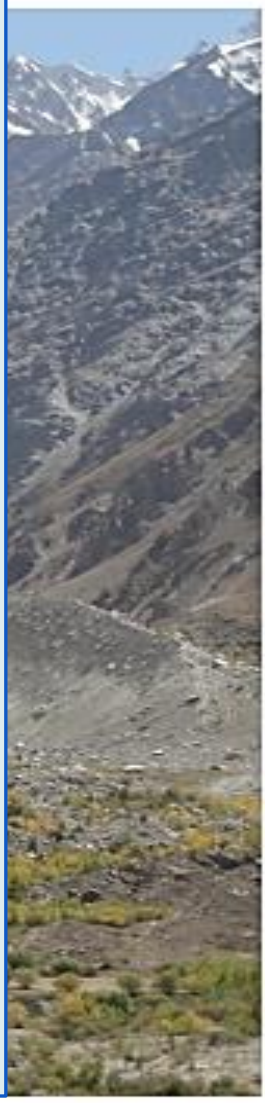
Scaling-up Glacial Lake Outburst Flood (GLOF) Risk Reduction in Northern Pakistan



Interim Evaluation
Final Report

UNDP ATLAS Award ID 00102590
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Evaluation Period: June-September 2020
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Executing Partner: MOCC

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September 2020

GREEN CLIMATE FUND

GLOF II PAKISTAN
SCALING-UP OF GLACIAL LAKE OUTBURST FLOOD (GLOF) RISK REDUCTION IN NORTHERN PAKISTAN

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Acknowledgements

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Cover Photo: Ghoraram glacier [Yarkhoon Valley], Chitral showing signs of fast melting

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Acronyms and Abbreviations

AJK	Azad Jammu and Kashmir
AMA	Accreditation Master Agreement
APRs	Annual Performance Reports
ARR	Assistant Resident Representative
AWBs	Annual Work Budget
AWPs	Annual Work Plans
AWS	Automated Weather Stations
CBD	Conventions on Biological Diversity
CBO	Community-Based Organization
CDR	Combined Delivery Report
CDWP	Central Development Working Party
CO	Country Office
CPAP	Country Programme Action Plan
CPD	Country Programme Document
CPEC	China Pakistan Economic Corridor
DDMA	District Disaster Management Authority
DDMU	District Disaster Management Unit
DPS	Direct Project Services
DRM	Disaster Risk Management
DRMCs	Disaster Risk Management Committees
DRR	Deputy Resident Representative
DRR-CCA	Disaster Risk Reduction- Climate Change Adaptation
EA	Executing Agency
EAD	Economic Affairs Division
ECNEC	Executive Committee of the National Economic Council
EPA	Environment Protection Agency
EWS	Early warning systems
FAA	Funded Activity Agreement
FE	Final Evaluation
GB	Gilgit Baltistan
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environment Facility
GIS	Geographical Information System
GLOF	Glacial Lake Outburst Flood
GOP	Government of Pakistan
HACT	Harmonized Approach to Cash Transfers
HDI	Human Development Index
HR	Human Resources
IE	Interim Evaluation
INDC	Interim Nationally Determined Contribution
IR	Inception Report
IW	Inception Workshop
JS-DRR	Joint Secretary- Disaster Risk Reduction

KAP	Knowledge, Aptitude, and Practices
KKH	Karakorum Highway
KP	Khyber Pakhtunkhwa
LF	Logical Framework
LOA	Letter of Agreement
LPAC	Local Project Appraisal Committee
M&E	Monitoring and Evaluation
MAF	Million Acre Feet
MOCC	Ministry of Climate Change
MTR	Mid-term Review
MU	Moderately Unsatisfactory
NCCP	National Climate Change Policy
NDMA	National Disaster Management Authority
NDMC	National Disaster Management Commission
NDMO	National Disaster Management Ordinance
NDRMF	National Disaster Risk Management Fund
NGO	Non-Governmental Organization
NIM	National Implementation Modality
NPD	National Project Director
NPM	National Project Manager
P&DD	Planning and Development Department
PB	Project Board
PC-1	Planning Commission-1 (Performa No. 1)
PCOM	Project Cycle Operations Manual
PDMA	Provincial Disaster Management Authority
PIR	Project Implementation Review
PIU	Project Implementation Unit
PMD	Pakistan Meteorological Department
PMU	Project Management Unit
PO	Programme Officer
ProDoc	Project Document
IP	Implementing Partner
PSC	Project Steering Committee
PTS	Project Technical Specialist
QPR	Quarterly Progress Reports
RBMS	Results-Based Management System
RTA	Regional Technical Advisor
SBAA	Standard Basic Assistance Agreement
SDGs	Sustainable Development Goals
SMART	Specific, Measurable, Achievable, Relevant, Time-bound
SOP	Standard Operating Procedures
SUPARCO	Pakistan Space & Upper Atmosphere Research Commission
TE	Terminal Evaluation
ToC	Theory of Change
TOR	Terms of Reference
TWG	Technical Working Group

UNCCD	United Nations Framework Convention on Combating Desertification
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNEG	United Nations Evaluation Group
UNFCCC	United Nations Framework Convention on Climate Change
WAPDA	Water and Power Development Authority

Executive Summary

This report presents the findings of the Interim Evaluation (IE) of the UNDP-supported GCF-Financed Government of Pakistan Project "*Scaling-up Glacial Lake Outburst Flood (GLOF) risk reduction in Northern Pakistan*". Project Information are presented in Table 1. This IE was performed by an Independent Evaluation Team composed of Dr Amal Aldababseh, International Evaluator and Team Leader and Dr Chaudhry Inayatullah, National Evaluator.

This IE report documents the achievements of the project, an assessment of management arrangement and adaptive management, and includes four chapters. Chapter 1 presents an overview of the project; chapter 2 briefly describes the objective, scope, methodology, stakeholders and limitations of the evaluation; chapter 3 presents the findings of the evaluation, and chapter 4 presents the main conclusions and recommendations, and relevant annexes are found at the back end of the report.

Table 1: Project Information Table

Project Title:	**Scaling-up Glacial Lake Outburst Flood (GLOF) risk reduction in Northern Pakistan**		
UNDP Project ID #:	5660	**FAA Approval Date:**	12 July 2017
GCF project ID:	FP018	**GCF Final Clearance Date**	February 2018
ATLAS Business Unit, Award # & Project ID:	Business Unit: PAK10 ATLAS Award ID: 00102590 ATLAS Project ID: 00104582	**ProDoc Signing Date:**	August 2017
Country(ies):	Pakistan	**Date PM hired:** **Date PM resigned:**	July 2018 30 Sept. 2019. The position is still vacant at the time of the IE.
Region:	South Asia	**Inception workshop**	July 2018
Focus	Adaptation	**IE Completion Date:**	October 2020
Results areas	Increased resilience of: *most vulnerable people and communities. *health and well-being, and food and water security.	**Planned closing date:**	July 2022
Trust Fund	GCF	**If revised, proposed operational closing date:**	N/A
Executing Entity/ Implementing Partner	Ministry of Climate Change Governments of GB and KP		
Project Financing	**at *GCF endorsement (US$)***	**at *IE 2020 (US$)***	
[1] GCF financing:	36,960,000	3,210,914	
[2] UNDP contribution:	4,000,000 (in-kind)	0	
[3] Government:	500,000[1]	0	
[4] Other partners:	0	0	
[5] Total co-financing [2+3+4]:	4,500,000	0	
PROJECT TOTAL COST [1+5]	**41,460,000**	**3,210,914**	

[1] PKR 50 million was committed by Government of GB at the time of project development. It was an equivalent of USD 500,000. As of August 2020, the same amount is around USD 310,000 based on current operational exchange rate.

Project Description

The GLOF II project was prepared in response to increased incidence of flash floods, avalanches, Glacial Lakes Outburst Floods (GLOFs) and debris slides in northern Pakistan. It is based on the experiences and learnings of Adaptation Fund's GLOF I project which was implemented in 2 districts. The scope of work of the GLOF II project extends to all the glaciated areas of KP (5 districts) and GB (10 districts). Based on cumulative Global Climate Risk Index from 1999-2018, the German Watch Group (2020 Report) ranked Pakistan at 5th position on the Global Climate Risk Index- a case of downgraded rank from 8th position (cumulative index 1998-2017). The Group estimated that the country has faced 152 extreme weather events from 1999 to 2018 and lost 9,989 lives and suffered economic losses worth of US$ 3.8 billion. Several studies have confirmed that temperatures are increasing leading to glacier melting/recession and increased formation of glacial lakes, GLOFs and drying up of water channels, which are the lifeline of communities, and any shock in non-availability of water forces population to migrate. It is feared that the fast melting of glaciers is likely to challenge the food, water, and energy security of the country.

Pakistan is losing the opportunity of managing floods downstream due to upstream uncontrolled release of water (flash floods and GLOFs), and by not utilizing the hydro-power potential in the glacial lakes. The main barriers to this are: (i) lack of access to readily available financial capital for the public institutions, (ii) limited institutional capacity and coordination to address the risks, (iii) limited resources, capacity and logistical feasibility in government institutions to construct required infrastructure, (iv) limited capacity and information available at the community level; and (v) harsh weather, difficult terrain, limited access to remote valleys and only summer season (6 months) available for fieldwork.

These barriers are to be addressed through the achievement of two outputs: (i) strengthened sub-national institutional capacities, and (ii) up-scaled community-based Early Warning System to increase the community's adaptive capacity. The goal is to protect human lives and property and generate several co-benefits such as the enhanced income of poor communities, halting of land degradation and overall enhancement of the environment.

The project is implemented by the Ministry of Climate Change (MOCC) with a total cost of US$ 41,460,000 for 60 months. The estimated direct beneficiaries are 348,171 women and girls and 348,171 men and boys, and approximately 29,233,000 indirect beneficiaries.

Project Progress Summary

The progress made by the project so far is *Unsatisfactory*. The implementation of the Project's activities has made very limited progress. This includes:

The Project supported the development of a few baseline assessments which would establish, the baseline situation, and confirm the indicators and targets to be achieved under the results framework of the project. It was also able to conduct large-scale sensitization, consensus building, mobilization and awareness-raising of stakeholders, communities, and the public about GLOF and climate change risks. Fifteen community meetings and 12 coordination workshops with Government officials were conducted in KP and GB.

The Project identified 33 valleys for GLOF risk potential, out of which 22 valleys were notified as potentially hazardous. This study also identified the kind of equipment required for installation. At the province level, the provincial teams carried out Hazard, Vulnerability and Risk Assessments in 5 Districts of KP[2] and 10 Districts of GB to document potential threats, history of recurring floods, the feasibility of infrastructure development, water management, and slope stabilization activities. Furthermore, GIS mapping was carried out to further aid in assessing the vulnerability of potential valleys. Emergency preparedness and response equipment worth US$1,111,000 were procured and handed over to KP and GB Disaster Management Authorities. The project organized a glacier grafting activity at Kuwardo village in

[2] Last year, the government has divided Chitral into two districts, viz., Upper and Lower Chitral, so now these are 16 project districts (6 in KP and 10 in GB).

Skardu, which was based on indigenous knowledge, sets to graft new ice reserve in the hopes of improving water supply to several villages in the area in the years to come. It also facilitated reciprocal visits by stakeholders from KP and GB, a media exposure visit to GLOF potential sites and vulnerable communities, and a joint mission of experts from PMD and GBDMA to assess the need for AWS, after which recommendations were produced and an Automatic Weather Station was successfully installed.

Interim Evaluation Rating and Achievement

The review of the project's documents, meetings with stakeholders and analysis of the project's technical and progress reports indicated that the Project was not able to achieve its mid-term targets and will not be able to achieve its end of project targets if it continues with the same rate of implementation and under the same operational and collaboration conditions. Taking into considerations the 7 months delay in getting the final approval from the GCF to receive the fund[3], the complexity the project team has faced since the project inception, the overall rating for the ***Progress to the achievement of the project results*** is **Unsatisfactory (U)** as the Project is expected not to achieve most of its end-of-project targets.

The evaluators consider that while the management arrangements used for the project, in theory, support effective and efficient implementation of the project, in practice there were delays caused mainly by some elements of the project management arrangement that required immediate attention. Despite the continuous and intensive discussions, between UNDP and MOCC, to clarify different aspects of management arrangements and to agree on the areas of ambiguity, pieces of evidence at the IE time show that the current arrangements are not sufficient for effective and efficient implementation of the Project. Consequently, the overall ***Project implementation and adaptive management*** rating is **Moderately Unsatisfactory (MU)** as shown in Table 2.

Table 2: Interim Evaluation Ratings and Achievement Summary Table for GLOF II Project

Measure	IE Rating[4]	Achievement Description
Progress Towards Results	**Objective:** **Rating: 1 (U)**	Due to delays in implementation of all outputs, the Project is expected not to achieve most of its end-of-project targets.
	Output 1 **Rating: 1 (U)**	All targets under this output are not on track and need more attention. The work under this output is at its very early stage of commencement.
	Output 2: **Rating: 1 (U)**	All targets under this output are not on track and need more attention. The work under this output is at its early start of commencement.
Project Implementation and Adaptive Management	**Rating: 3 (MU)**	The Project requires more collaboration and intensive enhancement in its work planning. More frequent and strategic Project Steering Committee (PSC) /Project Board (PB) meetings, strong and high-level government commitment to proceed with the project and enhance its implementation, enhanced communications, and coordination among all stakeholders at federal and province/district levels. All staff and short-term experts hired, and offices

[3] Request for 1st disbursement was sent to GCF on 29 Sep 2017 and was received in April 2018

[4] Rating Scale: 6=Highly Satisfactory (HS), 5=Satisfactory (S), 4=Moderately Satisfactory (MS), 3=Moderately Unsatisfactory (MU), 2=Unsatisfactory (U), or 1=Highly Unsatisfactory (HU).

		established and equipped to allow for smooth and effective implementation.
Sustainability	**Rating: 3 (ML)[5]**	Sustainability factors are difficult to assess as the project did not start on-ground implementation, however; need for more focus on a strategy to reduce different kinds of risk.

A concise summary of conclusions

The project is very relevant; it is part of a larger approach to strengthening the capacities of vulnerable communities to address the GLOF issues in Pakistan. The project is aligned with several key national strategies, programmes and priorities. It is also part of several ongoing projects supporting the government to enhance resilience to climate change by strengthening the capacities of vulnerable communities to address the GLOF issues. Together, these projects are instrumental in steadily upscaling district, provincial, and federal capacities ongoing initiatives on early warning systems and small, local-sourced infrastructure to protect communities from GLOF risks.

The project strategy provides a good response to national needs/priorities to face a critical gap in technical and technological capacity to monitor the status of glaciers and stream flows through hydrological monitoring and forecasting. The project strategy provides a good response to establish efficient and effective mechanisms to enhance the resilience of vulnerable communities; particularly addressing five barriers of enhancing resilience. The ongoing baseline assessments are expected to enhance project logic and M&E aspects of the Project. The project chain of results – activities, expected outputs, the expected outcome, and objective - is logical, however, the Project Logical Framework (LF) lacks needed details at the mid-term level such as targets to measure progress.

Project Duration and Extension. At the formulation stage, it was envisaged to accomplish the target of installation of 50 AWSs, 408 hydrological monitoring stations, 250 small infrastructures projects, slope stabilization on 700 ha (280 ha and 420 ha in KP and GB, respectively), and installation of water-efficient systems on demonstration plots in 5 years. The working season in the project area is March through October. Thus, the achievement of all the hard and soft targets with complex implementation arrangements involving several stakeholders at all levels in 40 months over 5 years and a limited workable period during the year seem to be unrealistic. The effective operational time from 12 July 2017 till the time of IE was only 6 months. Further, Implementing Partners (IPs) received advance funds for 2020 only in July, leaving only 4 months in 2020 to complete the fieldwork. Finally, due to heavy rains in August 2020, the roads are closed due to landslides, which means a limited time available for fieldwork during 2020. Therefore, the extension in project duration for the time lost is inevitable.

