**Terminal Evaluation Terms of Reference**

**reducing climate change-induced risks and vulnerabilities from glacial lake outburst floods in the punakha, wangdue and chamkhar valleys (full sized project)**

**Project/Award no.:** **00059841/ 00049210**

INTRODUCTION

In accordance with UNDP and GEF M&E policies and procedures, all full and medium-sized UNDP support GEF financed projects are required to undergo a terminal evaluation upon completion of implementation. These terms of reference (TOR) sets out the expectations for a Terminal Evaluation (TE) of the project ‘Reducing climate change-induced risks and vulnerabilities from Glacial Lake Outburst Floods (GLOF) in the Punakha, Wangdue and Chamkhar Valleys” (PIMS 3722).The essentials of the project to be evaluated are as follows:

Project Summary Table

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Project Title: |  | | | | | |
| GEF Project ID: | | **00059841** |  | *at endorsement (Million US$)* | | *As of 30th June 2013 (US$)* |
| UNDP Project ID: | | 48573 | GEF financing: | 3,445,050 | | 3,387,938.26 |
| Country: | | Bhutan | IA/EA own: |  | |  |
| Region: | | Asia-Pacific | Government: | 2,680,000 | | 2,755,921 |
| Focal Area: | | Disaster Risk Management | Other:  (PHPA Hydro)  ADA  WWF | 3,67,000  8,00,000  30,000 | | 2,99,099  6,13,539  30,000 |
| FA Objectives, (OP/SP): | | Disaster Reduction | Total co-financing: | 3,906,224 | | 3,934,471 |
| Executing Agency: | | DGM(MoEA)  DHMS (MoEA)  DDM (MoHCA) | Total Project Cost: | 7,351,274 | | 7,322,409.26 |
| Other Partners involved: | | * Austrian Development Agency (ADA) * WWF * PHPA (Hydro power-Bhutan) | ProDoc Signature (date project began): | | | 8 Apr 2008 |
| (Operational) Closing Date:31 Dec 2013 | | Proposed:  31 Dec 2013 | Actual:  - |

Objective and Scope

The Full Sized Project (FSP) on “Reducing Climate Change-induced Risks and Vulnerabilities from Glacial Lake Outburst Floods in the Punakha, Wangdue and Chamkhar Valleys” is a Global Environment Facility (GEF) funded Project through the United Nations Development Program (UNDP). The Project is implemented by the Ministry of Economic Affairs through Department of Geology and Mines and Department of Hydro-met Services, and Ministry of Home and Cultural Affairs through Department of Disaster Management. The Project duration has been extended till the end of December 2013. The Project Board consisting of senior level officials from government agencies and UNDP CO provides overall guidance for project implementation. The project duration is from June 2008 till Dec 2013.

Climate change is contributing to increased melting of glaciers and the formation of glacial lakes in Bhutan. Recent studies suggest rates of glacial retreat in the Himalayas as high as 30 to 60 metres per decade, and the melting of glaciers leading to alarming volumes of water in downstream glacial lakes. Increased temperature also causes melting of ice-cored moraine dams to the point that the ridges can no longer resist the pressure. The concern is that when the current holding capacity of the lakes reaches a critical threshold, loose glacial debris that act as dams or barriers could fail and lead to flash floods that result in severe adverse impacts on downstream communities.

This project supports the UNDP’s global objective for Thematic Area 4 on Disaster Risk Management within the *Monitoring and Evaluation Framework for Adaptation to Climate Change*[[1]](#footnote-1): “Enhanced resilience of settlements, infrastructure, and landscapes to increases in the frequency of climatic extremes, focusing on the reduction of risk associated with increasingly frequent extreme rainfall events and their impacts, through planning, land management, and vulnerability reduction.” It also supports MDG Goal 8, Target 14: “Address the special needs of landlocked countries and small island developing States” and MDG 1: “Eradicate Extreme Poverty and Hunger”.

An inventory of glaciers, glacial lakes, and glacial lake outburst floods (GLOFs) in Bhutan, prepared by a team of Bhutanese and foreign experts in 2001, identified 677 glaciers and 2,674 glacial lakes. The study also revealed a total of 24 glacial lakes posing potentially high risk for GLOFs. Eight of these 24 lakes are located in the Pho Chhu Sub Basin and three are located in the Chamkhar Chhu Sub Basin. An update of the UNEP/ICIMOD GLOF inventory in 2007, shows that the number of high-risk glacial lakes has increased to 25, and the team identified 983 glaciers and 2,794 glacial lakes.This is in line with findings in the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report that climate change is contributing to glacier melt.

One of the glacier lakes currently facing a high risk of outburst flooding is Thorthormi lake in Bhutan’s northern Lunana area. Thorthormi glacier had no supraglacial ponds on it during the 1950s but now there are numerous supra-glacial ponds, which are enlarging and becoming interconnected. The Thorthormi glacier is therefore considered as one of the most critical growing glacial lakes with GLOF threat in the near future. The area measured 1.28 km2 in 2001 from satellite image (Geocover) and still it is observed to be steadily growing in size. Thus the assemblage of supraglacial lakes, which lie on Thorthormi glacier, has made it one of the most dangerous lakes in Bhutan.

**Goal**

The **goal** of the project is to enhance adaptive capacity to prevent climate change-induced GLOF disasters in Bhutan.

