD 16,130,000.

2.1 Project Objectives

The project objective is to enable the data sharing and information management in order to reinforce and speed up the national, provincial and local level planning and decision making. The project's detailed objectives are twofold. First, it will enhance monitoring, analysis, communication, and use of agro-meteorological data and information for decision-making in relation to agriculture and food security national and provincial levels. Secondly, it will improve monitoring and analysis of agricultural production systems by developing a Land Resources Information Management Systems (LRIMS) and the Agro-Ecological Zoning (AEZ) to support agricultural policies and climate-change adaptation.

2.2 Project components, outcomes and outputs

[Component 1]

Strengthening agro-climatic monitoring, analysis, communication and use of data and information for decision making in Agriculture and food security

Outcome 1.1 Improved agro-meteorological monitoring, communication and analysis facilities established at national and provincial level.

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.

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

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.

Outcome 1.2: Institutional and technical capacity strengthened to facilitate data sharing, archiving, analysis and interpretation of agro-mete-

orological information products to users at all levels.

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.

Output 1.2.2: Development and delivery of training packages relevant to climatology and agro-meteorology, communication and application of climate and agro-meteorological 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 (LRIMS) and Agro-Ecological Zoning (AEZ)

Outcome 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).

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.

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.

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

Outcome 2.2: Technical capacity developed for sustained operation and use of LRIMS, Socio-Agricultural Vulnerability Assessment (SAVA), AEZ and agriculture production Systems at Risk for policy formulation and adaptation planning in Agriculture sector.

Output 2.2.1: Training resources on LRIMS, AEZ, SAVA scenario development and selection of main indicator developed and training programme conducted.

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 Agriculture development policies and plans

[Component 3]

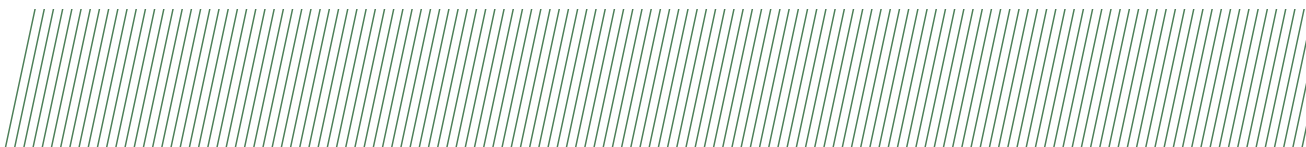
Knowledge management and dissemination of information and lessons learned for local application, planning, monitoring and evaluation

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.

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.

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

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





METHODOLOGY

3

Monitoring of progress in achieving project results and objectives will be done based on the targets and indicators established in the project Results Framework (RF). Monitoring and evaluation activities will follow FAO and GEF monitoring and evaluation guidelines.

The project will be monitored closely by FAO (Lead Technical Officer - LTO - and GEF Coordination Unit - GCU) and by the Project Steering Committees through semi-annual reports, technical reports, and regular technical supervision missions fielded as required to enhance success. The monitoring data will be collected by the project staff as well as government counterparts. Reporting of day-to-day monitoring of implementation progress will be the responsibility of the Project Coordinator based on the project's annual workplan and outputs indicators. The details on the monitoring plan are presented in Section 4.

The data collection will be offline. The Offline Data Collection used for monitoring by Monitoring Teams during of field visits, mid-term review, and final evaluation will be based in KoBo for creating the forms, database and analyse the data.

The data analysis will use MS Excel and R software. The data will be cleaned and compiled and consolidated in MS Excel sheets. All results of qualitative and quantitative analysis will be presented in the report and all the raw data on MS Excel files.

The evaluation will use the Adaptation Monitoring and Assessment Tool (AMAT) developed by GEF to measure progress toward achieving the outputs and outcomes established at the portfolio level under the LDCF results framework. The tracking tool is expected to be used three times during the life of the project, with the first instance being before GEF CEO endorsement of the PPG materials. The tracking tool will be used again at the time of mid-term evaluation, and a third time when preparing the terminal reporting. Data to support preparation of the AMAT indicators will be collected every year.

Mid-term and final evaluations will be conducted by external evaluators recruited by the project. The key indicators for evaluation of outputs and outcomes are presented in the results framework in Appendix I. Indicators provide parameters against which to assess project performance and achievement in terms of quantity, time, target group and quality. Some indicators are quantitative, whereas some others are semi-quantitative (scale, ranking), or qualitative (perceptions, opinions, categories). The indicators have been further reviewed and refined during the development of this Monitoring and Evaluation Plan after that activities have been reviewed during the project inception phase. Details in the evaluation plan are presented in Section 5.

In addition, project impact is also analysed, in term of sustainability, financial risk and governance risks. Sustainability is understood as the likelihood of continued benefits after the project ends. Given the uncertainties involved, it may be difficult to have realistic a priori assessment of sustainability of outcomes. So, assessment of sustainability of outcomes will give special attention to analysis of the risks that are likely to affect the persistence of project outcomes. This assessment should explain how the risks to project outcomes would affect continuation of benefits after the project ends. It will include both exogenous and endogenous risks and will be conducted through stakeholders' or field level studies.

Financial risks may jeopardize sustainability of project outcomes, the likelihood of financial and economic would not being available after project end. So, the resources can be sought from multiple sources, such as the public and private sector; these can be also including trends that indicate likelihood that, in future, there will be adequate financial resources for sustaining project outcome. An analysis of financial risk will be conducted at the end of the project to assess the private sector use of the project data.

Institutional framework and governance risks will be evaluated through a study after the completion of the project activities. Governance structures and processes within which the project operates pose risks that may jeopardize sustainability of project benefits, and requisite systems for accountability and transparency, and required technical know-how in place.