Project Implementation Modality, Adaptive Management, and LOA. The ProDoc narrates the signing of LOA between MOCC and UNDP to provide support services by UNDP for the project and to do so a Project Support Unit is to be established in UNDP. The LOA was later signed by the two parties. However, in the government, the document to be followed is the approved PC-1. The approved PC-1 does not give details of the implementation modality but simply mentions that NIM Modality will be adopted and there is no mention of seeking support services from UNDP, which became the contentious issue.

At present, the LOA is in force with some modifications (two amendments in 2019 and 2020) and it requires that after approval of the AWP by the PSC, the project will have to seek approval of the MOCC on-file to implement each activity which was the main reason for the delayed implementation in the past.

Technical Working Group at the Province Level. In GB, a Technical Working Group has been formalized, with the orders of the Chief Secretary, to oversee the project- another layer in project management. The TORs are the same as of the PSC, and the PIU will have to seek

[5] The 4-point scale: 4=Likely (L), 3=Moderately Likely (ML), 2=Moderately Unlikely (MU), and 1=Unlikely (U).

approval of every activity from the TWG. It is likely to further complicate the management arrangement and delay implementation.

The signing of Annual Agreements with the Provinces. Re-initiating the signing of LOAs with the Planning & Development Departments (P&DDs) and line departments annually takes a lot of time, and by the time these are signed the working season is almost off in the project (mountainous) areas. There are examples that the provinces returned funds to UNDP, as the working season was off, and nothing could be done.

The progress made by the project so far is Unsatisfactory. The implementation of the Project's activities has made very limited progress so far under its two outputs while it has already spent more than 3 years of implementation. The Project should contribute to "*support rural communities to avoid human and material losses from GLOF events in vulnerable areas*" and should meet all its targets by July 2022. However, the progress was limited to the development of a few baseline assessments, organization of several public awareness and community's engagement events, hiring of a few short-term consultants and initiating procurement events.

The project is addressing the five barriers to enhance resilience to climate change in targeted communities. The project strategy seems logical and should be effective in addressing five barriers to avoid human and material loses from GLOF events in vulnerable areas. However, at the mid-term point of implementation, the long-term solution is hindered by these five barriers due to the limited progress made by the project. Lifting these barriers is a critical success factor for the implementation of sustainable solutions to enhance rural communities' resilience to climate change.

The current management arrangements should be conducive for effective implementation of the project but complex and require a lot of coordination efforts.

The management arrangements as planned at the outset of the project are detailed but not conducive for a smooth and effective day-to-day implementation of project activities. Currently, the project is implemented by a small team supported by a part-time Technical Specialist (TS) and short-term experts. Out of 31 proposed positions, only 10 are currently filled. The status of the recruitment/procurement of short-term experts is not up to date. Out of the 18 short-term consultancies, a few experts have just joined the project in August 2020. Overall, the project enjoys a good partnership with key government entities, who are members of the PSC. However, relations between UNDP and MOCC have been strained at times which has significantly delayed the progress of project implementation.

The disbursement of the GCF grant is not on track and the entire GCF grant should be expended by the end of the project. At the time of this IE, the review of financial records as recorded in the UNDP Atlas system indicates that the actual expenditures allocated against the GCF project grant for the years April 2018[6] to August 2020 (29 months) represent about **8.7%** (***USD* 3,210,914**) of the approved budget of US$ 36,960,000 versus an elapsed time of **48%**. So far, project expenditures are way behind the planned timeline, with most of the planned procurement of equipment still to take place later this year.

The monitoring framework in place is workable but needs to be improved. UNDP Annual and Quarterly reports should be prepared to allow for close and proper monitoring of the progress. The Project's LF is composed of a set of 7 indicators with their respective baseline and targets. However, a few mid-term indicators were introduced at the project inception workshop. These are not enough to allow for proper monitoring of project progress. AWPs are action-oriented and need to be deliverables-oriented.

Communication activities and knowledge management are very limited and need to be enhanced to provide good visibility of the project. Overall, the project has been covered by the Pakistani media but not in a positive manner in most cases. Project activities are communicated through social media and newspapers and the project produced a short video presenting the objectives of the project that is available online. The project team should enhance the project's image by focusing on enhancing project activities visibility.

[6] April 2018 was considered instead of July 2017 as the first disbursement from GCF was received in April 2018.

Medical and Life Insurance of Project and IP Staff. The project area is a very difficult terrain prone to landslides, avalanches, earthquakes, GLOFs, etc., thus the risk to life is very high. The meagre amount of salary and almost no medical and life insurance, demotivates the staff to go in difficult terrains to implement activities. Also, this will be an issue soon as regular maintenance and recording of data in these difficult terrains are needed.

Record of all the AWSs and Data Accessibility. The recording of data from mountainous areas has been a major issue in the country, and many AWSs were installed by several projects with the assistance of GiZ, CIDA, for example. This is confusing, as there is no consolidated record of locations of AWSs and no common data repository.

Design of Drip Irrigation System. The design of the drip irrigation given in Fig. 31, Page 101 of Annex II- Feasibility Study of the Funding Proposal is faulty as the main pipeline from the water tank runs horizontally, which provides connections to the several irrigation pipelines laid out vertically. This will result in uneven distribution of water in the field- downside receiving more water than the other.

Project achievements should be sustained over the long-term, though the five barriers remain till the time of the IE. The project has not performed any activity on the ground yet, however, when assessing the risks to sustainability, no socio-economic, nor environmental risks were found to hinder the sustainability of project achievements. The same is true for institutional and governance risks at the local level. However, there are conflicting or overlapping mandates of the line departments and ministries. The lack of coordination among institutions is a moderate risk to the operation and sustainability of the project. Financial risk is an area where there are questions related to the long-term sustainability of project achievements.

Recommendations Summary

Ref	Recommendation	Entity Responsible
A	**Project Implementation & Adaptive Management**	
A.1	High-level officials from UNDP, MOCC, and EAD need to meet urgently to discuss the way forward to improve the adaptive management mechanisms for project implementation using the NIM modality and the signed LOA and its amendments. A set of concrete actions need to be defined and agreed upon by all partners to be achieved before the end of 2020 (Project Revival Plan).	UNDP, MOCC, EAD
A.2	By December 2020, UNDP, MOCC and EAD assess the progress on the Project Rival Plan. Depending on the context, one of the following options should be adopted. This may constitute a "major change"[7]: - If the "Revival Plan" is fully implemented as planned, the project should continue and follow up on the list of recommendations listed below. - If the two parties; UNDP and MOCC fail to achieve any of the planned activities due to lack of trust, collaboration, and communication. The Project should be terminated. - If the two parties could not achieve some of the planned activities (50% of the agreed plan) due to the delay in getting the needed approval and/or the limited participation of the MOCC personnel in different procurement and/or recruitment events; the Project should be extended but a "major change" should be considered as follows. • Convert the management arrangement from NIM to Direct Execution Modality (DIM), or • change the project implementing partner to be the provincial governments of GB and KP.	UNDP, MOCC, EAD

[7] Major change means that the project needs reconsideration by GCF Board and may therefore need restructuring/repurposing.

B	**Progress towards results**	
B.1	UNDP should submit a request to GCF for project extension by 2-years. UNDP should organize an independent rapid assessment of completed infrastructure targets at the end of every year to assess progress and define bottlenecks if any. For 2021, the project should achieve at least 30% of the hard targets (installation of hydro-meteorological equipment and completion of infrastructure projects).	UNDP CO/BRH, MOCC
C	**Project implementation and adaptive management**	
C.1	UNDP and MOCC should consider revision of the PSC Terms of Reference to better define its role and functions for the project. The updated TOR could include e.g., the possibility of one additional meeting per year as well as alternatives for decision-making processes on urgent implementation issues.	MOCC and UNDP
C.2	MOCC in consultation with UNDP should streamline and simplify the approval mechanism of project-related decisions to avoid delays in project implementation. After approval of the AWP by the PSC, the PMU/IPs should be allowed to implement activities as per plan without the approval of each activity on the file. On the other hand, more details should be shared with the NPD; a monthly brief and detailed quarterly report would keep his office fully abreast of the progress, emerging issues, and adaptive actions being taken	MOCC with the support of UNDP
C.3	The Project to be more proactive in producing and disseminating information on its achievements and ensure its visibility. All Partners and key stakeholders should be aware of MOCC, UNDP and GCF roles in the Project.	PMU, MOCC, UNDP.
C.3	The Secretary MOCC, EAD, and UNDP should call for a meeting immediately to eliminate the TWG in GB.	MOCC, UNDP and EAD
C.4	UNDP should sign a blanket agreement with each P&DD/ line department or IP for the entire project duration indicating the activities to be completed along with the estimated budget. Then based on the approved AWP of each year, a memo is to be sent to the P&DDs/line departments highlighting activities to be implemented during the year and the funds transferred to their accounts. In the PSC, the provinces are represented by the Additional Chief Secretaries (Development), therefore, their commitment is already there. The signing of LOAs with IPs every year should be eliminated.	UNDP, IPs with MOCC support
D	**Work-planning**	
D.1	PMU and the executing beneficiaries in GB and KP should develop a deliverables-oriented annual plan to accelerate the implementation of project activities to ensure completion of the components by the end of the extended project period.	PMU, MOCC, and Co-executing Beneficiaries.
D.2	PMU with the support of MOCC and UNDP should refit the project LF, complete with indicators, identify risks8, assumptions and propose reassignments of budgets. Risk management by UNDP CO should be enhanced and management response to the risks should be prepared and updated in ATLAS systematically.	PMU, MOCC, UNDP
D.3	The PMU should ensure that AWPs contain a monitoring component in terms of the status of progress to the end of project targets to improve operational monitoring of the project progress.	PMU, PIUs, MOCC and UNDP
E	**Technical content and operational matters**	
E.1	Keeping in view the difficult and dangerous terrain where the project is operational, it is imperative to provide comprehensive medical and life insurance to all the staff of the project and IPs involved in fieldwork. The staff is already entitled to daily subsistence allowance as per UNDP rules which are conducive for their engagement in the project.	MOCC and UNDP CO

[8] Particularly in respect to the additional risks identified by the IE (financial, technical, and operational).

E.2	The PMU and PIUs to consult a qualified engineer to design a proper irrigation scheme for equal distribution of water in all the corners of the field. This could be achieved by laying the main pipeline vertically, and lines for the water outlet horizontally.	PMU
E.3	PMD should compile a database of all the AWSs and water-flow meters installed in the mountainous region of KP and GB and publish this on its website. With the assistance of MOCC, the PMD should collect all the available historical and new GIS, weather, and water-flow data from all the public and private (INGOs/NGOs) organizations, develop metadata and deposit all data with the nationally designated data repository (maybe Federal Bureau of Statistics) and the Higher Education Commission so that it could be accessed easily by researchers for further analysis.	PMD with the support of PMU
F	**Other issues**	
F.1	Senior management of MOCC should provide support to the project by actively engaging with the project implementing teams on important events such as this IE exercise.	MOCC

1. Introduction

1.1 Purpose of the Interim Evaluation and Objectives

As per the Terms of Reference (TOR- ***Annex 5.1***), this Interim Evaluation (IE) is a mandatory requirement for the GCF-funded project entitled "Scaling-up Glacial Lake Outburst Flood Risk Reduction in Northern Pakistan" (hereafter called "GLOF II Project") being implemented through the Ministry of Climate Change (MOCC) as the UNDP's National Implementing Partner.

The main objective of the IE is to assess progress towards the achievement of the project objectives and outcomes as specified in the Project Document (ProDoc), and assess early signs of project success or failure to identify the necessary changes to be made to set the project on-track to achieve its intended results.

The purpose of the present Interim Evaluation (IE) is to:

a) assess the implementation of the project and its alignment with Funded Activity Agreement (FAA) obligations and progress towards the achievement of the project objectives and outcomes as specified in the ProDoc,

b) take stock of the progress towards the achievement of the project objectives and outcomes as specified in the Project Document, and

c) assess early signs of project success or failure to identify the necessary changes to be made to set the project on-track to achieve its intended results

1.2 Scope and Methodology

This IE has been conducted by a team of two independent consultants at the request of the MOCC, Government of Pakistan (GOP) and the UNDP Country Office to provide information about the status of implementation of the GLOF II project to ensure accountability for the expenditures to date and the delivery of outputs so that managers could make midcourse corrections as appropriate. Furthermore, the IE has laid the foundation for the Terminal Evaluation and considered possibilities of having extra time to compensate for the time lost due to belated project start so that it can achieve its objectives.

The scope of the IE is the GLOF II Project at mid-point, focusing on outputs generated and funds disbursed until August 30, 2020, as per the documentation submitted to the evaluation team and implemented activities visible on the ground. It has covered the following categories of project progress: Project strategy; Relevance, Effectiveness, and Efficiency; Progress towards results; Project implementation and adaptive management, and Sustainability; Country Ownership; Gender Equity; Innovativeness in results areas; Unexpected results, both positive and negative; and Replication and Scalability.

The evaluation team consisted of an International Consultant (Dr Amal Aldababseh) and a national consultant (Dr Chaudhry Inayatullah). The evaluation team was supported by the UNDP Country Office in Pakistan. The GLOF II Project Management Unit supported the team by providing requested project documentation, the arrangement of meetings/ interviews, virtual or in-person as deemed necessary, with the government ministries/departments and other stakeholders, and facilitation in the collection of field data remotely.

The evaluation used the criteria of relevance, effectiveness, efficiency, sustainability, and impact, as defined, and explained in the UNDP Guidance for Conducting Interim Evaluations of UNDP-supported, GEF-financed Projects. The IE adopted an evidence-based collaborative and participatory approach to ensure close cooperation with the project team, government counterparts, the UNDP Country Office, UNDP Regional Technical Advisers, and other key stakeholders.

The involvement of stakeholders is crucial to a successful IE. Due to COVID-19 related travel restrictions, the team could not undertake a mission to the field sites. Therefore, the stakeholders covered include the executing agencies, senior officials, and task team/component leaders, key experts, and consultants in the subject area, Project Steering Committee, and project stakeholders, etc.

The evaluation methodology included multiple methods with an analysis of both qualitative and quantitative data, where possible. It included, but not restricted to, the following:

- Review of a variety of key project documents (Project funding proposal/ UNDP Project document) covering project design, implementation progress, monitoring, amongst others:
  - UNDP Project Document and its annexes.
  - Funding Proposal and its annexes.
  - UNDP Environmental & Social Screening results.
  - Project Reports: including inception report, Annual Performance Reports (APRs), project progress report, project budget revisions, the project Combined Delivery Reports (CDRs), Annual Work Plans (AWPs), missions reports, all monitoring reports prepared by the project, the UNDP and the UNDP Regional advisors, and lessons learned reports, technical reports produced during the project implementation.
  - A few technical studies commissioned by the project.
  - Relevant national and provincial strategies and legal documents.
  - Minutes of the PSC meetings.
  - Project site locations maps.

The list of documents reviewed is given in ***Annex 5.2***.