**Objective:**

The **objective** of the project is to reduce climate change-induced risks of Glacial Lake Outburst Floods (GLOFs) in the Punakha-Wangdi and Chamkhar Valleys.

**Outcomes and Outputs:**

The Project has four outcomes as indicated below:

**OUTCOME 1: Improved national, regional, and local capacities to prevent climate change-induced GLOF disasters in the Punakha-Wangdi and Chamkhar Valleys**

Output 1.1 Climate-resilient DRM legislation, policy frameworks, and sectoral plans

Output 1.2 Capacities for climate risk planning strengthened at the district (Dzongkhag)

Administrative level

Output 1.3 Information on climate hazards and vulnerabilities (with a focus on GLOFs) in

Bhutan systematically captured, updated, and synthesized

Output 1.4 Vulnerable communities are aware of, and prepared for, climate-related disasters

**OUTCOME 2: Reduced risks of GLOF from Thorthormi Lake through an artificial lake level management system**

Output 2.1 Engineering and safety plans for climate change risk reduction measures on Thorthormi Lake are in place

Output 2.2 Artificial lowering system of Thorthormi Lake waters implemented

Output 2.3 Water levels of Thorthormi Lake and status of artificial lowering system are regularly monitored and maintained

Output 2.4 Technical knowledge and lessons in the artificial lowering of glacier lake levels captured and documented for use in future projects

**OUTCOME 3: Reduced human and material losses in vulnerable communities in the Punakha-Wangdi Valley through GLOF early warnings**

Output 3.1 Technical components for a GLOF early warning system in the Punakha-Wangdi valley installed and operational

Output 3.2 Institutional arrangements in place to operate, test, and maintain the GLOF EWS

Output 3.3 Awareness of communities in the Punakha-Wangdi Valley on operation of the EWS

Output 3.4 Safe GLOF evacuation areas identified and publicized in each vulnerable community in the Punakha-Wangdi Valley

Output 3.5 Technical knowledge and lessons in the installation and operation of GLOF EWS captured and documented for use in future projects

**OUTCOME 4: Enhanced learning, evaluation and adaptive management**

Output 4.1 Project lessons captured in, and disseminated through, the Adaptation Learning Mechanism

Output 4.2 Project knowledge shared with other GLOF-prone countries

The TE will be conducted according to the guidance, rules and procedures established by UNDP and GEF as reflected in the UNDP Evaluation Guidance for GEF Financed Projects.

The objectives of the evaluation are to assess the achievement of project results, and to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming.

Evaluation approach and method

An overall approach and method[[2]](#footnote-2) for conducting project terminal evaluations of UNDP supported GEF financed projects have developed over time. The evaluator is expected to frame the evaluation effort using the criteria of **relevance, effectiveness, efficiency, sustainability, and impact,** as defined and explained in the UNDP Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed Projects. A set of questions covering each of these criteria have been drafted and are included with this TOR ([*Annex C*](#_TOR_Annex_C:)) The evaluator is expected to amend, complete and submit this matrix as part of an **evaluation inception report**, and shall include it as an annex to the final report.

The evaluation must provide evidence‐based information that is credible, reliable and useful. The evaluator is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, in particular the GEF operational focal point, UNDP Country Office, project team, UNDP GEF Technical Adviser based in the region and key stakeholders. The evaluator is expected to conduct a field mission to the project sites, including interviews with the organizations and individuals associated with the project (***location and list of project sites, and stakeholders included in the tentative programme***)*.*

The evaluator will review all relevant sources of information, such as the project document, project reports – including Annual APR/PIR, project budget revisions, midterm review, progress reports, GEF focal area tracking tools, project files, national strategic and legal documents, and any other materials that the evaluator considers useful for this evidence-based assessment. A list of documents that the project team will provide to the evaluator for review is included in [Annex B](#_TOR_Annex_B:) of this Terms of Reference.

Evaluation Criteria & Ratings

An assessment of project performance will be carried out, based against expectations set out in the Project Logical Framework/Results Framework ( [Annex A](#_TOR_Annex_A:)), which provides performance and impact indicators for project implementation along with their corresponding means of verification. The evaluation will at a minimum cover the criteria of: **relevance, effectiveness, efficiency, sustainability and impact.** Ratings must be provided on the following performance criteria. The completed table must be included in the evaluation executive summary. The obligatory rating scales are included in  [Annex D](#_TOR_Annex_D:).

|  |  |  |  |
| --- | --- | --- | --- |
| **Evaluation Ratings:** | | | |
| **1. Monitoring and Evaluation** | ***rating*** | **2. IA& EA Execution** | ***rating*** |
| M&E design at entry |  | Quality of UNDP Implementation |  |
| M&E Plan Implementation |  | Quality of Execution - Executing Agency |  |
| Overall quality of M&E |  | Overall quality of Implementation / Execution |  |
| **3. Assessment of Outcomes** | **rating** | **4. Sustainability** | **rating** |
| Relevance |  | Financial resources: |  |
| Effectiveness |  | Socio-political: |  |
| Efficiency |  | Institutional framework and governance: |  |
| Overall Project Outcome Rating |  | Environmental : |  |
|  |  | Overall likelihood of sustainability: |  |