MONITORING PLAN

4

Monitoring will be used for performance evaluation through assessing success of the project in achieving its time bound targets and objectives. The monitoring will focus on management and supervision of project activities, seeking to improve efficiency and overall effectiveness of project implementation. The monitoring will be pursued continuously to collect information on actual implementation of project activities compared to those scheduled in the annual work plans. This will mainly include four aspects, (a) delivery of quality outputs in a timely manner, (b) identification of problems and constraints (technical, human resource, and financial), (c) clear recommendations for corrective actions, and (d) identification of lessons learned and best practices for scaling up.

The monitoring of the project performance will focus on information related to project implementation process, inputs, activities and outputs. Monitoring through regular collection of project specific data by the project management unit and project stakeholders will facilitate tracking of outputs and outcomes achieved (to compare planned/versus achieved) and better assess the effects of both external factors and internal project operations. It will also help in identifying lessons learned and solutions to keep the project on track. Information collected will also help inform assessments of the overall costs and benefits of the project including any externalities and spill-overs. A detailed schedule for periodic monitoring reports is available in Table 1. The flow of information between project stakeholders is available in Figure 1. The summarized monitoring measures will be the following:

Component 1

- i. Periodic reports of DMH, and Provincial DMH stations;
- ii. Semi-annual and annual reports of project implementation using approved formats;
- iii. Annual review of the outputs and possible outcomes;
- iv. Project Steering Committee meeting at half yearly intervals;
- v. Field visits and observations by National Monitoring Teams after meteorological station installation;
- vi. Station visits and observations by National Monitoring Teams;
- vii. Discussions with the Provincial DMH staff;
- viii. Content analysis of publications in local and national media.

Component 2

- i. Periodic reports of DALaM and by PAFO and DAFO in case locally based adaptation strategies are selected;
- ii. Semi-annual and annual reports of project implementation using approved formats;
- iii. Annual review of the outputs and possible outcomes;
- iv. Project Steering Committee meeting at half yearly intervals;
- v. Discussions with the PAFO and DAFO in case locally based adaptation strategies are selected;
- vi. Content analysis of publications in local and national media.

Component 3

- i. Periodic reports of DMH, DALaM and district level staffs PAFO and DAFO;
- ii. Semi-annual and annual reports of project implementation using approved formats;
- iii. Annual review of the outputs and possible outcomes;
- iv. National level progress review by DALaM, Ministry of Agriculture and Forestry and DMH, Ministry of Natural Resource and Environment
- v. Project Steering Committee meeting in half yearly interval;
- vi. Field visits and observations by National Monitoring Teams;
- vii. Progress review at the provincial and district level meetings of Provincial Agriculture and Forestry Office, District Agriculture and Forestry Office, Provincial DMH stations
- viii. Field visits and observations by the District Technical Teams;
- ix. Discussions with the farmers groups;
- x. Content analysis of publications in local and national media.

Further, the monitoring by the FAO Regional Office, GCU and GEF Secretariat will be based on the major three reports as follows.

- i. **Project Inception Report:** Project inception report has been developed by the Project Management Unit (PMU) and revised and approved by the Lead Technical Officer (LTO) and the GEF Coordination Unit (GCU) in consultation with the BH. The Inception Report is a key reference document and it is shared with government counterpart to formalize various agreements and plans decided during the inception phase and the inception workshop. It also includes a detailed AWP/B for the year 2018 along with a detailed project monitoring and reporting plan.
- ii. **Bi-annual Project Progress Reports (PPR):** The PPRs will be prepared based on the systematic monitoring of output and outcome indicators identified in the project's results framework (available in Appendix I). The purpose of the PPR is to identify constraints, problems or bottlenecks that impede timely implementation and to take appropriate remedial actions. In consultation with the National Project Director (NPD), the PMU will prepare semi-annual PPRs and submit them to the BH in a timely manner. Each PPR will be submitted by the BH to the LTO for review on a no-objection basis. In the event of LTO/GCU comments, the PMU will incorporate them and the revised PPR will be re-submitted to the LTO for final endorsement prior to final approval by the Government, uploading in FPMIS and sharing with stakeholders. A format for PPR is available in Appendix II.
- iii. **Annual Project Implementation Review (PIR):** The PMU will prepare the annual PIR covering the period July (the previous year) through June (current year) for a complete year. The draft PIR will then be reviewed by the LTO and subsequently submitted by the BH to the GCU for review and approval no later than 10 September each year. The GCU will upload the final report on FPMIS and submit it to the GEF Secretariat and Evaluation Office as part of the Annual Monitoring Review report of the FAO-GEF portfolio. The GCU will provide the updated format when the first PIR is due.

Table 1
Detailed project monitoring plan (considering activities startup in June 2017 as per first expenditure)