Semi-structured interviews and consultations were conducted with a wide range of stakeholders, using a set of questions in a conversational format (***Annex 5.3***). The agenda of meetings and list of persons interviewed is given in ***Annex 5.4*** and ***Annex* 5.5**, respectively. In general, the questions were arranged around the evaluation criteria. Findings were cross-checked during different interviews and with the available evidence. The national consultant conducted in-person meetings when possible following the standard SOPs given the prevalent COVID-19 pandemic situation, while the international consultant virtually met with stakeholders (online meetings, online interviews, telephone calls, zoom meetings, skype/ WhatsApp chat, and rapid surveys).

The team obtained the perspective of both women and men stakeholders. To the extent possible, data collection and analysis have been disaggregated by gender. The information collected, including documentary evidence, interviews, and observations, has been compiled, summarized, and organized according to the questions asked in the evaluation.

All evaluation indicators were analyzed using the project's reporting mechanism, using as much as possible quantitative and qualitative data, validated through revision of documents and products and interviews with project staff, partners, and key stakeholders.

A detailed assessment of project performance has been carried out against the pre-identified targets as stated in the Project Logical Framework/Results Framework. Ratings have been provided using the UNDP/GEF performance criteria table (***Annex 5.6***).

1.3 Limitations

The major limitation in this evaluation was the restricted travel by the consultants or stakeholders to meet due to strict SOPs to be observed to stay protected from COVID-19. The International Evaluator could not visit Pakistan, whereas the National Consultant could not visit the project sites. The International Evaluator led the team remotely from her home in Jordan using communication tools such as email, Skype, Zoom, and other convenient tools. The National Evaluator was responsible to conduct the interviews face-to-face and using communication tools such as phone, Skype and Zoom to connect with the Team Leader. During the interviews, the evaluation team used the evaluation matrix (***Annex 5.7***) prepared during the IE inception phase. Key questions were used to collect evidence and get feedback from stakeholders. No visits to the project's implementation sites were organized due to travel restrictions and to the fact that implementation of activities on-site has not been started yet, so nothing has been missed in this context.

Non-availability of documents in time was an issue but the IE team was able to access the documents after making several attempts. Interviewing concerned stakeholders was another constraint faced the IE team. Interviews were organized over a month - needed triple time than the planned - due to problems with internet connectivity and inaccessibility/unavailability of stakeholders. Furthermore, there was only one round of discussion with the National Project Director, and the IE team indicated to meet with the Secretary, MOCC, however, and according

to the Project team, MOCC officials were not available for a second meeting. This is a missed opportunity to sensitize them about the issues the project is facing.

1.4 Structure of the Interim Evaluation Report

The preparation of the IE Final Report follows the guidelines for conducting mid-term reviews of UNDP-supported, GEF-financed projects with slight modification advised for the GCF financed projects. The IE Final Report is structured along with the following chapters:

- Executive summary, including i) Project Information Table, ii) Project Description, iii) Project Progress Summary, iv) Interim Evaluation Rating and Achievement Summary Table, v) A Concise Summary of Conclusions, and vi) Recommendations Summary Table.
- Introduction, including i,) Purpose of the Interim Evaluation and Objectives, ii) Scope and Methodology; Principles and Design and Execution of the IE, Approach and Data Collection Methods, Limitations to the IE, and iii) Structure of the Interim Evaluation Report.
- Project Description and Background Context, including i) Development Context, ii) Problem that the Project Sought to Address, iii) Project Description and Strategy, iv) Project Implementation Arrangements, v) Project Timing and Milestones, and vi) Main Stakeholders.
- Findings, including i) Project strategy, ii) Relevance, iii) Effectiveness and Efficiency, iv) Progress Towards Results, v) Project Implementation and Adaptive Management, vi) Project Progress against GCF Criteria, vii) sustainability, viii) Needs of the Receipt and Country Ownership, ix), Innovativeness in Results Areas, x) Environmental and Social Safeguards and Progress Concerned the Gender Action Plan, xi) Unexpected Results, both Positive and Negative, and xii) Replication and Scalability.
- Conclusions and recommendations, including i) conclusions, and ii) Recommendations.
- Annexes, covering TORs of IE, evaluation matrix, example questionnaires/interview guides, rating scales, mission itinerary, list of persons interviewed, list of documents reviewed, co-financing table, singed UNEG code of conduct form, singed interim evaluation report clearance form, and audit trail (annexed in a separate file).

2. Project Description and Background Context

2.1 Development Context

This section covers the review of development context studied at the time of project formulation to update our understanding about the project and afresh the information in the light of developments occurring since then to ensure the relevance of the project. It covers the environmental, socio-economic, institutional, and policy factors which are relevant to the project objectives and scope.

a. *Environmental:* According to the Cumulative Global Climate Risk Index[9], Pakistan ranks 5th on the list of countries most vulnerable to climate change. The German watch Group (2020) estimated that Pakistan has faced 152 extreme weather events from 1999 to 2018 and lost 9,989 lives and suffered economic losses worth of US$ 3.8 billion. On Long-Term Global Climate Risk Index Pakistan's ranking has been downgraded from eight to five.

Pakistan is located on such a part of the globe where natural hazards, particularly rainfall, flash floods, and riverine floods are a common feature. In 2010, for instance, unprecedented heavy monsoon rain began in the last week of July 2010 in the KP, GB, Punjab, and Azad Kashmir regions of Pakistan. Over 200 mm of rain fell in about 24 hours over several places in KP leading to floods in the Indus River and its tributaries in the Northern Areas.

The increased intensity and frequency of extreme weather events in Pakistan is a sign of a creeping disaster- climate change. UNDP published climate change profile of Pakistan in 2006 and highlighted that the mean annual temperature has increased by 0.35°C since 1960, at an average rate of 0.08°C per decade. Further, the rate of increase is most rapid in October-December, at 0.19°C per decade, while there is no evidence of a warming trend in the warmest season (July-September). The mean annual rainfall in Pakistan does not show any discernible trend, e.g., total rainfall in 2010 was the same as in normal years but the downpour in a few days was equivalent to annual rainfall in the small catchment which caused heavy floods. The most important characteristic of precipitation is its variability over time and space. Inter-Cooperation in a study reported that in Chitral annual rainfall is showing an increasing trend compared to the base years (1971-2000) and projected to further increase by 2030.

At the formulation stage of GLOF II, a comprehensive feasibility study was conducted in 2016. According to this study, 19% each of the area of Chitral and Swat is covered with snow/glaciers, whereas in Mansehra about 11% and in Kohistan, about 22% area is covered with snow. The total number of glaciers in KP and GB is 7,259, with a total area of 11,780 sq.km and 2,066 cubic km of ice. The latest inventory revealed that the number of glacial lakes in the Indus Basin is 815, followed by Gilgit River Basin (660), Shyok River Basin (270), Shingo River Basin (247), Hunza River Basin (216), Swat River Basin (214), Jhelum River Basin (200), Astore River Basin (196), Chitral River Basin (116), and Shigar River Basin (110). The total area under the lakes is 134.8 square km (collectively about half the size of Tarbella Lake). According to the 2013 glacial lake inventory compiled by the PMD, 33 glacial lakes pose potentially GLOF risks. The number of glacial lakes in the glaciated areas has increased from 2,420 in 2001 to 3,044 in 2013, indicating the formation of new glacial lakes due to changing climate and other geomorphological changes, which is a warning signal for the country.

The decay of many glaciers has been already reported in various studies. For example, the Siachen glacier has been reduced by 1.9 km in a longitudinal extent from 1989 to 2006. Thinning of ice mass is evaluated at 17% during the same period. The size of Batura glacier (2nd largest in Pakistan) has been reduced by 17 km^2, and the same is true for many other glaciers. The Funding Proposal annexes lists the melting of several other glaciers and associated GLOF events.

Besides rainfall, the snow and glacial melting maintain sustained water supply for food-, energy- and water security in the country. The contribution of snow and ice melt in the Indus River

[9] https://germanwatch.org/en/17307

System is estimated to be about 50%, and it is available at a time when no rainwater is available, except the stored water in reservoirs (13.7 MAF) which is sufficient only for 36 days. The immediate affectees of the recession of glaciers are the residents of glaciated areas. The second level of impact is the reduced availability of water for winter crops, which is mainly wheat- a staple food for the Pakistanis. It is anticipated that the glacial melt in the Himalayas will increase the flooding of the Indus River and its tributaries over the next 2-3 decades, which will be followed by decreased river flow as the glaciers significantly recede. This phenomenon will negatively impact irrigation and hydro-energy projects.

Impacts of climatic changes are clearer at higher altitudes where alpine pastures exist and are an integral part of the rural livelihoods. Because of overgrazing and fuel-wood needs, the mountains are being denuded, which leads to soil erosion, land- and mudslides, etc. The debris from land- and mudslides and GLOFs results in erosion of productive soil and deposition of heavy borders and stones, thus the farmers lose their agriculture and sustenance and face the threat of migration. Poor forest and rangeland management and planning, low institutional capacity, lack of community involvement, and lack of enabling environment are responsible for further escalating the problems.

b. *Socio-Economic Factors:* Poverty in Pakistan is concentrated in rural areas where 70% of the population lives. The project area is rural. Based on World Bank's Poverty Headcount Analysis, at US$ 1.25/day income definition, about 21% of Pakistan's population is below the poverty line and if the line is set at US$ 2/day then 60% of the population is below the poverty line. In 2019, the inflation rate was 10.58%, which has been increasing annually since 2015 when it was 2.53%[10]. It is feared that with the recent devaluation of the currency, decline in exports and price hikes, and indirect impacts of COVID-19 on reducing job opportunities, poverty has increased considerably. The COIVD-19 has been a big blow to the already fragile economy and has been responsible for the reduced tax collection. This is evident in the form of budget cuts on development projects and a reduction in staff salaries in the public sector.

In 2019, Pakistan ranked 3rd to the last, 151 out 153 on Global Gender Gap Index, highlighting the urgent need to promote the social, economic, and political empowerment of women. On the Human Development Index (HDI), in 2018, Pakistan was positioned at 152 out of 189 countries and territories with a value of 0.560— which put the country in the medium human development category. Between 1990 and 2018, Pakistan's HDI value increased from 0.404 to 0.560, an increase of 38.6% (UNDP Human Development Reports). Due to political unrest and many other factors, economic growth is declining since 2018. The GDP fell from 5.55% in 2018 to 2.29% in 2019 and -1.55% in 2020[11]. It is anticipated that the country's HDI rank will fall in the future years due to slow economic growth and availability of less public resources for public sector projects.

Agriculture remains an important sector for Pakistan both for its economic and industrial growth as well for poverty reduction. 21% of GDP and 44% of the employment is generated by the agriculture sector. The agriculture growth has been stagnant around 1-2% since the 1990s due to structural and policy issues, fragmentation of landholdings, and poor support, to value chain development services. The project areas are mountainous and remote regions and here agriculture, livestock, and tourism, coupled with inland and foreign remittances is the mainstay of the economy. Foreign remittance has been also declining due to declining job opportunities in the Middle East.

In the past, several pilot projects were implemented by various donors in the GLOF II project area. These pilots have demonstrated the potential for improved returns for farmers through improved agriculture products, value-added processing, and marketing. The blockade of roads due to landslides pose a major risk for economic development in the project area. For example, in 2010 a major landslide at Attabad, Hunza led to the blockade of the Hunza river, resulting in the formation of Attabad lake and several villages, bridges, and part of the Karakorum Highway

[10] https://data.worldbank.org/indicator/FP.CPI.TOTL.ZG?locations=PK

[11] https://www.statista.com/statistics/383729/gross-domestic-product-gdp-growth-rate-in-pakistan/

(HKH) were sunk. This disaster disconnected the upstream valleys with the rest of Pakistan, and the potato, fruits, and dry fruits could not be traded with the downstream communities, thus plunging the once well-off farmers into poverty for several years. As a Payment of Ecosystem Services, the GOP provides wheat flour in the project areas on subsidized rates. In the light of missing road infrastructure, the cost of transportation of fuelwood, wheat flour, construction material, etc., is several-fold higher in the upstream valleys. In our view, the GLOF II project is a major intervention for sustainable human development in the most neglected areas of Pakistan and will contribute directly to the achievement of Sustainable Development Goals (SDGs) at the global level.

c. *Institutional Factors:* According to the constitutional requirements, the MOCC (the Implementing Agency of GLOF II project) was dissolved on 30 June 2011 and the environmental subject was transferred to the provinces, even though the provinces did not have the technical capacity. Having realized the fact, the MOCC was recreated in 2015. In March 2017 new landmark legislation concerning climate change was passed – the Climate Change Act 2017, announcing the establishment of a high-level Climate Change Council chaired by the Prime Minister, a new institution, the Climate Change Authority, and a Climate Change Fund. In 2014, the Govt. of KP launched the Billion Tree Tsunami project, and since 2018, the GOP is implementing the 10 Billion Tree Tsunami project which aims at the regeneration and rehabilitation of the degraded forests in all the provinces. This shows the strong resolve of GOP for addressing the climate change issues and a highly conducive environment for the GLOF II project to show its worth.

The earthquake in 2005 highlighted Pakistan's vulnerability to disaster risks and motivated a shift from the erstwhile response-focused to the current, more proactive approach. Consequently, the National Disaster Management Ordinance (NDMO, 2006, replaced in 2010 by the current National Disaster Management Act), was passed, followed up by the National Disaster Risk Management Framework (NDRMF) (2007-2012) that outlined a comprehensive national DRR agenda and its integration in the development. At the national level, the National Disaster Management Commission (NDMC) was established. The National Disaster Management Authority (NDMA) was created in 2007 as the executive arm of the NDMC which serves as the implementing, coordinating, and monitoring body for disaster risk management at the national level.

At present, the NDMA, an arm of the MOCC, is performing with its full capacity and providing coordination mechanisms and relief assistance in the affected areas. Among the provinces, the PDMAs of Punjab and KP have adequate technical staff and resources, while the other PDMAs have low technical and operational capacities. Following the country-wide flood disaster in 2010, UNDP supported the establishment of DDMAs in the most vulnerable districts and the district disaster management plans were also developed. However, all the DDMAs have limited technical and operational capacities. Their activities remain only to the preparation of annual contingency plans and providing relief to the affected communities. This situation provides a window of opportunity to the GLOF II project to enhance the capacities of the PDMAs and DDMAs.

PMD (under the Aviation Division) is the main agency that collects meteorological data and is well equipped with modern radars and equipment. However, in the high-altitude mountains, its network of weather stations is thinly spread, which leads to crude weather forecasts. Several weather stations are required at different altitudes in a valley to capture the variability in totality and make accurate forecasts. This is a second opportunity (first was GLOF I and several other small projects) for PMD to develop its capacity and contribute towards the national and international development. Another institution not mentioned in the ProDoc is the Water and Power Development Authority (WAPDA) which is also operating a network of meteorological and hydrological monitoring stations in the northern areas but its technical and operational capacity for even data recording is limited. This highlights the importance of regular maintenance of weather/hydrological stations and timely data collection. At the federal level, the Federal Flood Commission under the Ministry of Water is the coordinating agency for flood management with a focus on floods in the plains.

At the provincial level, the relevant line departments (Agriculture (On-Farm Water Management Programme), Forest and Environment) have adequate technical capacities but at the district level, their presence is inadequate. The departments are plagued with lengthy bureaucratic procedures, lack of operational funds, transport facilities, thus making their presence

ineffective. Thus, the GLOF II projects offer an opportunity to the public sector departments at all levels to access easily available grants and technical expertise which is a blessing in the light of present budget cuts in the public sector.

d. *Policy and Political Factors* The National Climate Change Policy (NCCP), approved by the Cabinet in 2012 remains central to the MOCC, and focuses on adaptation, in the light of Pakistan's high vulnerability to extreme weather events and other adverse impacts of climate change. The GOP has also developed its Disaster Risk Reduction policy in 2013. The policy seeks to promote priority measures to ameliorate already existing vulnerability to hazards, and equally important measures to ensure future development processes and programs strengthening resilience. Besides, these 2 major policies, the feasibility study conducted at the formulation stage of GLOF II, recognizes 19 sectoral policies and plans which have a link to the environment/ climate change and disasters.