Project finance / cofinance

The Evaluation will assess the key financial aspects of the project, including the extent of co-financing planned and realized. Project cost and funding data will be required, including annual expenditures. Variances between planned and actual expenditures will need to be assessed and explained. Results from recent financial audits, as available, should be taken into consideration. The evaluator(s) will receive assistance from the Country Office (CO) and Project Team to obtain financial data in order to complete the co-financing table below, which will be included in the terminal evaluation report.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Co-financing  (type/source) | UNDP own financing (mill. US$) | | Government  (mill. US$) | | Partner Agency  (mill. US$) | | Total  (mill. US$) | |
| Planned | Actual | Planned | Actual | Planned | Actual | Actual | Actual |
| Grants |  |  |  |  |  |  |  |  |
| Loans/Concessions |  |  |  |  |  |  |  |  |
| * In-kind support |  |  |  |  |  |  |  |  |
| * Other |  |  |  |  |  |  |  |  |
| Totals |  |  |  |  |  |  |  |  |

Mainstreaming

UNDP supported GEF financed projects are key components in UNDP country programming, as well as regional and global programmes. The evaluation will assess the extent to which the project was successfully mainstreamed with other UNDP priorities, including poverty alleviation, improved governance, the prevention and recovery from natural disasters, and gender.

Impact

The evaluators will assess the extent to which the project is achieving impacts or progressing towards the achievement of impacts. Key findings that should be brought out in the evaluations include whether the project has demonstrated: a) verifiable improvements in ecological status, b) verifiable reductions in stress on ecological systems, and/or c) demonstrated progress towards these impact achievements.[[3]](#footnote-3)

Conclusions, recommendations & lessons

The evaluation report must include a chapter providing a set of **conclusions**, **recommendations** and **lessons**.

Implementation arrangements

The principal responsibility for managing this evaluation resides with the UNDP CO in Bhutan. The UNDP CO will contract the evaluators and ensure the timely provision of per diems and travel arrangements within the country for the evaluation team. The Project Team will be responsible for liaising with the Evaluators team to set up stakeholder interviews, arrange field visits, coordinate with the Government etc.

Evaluation timeframe

The total duration of the evaluation will be 19 days according to the following plan:

|  |  |  |
| --- | --- | --- |
| **Activity** | Timing | Completion Date |
| **Preparation (Home based)**   1. **Desk review of documents;** 2. **Inception report** | 2 days | *2 November 2013* |
| 1. **Evaluation Mission including field visit and stakeholder consultation** | **9 days (3 days in the field and 6 days in Thimphu)** | *12 November 2013* |
| 1. **Preparation of final draft evaluation report complete with annexes as per the template** | 4 days | *26 November 2013* |
| 1. **Final evaluation report submission to UNDP** | 1day | *8 December 2013* |

Evaluation deliverables

The evaluation team is expected to deliver the following:

|  |  |  |  |
| --- | --- | --- | --- |
| Deliverable | Content | Timing | Responsibilities |
| **Inception Report** | Evaluator provides clarifications on timing and method | No later than 2 weeks before the evaluation mission. | Evaluator submits to UNDP CO |
| **Presentation** | Presentation of initial findings and 1st draft of the report | End of evaluation mission | To project management, UNDP CO |
| **Draft Final Report** | Full report, (per annexed template) with annexes | Within 2 weeks of the evaluation mission | Sent to CO, reviewed by RTA, PCU, GEF OFPs |
| **Final Report\*** | Revised report | Within 1 week of receiving UNDP comments on draft | Sent to CO for uploading to UNDP ERC. |

\*When submitting the final evaluation report, the evaluator is required also to provide an 'audit trail', detailing how all received comments have (and have not) been addressed in the final evaluation report.

Team Composition

The evaluation team will be composed of *one international and one national evaluator.* The consultants shall have prior experience in evaluating similar projects. Experience with GEF financed projects is an advantage. The international evaluator will lead the evaluation team and will be responsible for finalizing the report. The evaluators selected should not have participated in the project preparation and/or implementation and should not have conflict of interest with project related activities.

The International consultant must present the following qualification and professional experience:

1. The candidate should have at least Masters or higher degree in any relevant field and should have adequate experience in evaluation of GEF project. The candidate should be physically fit.
2. Professional background in environmental science, climate change adaptation and mitigation, disaster risk management or related fields with in-depth understanding of climate change impacts and disaster management. A minimum of 10 years of working experience is required;
3. Highly knowledgeable of participatory monitoring and evaluation processes, and experience in evaluation of technical assistance projects with major donor agencies; previous evaluation experience of UNDP-GEF projects is an advantage.
4. Previous experience with results‐based monitoring and evaluation methodologies.
5. Familiar with climate change adaptation projects in Asia-Pacific either through management and/or implementation or through consultancies in evaluation of climate change adaptation projects.
6. Demonstrated ability to assess complex situations succinctly, distills critical issues, and draw forward-looking conclusions and recommendations;
7. Ability and experience to lead multi-disciplinary and national teams, and deliver quality reports within the given time.
8. Writing and communication will be in English, and must have excellent communication skills in English. The consultant must bring his/her own computing equipment.

The national consultant must present the following qualification and professional experience:

1. The candidate should have at least Masters or higher degree in any relevant field and should have adequate experience in evaluation of GEF project. The candidate should be physically fit.
2. Professional background in environmental science, climate change adaptation and mitigation, disaster risk management or related fields with in-depth understanding of climate change impacts and disaster management with a minimum of 8 years of relevant experience;
3. Familiar with climate change adaptation projects in Asia-Pacific either through management and/or implementation or through consultancies in evaluation of climate change adaptation projects;
4. Proficient in writing and communicating both in English and Dzongkha. Ability to interpret for the international counterpart and also to translate necessary written documents to English.