	M&E Activity	Responsible Parties	Time frame	Deadline for reporting
1	Inception Workshop	PMU, supported by the NPD.	September 2017	November 2017
2	Project Progress Report (PPR)	PMU, with inputs from NPD and other partners.	PPR1: December 2017 to June 2018 PPR2: July 2018 to December 2018 PPR3: January 2018 to June 2019 PPR4: July 2019 to December 2019 PPR5: January 2019 to June 2020 PPR6: July 2020 to December 2020 PPR7: January 2020 to June 2021	July 2018 January 2019 July 2019 January 2020 July 2020 January 2021 July 2021
3	Project Implementation Report (PIR)	PMU and BH, with inputs from NPD and other partners, supported by the LTO and cleared and submitted by the GCU to the GEF Secretariat.	July 2017 to June 2018 July 2018 to June 2019 July 2019 to June 2020 July 2020 to June 2021	July 2018 July 2019 July 2020 July 2021
4	Monitoring by the Regional Directorates of DPCs/DOIs/DOFs and DoPCs	Regional Directorates in close collaboration with concerned DPCs/DOIs/DOFs and DoPCs. PMU will coordinate the monitoring in collaboration with the technical experts since the setup of FFS starts.	December 2018 June and December 2019 June and December 2020 <i>this is only relevant for comp 1, Output 1.1.1 for the installation and rehabilitation of weather stations and comp 3, Output 3.1.1. for the functionality of climate services adopted in collaboration with CAWA FFS)</i>	To be requested within a month of field visit
5	PSC meeting	PSC members and NPD.	Twice in a year	Jan/Feb and Jun/Jul each year (tentative)
6	Annual planning meetings	PMU, supported by the LTO and BH.	Inception Workshop (IW) Annual Planning Meeting 1 Annual Planning Meeting 2 Annual Planning Meeting 3	Sept 2017 (IW) June/July 2018 June/July 2019 June/July 2020
7	Supervision visits and rating of progress in PPRs and PIRs	LTO, other participating units.	Annual	To be decided as per need
9	Impact studies	Impact studies.	End of the third year	June-July 2020
10	Final project workshop	PMU, supported by the LTO and BH		April 2021

Table 1 In addition to the above periodic reports, technical reports will be prepared as part of project outputs and end of assignment reports documenting outputs and lessons learnt by consultants and contracted entities. Upon completion of the missions, consultants will submit reports to FAO. These will be shared with the LTO for review and clearance. Such reports will be shared with the government after receiving and technical clearance from the LTO, as appropriate. Regular meeting minutes will be prepared by the PMU and forwarded to the FAO for record keeping and NPD for sharing in the PSC meetings, as required. During the project development, impact assessment studies will be conducted to support the final evaluation.

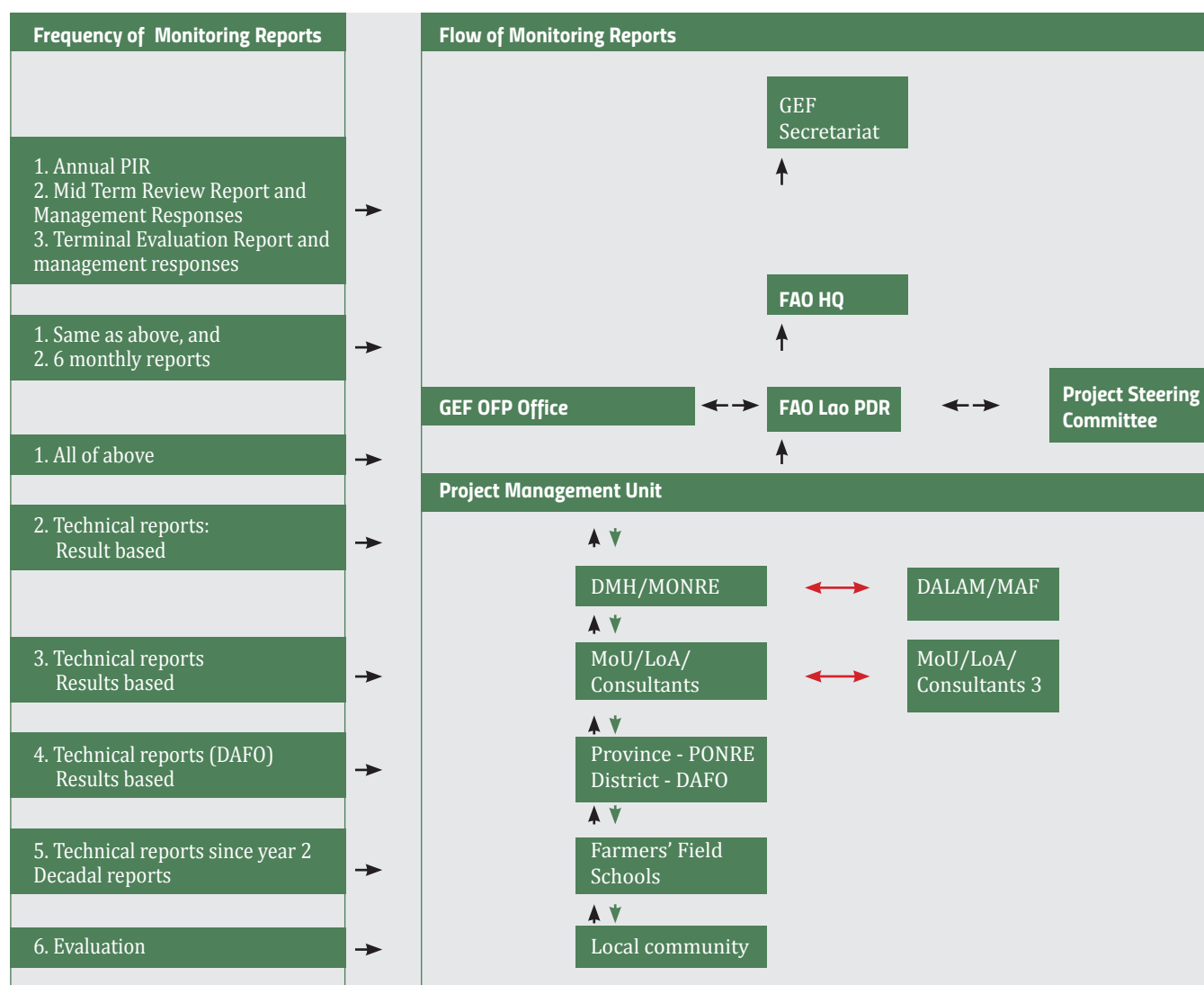


Figure 1 Flow of monitoring information

LEGEND

- ↔ Interchange between PSC, Internal FAO offices and the GEF
- Through approved reports
- ↔ Interchange between LRIMS and agro-meteorology activities (component 1 and 2)
- Through annual lessons learning and work planning workshops
 - Sharing of written reports between sites
 - Designing web or software application using and interchanging data
- ▼ Sharing data to Farmers' Field Schools and rest of the community
- Local level events and awareness raising
 - Radio