GB had a special status within Pakistan from 1947 to 2009 with no representative and locally accountable governance system. The GB Empowerment Act 2009 led to the establishment of a representative government and status of a province with its legislature, courts, and legal framework. Consequently, the provincial policies and departments have also started to evolve but important gaps in terms of the policy framework and institutional capacities for rural and agriculture development remain to be addressed. In 2017, GB developed its own climate change action plan and strategy, with clear policy interventions and strategic coordination among various departments. Thus, the policy framework in Pakistan is conducive for the project.

e. *China Pakistan Economic Corridor.* China Pakistan Economic Corridor (CPEC) is a part of 'One Belt One Road'. It is a project between China and Pakistan with the initial investment of US$ 46 billion by the Chinese government for development projects in Pakistan. CPEC contains the construction of a network of roads, railway lines, energy pipelines, and fibre optic cables to connect Kashgar with Gawadar in Pakistan. CPEC is thus a unique opportunity for the people of Pakistan in general and GB for development in industrial and other related sectors. It is not only meant to improve communication and trade but to also eradicate poverty and will lead the country towards economic progress. CPEC will predominantly benefit GB through the enhancement of trade with China and provide a conducive environment to further enhance its potentials in energy, business, fruit handling, and livestock sectors. Expansion of the present Karakorum highway (KKH), and other roads connecting GB with KP, Punjab, and Azad Jammu and Kashmir (AJK) will provide tremendous opportunities to the local communities to trade their products with downstream traders and fetch a better price. Regarding cellular connectivity, in parts of the project area is next to negligible, showing a disconnect between the communities in remote valleys. The internet connectivity will be enhanced in GB with the laying of high-speed fibre optic cable which is in progress. Thus, the entire CPEC will facilitate the GLOF II project to access difficult to reach valleys, transport equipment, and construction material for infrastructure projects, and real-time transmission of data from AWSs and thus enhance its visibility nationally and internationally.

It is concluded that the stakes at the national, provincial, and local community level are very high in this project; and the environment, socio-economic, political, institutional, and policy environment is highly conducive for the project to timely deliver the inputs and harvest the benefits.

2.2 Problems that the Project Sought to Address, Threats and Barriers Targeted

The earthquake 2005 and 2010 and 2011 floods in the mountainous areas as well as in plains in almost all of the country revealed that Pakistan is highly vulnerable to natural disasters and climate change ravages and that it cannot prepare, manage and coordinate relief in and rehabilitation of the affected areas. As mentioned in the previous section, it is estimated that in Pakistan the temperature is rising at the rate of 0.5^{o}C per decade, which has resulted in the changed precipitation pattern and rainfalls are shifting towards the south. The complex topography in Pakistan means that local variations in response to global warming, particularly precipitation, are likely to be large and many areas may vary from the regional trend. This requires a densely populated network of the Automated Weather Stations (AWSs) and strong modelling and forecasting capacity.

The National Climate Change Policy (NCCP) has recognized the continued recession of the Hindu Kush, Karakoram, and Himalayan glaciers due to global warming and carbon soot deposits (Section 2.1). According to the 2013 glacial lake inventory compiled by the PMD, there are 3,044 glacial lakes in Northern Pakistan, of which 33 glacial lakes were identified as potentially dangerous for GLOF hazard. The frequency and intensity of flash floods and GLOFs in the project area are covered in Section 2.1, and important events have been mentioned in the previous section.

Glacial and snow meltwater make up about 50% of water flows in the Indus River System, and its availability, particularly during the winter and early spring, is crucial for wheat production in the Indus plains. The fast melting of glaciers has challenged the water-, food- and energy-security of the country, the immediately affected communities being the residents of glaciated areas in GB and KP. It is anticipated that the glacial melt in the Himalayas will increase the flooding of the Indus River and its tributaries over the next 2-3 decades, which will be followed by decreased river flows as the glaciers recede. This phenomenon will negatively impact irrigation and hydro-energy projects.

Pakistan is losing the opportunity of managing floods downstream due to upstream uncontrolled release of water (flash floods and GLOFs), and by not utilizing the hydro-power potential of water stored in the glacial lakes as Switzerland is practising. The main barriers to the facts are:

I. Limited institutional capacity and coordination at the sub-national level, and across relevant agencies, to address the risks from climate change and GLOFs.
II. Limited resources, capacity, and logistical feasibility in government institutions to construct infrastructure required for remote mountain communities to reduce exposure and respond to disasters and climate change.
III. Lack of capacity and information availability at the community level to prepare for and respond to immediate threats from GLOFs.
IV. Lack of access to readily available financial capital for the public sector institutions and households to prepare for and respond to GLOF risks and build long-term adaptive capacity.
V. Current natural resource, land and water use practices are unsustainable. Ecosystem-based adaptation interventions will provide a paradigm shift required to catalyze new long-term sustainable use patterns that form the foundation of local agro-based livelihood assets.

At present, the country faces a critical gap in technical and technological capacity to monitor the status of glacial lakes through hydrological monitoring and forecasting of snow/glacial melt rate. Current Early Warning Systems (EWS) are not capable of supporting the management of risks posed by rising water levels in the lakes or the ability to issue accurate early warnings to communities. The design and implementation of medium- and long-term disaster management policies, as well as risk reduction and preparedness plans, are also not fully geared to deal with the specifics of GLOF threats. Lastly, the slow economic growth, widespread poverty, and present impacts of COVID-19 on the economy have hampered the allocation of public sector financial resources for development.

Having realized the importance of the subject, UNDP with the assistance of the Adaptation Fund implemented a project entitled "R*educing Risks and Vulnerabilities from Glacier Lake Outburst Floods in Northern Pakistan"* from 2011 to December 2015 in 2 districts (one each in GB and KP). The project made considerable breakthroughs in solving the problems of the vulnerable communities and building the capacity of national and provincial institutions. Thus building on the successes of that project, UNDP-supported the present GCF-financed project titled '*Scaling-up Glacial Lake Outburst Flood (GLOF) Risk Reduction in Northern Pakistan'* to cover all the glaciated areas in GB and KP in 15 districts (now 16 as Chitral has been divided into two districts, viz., Upper and Lower Chitral). The project strategy, objective, outcome, output, activities, and expected results are described in the following section.

2.3 Project Description and Strategy

This section describes the project strategy (theory of change) along with objectives, outcomes, outputs, and activities. It also gives the key information about the field sites, extracted from the ground-truthing study conducted by PMD in 2019.

a. Project Strategy

The project has identified 5 sets of barriers, namely, (i) limited institutional capacity at the sub-national level and across relevant agencies; (ii) limited resources, capacity and logistical capacity in government institutions to conduct required infrastructure; (iii) lack of capacity and information availability to the community level to prepare for and respond to disasters; (iv) lack of access to readily available financial capital for households to prepare for and respond to GLOF risk, and (v) unsustainable current natural resource, land and water use practices. These barriers are addressed through 6 activities under two outputs, first for building capacities at the sub-national levels, and second to install and manage the community-based early warning system and provide support to the vulnerable communities to manage GLOFs on a sustainable basis. **The outcome is "strengthened adaptive capacity and reduced exposure to climate risks", and the fund level impact is" increased resilience and enhanced livelihoods of vulnerable communities in Northern Pakistan**.

The strategy or theory of change presented in the ProDoc is holistic, where capacity issues at all levels to be addressed, modern EWS to be installed, and infrastructure and/or bioengineering projects to be implemented for slope stabilization, halt land degradation, and regeneration and restoration of forest and rangelands. The component of rehabilitation of water channels in the valleys is a lifeline of the vulnerable communities. The increased water availability will minimize the risk of population migration and increased agricultural production and thus their livelihood enhancement.

All the major stakeholders in the project are engaged and have been given due roles. However, an important stakeholder, i.e., the private sector, has been missed in the project design. The private sector should have been looped in to install micro-hydro projects in collaboration with communities. The availability of electricity through the national grid in the remote areas is next to an impossible task. Besides irrigation water, the availability of electricity is the major priority of communities. The communities get together around these two interventions without any significant effort. For example, in GB the need for electric power is about 500 MW, and hardly a fraction of it is available. The main source of electricity in the glaciated areas is through micro-hydros, which are operated by local communities on a self-help basis.

However, the design of and lessons learned from the implementation and use of these components are likely to prove useful in developing response and preparedness measures in other vulnerable communities where GLOF risks are present across the Himalaya, Hindu-Kush, Karakoram, Tien Shan, and Andes mountain ranges. It is anticipated that the weather and hydrological data collected over time will help in developing models for making accurate weather forecasts for longer periods for agriculture and predicting climate-led disaster events. Thus, a wealth of knowledge new to science is expected to emerge from this project, which will be useful for other countries and it will initiate a healthy debate among the scientific community.

At the formulation stage, the financial analysis of the project was conducted (Annex XIIa-Funding Proposal), and the results were highly encouraging. The present value of the benefit stream was estimated at US$ 43,944,178. Sub-activity EWS generated a net present value of US$14,249,919 with an economic internal rate of return of 24%, while Sub-activity Livelihoods had a net present value of US$ 6,223,940 with an economic internal rate of return of 26%. The result hinges on the multiple streams of benefits generated by activities in Sub-activity EWS, specifically the causalities averted by the construction and operation of the early warning system and the damages averted by the construction and operation of flood protection work, along with the higher net revenues from improved irrigation coverage.

The project is implemented by the MOCC under the National Implementation Modality (NIM), with an arrangement with UNDP to provide procurement of goods and services, financial support services, human resource services, administration and logistics services, and technical support[12]. However, due to a lack of understanding of different modalities, the project has faced several bottlenecks in implementation, and thus the implementation rate remained slow till IE.

b. *Project Goal, Outcome, Outputs and Activities*

[12] Annex 1, Letter of Agreement

The goal of the project is to protect human lives and property through the operation of the Early Warning System and manage floods through the construction of protective infrastructure and following bio-engineering approaches for slope stabilization. Several co-benefits, such as income generation, community capacity-building, improved quality of human life, sustainable and climate-resilient land use, the reversal of environmental degradation, and women's empowerment are also envisaged. There are 3 project objectives, which are:

i. empower communities to identify and manage the risks associated with GLOFs and other related impacts of climate change,

ii. strengthen public service systems to lower the risk of GLOF related disasters; and

iii. support the development of sustainable and climate-resilient livelihood options for communities in the regions targeted by this project.

All the project activities are to be performed by the provincial and line departments to integrate the challenges of climate change and GLOF risks into development tools and budgets, as well as expand the coverage of PMD's EWS based on hydrological modelling and flood scenarios.

The afore-mentioned project goal and objectives are envisaged to be achieved through the implementation of 2 outputs, which are:

Output 1. Strengthened sub-national institutional capacities to plan and implement climate change -resilient development pathways. The purpose of Output 1 is to introduce appropriate policies to address GLOF risks across different sectors.

Under this output, there are 2 activities. The activity 1.1 targets to enhance the technical capacities to mainstream climate change into adaptation plans. The project aims to build upon the progress being made under the NCCP and will support the development of provincial climate change action plans and address GLOF risks from a sectorial perspective, focusing Disaster Risk Management (DRM), agriculture, livestock, forestry, environment, and on-farm water management.

The second activity under Output 1 is to strengthen and expand existing sub-national institutional and coordination arrangements including financial planning and budgeting processes and other requirements for implementing adaptation action plans. Under this activity, the Climate Change Cells in the sectorial ministries will be established to facilitate coordination of all climate change activities at the national and international level and will provide training and support to the targeted officials and experts of line ministries and departments to enhance their technical skills.

Output 2: Community-based EWS and long-term measures are up-scaled to increase communities' adaptive capacity

Under this output, the project will undertake 4 activities. The first activity is the hard-core activity which will be implemented by the PMD with the support of PDMAs of KP and GB. The project plans to install 22 Automated Weather Stations (AWSs) in KP and 28 in GB to collect on-line meteorological data in the catchment areas to make precise weather forecasts and predict the onset of floods. The project will install 170 river discharge gauges/sensors in KP and 238 in GB to collect data about water-flows in streams and predict the onset of floods.

The second activity is to synthesize, analyse and make as precise as possible flash flood forecasts by using the modelling approaches, dissemination of flood alerts through SMS, call, internet, sirens, and FM Radio mechanism. Watch Groups will be established in the valleys to have onsite observation and dissemination of information. A Local Government official will serve as the designated focal person to ensure the effective operation of the EWS. The project will sign an agreement and provide a grant to a Local Support Organization which will work closely with the government focal person and ensure continued functionality of the EWS.

The third set of activities under output 2 will be to put in place adequate long-term measures to address GLOF related risks. The project will support small- to medium- scale infrastructure projects, such as the construction of gabion walls, spurs, additional spillways, rehabilitating irrigation water channels, and adopting bio-engineering solutions to arrest land/mudslides, strengthening of lakes sides, etc. This coupled with the organization of DRM Committees and training of members by PDMAs, Watch Groups and scientific information about weather and possibilities of flooding will help the communities to manage disaster risks. The project will also

support the communities in the installation of 240 water-efficient farming technologies in 24 targeted valleys and 120 drip irrigation systems to support the orchards of apples, apricot, cherries, peaches, pears, plums, and walnuts, and 120 sprinkler irrigation systems for vegetables, cereals, and potato production. The afforestation and development of irrigation water channels will directly result in the improvement of household income and the use of forest resources on a sustainable basis.

The fourth activity under this output is to establish an endowment fund to provide US $ 50,000 to 24 DRMCs to address climate change adaptation measures (medium- and long-term risks). Training will be imparted to the micro-credit lenders, insurance companies, SMEs, government agencies, etc., for improved coordination and delivery of the CBDRM Fund and adaptation/DRM initiatives on the ground.

c. *Field Sites*

A technical report produced by the PMD in 2018, revealed that the probability of occurring a GLOF is 0.45 per year, and the GLOFs occur from June to August in KP and January-August in GB. Data for the last 2 decades reveal that all the GLOFs are triggered by some meteorological event. The alert levels are defined as Low level (green) maximum temperature >24^{o}C for 10 consecutive days or more and 10-15 mm rainfall in one hour; medium (yellow) >27^{0}C for 10 consecutive days and 15-20 mm rainfall in one hour; and high (red) >30^{o}C for 10 consecutive days and >20 mm rainfall in one hour.

The project commissioned a GIS mapping study to understand the geography, topography, infrastructure, glacial lakes, population settlements, etc., in the project area. The study provides several maps without any description which does not fulfil the objectives of this work. A ground truthing study conducted by the PMD, in 23 valleys identified 33 sites where potential lakes exist (Table 3).