Evaluator Ethics

Evaluation consultants will be held to the highest ethical standards and are required to sign a Code of Conduct (Annex E) upon acceptance of the assignment. UNDP evaluations are conducted in 8accordance with the principles outlined in the [UNEG 'Ethical Guidelines for Evaluations'](http://www.unevaluation.org/ethicalguidelines)

Payment modalities and specifications

|  |  |
| --- | --- |
| % | Milestone |
| *35%* | Following the presentation of the evaluation findings to the UNDP CO and the stakeholders at the end of the mission |
| *65%* | Following submission and approval (UNDP-CO and UNDP RTA) of the final terminal evaluation report |

Application process

Applicants are requested to apply online (http://jobs.undp.org) or by email to procurement at [procurement.bt@undp.org](mailto:procurement.bt@undp.org) by 31st October 2012. Individual consultants are invited to submit applications together with their CV for these positions. The application should contain a current and complete C.V. in English with indication of the e‐mail and phone contact. Shortlisted candidates will be requested to submit a price offer indicating the total cost of the assignment (including daily fee, per diem and travel costs).

UNDP applies a fair and transparent selection process that will take into account the competencies/skills of the applicants as well as their financial proposals. Qualified women and members of social minorities are encouraged to apply.

**Selection Criteria**

The consultants who fulfill the above requirements will be assessed based on the following criteria:

* Technical evaluation comprising of 70%, and
* Financial evaluation of 30%

**STRATEGIC RESULTS FRAMEWORK (SRF) AND GEF INCREMENT**

## **PART I: Strategic Results Framework, SRF (formerly GEF Logical Framework) Analysis**

| **Project Strategy** | **Objectively verifiable indicators** | | | | |
| --- | --- | --- | --- | --- | --- |
| **Goal** | **To enhance adaptive capacity to prevent climate change-induced GLOF disasters in Bhutan** | | | | |
|  | **Indicator** | *Baseline* | *Target* | **Sources of verification** | **Risks and Assumptions** |
| **Objective: To reduce climate change-induced risks of Glacial Lake Outburst Floods (GLOFs) in the Punakha-Wangdi and Chamkhar Valleys** | Reduction of vulnerability to climate change-induced GLOFs in the Punakha-Wangdi and Chamkhar Valleys | Capacity deficits exist for addressing the expected effects of GLOF impacts and in meeting the requirements for early warning systems.  Recent scientific findings project a potential large-scale GLOF in the Punakha-Wangdi Valley as early as 2010 | * DRM stakeholders in Bhutan on the national, regional and local level are able to project climate-induced GLOF risks downstream of potentially hazardous glacier lakes and are able to prioritize, plan and implement efficient mitigation and preparedness options | Qualitative-based surveys (QBS)/Interviews  DRM Legislation  Impact assessment by the end of the project | Stakeholders are able to perceive reductions in vulnerability over the time-scale determined by project duration  No flooding disasters in target communities occur throughout the project lifetime |
| **Outcome 1: Improved national, regional, and local capacities to prevent climate change-induced GLOF disasters in the Punakha-Wangdi and Chamkhar Valleys** | Percentage of national DRM focal points, district authorities, and communities able to prioritize, plan, and implement measures to reduce human and material losses from potential GLOFs  Percentage of personnel reporting DRM frameworks support adaptation efforts  Existence of DRM legislations and policies that support adaptation and GLOF preparedness | Capacities at the national, regional, and local levels to plan for and react to potential GLOFs are extremely low. | * By the end of Year 2, 100% of the national DRM focal points, and 90% of district and community DRM focal points in Punakha-Wangdi Valley and Chamkhar Valley are able to prioritize and plan measures to minimize potential losses from GLOFs * By the end of the project at least 90% of personnel interviewed report that DRM frameworks support their efforts to plan and implement measures to adapt to climate change. * By the end of the project, at least three DRM legislation and policies are formulated inclusive of climate-induced GLOF risks and demand long-term mitigative and preparedness planning | QBS  Review of DRM policies and plans at the national, district, and community levels | Government remains supportive to link longer-term climate risk planning with current disaster risk management initiatives |
| Output 1.1: Institutionalized climate-resilient DRM legislation, policy frameworks, and guidelines | Number of DRM legislation, policy frameworks, and guidelines that incorporate long-term climate risk planning | Climate change risks are noted in the current NDRMF.  No Disaster Management Act  No comprehensive disaster management guidelines for Dzongkhag and Gewog Disaster Management Committees | * By end of the project, NDRMF integrates longer-term climate risk planning * By the end of the project, Disaster Management Act formulated incorporating GLOF and other climate risk issues * By the end of the project, DRM guidelines integrate longer-term climate risk planning | Review of Disaster Management Act, DRM policies, plans, and institutional structures | Government continues to support climate-resilient DRM. |
| Output 1.2: Strengthened capacities for climate risk planning at the district (dzongkhag) administrative levels | Number of dzongkhag and gewog Disaster Management Committees in project areas incorporating long-term climate risk planning into their ongoing DRM responsibilities  Number of dzongkhag disaster management plans in place that incorporate GLOF mitigation and preparedness | DRM focal points at the dzongkhag level do not possess adequate knowledge and skills to plan and implement climate-resilient DRM measures | * By end of Year 2, 3 dzongkhag Disaster Management Committees and gewog DMCs in the project area are trained on climate change and GLOF risk management * By end of Year 2, Dzongkhag/Thromde Disaster Management plans in Punakha, Wangdi, and Bumthang are developed to account for GLOF hazards | Training reports and follow-up QBS with staff  Dzongkhag/Thromde DRM plans | Turnover of staff does not counteract benefits of capacity building efforts |
| Output 1.3: Information on climate hazards and GLOF vulnerabilities in Bhutan systematically captured, updated and synthesized | Number of government departments actively accessing and utilizing climate risk information | Initial national communication to UNFCCC, NAPA, and NDRMF available  Basic DGM database on GLOF hazards established during the PPG phase | * National database on GLOF vulnerability and climate risk information in Bhutan systematically and continually updated * Within 2-3 years of start of project implementation an information management system exists and by the end of the project a survey of key stakeholders reveals that they have access to relevant information on adaptation to climate change. * Annual workshop to present information on climate change-induced GLOF risks to relevant government departments * Updated DGM website | Database of relevant information  QBS with key stakeholders | Data is provided in an accessible format for use by different government departments |
| Output 1.4: Raised awareness of vulnerable communities to climate-related GLOF risks | Percentage of households in target communities who are able to take precautionary measures and react to potential GLOFs in a way to minimize human and material losses | No communities are trained in preparing for and reacting to potential GLOFs | * By the end of Year 1, all GLOF-vulnerable communities in the Punakha-Wangdi and Chamkhar Valleys identify disaster and climate risk management focal points * By the end of Year 3, 80% of households in the target area are able to take precautionary measures for potential GLOFs | List of focal points  Training reports and QBS | Communities’ training needs are correctly assessed and delivered in an accessible and culturally sensitive manner |
| **Outcome 2:**  **Reduced risks of GLOF from Thorthormi lake through an artificial lake level management system** | Level of GLOF risk from Thorthormi Lake | Thorthormi Lake is among the most hazardous of Bhutan’s 25 lakes with a high risk of GLOF | * By the end of the project, Thorthormi Lake is no longer considered at high risk of GLOF, as scientifically assessed at the project’s completion | Satellite data and field survey of lake  Scientific assessment | No natural disasters in project area  Workforce availability  Climatic conditions permit at least five months of excavation work each year |
| Output 2.1:  Engineering and safety plans for risk reduction measures on Thorthormi lake developed | Availability of an up-to-date engineering and safety plan for GLOF mitigation works | Feasibility study of technical mitigation measures for Thorthormi lake from 2004 | By the end of Year 1:   * 1 geotechnical assessment report confirming current status of moraine dam * 1 safety and evacuation plan * 1 engineering plan outlining the detailed location for mitigation works * 1 EIA report * Approval of engineering and safety plans by PB | Engineering plan  Safety and evacuation plan | No natural disasters in project area  Climatic conditions permit the geotechnical assessment to take place |
| Output 2.2:  Lowered Thorthormi Lake water levels | Artificial lowering system for lake water levels in place | No artificial lowering system of glacier lake levels is installed and continuously maintained  Surface area of lake in 2001 measured 1.28 km2 and is still expanding  Water volume of Thorthormi lake is outpacing its drainage capacity | By the end of the project, the water level of Thorthormi lake is lowered by 5 meters | Satellite data, field survey, level readings | Availability of work force  Regular seasonal variations of glacier melt do not greatly exceed average  No natural disasters in project area |
| Output 2.3: Water levels of Thorthormi lake and status of artificial lowering system regularly monitored and maintained | Number of local staff trained in the input/output management of Thorthormi lake water levels  Number of field survey reports detailing status of lake level and lowering system | No staff has been trained in how to artificially regulate glacier lake levels | * By the end of the project, 10 DGM, and DOE staff trained in monitoring of water flows and functioning of lowering system * At least two monitoring reports are produced and disseminated per year on the status of lake level and lowering system | Training reports  Satellite data and field survey reports | Staff turnover does not negate training benefits  Government continues to allocate resources to maintain artificial lowering system |