EVALUATION PLAN

5

The project impacts will be evaluated through the data generated from baseline survey (conducted during the PPG or using field data gathered by the Climate Adaptation in Wetland Areas - CAWA), midterm survey and end of the project evaluation. Preparation of a new baseline survey is not necessary. The midterm evaluation will be done after two years of project implementation. The end of the project evaluation will be done at the end of the project implementation. The information generated during the monitoring of the project performance will also be utilized in midterm and end of the term evaluation.

The impacts of the project implementation will entail an improved decision-making at local, decentralized and national level and assessing improved capacity for decision-making at policy, household and farmer levels will be a core concern of project evaluations.

5.1 Reports and reporting

Following the GEF policies and procedures, the AMAT tracking tool was submitted at the time of the CEO endorsement of the project document following the PPG baseline analysis. Given the data and information system related nature of the project, the AMAT was completed during the PPG and a new baseline assessment is not required. An updated report using the AMAT will be submitted at the time of project's mid-term evaluation; and with the Project's terminal report. At the mid-term and end, the tracking tools will be completed by the PMU in close consultation with the NPD.

The PMU will collect required information and report on in-kind and cash co-financing as indicated in the project document/CEO Request. This, together with technical project assessment, will constitute the mid-term evaluation report. The PMU will submit the report to the BH in a timely manner at the time of project's external mid-term evaluation and with the terminal report.

A draft Final Report will be submitted to BH within two months before the end date of the Execution Agreement, which upon finalization and sharing is expected to guide ministerial or senior government level on the policy decisions required for the follow-up of the project, and to provide the donor with information on how the funds were

utilized. The same report will also be submitted to the terminal evaluation external expert team. For that purpose, the Terminal Report will be a concise account of the main products, results, conclusions and recommendations of the project, without unnecessary background, narrative or technical details.

Reporting will be done as per the requirements of FAO and GEF. A summary of project monitoring reports, responsible agencies, time frame and deadline for submission is presented in Table 2 below.

Table 2

Summary of project monitoring and impact assessment reports, responsible agencies, time frame and deadline for submission (considering activities startup in Nov 2016 as per first expenditure)

	M&E Activity	Responsible Parties	Time frame	Deadline for reporting
1	Baseline survey for impact evaluation	PMU.	October to December 2017	December 2017. One missing data to be provided by the CAWA project
2	Adaptation Monitoring and Assessment Tool (AMAT)	Reported by PMU supported by the LTO and cleared and submitted by the GCU to the GEF Secretariat.	AMAT 1 AMAT 2 (formal to mid term review) AMAT 3 AMAT 4 (formal for final review)	June 2018 June 2019 June 2020 June 2021
3	Co-financing report	PMU, with inputs from NPD, and other partners. The project implementation report by PMU supported by the LTO and cleared and submitted by the GCU to the GEF Secretariat.	July 2017-June 2018 July 2018-June 2019 July 2019-June 2020 July 2020-May 2021	July 2018 July 2019 July 2020 July 2021
4	Mid-term review	External Consultant in consultation with the project team and other partners (includes survey of participating households, travel expenses and report writing)	First two years	June 2019
5	Impact studies	The long term sustainability of the project assessed through a study	End of the third year	June-July 2020)
6	Final evaluation	In addition a detailed ex-post analysis will be made based on the survey with the government entities for the planning and for the agro-advisory part and with participant households for the agro-meteorology field advisory level	Entire project period	September to December 2020
7	Terminal Report	LTO, TCSR Report Unit	Entire project period	January to April 2021
8	Independent Terminal evaluation	FAO Evaluation Unit	Entire project period	November to December 2021

Table 2 A final Project review meeting will be organized to discuss the draft Terminal Report before it is finalized by the PMU and approved by the FAO LTO and the GCU. Final sharing workshop will be organized just before termination of the project to share the project results to a wide range of stakeholders. Project achievements will be evaluated after two years of project execution during the midterm review (planned in June 2019), and at the end of the project through an independent final evaluation (to be organized since September 2020 and finalized by end of the project).

5.2 Baseline data and methods

Baseline information for the project was prepared largely during the PPG phase of the project. Information compiled included secondary, qualitative and quantitative data and information provided by the project partners in a number of consultations. Baseline information for Component 1 and 2 included an account of existing information systems, available geospatial data, existing policies, etc. - specifically:

- i.* Secondary documentation: Documents from government offices like MAF, MONRE, DMH, DALaM outreach/research stations and hydro-meteorological observatories on data and required literature and other official documents relating to project activities. Most of this information was available at the end of the PPG.
- ii.* Quantitative data: The number of geospatial or agrometeorological computer terminals, information systems, servers and telecommunication systems and experts trained abroad or in other projects. The number of PC stations in has been reassessed by visiting the relevant offices.

Also, number of local level stakeholder has been assessed. In fact, a part of the project include field activities related to consultation with farmers and local decision makers and with the undertaking of FFS. For these activities, the majority of the data will be available within the CAWA project by the end of the year 2017. In case some of the data is not available, the baseline assessment will triangulate information gathered during the quantitative and qualitative research, with reflections on how the findings relate to the secondary documentation.