Table 3. List of Valleys in KP and GB having the Potential of GLOFs

S. No.	Area and District	Valley	Lake Number	Area (km^2)	Lake Type
1	Shiringal, Kumrat, Dire	Kumrat	Swat_gl 20	0.178	End moraine
2	Utrar, Swat	utrar	Swat_gl 159	0.037	End moraine
3	Madaklasht, Chitral	Madaklasht	Chi_gl 26	0.131	End moraine
4	Laspur, Chitral	Laspur	Chi_gl 94	1.610	Valley
5	Arkari, Chitral	Arkari	Chi_gl 108	0.049	Supraglacial
6	Before Gahkoch, Gilgit	Gahkoch	Gil_gl 121	0.312	Cirque
7	Damas, Gilgit	Gahkoch	Gil_gl 222	0.235	Valley
8	Raushan. Ghizer	Raushan	Gil_gl 261	0.078	End Moraine
9	Dahimal, Ghizer	Raushan	Gil_gl 595	0.979	End Moraine
10	Darkut, Ghizer	Yasin	Gil_gl 612	0.179	End Moraine
11	Sandhri, Ghizer	Yasin	Gil_gl 621	0.178	End Moraine
12	Hinarchi, Gilgit	Bagrot	Gil_gl 656	0.002	Supraglacial
13	Gargho, Gilgit	Bagrot	Gil_gl 658	0.019	Supraglacial
14	Attabad, Huza	Hunza	Hunz_gl 13	5.784	Blocked
15	Ghulkin, Hunza	Hunza	Hunz_gl 14	0.013	Supraglacial
16	Passu, Hunza	Hunza	Hunz_gl 16	0.125	End Moraine
17	Hasanabad, Ghanche	Ghanche	Shyk_gl 223	0.976	End Moraine
18	Lujkha, Ghanche	Ghanche	Shyk_gl 247	0.066	End Moraine
18	Khaplu, Ghanche	Khaplu	Shyk_gl 255	0.053	End Moraine
20	Barah, Ghanche	Bara-Khaplu	Shyk_gl 262	0.243	Valley
21	Barah, Ghanche	Bara-Khaplu	Shyk_gl 265	0.220	End Moraine
22	Kandia	Dassu	Ind_gl 45	0.084	End Moraine
23	Kandia	Dassu	Ind_gl 148	0.155	End Moraine
24	Kharmang	Kharmang	Ind_gl 400	0.164	Cirque
25	Kharmang	Kharmang	Ind_gl 407	0.161	Cirque
26	Auchai	Dassu	Ind_gl 747	0.159	End Moraine
27	Leo	Pattan	Ind_gl 804	0.362	End Moraine
28	Astore	Astore	Shin_gl 12	0.081	End Moraine

S. No.	Area and District	Valley	Lake Number	Area (km^2)	Lake Type
29	Astore	Astore	Ast_gl 6	0.023	End Moraine
30	Astore	Astore	Ast_ gl 24	0.055	End Moraine
31	Gorikot	Gorikot, Astore	Ast_gl 160	0.236	End Moraine
32	Gorikot	Gorikot, Astore	Ast_gl 189	0.089	End Moraine
33	Kaghan, Mansehra	Kaghan	Additional lake in Kaghan	0.03	Cirque

The ground-truthing report gives in detail the description of the valleys, lakes, and the kind of equipment needed for the installation of the early warning system.

The project commissioned a Knowledge, Aptitude, and Practices (KAP) study. This study was conducted with 1,328 adult respondents (67% male and 33% females), and 88% of respondents were above 30 years of age. The literacy rate for male respondents was 85%, whereas it was 28% for females. The salient findings of this study are: 40% of respondents in KP and 35% in GB, reported heavy rains/ flash floods as the main disaster, 35% of respondents in KP and 25% in GB reported GLOF as the second most disaster, the popular disaster coping mechanism is to sell productive assets such as livestock, land, and other household assets. 50% reported borrowing from other family members and friends as the coping mechanism during a disaster, and on average there are 2 cell phones/household and the popular cellular networks are Zong, Telenor, and SCOM.

2.4 Project Implementation Arrangements.

The project is being implemented under the UNDP's NIM modality agreed with the GOP. The Executing Agency is the Ministry of Climate Change, Senior Supplier UNDP, and Senior Beneficiary (10 districts in GB and 5 in KP). The project is being supervised and managed by the National Project Director (NPD), with the support of the National Project Manager (NPM). The Project Assurances comes through the Project Board (Steering Committee) (PB/PSC) with UNDP being the Accredited Entity to GCF provides supervision, oversight, and quality assurance role, involving its staff in the Country Office and at the regional and headquarters level Global Environmental Finance Unit (UNDP/HQ Bangkok). The functions of UNDP are listed in detail in the ProDoc (page 30-32).
According to the Funding Proposal, The PB/PSC is comprised of the following organizations: UNDP, MOCC, Line Departments of Agriculture, Irrigation, Forest, Environment, Water and Sanitation Authority (WASA), Wildlife, as well as PMD, NDMA, and PDMA. The MOCC notified the Steering Committee in April 2018 and its first meeting was held on 17 July 2018. According to the notification by MOCC the Steering Committee comprises of the following Ministries/Departments:

1. Secretary, Ministry of Climate Change, Islamabad (Chairman)
2. Secretary, Ministry of Economic Affairs, Islamabad
3. Secretary, Ministry of Planning, Development & Special Initiatives, Islamabad
4. Secretary, Ministry of Water Resources, Islamabad
5. Secretary, Finance Division, Islamabad
6. Chairman, National Disaster Management Authority, Islamabad
7. Chief Secretary, Government of Gilgit-Baltistan, Gilgit
8. Additional Chief Secretary, Planning and Development Department, Khyber Pakhtunkhwa, Peshawar
9. Joint Secretary (Development), Ministry of Climate Change, Islamabad
10. Director-General, Pakistan Meteorological Department, Islamabad
11. Secretary, Environment Department[13], Government of Khyber Pakhtunkhwa, Peshawar
12. Secretary, Environment Department, Gilgit-Baltistan, Gilgit
13. ARR- ECCU, UNDP Pakistan, Islamabad

[13] Environment Department has been re-organized as Forestry, Environment and Wildlife Department

14. National Project Manager, GLOF-II (as ex-officio to the Board)

The line departments at the provincial level were excluded from the Steering Committee as they are the primary implementers of project activities and are represented by the Planning & Development Departments at the provincial level. At the provincial level, there is also a Provincial Steering Committee, comprising of P&DD, PDMA, and all the concerned line departments.

In parallel to the GCF Funding Proposal and UNDP ProDoc, it is a requirement by the GOP to prepare a project on the GOP format (PC-1) and seek its approval from the highest government approval forum- the ECNEC, which was also secured.

On 27 September 2017, a micro-assessment of MOCC was concluded, as per the requirement of UNDP under the HACT arrangements, and the report observed several capacity gaps in MOCC which could affect the achievement of results by the project and its accountability. For example, the lack of monitoring of donor-funded projects, limited capacities in project management at the provincial levels, frequent transfers of key staff, and lack of following the computerized system of fund management were highlighted in the report.

Besides capacity building in these areas, the MOCC at the time of project formulation requested support from UNDP to provide procurement of goods and services, financial support services, human resource services, administration, and logistics services, and technical support through a Letter of Agreement (LOA) signed on 10 May 2018. There was a change of the political Government in Pakistan in 2018, and the new Secretary, MOCC desired to have all the roles under NIM modality (with some modifications as were practiced in the Project Cycle Operations Manual (PCOM)), and transfer of funds to the assignment account (government channel), which could slow down the pace of implementation. This was the main reason for the stoppage of project activities for almost 2 years until the LOA was revised with several rounds of discussion and the intervention of the Ministry of Economic Affairs on 22 March 2019, which resulted in the transfer of some services envisaged in the LOA to the line departments and 27% reduction of support services cost (US$ 1,938,955 vs US$ 1,414,677). On 23 April 2020, the MOCC and UNDP again jointly signed another addendum to the LOA 2018 at the request of MOCC.

According to ProDoc, there is one PMU and two PIUs, one at Peshawar (KP) and the other at Gilgit (GB). In KP there are two Field Offices (Chitral and Swat) and in GB at Hunza and Skardu. Later the board decided to have a Field Officer at Skardu, and instead of maintaining a Field Office at Hunza, the activities in the North-west part of GB are to be managed by the Provincial Project Coordinator (PPC), GB. Likewise, the Field Office at Swat was phased-out. As the vehicles have not been procured yet, the staff is using official rental cars.

According to the Funding Proposal/ProDoc, at the PMU level, there is an NPM, and his work is facilitated by an International Project Technical Specialist (TS), National Technical Advisor, M&E Officer, Safeguards Specialist, Administration and Finance Officer, Procurement Specialist, Communication and Reporting Officer, Administration, and Finance assistant and support staff. At the PIU level, as per ProDoc, in each PIU the provision is for PPC, Field Officers (2), Climate Risk Management Specialist, Flood and River Management Specialist, M&E Assistant, Communication and Reporting Assistant, Administration and Finance Assistant and support staff.

2.5 Project Timing and Milestones

The project milestones captured through the review of various documents are given in Table 4.

Table 4. Project Timelines and Milestones

S. No.	Date	Event
1	5 August 2016	The signing of Accreditation Master Agreement (AMA) by UNDP and GCF
2	12-14 October 2016	Approval of project by the GCF Board with several conditions and covenants
3	19 May 2017	The signing of Funding Activity Agreement by GCF
4	22 June 2017	LPAC meeting- project endorsement
5	12 July 2017	Project start date

S. No.	Date	Event
6	24 Aug 2017	Signing of ProDoc by UNDP and the GOP
7	October 2017	Approval of the project by the Central Development Working Party (CDWP) at the Planning Commission, GOP
9	Feb. 2018	Approval of the project by the ECNEC, GOP
10	Feb. 2018	Approval of the Independent Technical Assessment (primary condition) by the GCF
11	April 2018	Administrative approval of the project by the GOP. Fund disbursed by GCF
12	April 2018	The first disbursement received from GCF
13	**May 2018**	**First Annual Work Plan (2018) approved**
14	10 May 2018	LOA between MOCC and UNDP signed
15	1 June 2018	Change of political government in Pakistan
16	**3-5 July 2018**	**Project Inception Workshop**
17	**October 2018**	**MOCC requested to review the implementation of activities and put on hold in the meantime**
18	**22 Mar. 2019**	**Addendum 1 issued to the LOA between MOCC and UNDP**
19	**22 Mar. 2019**	**Annual Work Plan 2019 signed by the MOCC; implementation resumes**
20	**23 April 2020**	**Addendum 2 issued to the LOA between MOCC and UNDP**
21	23 April 2020	Project activities resumed
22	29 April 2020	Annual Work Plan 2020 signed by the MOCC
23	July-Aug. 2020	Interim Evaluation
24	12 July 2021	Project Closing Date- mentioned in FAA this is the date at which the right of Accredited Agency (UNDP) terminates to receive financing from GCF
25	**12 July 2022**	**Project Implementation Closing date**

At the Inception Workshop stage, it was observed that due to the late start of the project and time lost, the activities under both the outputs will be completed by the end of the 4th quarter of 2022.

According to the FAA (referred in Inception Report), the milestones for reporting and compliance are given in Table 5.

Table 5. Milestones for Reporting and Compliance as per FAA

S. No.	Deliverable	Due Date	Compliance Status
1	First APR	1 April 2018	23 March 2018
2	Inception Workshop Report	4th quarter of 2018	21 December 2018
3	Second APR	2nd quarter of 2019	1 March 2019
4	Third APR	1st quarter of 2020	28 Feb 2020
5	Interim Evaluation	3rd quarter of 2020	In process
6	Fourth APR	1st quarter of 2021	
7	Fifth APR	1st quarter of 2022	
8	Final Evaluation	4th quarter of 2022	
9	Sixth APR	1st quarter of 2023	

2.6 Main Stakeholders

The stakeholders and their roles identified in the Funding Proposal are given in Table 6.

Table 6. Stakeholders Identified in the Funding Proposal

Stakeholders Listed in the ProDoc/Funding Proposal / Inception Report	Role in Project as per ProDoc / Funding Proposal
A. Federal Entities	
Ministry of Climate Change	Implementing Agency/ Secretary Chairs the PSC
Ministry of Economic Affairs	UNDP Government counterpart- / PSC Member

Stakeholders Listed in the ProDoc/Funding Proposal / Inception Report	Role in Project as per ProDoc / Funding Proposal
Ministry of Planning, Development and Special Initiatives	Federal coordinating and funding agency / PSC Member
Ministry of Water Resources	PSCMember
Pakistan Meteorological Department	Project IP / PSC Member
National Disaster Management Authority	PSC Member
B. Provincial Entities	
Provincial Disaster Development Authority, KP	IP/PSC Member
Provincial Disaster Development Authority, GB	IP/PSC Member
Planning & Development Department, GB	Coordinating body at province level / PSC Member
Planning & Development Department, KP	Coordinating body at province level / PSC Member
On-Farm Water Management Programme, GB	IP
On-Farm Water Management Programme, KP	IP
Forest Department, GB	IP
Forest, Environment & Wildlife Department, KP	IP
C. Local-Level Partners	
Karakorum International Univ., Gilgit	Local-level partner
Abdul Wali Khan University, Mardan	Local-level partner
Pakistan Red Crescent Society	District level partner
Rescue 1122	District level partner
District Disaster Management Authorities	Responsible for relief and rescue operation during disasters/ Local level partners
Local Communities	Beneficiaries

3. Findings

This section gives a summary of empirical facts based on data collected during the evaluation exercise. The IE team paid attention to cross-verification of the evaluative evidence using multiple sources of information and, to the extent possible, avoid overreliance on opinions obtained during the interviews.

3.1 Project Strategy

The IE team analyzed the design of the project as outlined in the ProDoc to identify whether the project strategy is proving to be effective in reaching the desired results. In doing so, the evaluators assessed the extent to which the project addresses country priorities and whether it is country-driven. Furthermore, the IE team evaluated the extent to which the project objectives are consistent with the priorities and objectives of the GCF.

3.1.1 Project Design

The Project goal is *to save human lives and property through the operation of the early warning system and protective structures. Secondly, the project was designed to promote slope stabilization through ecosystem-based interventions. It was designed to produce significant co-benefits in terms of income and business generation, community capacity-building, improved quality of human life, sustainable and climate-resilient land use, the reversal of environmental degradation, and women's empowerment*.

The project contributes to the reduction in vulnerability to GLOF risks by enhancing adaptive capacity and resilience of vulnerable subsistence farmers and flood-risk prone communities through community-based EWS to increase communities' adaptive capacity. AWS and river discharge sensors will feed information into the PMD network for hydrological modelling to develop flood scenarios to expand the EWS to different districts in KP and GB.

The specific project objectives are to empower communities to identify and manage the risks associated with GLOFs and other related impacts of climate change, strengthen public service systems to lower the risk of GLOF related disasters and support the development of sustainable and climate-resilient livelihood options for communities in the regions targeted by the Project.

While implementing the GLOF I project, it was realized that the technical, logistical, and financial capacity of the GoP and of provincial governments is very limited, particularly for addressing the issues of GLOFs in the remote and high-altitude mountains of GB and KP. The non-availability of communication and road network makes the task further difficult. The network of weather monitoring stations is very thinly spread in the glaciated areas, whereas it requires several stations in each valley at different altitudes to capture the variability and make accurate forecasts. The construction of engineering infrastructure in a remote area (with extremely limited accessibility through roads) makes it very difficult for the poor mountain communities and to resource-poor provincial governments to adequately meet the needs of local up-stream and down-stream communities.

The major loss of upstream communities due to receding of glaciers and GLOFs is the loss of water channels due to receding of glaciers and downstream communities are due to loss of soil because of flooding/erosion and deposit of debris in productive soils, putting the livelihood of vulnerable communities at risk, which sometimes also leads to population migration. The cumulative negative effect of rapid snow melting, GLOFs, and unpredicted rainfall in the catchment areas of the rivers is observed on further downstream communities in the form of recurring riverine floods in the Indus Plains. Thus, the project is highly crucial for sustaining the livelihood of up-stream and downstream vulnerable communities as well as to protect the irrigation and hydro-power projects and thus contribute towards the overall improvement of the national economy.