| Output 2.4: Captured and documented technical knowledge and lessons in the artificial lowering of glacier lake levels for use in future projects | Number of follow-up projects planned  Number of successful national technology transfer initiatives  Number of project reports published and disseminated | DGM database of feasibility reports on lowering glacial lakes  No systematic capturing of knowledge on the establishment, monitoring, and maintenance of artificial glacial lake lowering systems | * By the end of the project, a comprehensive evaluation of the operation and potential replication of the glacier lake level management system is conducted * By the end of the project, all relevant lessons for the lowering and management of glacier lake levels are captured in the DGM database * By the end of the project, national agreement to embark on at least 1 follow-up project for the artificial lowering and management of glacier lake levels in Bhutan * By the end of the project, DGM embarks on an active technology transfer and project replication campaign to install glacier lake management systems in at least 1 other region of Bhutan * By the end of the project, project lessons are captured, published and disseminated to all districts in Bhutan with GLOF vulnerabilities | Evaluation report  DGM database  Meeting minutes, evidence of policy dialogue and active stakeholder engagement  Dissemination plan and accompanying publications | Continued assessment of GLOF risks in Bhutan  National ownership of glacier lake management technology  National political agreement for follow-up plan on GLOF risk management  National agreement on other project sites with GLOF risk as priority hazard  Artificial lowering system in the target area contains elements that can be replicated elsewhere |
| **Outcome 3: Reduced human and material losses in vulnerable communities in the Punakha-Wangdi Valley through GLOF early warnings** | Number of vulnerable communities in Punakha-Wangdi Valley reached by early warning system  Percentage of households receiving and responding to warnings in time to avoid human losses | No GLOF early warning system for Punakha-Wangdi Valley in place  Vulnerable households are not able to receive and react to GLOF early warning messages | * By the end of the project, 90% of households in target communities are able to receive and respond to early warnings and take the appropriate actions following the warning. | Rehearsal observations  QBS with households | No tampering with early warning system installations  Functioning backup systems in place |
| Output 3.1: Technical components for a GLOF early warning system in Punakha-Wangdi Valley installed and operational | Number of sensors and siren towers installed and tested regularly | No sensors or siren towers in Punakha-Wangdi Valley | * By the end of Year 1, a set of GLOF sensors installed, tested, and maintained in at least two locations north of Wolathang * By the end of Year 3, 8 siren towers at Samdingkha, Punakha, Khuruthang, and Wangdi installed, tested and maintained * By the end of Year 2, contingency plans and backup systems for operation of early warning systems are in place | Survey of sensor/siren tower locations  Physical presence of infrastructure  Testing results | Procurement proceeds on schedule  Transport of building materials not delayed by seasonal climate extremes |
| Output 3.2: Established institutional arrangements to operate, test, and maintain the GLOF early warning system | EWS and response plan integrated in the Dzongkhag Disaster Management plans  Number of early warning focal points identified and trained  Early warning system remains operational | No focal points trained on GLOF early warning system | * By the end of Year 1, at least two early warning focal points in both of the target districts identified and trained in the testing and maintenance of the early warning system * By the end of Year 2, DDMCs in target area trained on EWS/response plans * By the end of Year 3, functioning of the GLOF early warning system is tested at least monthly | Training reports  Field tests  Rehearsals under different conditions | Staff turnover does not negate training benefits  Government continues to allocate resources for maintenance and continuous testing of early warning system |
| Output 3.3: Raised awareness of communities in the Punakha-Wangdi valley on operation of early warning system | Percentage of households in vulnerable communities aware of the new GLOF early warning system and able to effectively respond to warning messages | No awareness by vulnerable communities in the Punakha-Wangdi Valley on GLOF early warning procedures | * By the end of the project, at least 90% of households in the target area are aware of the operation of the GLOF early warning system are able to correctly receive and interpret early warning signals * By the end of the project, at least 1 full-scale GLOF early warning drill in all target vulnerable communities before the project closure | QBS  Rehearsal observations and planning protocols | Messages are delivered in an appropriate way to enhance awareness, receptiveness and understanding  Messages are delivered in a concerted, coordinated and consistent manner |
| Output 3.4: Raised awareness of safe GLOF evacuation areas in each vulnerable community in the Punakha-Wangdi Valley | Number of safe GLOF evacuation areas designated and accessible | No GLOF evacuation areas identified  Communities do not know where to safely congregate in the event of a GLOF disaster | * By the end of Year 2, GLOF evacuation areas identified for each target community * By the end of Year 2, designation of, and accessibility to, all safe GLOF evacuation areas ensured and maintained | QBS    Maps and signs indicating way to safe areas  Disaster simulation exercise reports | At least two sufficiently safe evacuation points exist in and around target communities  All DRM stakeholders cooperate in simulation exercises |
| Output 3.5: Technical knowledge and lessons in the installment and operation of GLOF early warning systems captured and documented for use in future projects | Evaluation of experiences with the operation and testing of the GLOF early warning system  Number of instructive materials developed | No structured evaluation of GLOF early warning systems in Bhutan available  No instructive materials available  No systematic capturing of knowledge on the establishment, monitoring, and maintenance of GLOF early warning systems | * By the end of the project, a comprehensive evaluation of the operation and potential replication of the GLOF early warning system is conducted * By the end of the project, all relevant reports on GLOF early warning systems are included in DGM database * By the end of the project, lessons learned are disseminated to all GLOF-vulnerable DDMCs by means of publications and instructive videos * By the end of the project, replication plan for early warning system in Chamkhar Valley developed | Evaluation report  DGM database  Instructive materials  Replication plan | Government ownership of GLOF early warning technology  National political agreement for follow-up plan on GLOF early warning |
| **Outcome 4: Enhanced learning, evaluation and adaptive management** | Number of proposals, papers, and other documents that incorporate learning from the project | Experiences regarding climate change-induced GLOF mitigation and preparedness in Bhutan have not been systematically captured and shared | * By the end of the project, GLOF mitigation and early warning initiatives or studies draw on learning from experiences in Bhutan | ALM platform  Proposals, papers, and other documents | The ALM is operational and circumstances in Bhutan apply to future GLOF mitigation and preparedness initiatives |
| Output 4.1. Project lessons captured and disseminated through the Adaptation Learning Mechanism | Number of contributions by the project to the ALM | No contribution by Bhutan to the ALM | * By the end of the project, all project monitoring and evaluation reports are screened for inclusion in the ALM * By the end of the project, key project lessons disseminated through ALM | ALM platform | The ALM is operational to facilitate learning |
| Output 4.2. Project knowledge shared with other GLOF-prone countries | Number of organizations actively involved in knowledge transfer activities across borders | No systematic knowledge transfer on GLOF risks from Bhutan to other countries | * By the end of the project, organization and hosting of 1 international workshop on GLOF risk reduction | Workshop proceedings | Other regions and countries believe experiences from the project will be valuable for future GLOF mitigation and preparedness initiatives |