5.3 Impact assessment methods

The impact assessment will be done using difference-in-differences (DID) method. The baseline, mid-term and end-term survey data for the project households and control households will be compared to find out DID estimates for the major quantitative outcomes. The quantitative estimates will be supplemented by participatory methods allow the farmers groups to identify changes resulting from the adaptation project. It will also help to look distributional effects through who has benefited from the project activities and who has not. This method also helps us to identify the strengths and weaknesses of the projects for future intervention, replication and up-scaling. Impact monitoring indicators will be used for mid-term and end-term evaluations of the project outcomes (Table 3).

Table 3
Impact indicators

Project Component	Impact indicator	Baseline	Means of verifications
1. Strengthening agro-climatic monitoring, analysis, communication and use of data and information for decision making in agriculture and food security	A fully renewed CAgMD within DMH functioning with clear roles and responsibility <i>AMAT 2.1.1 Relevant threat information disseminated to stakeholders on a timely basis</i>	Very old systems and no climate and meteorological services to meet the needs of farmers <i>0.No dissemination</i>	A fully renewed CAgMD connected with all AWS and database and functioning after completion of the project <i>Reports on systems functionality</i>
	Improved and new climate and agro-meteorology products available with users <i>AMAT 2.1.1 Number/type targeted institutions with increased adaptive capacity</i>	No system in place to communicate and receive feedback from users <i>0</i>	System in place and printed Operating Procedures and guidebooks applied (report) <i>1 Agriculture, 1 Environmental, 1 Meteorology and 1 Telecommunication institution trained and their capacity improved</i>
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)	Number of information systems available <i>AMAT 2.1.1 Relevant threat information disseminated to stakeholders on a timely basis (Yes/No)</i> <i>AMAT 3.2.1 Policy environment and regulatory framework for adaptation-related technology transfer established or strengthened</i> <i>MAF/ DALaM staff trained to maintain and provide or apply LRIMS/ NAEZ information (gender disaggregated)</i> <i>AMAT 2.2.1 Number/type targeted institutions with increased adaptive capacity</i>	Several scattered information system based on partners activities, no dedicated information systems for the comprehensive structure of the MAF and for agriculture MAF ICT Strategy in place <i>No</i> <i>No</i> <i>0 female/male Some DALaM senior staff knows the AEZ theoretical concepts</i> <i>0</i>	Infrastructure and information systems in place in place <i>Infrastructure and information systems functioning and timely appropriate (functionality report)</i> <i>4 policies, plans or by-laws proposed to competent authority</i> <i>Training reports for 100 staff (30 female; 70 male)</i> <i>2 Agriculture, 1 Environmental and 1 Planning institutions trained and their capacity improved</i>

Table 3
Impact indicators

Project Component	Impact indicator	Baseline	Means of verifications
3. Knowledge management and dissemination of information and lessons learned for local application, planning, monitoring and evaluation	AMAT 3.2.2 Strengthened capacity to transfer appropriate adaptation technologies, disaggregated by gender (Score)	No capacity	Local level interviews/FFS reports demonstrates a 50/75% improvement of capacity
	<i>AMAT 2.2.1 No. and type of targeted institutions with increased adaptive capacity to reduce risks of and response to climate variability [to be summed up with outcomes 1.2 and 2.2]</i>	0	<i>1 Planning and 1 Research institutions trained and their capacity improved</i>
	<i>Framework for knowledge-sharing and packaging of lessons learned and experiences developed/ improved</i>	<i>Obsolete or no sharing and dissemination of knowledge and information platform available</i>	<i>Knowledge exchange portal that supports information exchange at both local and national levels operational</i>
	<i>AMAT 2.1.1 Relevant threat information disseminated to stakeholders on a timely basis (Yes/No)</i>	No	<i>Climate advisories disseminated to relevant stakeholders on a timely basis</i>

Table 3 At this stage it is not considered practical to specify TORs for the mid-term and end-term evaluation staff. These TORs will be developed in the due course of project implementation.

In addition, and in order to facilitate the terminal evaluation activities, project impact will be analysed, in term of sustainability, financial risk and governance risks through studies that will involve the main project stakeholders at national and decentralized level. The TORs for such studies will also be developed in the due course of project implementation.



CONCLUSIONS

6

The project monitoring and evaluation is based on the project document and indicators in the results framework as well as the AMAT tracking tool. Project performance evaluation requires the monitoring of activities and outputs which is closely related with project execution and planned activities versus achievement. Project impact is assessed through the estimation of outcome targets and through specific and timely assessments, including baseline studies, midterm evaluation and final evaluation. The project baseline information will serve as a basis for monitoring and eventually for impact assessment at project midterm and endterm. The project monitoring and evaluation approach will also facilitate learning and mainstreaming of project outcomes and lessons learned into good practices as well as national and local policies, plans and improved decision making.

APPENDIX 1 | TARGET INDICATORS BY PROJECT COMPONENTS

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	Preparation and planning for establishment of systems	Delivery of facilities and infrastructure	Capacity development 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
	AMAT Indicator 2.1.1 Relevant threat information disseminated to stakeholders on a timely basis (Yes/No)	0.No	-	15 new 15 rehab	-	2.Yes	2.Yes	Reports on systems functionality	
Output 1.1.1: Agro-meteorological station networks improved/ rehabilitated with both conventional and automatic weather stations to increase coverage in the major agricultural production areas	Number of new automated agro-meteorological stations and rehabilitated manual stations	0	-	15 new 15 rehab	-	-	30 systems (a total of 51 stations overall in combination with other baseline projects)	Stations functional, with data effectively transmitted	Sufficient and updated staff capacities
	Indicator 2.1.2.1 Type and no. of monitoring systems in place (Type and No.)			15 new 15 rehab			30 local systems	Stations functional, with data effectively transmitted	
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	All manual stations and no real-time data transfer and use for weather forecasts	-	15	-	-	All 15 (total 51) stations connected to EWS centre and receive real-time data	Use of data from AWS for weather forecasts	DMH enter into MOU with telephone services to enhance connectivity and all sensors are working properly
	Formal collaboration with Ministry of Post and Telecommunications	No formal collaboration with the Ministry of telecom and private communication service providers	-	2	-	-	At least 2 MOUs signed by DMH to facilitate communications	Printed and signed copies of the MOU	