At the time of proposal development, the country was facing a critical gap in technical and technological capacity to monitor the status of glacial lakes through hydrological monitoring and forecasting of snow/glacial melt rate. The EWS could not support the management of risks posed by rising water levels in the lakes or the ability to issue early warnings to communities. The design and implementation of medium- and long-term disaster management policies, as well as risk reduction and preparedness plans, were also not fully geared to deal with the specifics of GLOF threats.

Hence, the project was designed to be implemented in 15 districts of KP and GB and aims to provide early warning forecasts to 95% of the households in the two provinces, install 50 AWSs and 408 river discharge measuring stations to make accurate forecasts for GLOFs and floods for their improved management with minimum loss to life and infrastructure. The project was envisaged to construct at least 250 small-scale engineering structures (biological and/or mechanical) to reduce the effects of GLOF events on livelihood assets (as appropriate: check dams, mini dams, ponds, spillways, slope stabilization, tree plantation, controlled drainage, etc.) and from debris slides.

The Project was designed to contribute to the ***One -UN Programme II (2013-2017)*** Strategic Priority Area-3: increase national resilience to disasters, crises, and external shocks. Mainly to ***Outcome 3.2***: Vulnerable populations benefit from improved sustainable environmental management practices, including climate change mitigation and adaption. Also, it is aligned with the current UNSDF One United Nations Programme III (2018-2022). Mainly to ***Outcome 6 on Resilience***: *By 2022, the resilience of the people in Pakistan, especially key populations, is increased by addressing natural and other disasters, including climate change adaptation measures and the sustainable management of cultural and natural resources*.

The project also contributes to CPAP (2013-2017), mainly ***to Outcome 3.2:*** Vulnerable populations benefit from improved sustainable environmental management practices, including climate change mitigation and adaption. The Project contributes to UNDP Strategic Plan ***Output 1.4:*** Scaled up action on climate change adaptation and mitigation across sectors which is funded and implemented.

The project is fully relevant to Pakistan. It contributes to Pakistan's NCCP, the National Determined Contributions, Pakistan's 2030 Agenda, and its associated Sustainable Development Goals (SDGs), and the National Disaster Response Plan. The NCCP has recognized the continued recession of the Hindu Kush, Karakoram, and Himalayan glaciers due to global warming and carbon soot deposits from trans-boundary pollution sources. The decay of many glaciers has been already reported in various studies. For example, the decay of Siachen glacier calculated by remote sensing techniques shows that it has been reduced by 1.9 km in a longitudinal extent from 1989 to 2006. Thinning of ice mass is evaluated at 17% during the same period. The size of Batura glacier (2nd largest in Pakistan) has been reduced by 17 km^2, and the same is true for many other glaciers.

Glacial and snow meltwater makes up about 50% of water flows in the Indus River System. The receding of glaciers particularly at the source of water channels poses a major risk to the livelihoods of local communities and leads to migration of population. Approximately, 7.1 million people live in the most vulnerable districts of GB and KP. The fast melting of glaciers has challenged the water-, food- and energy- security of the country, the immediate affected being the residents of glaciated areas in GB and KP. The second level of impact of receding of glaciers is the reduced availability of water for winter crops, which is mainly wheat- a staple food for the Pakistanis.

According to the 2013 glacial lake inventory compiled by the PMD, there are 3,044 glacial lakes in Northern Pakistan, of which 33 glacial lakes were identified as potentially dangerous for GLOF hazard. The number of glacial lakes in the glaciated areas has increased from 2,420 in 2001 to 3,044 in 2013, indicating the formation of new glacial lakes due to changing climate and other geomorphological changes. The increase in the number of glacial lakes is further adding up the risk of GLOF associated impacts in the future.

It is anticipated that the glacial melt in the Himalayas will increase the flooding of the Indus River and its tributaries over the next 2-3 decades, which will be followed by decreased river flows as the glaciers recede. This phenomenon will negatively impact irrigation and hydro-energy projects. Pakistan is losing the opportunity of managing floods downstream due to

upstream uncontrolled release of water (GLOFs), and by not utilizing the hydro-power potential of water stored in the glacial lakes as Switzerland is practising[14].

The ProDoc analyzed GLOFs risks and associated barriers. These include lack of technical and financial capacities in the concerned national and provincial institutions, difficult terrain having a lack of road and other communication networks, and very low socio-economic profile of the communities in these areas.

Having realized the importance of the subject, UNDP with the assistance of the Adaptation Fund implemented a project entitled "Reducing Risks and Vulnerabilities from Glacier Lake Outburst Floods in Northern Pakistan" from 2011 to December 2015 in 2 districts (one each in GB and KP). The project made considerable breakthroughs in solving the problems of the vulnerable communities and building the capacity of national institutions. Thus building on the successes of that project, UNDP-supported the present GCF-financed project titled 'Scaling-up Glacial Lake Outburst Flood (GLOF) Risk Reduction in Northern Pakistan' to cover all the glaciated areas in GB and KP in 15 districts.

In the FAA and ProDoc, there was no mentioning to the contribution of the project to achieve any of the SDGs except in the Project log-frame of the UNDP ProDoc. Yet, the Project, directly and indirectly, contributes to ***10 SDGs*** listed below as stated in Pakistan UNSDF One United Nations Programme III (2018-2022): SDG 1 on Economic growth, 2 on decent work, 3 on health and WASH, 4 on nutrition, 5 on food security and sustainable agriculture, 6 on resilience, 7 on education and learning, 8 on gender, equality and dignity, 9 on governance, and 10 on social protection.

The Project provided, under the baseline analysis and scenario, barriers to achieving the project objective and how the project is designed to lift these barriers. These include: i) institutional capacity and coordination at the sub-national level, and across relevant agencies to address the risks from GLOFs and climate change is limited; ii) government institutions have limited resources, capacity, and logistical feasibility to construct infrastructure required for remote mountain communities to reduce exposure and respond to disasters and climate change; iii) capacity and information availability at the community level to prepare for and respond to immediate threats from GLOFs is limited; iv) there is a lack of access to readily available financial capital for households to cope with GLOF-related risks; and v) current natural resource, land, and water use practices are unsustainable.

Within this context, the project is fully relevant for Pakistan, supporting the government to address these barriers to reduce vulnerability to GLOF risks by enhancing adaptive capacity and resilience of vulnerable subsistence farmers and flood-risk prone communities through community-based EWS to increase communities' adaptive capacity. The Project is well aligned with key national strategies and policies.

3.1.2 Results Framework/ Logical Framework.

The Project Results Framework formulated during the design phase of this project presents a coherent set of expected results. During the inception workshop, changes were made to the LF, multi-year work plan, budget and the implementation timelines, project organization structure, however, no major changes were made on outputs or activities.

The review of the LF components indicates a good and logical "chain of results": Actions ➠ Activities ➠ Outputs ➠ Outcomes ➠ Impacts ➠ Objectives. Project resources have been used

[14] https://www.swissinfo.ch/eng/swiss-glaciers-series--1-000-2-000m_shrinking-glaciers-to-make-room-for-power-generation/45325530. In the Swiss Alps there are 200 pumped-storage hydro-electricity stations. Many are at an altitude between 1,000 and 2,000 metres. Man-made lakes are filled with water, which is then released for electricity generation during shortfalls from other sources. When there is an over-production of power, water is pumped and stored back upstream.

to implement planned activities to reach a set of activities (6), which would contribute in achieving a pair of expected outputs (2), which together should contribute to achieving one main outcome which would contribute to achieving one Impact and then the overall objective of the project. This framework also includes - for each outcome and output- a set of indicators and targets to be achieved at the end of the project and that are used to monitor the performance of the project. However, it misses the mid-term targets which made it difficult for the project team to measure progress and monitor the performance of the project at the mid-point of implementation. This flaw was partially addressed in the Inception Workshop (IW) as several mid-term targets were added to the LF. Also, for activity 2.4, no baseline, targets and indicators were provided.

The review of the Project LF confirms that this project is well aligned with national priorities and its logic is appropriate to address clear national needs/priorities. The Project strategy includes one objective, one outcome, 2 outputs and 6 activities as presented in the Project LF. The Project LF highlights the project contribution to SDGs mainly SDGs 1, 11 and 13 and specified to which indicators. Gender aspects were also incorporated as targets were gender-sensitive.

The project strategy confirmed during the inception phase of the project as no changes were made to the activities, inputs, and outcomes, including at the inception workshop held in Islamabad during the period of *3-5 July 2018*. No changes were made to the set of expected results presented in the Project Results Framework during the inception phase. The IE Team confirms that a good review of the project strategy was conducted during the inception phase, including the context of the project. The Project strategy presented above provides a good response to national needs/priorities to increase resilience and enhance the livelihoods of the most vulnerable people, communities, and regions. The detailed review of the project "chain of results" – activities, expected outputs, expected outcomes, and objective is logical.

According to the Project's IR, the LF was reviewed and some changes were made to the original LF[15], changes made during the IW and documented in the IR are shown in Table 7.

Table 7. Changes made in LF in the Inception Report

Components	Original	Modifications in the IR
LF	No mid-term targets for Outputs 1 and 2	One mid-term target was added for output 1. 3 mid-term targets were added for output 2.
	No specific targets, baseline, and indicators to monitor progress for activity 2.4	One indicator was added. Baseline was added. Two targets (One mid-term and one final) were added.
	Action 2.3.4 and associated target are too ambitious to be achieved.	Decreased the target from 240,000 ha in GB and KP to 700 Ha only.
Management structure	31 staff members to be hired for the project.	Reduced the number of proposed field offices and associated staff.
Multi-year work plan	The project was planned to close by July 2022	The modified AWP for 2022 extended the work till the end of Q4 2022.
Financial management	Vehicles procurement over 5 years. 2 vehicles per year.	All vehicles to be procured in Year 1. Focus on purchasing more economical models: "cheaper vehicle and more economical models be procured"[16]. Increase the allocated budget for office rental and security services.

The project document is well structured and follows the GCF (FAA) and UNDP (ProDoc) formats. When considering the implementation timeframe of 5 years and a GCF financing of about US$ 36.46 million, the project is not progressing well so far. Regarding the set of indicators and their respective targets to measure the performance of the project, a total of 7

[15] Project Inception Report. Submitted on 21 December 2018.
[16] Project Inception Report. Submitted on 21 December 2018.

indicators were identified to measure the progress made in achieving its expected outcomes and objective: 1 indicator was identified to measure how well the project is progressing toward its fund-level impact; 1 indicator to monitor the progress under the outcome, and 5 indicators to measure the progress made under outputs. For a project of this size, it is a relatively very low number of indicators, making the monitoring function somewhat more complicated.

Essentially the LF followed the GCF and UNDP formats. Yet, it failed -in some cases- to provide SMART indicators that allow for proper adaptive management and monitoring of progress. This resulted in some weaknesses in the LF mainly in defining targets and indicators at the mid-term level. Given the fact that the project has a high budget, includes many infrastructures and engineering solutions that need to be achieved in relatively a short period and under unfavourable weather conditions, and taking into consideration the delay the project encountered up until year 3 of its commencement, the project designers (development stage) and the project team (implementation stage) should have identified priorities in implementation of some outputs. It is evident that some outputs with completion targets earlier than the end of the Project should have given the priority to be implemented so that other project outputs/activities could benefit from the produced deliverables. This is crucial when it comes to strengthening policies and regulatory systems under output 1 as proposed in Outputs/activities 2.3 Number of physical assets constructed to withstand the effects of GLOF events. Yet, there is no action taken by the project team to prioritize the remaining activities and start with the outputs/activities that were supposed to be implemented on the fast track.

In conclusion, the review of the project strategy and the national context for this project indicates that this strategy is a direct response to national needs and priorities to strengthen adaptive capacity and reduce exposure to climate risks. It aims to strengthen sub-national institutional capacities to plan and implement climate change resilient development pathways and up-scale community-based EWS and long-term measures to increase communities' adaptive capacity.

Table 8 provides an overview of the IE assessment of the project's LF and how "SMART: Specific, Measurable, Achievable, Relevant, Time-bound" the achievements are compared to the defined end-of-project targets.

Table 8. Overview of the Interim Evaluation of the Project's Log Frame

Criteria	IE comments
Specific	Indicators are mostly specific and target-oriented. Indicators used clear language and descried a specific future condition. However, it was noticed that not all targets are linked to specific indicators. For example, for Output 1, activity 1.1. There is no end-of-project target (***Indicator 1.1:*** *Strengthened institutional and regulatory systems for climate-responsive planning and development)*. Also, under Output 2, no baseline, indicator, and target were in the original LF to monitor progress under Activity 2.4. The team has added one indicator during the IW to monitor progress. However, this is also not enough.
Measurable	The indicators are linked to measurable targets. Indicators have measurable aspects making it possible to assess whether they are achieved or not.
Achievable	Most of the targets and associated indicators seem realistic to be achievable. They are ambitious, yet with the financial support from GCF, and technical support by UNDP and a group of national and international expert, the indicators are achievable.
Relevant	All indicators are relevant since they address national development priorities and linked to the project's outcome and outputs.
Time-bound	Indicators are linked to targets that are linked to specific timeframes (end of the project). No mid-term targets under the mid-term column, however, one target listed under the end-of-project target was linked to year 3 of the project implementation. A few mid-term targets were added during the IW.

3.2 Relevance

Reviewed evidence and stakeholders interviewed confirmed that the project is highly relevant to the government and addressed a highly important topic. The stakeholders interviewed during the IE expressed the added value of the project and emphasized that it is crucial to protect and save human lives. The evaluation has as its task to assess "*the extent to which the activity is suited to the priorities and policies of the target group, recipient, and donor*". The elements of strategic relevance are:

alignment to the UNDP Country Programme and Country Programme Action Plan (CPAP)

The project also contributes to CPAP (2013-2017), mainly ***to Outcome 3.2:*** Vulnerable populations benefit from improved sustainable environmental management practices, including climate change mitigation and adaption. The Project contributes to UNDP Strategic Plan ***Output 1.4:*** Scaled up action on climate change adaptation and mitigation across sectors.

alignment to UN-One Programme Document

The Project was designed to contribute to the One -UN Programme II (2013-2017) Strategic Priority Area-3: increase national resilience to disasters, crises, and external shocks.

Outcome 3.2: Vulnerable populations benefit from improved sustainable environmental management practices, including climate change mitigation and adaption.

The current UNSDF One United Nations Programme III (2018-2022).

Outcome 6 on Resilience: *By 2022, the resilience of the people in Pakistan, especially key populations, is increased by addressing natural and other disasters, including climate change adaptation measures and the sustainable management of cultural and natural resources*.

relevance to the GCF Readiness Programmes

The GCF has made a strong commitment to addressing climate change through financial support to the recipient government. This project is relevant to two GCF results areas: *increased resilience of most vulnerable people and community*, and *increased resilience of health and well-being, and food and water security.*

relevance to national environmental policies, plans and priorities

The project is fully relevant to Pakistan. It contributes to Pakistan's NCCP, the National Determined Contributions, Pakistan's 2030 Agenda, and its associated Sustainable Development Goals (SDGs), and the National Disaster Response Plan. Pakistan is a signatory to several multilateral agreements covering environment, including the three major Rio1992 agreements of Conventions on Biological Diversity (CBD), United Nations Framework Convention on Climate Change (UNFCCC), and the convention on Combating Desertification (UNCCD).

complementarity with existing interventions

The project was designed by expanding work of scope from the previous GLOF I project to provide EWS to communities prone to GLOFs risks with a focus on policy-level activities and on sector critical protecting livelihoods and reducing the impacts of GLOF and climate-related risks: integrate climate change adaptation into development plans, EWS for GLOF risks combined with community-based early warnings, small-scale infrastructure to protect lives and assets from GLOF and support livelihoods of subsistence farmers.