Annex B: List of Documents to be reviewed by the evaluators

|  |  |
| --- | --- |
| **Sl. #** | **Documents** |
| **A** | **Project Document** |
| 1 | GLOF project docuent, 2008 |
| **B** | **UNDP Documents** |
| 1 | Common Country Programme Action Plan (cCPAP) 2008 - 2012 |
| 2 | United Nations Development Assistance Framework for the Kingdom of Bhutan 2008-2012 |
| **C** | **Government Documents** |
| 1 | Bhutan Millennium Development Goals: Needs Assessment and Costing Report (2006-2015) – Planning Commission, Royal Government of Bhutan |
| 2 | National strategy on disaster risk reduction |
| 3 | 10 Five-Year Plan Document of MoEA and MOHCA |
| 4 | Vision 2020 |
| **D** | **UNDP/GEF Guidance Documents** |
| 1 | Guidance for conducting terminal evaluation of UNDP supported, GEF financed projects. |
| 2 | GEF Focal Area Strategy paper 2007 |
| 3 | GEF Tracking Tools for Strategic Objective 1 and Strategic Objective 2 |
| **E** | **Key Project Outputs** |
| 1 | Project Progress Reports |
| 2 | Minutes of the Project Board Meetings |
| 3 | PIR/APR 2010/2011/2012 |
| 4 | Technical and social review of GLOF project 2012, 2012 |
| 5 | Proceedings of the GLOF international conference (5-7 Dec 2012) |
| 6 | Financial records |
| 7 | Impact assessment of project intervention |
| 8 | Standard Operating Procedures (SOP) for EWS |
| 9 | Mid-Term Evaluation Report |
| 10 | Annual Field Report of the Project (from Project Manager, GLOF project) |
| 11 |  |
|  |  |
|  |  |
| 12 | Documentary on Plant Genetic Resources |
| 13 | MTV on Agrobiodiversity |
| 14 | Plant Gene Bank Protocol |

Annex C: Evaluation Questions

| **Evaluative Criteria Questions** | | **Indicators** | **Sources** | **Methodology** |
| --- | --- | --- | --- | --- |
| Relevance: How does the project relate to the main objectives of the GEF focal area, and to the environment and development priorities at the local, regional and national levels? | | | | |
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| Effectiveness: To what extent have the expected outcomes and objectives of the project been achieved? | | | | |
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| Efficiency: Was the project implemented efficiently, in-line with international and national norms and standards? | | | | |
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| Sustainability: To what extent are there financial, institutional, social-economic, and/or environmental risks to sustaining long-term project results? | | | | |
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| **Impact: Are there indications that the project has contributed to, or enabled progress toward, reduced environmental stress and/or improved ecological status?** | | | | |
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|  |  |  |  |  |

Annex D: Rating Scales

|  |  |  |
| --- | --- | --- |
| ***Ratings for Outcomes, Effectiveness, Efficiency, M&E, I&E Execution*** | ***Sustainability ratings:*** | ***Relevance ratings*** |
| 6: Highly Satisfactory (HS): no shortcomings  5: Satisfactory (S): minor shortcomings  4: Moderately Satisfactory (MS)  3. Moderately Unsatisfactory (MU): significant shortcomings  2. Unsatisfactory (U): major problems  1. Highly Unsatisfactory (HU): severe problems | 4. Likely (L): negligible risks to sustainability | 2. Relevant (R) |
| 3. Moderately Likely (ML):moderate risks | 1.. Not relevant (NR) |
| 2. Moderately Unlikely (MU): significant risks  1. Unlikely (U): severe risks | ***Impact Ratings:***  3. Significant (S)  2. Minimal (M)  1. Negligible (N) |
| *Additional ratings where relevant:*  Not Applicable (N/A)  Unable to Assess (U/A | | |

Annex E: Evaluation Consultant Code of Conduct and Agreement Form

**Evaluators:**

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people’s right not to engage. Evaluators must respect people’s right to provide information in confidence, and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals, and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders’ dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study imitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

**Evaluation Consultant Agreement Form[[4]](#footnote-4)**

**Agreement to abide by the Code of Conduct for Evaluation in the UN System**

**Name of Consultant:** \_\_     \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Name of Consultancy Organization** (where relevant)**:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.**