Expected Outputs	Indicators	Baseline	Annual milestones				End project target	Means of verification	Assumptions
			Year 1	Year 2	Year 3	Year 4			
Output 1.1.3: Laboratory for agro-meteorological analysis, instrumental calibration and geospatial climate data access, monitoring, processing facilities established and functional at DMH, Vientiane.	Rehabilitated 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	1	-	-	-	New office facility running within DMH (Climate and Agro-meteorological 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)
	A climate data analysis access and analysis facility with necessary hardware and software	0 (only 1 pc available with the climate and agro-meteorological division for storing all data, 6 desktops for data entry)	-	15 local agromet stations and 10 CAgMD work location in use	5 nodes for the data entry personnel and connection to EWS	-	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 and information 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 weather forecast system, no agromet forecast	-	3 new products	-	-	3 new (7 total) 1 seasonal, 1 month (including frost), and 1 decadal forecast	New products with improved agromet and agromet information	
	AMAT Indicator 2.1.2.1 Type and No. of monitoring systems in place	4	-	3	-	-	3 new (7 total) 1 seasonal, 1 month (including frost), and 1 decadal forecast	New products with improved agromet 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)	System in place and printed Operating Procedures and guidebooks applied	The DMH is adopting the SOPs and guidebooks and nominates relevant staff for the training
	AMAT Indicator 2.2.1. No. of targeted institutions with increased adaptive capacity to reduce risks of and response to climate variability (Number) [to be summed up with outcomes 2.2 and 3.1]	0	-	-	4	-	1 Agriculture 1 Environment 1 Meteorology 1 Telecommunication (Staff trained and capacity improved)	Staff are capable to follow Standard Operating Procedures and produce agro-meteo services	

Expected Outputs	Indicators	Baseline	Annual milestones				End project target	Means of verification	Assumptions
			Year 1	Year 2	Year 3	Year 4			
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	-	-	A SOP for Climatology and Agro-meteorology 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 (agronomic data collection, synoptic observation manual, weather observation data input, and weather observation data handbook)	-	1 new 1 updated	1 new 2 updated	1 new 1 updated	At least 4 guidelines updated and 3 new guidelines (seasonal forecast, monthly forecast, and crop season decadal agro-meteorology bulletins) developed and printed	Printed guidelines available and distributed to all staff at different levels	
	Number of staff trained	No regular trainings within DMH, some project training on hydrometeorology or meteorology but not in agro-meteorology	-	20	45	-	At least 65 technical staff trained (at least 25 women)	Trained staff capable of using and applying the guidelines	
	AMAT Indicator 2.2.1.1 No. of staff trained on technical adaptation themes (disaggregated by gender) [to be summed up with outcomes 2.2 and 3.1]		-	20	45	-	65	Trained staff capable of using and applying 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: Developing packages relevant to climatology and agro-meteorology, communication and application of climate and agrometeorological information by users	Training need assessment		1	-	-	-	1 needs assessment undertaken	Training needs assessment and training reports available	DMH takes ownership of all training activities and allows the staff to attend the trainings
	Number of trainings organized and integrated into DMH's regular activities	No formal training programmes, 1 university Msc in agro-meteo ongoing, but no DMH staff participating	1	3	2	2	At least 4 formal training programmes organized	Printed training manuals	
	Number of staff trained in each of the training programmes	About 50 staff trained through national and international sponsored events every year	20	40	20	20	At least 100 technical staff out of 205 trained (at least 30/40% women)	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 training manuals prepared and printed	No Lao specific training manuals available	0	3	1	0	At least 4 Lao specific training manuals	Manuals printed	
	Number of print and media staff trained	No training to print and media staff	-	25	25	-	At least 50 print and media reporters trained	Training logs, presentations available	
	Number of staff at inter-ministerial level trained	No training on use of climate information for policy integration	-	25	25	-	At least 50 national personnel trained	Training logs, presentations available	
	Number of MAF staff trained on forecast application	No of staff trained	-	3	3	2	8 staff trained	Training logs, presentations available	
	<i>For the entire output 1.1.2. : AMAT Indicator 2.2.1.1 No. of staff trained on technical adaptation themes (disaggregated by gender) [to be summed up with outcomes 2.2 and 3.1]</i>	No application trainings	-	80	80	40	<i>In total, at least 200 MAF staff trained on forecast application (50 ToT at national, 150 provincial, and district; at least 80 women)</i>	<i>Training logs, presentations available</i>	

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 Systems At Risk (SAR) developed based on agricultural resources (climate, land, soil, water and crops)	Number of information systems available	Several scattered information system based on partners activities, no dedicated information systems for the comprehensive structure of the MAF and for agriculture MAF ICT Strategy in place <i>0 = No</i>	Assessment and scoping	Design and development phase	Implementation 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 sustainable basis
	<i>Indicator 2.1.1 Relevant threat information disseminated to stakeholders on a timely basis (Yes/No)</i>	<i>1 = No policy</i>				<i>1 = Yes</i>	<i>1 = Yes</i>	Infrastructure and information systems functioning	
	<i>Indicator 3.2.1 Policy environment and regulatory framework for adaptation-related technology transfer established or strengthened (Score)</i>					<i>2= Discussed and formally proposed</i>	<i>2= Discussed and formally proposed</i>	<i>Policy/Plan/By law discussed and formally proposed to competent authority</i>	
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	No dedicated system available with DALAM	Feasibility	Data collection and synthesis	Analysis and development	Evaluation of LRIMS system	LRIMS for Lao PDR available	New systems in operation	DALAM has the mandate and sufficient staff to constantly update and maintain the system
	Number of customized application software delivered	No customized application software available	-	-	At least 2 customized software	Testing of the software packages	At least 2 customized applications / software delivered	LRIMS installed and working	