3.3 Progress Towards Results

3.3.1 Progress towards Outcomes Analysis

According to the UNDP/GEF Mid-term review guidelines, the achievements of expected results were evaluated in terms of attainment of the overall objective as well as identified outcomes and outputs. For this the performance by components is analyzed by looking at:

- general progress towards the established baseline level of the indicators,
- actual values of indicators by the end of the Project vs. designed ones, and

- evidence of relevance, effectiveness, and efficiency of the results as well as how this evidence was documented.

The information presented in this section has been sourced from the Project Annual Performance Reports (APR) 2017, 2018, and 2019 and Annual Work Plans (AWP) 2018, 2019 and 2020 and Quarterly Progress Reports, 2nd and 3rd, 2019 and review of the Project's technical reports supplemented with information collected during the IE, and the findings and observations of the TE virtual meetings organized with key stakeholders, and interviews with the project stakeholders.

A detailed assessment at the output level is presented below (Table 9). All the mid-term Project's targets are not achieved. The Project did not make any noticeable progress during its last 3 year of implementation.

Overall results of the Project are rated as

Highly Satisfactory (HS)	Satisfactory (S)	Moderately Satisfactory (MS)	Moderately Unsatisfactory (MU)	Unsatisfactory (U)	Highly Unsatisfactory (HU)
				U	

The key used for indicator assessment (Color Coding):

Green = completed, the indicator shows achievement
Yellow = On target to be achieved by the end of the project
Red = Not on target to be achieved by project closure

Table 9. Matrix for Rating the Achievement of Outputs

PROGRESS UPDATE ON PROJECT/PROGRAMME LEVEL INDICATORS OF THE LOGICAL FRAMEWORK						Rating[17]	Justification for Rating
Project/Programme indicators	*Baseline*	*Current value*	*Target (mid-term)*	*End-of-project targets*	*Midterm level and assessment*		
Indicator 1 (Outcome level) *A7.0 Strengthened adaptive capacity and reduced exposure to climate risks*							
7.2: Number of males and females reached by climate-related early warning systems and other risk reduction measures established/ strengthened	*GLOF early warning system in KP and GB covering two districts Vulnerable households are not able to receive and react to GLOF early warning messages in the KP and GB. No physical structures in place to mitigate the effect of GLOF events*	*1*	*N/A*	*By the end of the project, 100% of households in KP and GB target communities are able to receive and respond to early warnings and take the appropriate actions following the warning (348,171 men, 348,171 women).*	*2 districts in GB and KP are currently receiving GLOF early warning, established under GLOF-I project. One additional early warning system has been set-up in 2019 by the Government, with support from the project at Shisper Glacier. The project supported the mobilization of experts, joint mission of experts and installation of one AWS and devices.*	*U*	*Only around 0.3% of the target group receives currently early warnings. No measures in place to know if these people are taking the appropriate actions following the warning.*
1. Strengthened sub-national institutional capacities to plan and implement climate change resilient development pathways.							
1.1. Strengthened institutional and regulatory systems for climate-responsive planning and development.	*National, provincial and local disaster management institutions and development planners are unable to design, finance and analyze GLOF risk reduction measures on the basis of reliable, comprehensive information.*	*0*	*By the end of Year 3, 100% of the national and 90% of district and community authorities in the KP and GB regions are able to prioritize and plan measures to minimize potential losses from GLOFs.*		*The project is in the process to strengthen provincial line departments by providing experts and technical assistance. A few baseline assessments were finalized: the GIS mapping, HVRAs, ground-truthing and KAP. Still, several baseline assessments to be conducted.*	*U*	*Only a few baseline assessments were conducted.*
1.2. Number of policies introduced to address GLOF risks or adjusted to incorporate GLOF risks	*Only 2 comprehensive disaster management guidelines exist for the KP and GB regions*	*0*		*By the end of the project, at least four policies have been adopted by the Government to address or incorporate GLOF risk reduction.*	*To sensitize and increase awareness of policymakers at the national and sub-national level, reciprocal exposure visits were organized, including to areas vulnerable to GLOF risks.*	*HU*	*The work on policies did not start yet.*

[17] The 6-point Progress Towards Results Rating Scale is used: HS, S, MS, MU, U, HU

2. Community-based EWS and long-term measures are up-scaled to increase communities' adaptive capacity.							
2.1. Number of vulnerable households in KP and GB covered by a GLOF early warning system.	*Vulnerable households are not able to receive and react to GLOF early warning messages.*	*1*	*By end of year 3 the project, 9 GLOF early warning systems are installed in KP and GB and 40% of households in target communities are able to receive and respond to early warnings and take appropriate actions following the warning (139,268 men, 139,268 women)*	*By the end of the project, 100% of households in target communities are able to receive and respond to early warnings and take the appropriate actions following the warning. (696,342 people: 348,171 men, 348,171 women)*	*2 districts in GB and KP are currently receiving GLOF early warning, established under GLOF-I project. One additional early warning system has been set-up in 2019 by the Government, with support from the project at Shisper Glacier. The project supported the mobilization of experts, joint mission of experts and installation of one AWS and devices. This activity will benefit over 2,000 people located downstream in Hassanabad village through timely advisories regarding potential GLOFs emanating from the Shisper Glacier.*	*U*	*A limited number of the households in target communities receive early warning now (around 2000).*
2.2. Number of Community based organizations trained in the operation and maintenance of the EWS.	*2 GLOF early warning system for KP and GB in place.*	*0*	*By the end of Year 3 of the project, at least 9 CBOs are trained in the operation and maintenance of the EWS and ensure its continued functionality*	*By the end of the project, at least 24 CBOs are trained in the operation and maintenance of the EWS and ensure its continued functionality.*	*No formal training imparted to CBOs, due to non-finalization of project target valleys/sites. However, a series of community meetings, awareness-raising campaigns, coordination workshops to sensitize communities and key stakeholders about the impact of GLOFs were conducted.*	*HU*	*No progress at all.*
2.3. No. of physical assets constructed to withstand the effects of GLOF events.	*No physical structures in place to withstand the effect of GLOF events.*	*0*	*By the end of Year 3 of the project, at least 100 targeted engineering structures have been established to withstand the effects of GLOF events on livelihood assets.*	*By the end of the project, at least 250 targeted engineering structures have been established to withstand the effects of GLOF events on livelihood assets.*	*A team comprising of technical specialists from federal and provincial line departments assessed potential project valleys with a high risk of GLOFs. 22 valleys notified potentially hazardous. Construction of small-scale infrastructure is subjected to the endorsement of valleys and specific project sites by the PSC.*	*U*	*Limited preparatory work has been initiated. No engineering structures have been established.*
2.4. No. of small-scale community-driven initiatives for GLOF preparedness financed through CBDRM funds[18]	*No financial capacity of local communities to prepare for GLOF events*	*0*	*By the end of Year 3 of the project, at least 12 small-scale community-driven initiatives financed through CBDRM fund*	*By the end of the project, at least 01 community-driven initiative in each of the 24 target valleys, is financed through CBDRM funds.*	*TORs for the consultancy has been finalized. The consultant will be responsible for the development of guidelines for the functioning of community-based revolving funds. No disbursements have been made under this activity yet.*	*HU*	*No progress at all.*

[18] Added in the inception workshop.

3.3.2 Remaining Barriers to Achieving the Project Objective

As of August 2020, the time of the IE, the project has completed 29 months of implementation and has 31 more months to go before it ends in July 2022, if no no-cost extension is granted. At this point, one critical operational barrier has limited the project implementation over the past 3 years and may limit its implementation over the remaining implementation period if no solid commitment is presented by the GOP represented by the MOCC. As discussed earlier, the project effectiveness will depend much on the project's impacts and attainments of results. So far, no progress has been made in most planned activities and the intervention sites in GB and KP. To the IE team, the project focused on its first phase of implementation more on discussing and agreeing on management arrangement, the remaining period of implementation should now focus more on implementing the project activities. It is so challenging as around half of the project time is used to agree on what should have been agreed upon during the project development and inception phases but considering that an LOA was developed and that 2 amendments were already made into it in 2019 and 2020, the Project should be able to move very fast to achieve its objective.

The rationale of the project for supporting rural communities to avoid human and material losses from GLOF events in vulnerable areas, was to address five main socio-economic, political and institutional barriers: (i) Institutional capacity and coordination at the sub-national level, and across relevant agencies to address the risks from GLOFs and climate change is limited; (ii) Government institutions have limited resources, capacity, and logistical feasibility to construct infrastructure required for remote mountain communities to reduce exposure and respond to disasters and climate change; (iii) capacity and information available at the community level to prepare for and respond to immediate threats from GLOFs is limited; (iv) there is a lack of access to readily available financial capital for households to cope with GLOF-related risks; and (v) current natural resource, land, and water use practices are unsustainable.

The project – via its 6 activities - was designed to address these five barriers, which eventually will determine the overall effectiveness of the project at the end. Removing these barriers is critical for empowering communities to identify and manage the risks associated with GLOFs and other related impacts of climate change, strengthen public service systems to lower the risk of GLOF related disasters. Strategically, the project pursues to: (i) strengthen public service systems to lower the risk of GLOF related disasters; (ii) establish efficient and effective mechanisms to enhance the resiliency of vulnerable communities; (iii) provide the community much-needed skills and information to address GLOF-related risks; (iv) scale up a revolving, community-based fund to enhance the resiliency of vulnerable communities; and (v) provide a paradigm shift required to catalyze new long-term sustainable use patterns that form the foundation of local agro-based livelihood assets.

As stated earlier, this project is timely and responds to national priorities. However, it is not making the expected progress in avoiding human and material losses from GLOF events in vulnerable areas. The review of the progress made so far indicates a major weakness in the implementation and substantial delay in achieving the desired impacts. The above-mentioned barriers are still hindering communities and the GOP from protecting humans and materials losses. Considering the time left to implement the second part of this project, it is recommended to focus on the fast-track implementation of the project activities, mainly those engineering structures.

3.4 Project Implementation and Adaptive Management

The IE discusses in this section the assessment of how the project has been implemented. It assessed how efficient the management of the project has been and how conducive it is to contribute to successful project implementation.

3.4.1 Management Arrangements

The MOCC was designated as the Executing Agency (EA)[19] following a NIM implementation modality. It assumed the overall responsibility for the achievement of the Project results. However, the Government of KP and GB were designated as the main beneficiary for implementing the project at the province level. UNDP is the Senior Supplier and the GCF Accredited Agency responsible for transparent practices and appropriate conduct. Further, UNDP is also carrying the Project Assurance role.

The management arrangements for this project are as follows:

- UNDP is the accredited GCF *Entity* for this Project, assuming the role of Project quality assurance and providing oversight through its Headquarter, Regional and Country Office. This includes[20] project implementation oversight and supervision, including financial management, and oversight roles concerning reporting and knowledge-management. UNDP is responsible for monitoring the progress of the project, timely reporting on the progress of the project to the UNDP Regional Office and GCF and organizing the preparation of mandatory and possible additional reviews and assessments, as required. Upon request of the Executing Entity - MOCC, the UNDP Country Office provides Direct Project Services (DPS), including procurement of goods and services, contracting, human resources management, and facilitation of training activities[21].
- The Implementing Partner, Executing Entity as defined by the GCF, for this project is Ministry of Climate Change (MOCC). It is responsible for the overall implementation of the project and closely cooperates with UNDP to ensure the successful implementation of all project activities. MOCC is accountable to UNDP for managing the project including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of UNDP resources. According to UNDP ProDoc, MOCC is also responsible for[22]: approving and signing multi-year work plans; approving and signing the Combined Delivery Report (CDR) at the end of the year; and signing the financial report or the funding authorization and certificate of expenditures.
- The following parties have entered into agreements with MOCC/UNDP to assist in successfully delivering project outcomes and are directly accountable to MOCC/UNDP as outlined in the terms of their agreement in KP and GB and at the federal level. These are:
    - Pakistan Meteorological Department
    - Planning & Development Departments, KP and GB
- The project is guided by a Project Board (PB)/Steering Committee (PSC) as the executive decision-making body of the project. It is composed of representatives from the main stakeholders including the MOCC (The Executive[23]), Ministry of Planning, Development and Special Initiatives, Ministry of Economic Affairs, Ministry of Water Resources, Ministry of Finance, National Disaster Management Authority, P&D Department/ Government of

[19] According to GCF terminology.
[20] UNDP's role includes (i) project preparation oversight; (ii) project implementation oversight and supervision, including financial management; and (iii) project completion and evaluation oversight.
[21] UNDP ProDoc and Funding Proposal.
[22] UNDP ProDoc. Section VII: Management Arrangement. Page 27.
[23] The Executive: is an individual who represents ownership of the project who will chair the project board.

Gilgit-Baltistan, P&D Department/ Government of Khyber Pakhtunkhwa, Pakistan Meteorological Department, Environment Department/ Government of Khyber Pakhtunkhwa, Environment Department/ Government of Gilgit Baltistan, UNDP Pakistan (Senior Supplier[24]), and 10 districts in GB and 5 districts in KP, CBOs and Government line departments (Senior Beneficiary[25]). The Government of KP and GB were designated as the 'co-executing agencies' for implementing the project at the province level. At the time of Inception Workshop, the MCC notified the PB with the following membership[26]:

  - Secretary, Ministry of Climate Change, Islamabad
  - Secretary, Ministry of Economic Affairs, Islamabad
  - Secretary, Ministry of Planning, Development & Special Initiatives, Islamabad
  - Secretary, Ministry of Water Resources, Islamabad
  - Secretary, Finance Division, Islamabad
  - Chairman, National Disaster Management Authority, Islamabad
  - Chief Secretary, Government of Gilgit-Baltistan, Gilgit
  - Additional Chief Secretary, Planning and Development Department, Khyber Pakhtunkhwa, Peshawar
  - Joint Secretary (Development), Ministry of Climate Change, Islamabad
  - Director-General, Pakistan Meteorological Department, Islamabad
  - Secretary, Environment Department[27], Government of Khyber Pakhtunkhwa, Peshawar
  - Secretary, Environment Department, Gilgit-Baltistan, Gilgit
  - Assistant Country Director, UNDP Pakistan, Islamabad
  - National Project Manager, GLOF-II (as ex-officio to the Board)

- The PSC provides strategic oversight and guidance based upon project progress assessments and related recommendations from the NPM who is a non-voting member. The PSC ensures that the project remains on course to deliver the desired outcomes of the required quality. According to the AFF, the PSC should meet four times a year. However, on the ground, the PSC met four times for the last three years (since the inception of the project in July 2018) as follows: July 2018, December 2018, February 2019, and February 2020.

- According to UNDP ProDoc, an NPD should be appointed by MOCC and should chair the PSC. The NPD provides the general coordination and support to the project on behalf of the MOCC. To date, seven NPDs alternated. This caused a tremendous delay in Project implementation.

- Due to the administrative structure of Pakistan, the Project has:
  - An NPD.
  - A National Steering Committee.
  - A PMU at the federal level.
  - 2 PIUs at KP and GB.
  - 2 field offices; 1 in KP and 1 in GB (originally 4 were proposed).
  - 2 Provincial Project Directors[28]

[24] Senior Supplier: is an individual or group representing the interests of the parties concerned which provide funding and/or technical expertise to the project.
[25] Senior Beneficiary: is an individual or group of individuals representing the interests of those who will ultimately benefit from the project.
[26] Inception Report, page 21.
[27] In KP the Environment Department has been re-organized as Forestry, Environment and Wildlife Department
[28] Follow up LPAC meeting minutes, bullet 3.