Signed at *place* on *date*

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Annex F: Evaluation Report Outline[[5]](#footnote-5)

|  |  |
| --- | --- |
| **i.** | Opening page:   * Title of UNDP supported GEF financed project * UNDP and GEF project ID#s. * Evaluation time frame and date of evaluation report * Region and countries included in the project * GEF Operational Program/Strategic Program * Implementing Partner and other project partners * Evaluation team members * Acknowledgements |
| **ii.** | Executive Summary   * Project Summary Table * Project Description (brief) * Evaluation Rating Table * Summary of conclusions, recommendations and lessons |
| **iii.** | Acronyms and Abbreviations  (See: UNDP Editorial Manual[[6]](#footnote-6)) |
| **1.** | Introduction   * Purpose of the evaluation * Scope & Methodology * Structure of the evaluation report |
| **2.** | Project description and development context   * Project start and duration * Problems that the project sought to address * Immediate and development objectives of the project * Baseline Indicators established * Main stakeholders * Expected Results |
| **3.** | Findings  (In addition to a descriptive assessment, all criteria marked with (\*) must be rated[[7]](#footnote-7)) |
| **3.1** | Project Design / Formulation   * Analysis of LFA/Results Framework (Project logic /strategy; Indicators) * Assumptions and Risks * Lessons from other relevant projects (e.g., same focal area) incorporated into project design * Planned stakeholder participation * Replication approach * UNDP comparative advantage * Linkages between project and other interventions within the sector * Management arrangements |
| **3.2** | Project Implementation   * Adaptive management (changes to the project design and project outputs during implementation) * Partnership arrangements (with relevant stakeholders involved in the country/region) * Feedback from M&E activities used for adaptive management * Project Finance: * Monitoring and evaluation: design at entry and implementation (\*) * UNDP and Implementing Partner implementation / execution (\*) coordination, and operational issues |
| **3.3** | Project Results   * Overall results (attainment of objectives) (\*) * Relevance(\*) * Effectiveness & Efficiency (\*) * Country ownership * Mainstreaming * Sustainability (\*) * Impact |
| **4.** | Conclusions, Recommendations & Lessons   * Corrective actions for the design, implementation, monitoring and evaluation of the project * Actions to follow up or reinforce initial benefits from the project * Proposals for future directions underlining main objectives * Best and worst practices in addressing issues relating to relevance, performance and success |
| **5.** | Annexes   * ToR * Itinerary * List of persons interviewed * Summary of field visits * List of documents reviewed * Evaluation Question Matrix * Questionnaire used and summary of results * Evaluation Consultant Agreement Form |

Annex G: Evaluation Report Clearance Form

*(to be completed by CO and UNDP GEF Technical Adviser based in the region and included in the final document)*

Evaluation Report Reviewed and Cleared by

UNDP Country Office

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

UNDP GEF RTA

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Annex H: sites and PROJECT ACTIVTIES

|  |  |
| --- | --- |
| **Districts** | **Activities** |
| 1. Wangdue | Meeting with local administrators, local government officials, project beneficiaries, visit to EWS control center and siren towers. |
| 1. Punakha |

**ANNEX I: TENTATIVE SCHEDULE FOR THE TECHNICAL EVALAUATION OF GLOF PROJECT**

|  |  |  |
| --- | --- | --- |
| Dates | Program | Remarks |
| 03 Nov. 2013 (Sun) | Arrive in Thimphu and finalize the program with the national consultant | Paro-Thimphu |
| 04 Nov. 2013 (Mon) | Meeting with project implementing partners and submission of inception report | Thimphu **(Inception report)** |
|  | DGM |
|  | DHMS |
|  | DDM |
|  | UNDP |
|  | ADA |
| 05 Nov. 2013 (Tue) | Meeting with Local administrators, communities in Wangdue and Punakha and visit to EWS control center, monastic bodies etc. | Thimphu-Wangdue, Punakha (Field) |
| 06 Nov. 2013 (Wed) |
| 07 Nov. 2013 (Thur) |
| 08 Nov. 2013 (Fri) | Return to Thimphu and preparation of evaluation report |  |
| 09 Nov. 2013 (Sat) | Preparation of first draft report | Govt. offices closed on 11 Nov 2013 |
| 10 Nov. 2013 (Sun) |
| 11 Nov. 2013 (Mon) |
| 12 Nov. 2013 (Tue) | De-briefing to stakeholders | **De-briefing and draft report** |
| 13 Nov. 2013 (Wed) | Consultant leave Bhutan |  |
| 14-16 Nov. 2013 | Work on the draft report from home |  |
| 26 Nov 2013 | Submit the first draft to UNDP, UNDP GEF RTA and government IPs (electronically) |  |
| 8 Dec 2013 | Submit the final TE report | **Final TE Report** |

**FOCAL PERSONS**

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1. [↑](#footnote-ref-1)
2. For additional information on methods, see the [Handbook on Planning, Monitoring and Evaluating for Development Results](http://www.undp.org/evaluation/handbook), Chapter 7, pg. 163 [↑](#footnote-ref-2)
3. A useful tool for gauging progress to impact is the Review of Outcomes to Impacts (ROtI) method developed by the GEF Evaluation Office:  [ROTI Handbook 2009](http://www.thegef.org/gef/sites/thegef.org/files/documents/M2_ROtI%20Handbook.pdf) [↑](#footnote-ref-3)
4. www.unevaluation.org/unegcodeofconduct [↑](#footnote-ref-4)
5. The Report length should not exceed *40* pages in total (not including annexes). [↑](#footnote-ref-5)
6. UNDP Style Manual, Office of Communications, Partnerships Bureau, updated November 2008 [↑](#footnote-ref-6)
7. Using a six-point rating scale: 6: Highly Satisfactory, 5: Satisfactory, 4: Marginally Satisfactory, 3: Marginally Unsatisfactory, 2: Unsatisfactory and 1: Highly Unsatisfactory, see section 3.5, page 37 for ratings explanations. [↑](#footnote-ref-7)