Expected Outputs	Indicators	Baseline	Annual milestones				End project target	Means of verification	Assumptions
			Year 1	Year 2	Year 3	Year 4			
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	Data available in paper form and fragmented within MAF	Digitalization of data sets (<i>if required</i>)	Integration of data into the information systems	Testing and evaluative	Refining	At least 5 major categories of data integrated into the database	Database with retrieval facility	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
	National AEZ developed and available for use	No AEZ methodology adopted at national level for multiple cropping systems, only small area are covered, or main crops only are covered (multiple rice systems, maize, rubber, cassava, sugarcane), or low resolution is used.	0 (model-parameterization through local and national level activities)	0 (analysis)	1 (model synthesis & integration)	0 (evaluation)	National AEZ methodology adopted and used	Functional NAEZ used as a decision support system	
	Data and information portal hosted by relevant institution	GIS unit exists but online spatial information system is not available with DALaM	-	1 exists and is online	-	1 is hosted by relevant institution	1 spatial information system functioning and accessible	Functional spatial information system and relevant knowledge products	

Expected Outputs	Indicators	Baseline	Annual milestones				End project target	Means of verification	Assumptions
			Year 1	Year 2	Year 3	Year 4			
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	Agro-ecological zoning did not consider a comprehensive national assessment using national data	Analysis for development of agro-ecological zones	Development of impact scenarios	Validation of agro-ecological zones data and information	Delivery of information products	Impact scenarios available for at least 7 major production zones prioritized by MAF	Database on impact scenarios	Relevant agency within MAF is capable of maintaining the scenarios and relevant database
	Number of policy/planning processes used the climate change impact scenarios	Low resolution scenarios are being used for NAPA, National Communication and relevant land suitability classifications	-	2	1	1	4 new scenarios used for 3 rd national communication or other relevant national and local documents	Documents referring to the scenarios produced from the project	Policy and planning processes actively seek to have new scenarios
	<i>AMAT Indicator 3.2.2.1 No. of policies developed or strengthened</i>	Some project is producing high resolution datasets	-	2	1	1	<i>Scenarios included in Policies/Plans/By laws and proposed to competent authority</i>		
	Number of vulnerability and risk analysis and reports that use LRIMS and NAEZ information	Currently available risk and vulnerability products are with low resolution, not updated, too generalized or not harmonized with the full set of agricultural data available. One national vulnerability assessment produced by international partners might serve as input	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 by the project	
	<i>AMAT Indicator 2.1.1.1 Updated risk and vulnerability assessment</i>					1	1 Vulnerability assessment	SAVA report and maps	
	<i>AMAT Indicator 2.1.1.2 Risk and vulnerability assessment conducted</i>					1	1 Risk and vulnerability assessment	Systems at Risk (SaR) report and maps	

Expected Outputs	Indicators	Baseline	Annual milestones				End project target	Means of verification	Assumptions
			Year 1	Year 2	Year 3	Year 4			
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 Some DALaM senior staff know the AEZ theoretical concepts	-	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
	AMAT Indicator 2.2.1 No. and type of targeted institutions with increased adaptive capacity to reduce risks of and response to climate variability [to be summed up with outcomes 1.2 and 3.1]	0		4			2 Agriculture 1 Environment 1 Planning (staff trained and capacity improved)	MAF, research and telecommunication trained (10 institutions total)	
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 and undertaking 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	
	AMAT Indicator 2.2.1.1 No. of staff trained on technical adaptation themes (disaggregated by gender) [to be summed up with outcomes 1.2 and 3.1]		-	25	25	-	50	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			
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 agriculture development policies and plans	Number of relevant adaptation strategies identified and documented	Individual adaptation practices are identified and demonstrated	-	10	10	5	25	A document of adaptation strategies prepared	The policy process actively seek new strategies considering food and nutrition security
	Number of MAF staff trained on new/innovative adaptation strategies	Staff trained depending on their role in projects (project based training)	-	25	25	-	At least 50 national level MAF staff trained to integrate new information into at least 4 major agricultural policies and plans (at least 40% of participants are women)	Training reports of MAF	
	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	Policies / plans by laws include scenarios or new adaptation strategies	
	AMAT Indicator 2.2.1.1 <i>No. of staff trained on technical adaptation themes (disaggregated by gender) [to be summed up with outcomes 1.2 and 3.1]</i>		-	25	25	-	50	Training reports of MAF	

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	Indicator 3.2.2 Strengthened capacity to transfer appropriate adaptation technologies, disaggregated by gender (Score)	1 = No capacity	-	-	-	2	2 = Moderate capacity (50-75%)	Local level interviews	Institutions have relevant information and knowledge for local application, agriculture and food security planning and programming
	AMAT Indicator 2.2.1 No. and type of targeted institutions with increased adaptive capacity to reduce risks of and response to climate variability [to be summed up with outcomes 1.2 and 2.2]	0	-	-	-	2	1 Planning 1 Research (staff trained and capacity improved)	Staff of DMH, MAF, research and telecommunication trained (10 institutions total)	
	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	
	AMAT Indicator 2.1.1 Relevant threat information disseminated to stakeholders on a timely basis (Yes/No)	0 = No	-	-	-	1 = Yes	1 = Yes	Climate advisory local level dissemination functional	

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, NAFRI works with dynamic crop calendars in 7 villages	-	6	7	7	20 FFS with climate component implemented	FFS facilitation records maintained at district level	Close collaboration with CAWA established and part of the cost of implementing FFS budgeted in CAWA project
	At local level, number of people that has increased knowledge of CC at local level through the piloting of information	Number of farmers aware of climate change adaptation technologies and information system (to be assessed with CAWA)	0	400	480	400	1280	Training records	CAWA completes vulnerability assessment and start its adaptation to climate change with the community
	<i>AMAT Indicator 3.2.1.1 No. of individuals trained in adaptation-related technologies</i>	0	0	400	480	400	1280	Training records	
	Number of facilitators trained (gender disaggregated)	0	-	20 total 50% female 50% male	20 total 50% female 50% male	-	40 total 50% female 50% male	Training records	Extension from central and from province gained knowledge as a facilitator from FFS Provincial and community radio station keep receive information from DMH and release new regularly
	<i>AMAT Indicator 2.2.1.1 No. of staff trained on technical adaptation themes (disaggregated by gender) [to be summed up with outcomes 1.2 and 2.2]</i>	-	-	20	20	-	40		
	Number of FFS climate forecast curricula available for up-scaling	No FFS curriculum following regularly the entire cropping season and providing climate information available. 1 Save & Grow curricula available for rice	-	1	-	-	One FFS curriculum with climate forecast information and relevant adaptation practices developed and tested	New curriculum available and printed	
	Package of lessons learned		-	-	1		1 Package	Lessons learned recorded and disseminated	
	<i>Output 2.1.2.1: Systems in place to disseminate timely risk information</i>	0	-	-	10		10	FFS records	

Expected Outcomes/outputs	Indicators	Baseline	Annual milestones				End project target	Means of verification	Assumptions
			Year 1	Year 2	Year 3	Year 4			
Output 3.1.2: 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	Some on-going/past project already capture the linkage of climate info services and land resources information systems, but there is no harmonization on the results up taking to the planning	4	6	6	3	At least 19 knowledge sharing workshops organized and information sharing meetings conducted	Workshop and meeting reports	MONRE/MAF allows for free exchange of data and information and have relevant information and knowledge for local application
	Number of training materials, products, guidelines, books, handbooks, flyers, web-sites, phone application, radio, TV, awareness raising event/activities with community	There are limited products and publications available. Previous GEF project has produced training materials that are available online	-	6 training and other material-website	5 training and other materials, publications, maps, app	5 training and other materials, publications, maps, guide-lines	At least 16 publications printed and available for distribution	Maps, databases, analysis, training materials, publications, guidelines, etc available and disseminated to all relevant institutions and agencies.	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)	Departments of Planning and Cooperation, Inspection, Finance monitors MONRE activities	1	2	2	1	At least 6 events organized	Workshop and meeting reports	Departments of Planning and Cooperation, Inspection, Finance is available to monitor activities using project budget
	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	

» APPENDIX 2 | **FORMAT FOR PPR**

Funding source

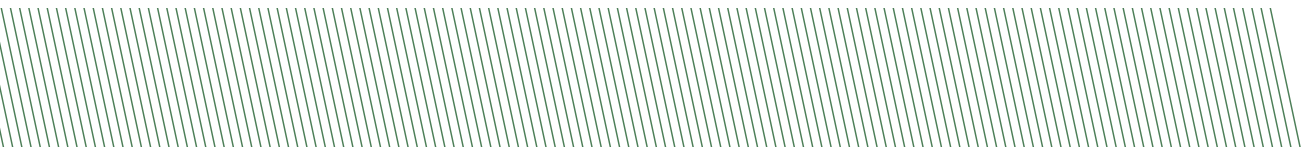
Project symbol

Project Title

Reporting period

Supervision missions/visits carried out during the reporting period

A.1 Progress and Output	risks identified (narrative description)	blems or risk encountered
A.2 Progress in reaching target indicators as established in the project Results Framework	C.2 Actions taken to address any project shortcomings, problems or risk encountered	D. Work plan and expected output targets for the next reporting period
B Inputs	C.3 Actions planned to address any project shortcomings, prob-	E. Reports
C.1 Problems encountered and		F. Attachments



APPENDIX 3 | **FORMAT FOR PIR**

1. Basic Project Data

- General Information
- Milestone Dates
- Funding
- Review and evaluation
- Rating
- Status
- Project contacts
- Project Summary (as in ProDoc – no more than 1 page)

2. Project objectives

- State the development and global environment objectives of the project
- Please provide a narrative of progress made towards meeting the project objective(s). Describe any significant results at the objective and outcome level attributable to project implementation. Also, please discuss any major challenges to meet the objectives or specific project outcomes (not more than 300 words)
- Please provide a narrative of progress towards the stated GEF Strategic Priorities and Targets. (not more than 200 words)

3. Progress towards achieving project objectives

- Project objective and Outcomes
- Description of indicator
- Baseline level Mid-term target
- End-of-project target
- Level as of the end of the reporting period
- Progress rating
- Global Environment Objective/Development Objective Ratings:
 - Rating of Project Progress towards Meeting Objective
 - Overall rating of project progress towards meeting project objective(s)

Action plan to address MS, MU, U and HU rating. (To be completed by Lead Technical Unit/Budget Holder)

4. Progress in Generating Project Outputs during Implementation

- Outputs, indicator and targets
- Expected completion date
- Implementation status as of end of the reporting period (%)
- Comments if variance
- Describe any problems in delivering outputs
- Implementation Progress rating
- Implementation Progress Ratings

Overall project implementation progress (To be completed by the GEF Coordination Unit)

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