- 2 Provincial Project Management Committees[29].

- A full-time ***NPM*** was hired by UNDP. The NPM participates as a non-voting member to PB meetings and is responsible for compiling summary reports of discussions and conclusions of each meeting. The NPM is tasked with the day-to-day management of project activities, as well as with financial and administrative reporting. He is guided by Annual Work Plans, following UNDP Results-Based Management System (RBMS). The NPM prepares AWPs in advance of each successive year and submits them to the PB for approval. The NPM was hired in July 2018. The process got delayed pending the final clearance and the disbursement of funds from the GCF (received February 2018, and April 2018, respectively). However, the NPM resigned in September 2019. Up until the IE time, the NPM position is vacant. There is a disagreement between UNDP and MOCC over the NPM's TOR and experience/qualifications. While the NPD believes that the NPM should have prior experience of working with government and have an additional reporting line to the NPD[30], UNDP argued that the NPM is going to be hired by UNDP and hence according to UNDP rules and regulations the NPM must report to UNDP but keep the NPD fully informed. The IE team believes that this issue should not take 1 full year to be solved[31]. The NPM can follow a matrix reporting modality; reports to MOCC as the owner of the project and the UNDP as the hiring unit.

- ***A PMU*** was established in Islamabad at the beginning of the project; it is located outside UNDP and MOCC. It is headed by the NPM and provides project administration, management, and technical support as required by the needs of day-to-day operations of the project. The unit is supposed to include 10 staff members. However, currently, there is only an acting project manager, who is also the Provincial Project Coordinator (PPC) in KP, an Admin/Finance Assistant, and a Communications and Reporting Officer.

- The PMU is technically supported by a TS who is located at UNDP CO, and a group of national and international experts hired on short-term bases as per the need of the project. The recruitment of the Project's team, and the national and international consultants, and the procurement of any equipment and materials for the project is done by UNDP, based on the PMU request, and subject to the NPD approval, and following relevant recruitment and procurement rules and procedures of UNDP. The MOCC thinks that it should have a casting vote in the recruitment process, whereas UNDP must follow the corporate rules, and membership in various committees is decided by the UNDP procurement policies. UNDP CO has invited MOCC officials to take part in various procurement and recruitment offers evaluation and selection processes[32]. Nevertheless, MOCC representative did not show up and participate in the evaluation events as originally requested by them.

- ***Two PIUs*** were established in Peshawar, KP and Gilgit, GB to facilitate support services to NIM. According to ProDoc, the PIUs should be supported by two field offices in each province (Chitral and Swat in KP and Hunza and Skardu in GB). The purpose of having these units and field offices are to[33]: expedite liaison with the PMU and UNDP and facilitate communications and reporting to the GCF. On the ground, this was changed after the Local Project Appraisal Committee (LPAC) meeting, which took place in June 2017. A reduction

[29] Para 5, 1st PSC Meeting Minutes.
[30] MOCC official response to the IE report findings and recommendation. Document shared on 10 Oct. 2020
[31] Documents reviewed showed that the TOR for the NPM is not yet cleared by MOCC which hinders the launching of the recruitment process. This step is pending since June 2020.
[32] UNDP Letter to MoCC on seven bids evaluation and the participation of MOCC in the evaluation committee Dated 11 July 2019.
[33] UNDP ProDoc. Section VII. Management Arrangements. III. Project Management Unit. Pages 32-33.

of proposed field offices and the associated staff was approved. The IR stated that: "*it was non-practical and costly to maintain staff and office in every project district. Reduction in numbers of staff was also necessary to accommodate staff salaries under the LOA as UNDP's service contracts' salary scales are higher than NIM/Government salary scales, which would apply if the project was implemented without support services of UNDP*"[34].

- Changes also included the number and locations of field offices as follows:

Project's Unit	Original design	Modification
PMU	Islamabad	Islamabad
PIUs	Peshawar in KP	Abbotabad or Mansehra in KP
	Gilgit / GB	Gilgit/ GB
Field Offices	- Chitral / KP - Swat/ KP	Chitral / KP
	- Skardu /GB - Hunza/ GB	Skardu / GB

Colour code means: Black coloured: remains the same as proposed in the ProDoc. Blue: Changed, and Red: completely omitted.

- Reviewing the current project's management structure indicates the elimination of Swat and Hunza field offices, as well as 3 technical positions in each PIU GB and KP. The IE team has a reservation on this, as the two technical positions (Climate Risk Management and Flood and River Management Specialists) in each PIU are vital to have technical input, otherwise, the project will be at the mercy of part-time consultants. The IE team believes that the project can drop the Communication and Reporting Assistants in PIUs, as the job could be done by the M&E Assistants and Communication & Reporting Officer at the PMU, but not the technical positions.
- The interviewed project team indicated the difficulties they face in implementing project activities in the ground due to the new arrangement. Having one field office covering the whole province is very difficult due to the vast geographical area to be covered. Table 10 shows the distance and travel time from district headquarters to GLOF lake sites.

Table 10. Distance and Travel Time from District Headquarters to GLOF Lakes' Sites

S. No.	From	To	Distance (km)	Time	Remarks (road condition, etc.)
1	Islamabad	Astore	520	12 hours	via Babusar pass and KKH (the road is good)
	Astore	Lake site	14	1 Day Trek	Track along the river
2	Islamabad	Ghizer	700	16 hours	via Babusar pass and KKH (the road is good)
	Ghizer	Lake site (Badswat)	100	5 hours	Accessible by car
	Ghizer	Lake site (Darkut)		1 Day Trek	
3	Islamabad	Hunza	600	14 hours	via Babusar pass and KKH (the road is good)
	Gulkin (Hunza)	Lake site	15	1 Day Trek	
4	Islamabad	Ghanche	750	18 hours	via Babusar pass and KKH (the road is good)
	Ghanche	Lake site (Barah)	20	2 Day Trek	Track along the stream
	Ghanche	Lake site (Ghanche)	22	2 Day Trek	Track along the stream
6	Islamabad	Ghundus	750	19 hours	Via Babusar pass and KKH (the road is good)
	Ghundus	Lake site (Kharmang)		2 Day Trek	
7	Islamabad	Dir	310	6 hours	Road is good

[34] Project IR. Page 24.

	Dir	Lake site (Kumrat)	20	1 Day Trek	Track along the stream
8	Islamabad	Swat	250	5 hours	Road is good
	Swat	Lake site (Utror)	10	1 Day Trek	
	Swat	Lake site (Matiltan)			
9	Islamabad	Chitral	400	10 hours	The road from Upper Dir to Chitral is very bad
	Chitral	Lake site (Arkari)	50		
	Chitral	Lake site (Madaklasht)	40		

- The project is implemented under the "UNDP Support Services to National Implementation Modality (NIM)" in line with the Standard Basic Assistance Agreement (SBAA) between the Government of Pakistan and UNDP. In this modality, UNDP may be requested to provide support services to nationally implemented projects, which must be done following UNDP rules and regulations. To facilitate the mobilization of project resources and coordinate project supported activities, the project developed an LOA between UNDP and MCC. In addition to regular clauses of an agreement, it included a description of services to be provided by UNDP, including their respective costs. The LOA was developed and signed in 2018 and amended two times in 2019 and 2020.
- After signing of the LOA, IW in Islamabad and provincial launch in Gilgit Baltistan in July 2018 were held. The PSC was formed, and its first meeting held on 17 July 2018 which approved the project's AWP for 2018 (July-December).
- The review indicates that the management arrangements as planned at the outset of the project are detailed in terms of outlining partners' responsibilities, project personnel, and the overall governance structure, however, it is abstracted and not conducive for a smooth and effective day-to-day implementation of project activities. For example, the details for funds transfer at the federal and provinces/district level is completely missing. It is not clear how MOCC and the provincial government would receive the funds, what kind of report they should submit to UNDP/GCF, when to submit the reports, etc. Although this might be defined and clear in the NIM modality, it should have been discussed, agreed upon, and articulated in the ProDoc to avoid any misunderstanding, like what the project has experienced for the last 3 years on who is who.
- The interviews conducted with the project team informed that after the approval of AWP, UNDP then signs an LOA with the provincial P&DDs, for transfer of funds. Then the P&DDs sign LOAs with the line departments to implement activities. After signing of these LOAs, UNDP transfers funds to project accounts in P&DDs, which then transfers funds to the project accounts of the line departments. This is another cumbersome procedure which is one of the root causes of delay in receipt of funds at the end-user level. Ideally, PMU/MOCC/UNDP should have one blanket LOA for the entire project period signed by UNDP and P&DDs and countersigned by the MOCC to ensure implementation of project activities as per the approved AWPs. Thereafter, the P&DDs transfer funds to line department accounts, ensure quality production of outputs and progress reports. Each P&DDs also has M&E cells to monitor the implementation of activities by the government departments. The production of results by the line departments should be the responsibility of P&DDs, and the UNDP/PMU should refrain from going through the signing of several LOAs every year.
- The FAA provided more details under the Financial Management and Procurement. But these were general guidelines on how UNDP transfer funds to executing Entity/ implementing partners in UNDP terminology. The FAA indicated the *"GCF resources will be provided to the implementing partner, less any agreed cost recovery amount. Under UNDP's national implementation modality, UNDP advances cash funds every quarter to the implementing partner (executing entity) for the implementation of agreed and approved programme activities, following UNDP standard policies and the NIM Guidelines. These disbursements will be based upon an approved annual work plan and every quarter on the submission of the quarterly work plan and other required documents for the quarterly release of funds. The implementing partner reports back expenditure via a financial report every quarter to UNDP. Any additional requirements will be as following the AMA as and*

when it is agreed".[35] Yet, as the project is implemented at federal and provinces levels, these guidelines should be clarified and more details should be added to facilitate the project implementation. Currently, the MOCC is not receiving any funds on quarterly-bases. All services are being done by UNDP based on requests for support services. However, at the province level, funds are being transferred – on quarterly bases- from UNDP to the Provincial P&DDS, which in-turn transfers funds to line departments based on technical and financial reports. The PPDs collect quarterly technical and financial reports, consolidate, and submit to PMU copying PIU, MOCC and UNDP. Upon approval from MOCC, UNDP transfers quarterly funds based on the previous quarter's reports. Up until the IE time, only two quarterly progress reports were submitted by the Project as no technical works have been commenced on the ground.

- The ProDoc proposed a management team supported by short-term experts bringing together a broad range of skills and knowledge in climate change adaptation, hydrology and meteorology and disaster risk management. During 2018, recruitment of project staff was initiated and was partially completed. The procurement process for the initiation of baseline studies was initiated. However, at the time of IE, only 10 out of 31 project's staff are hired. The remaining 20 vacant positions including the NPM are in different stages of the hiring process. An overview of the status of staff hiring and continuity is shown in Figure 1. Furthermore, the status of recruitment and procurement of technical short-term experts is also delayed. To be effective during a time-constrained five-year project, PMU and PIUs staffing need to be fulfilled as soon as possible. Additionally, the fact that the TS[36] is based at UNDP CO is another issue highlighted by MOCC senior management. According to the Ministry's officials, the TS should be located at the Ministry or the PMU to be close to the Ministry's staff to provide the needed technical support when needed. However, the MOCC senior official also mentioned that there is a problem of office space in the ministry's premises.

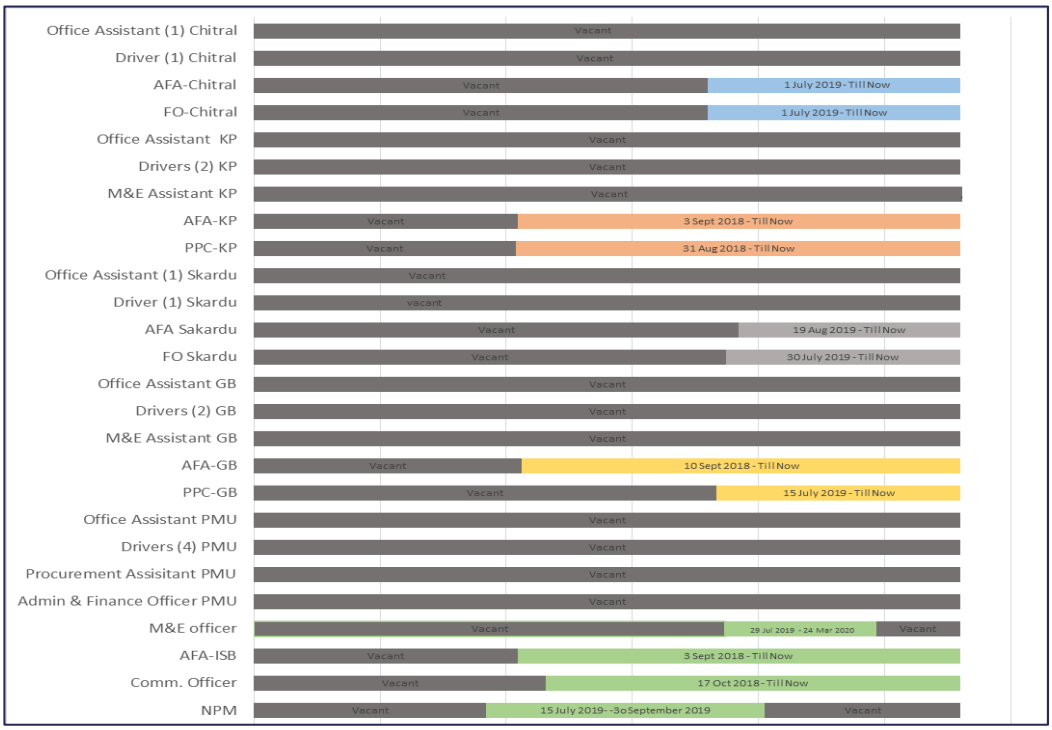


Figure 1. Service Period of various Project Staff Members ***(black bars indicate vacant positions)***

[35] FAA. Section F.4. Financial Management and Procurement. Page 43.
[36] 50% paid by the GLOF-2 Project.

Legend: AFA, Administration and Finance Assistant; FO, Field Office; GB, Gilgit Baltistan; KP Khyber Pakhtunkhwa; M&E, Monitoring and Evaluation; PPC, Provincial Project Coordinator; PMU, Project Management Unit; NPM, National Project Manager

- ***Weather conditions in the Project's sites (Natural hazards).*** The weather conditions in the two provinces are considered as one major issue the project must address in its annual planning for activities. From October to March, weather conditions become very harsh and the chances for avalanches is high. The team cannot operate on the ground during these 6 months, leaving only 6 months for the actual implementation. Taking this weather issue into considerations, funds should be received by the line department in districts no later than March. Based on the review of the 2019 and 2020 transfer of funds, it was notified that funds were received end of October 2019 and July 2020 (mainly due to delayed signing of LOAs by the line departments/P&DD and UNDP- explained earlier). This leaves no time or very little time for the project team to implement the project's activities on the ground.
- ***A newly formulated TWG in KP.*** The TORs of this TWG is surpassing the mandate of the PSC and is an attempt to take control of the project from MOCC and UNDP. The order was issued by the Chief Secretary GB, who is equivalent to the Additional Secretary or sometimes to the Secretary at the federal level, so these cannot be ignored by any official in GB. The Secretary MOCC, EAD and UNDP should call for a meeting to understand the logic behind the establishment of this new TWG and eliminate this TWG in GB.
- ***Opening of the Bank account.*** According to the GOP rules, any project which is prepared following the PC-1 guidelines will have to open an Assignment Account. Under the Assignment Account, the PPRA (Public Procurement and Regulatory Authority) rules will be applied for procurement and all the disbursements will be through the office of the Accountant General Pakistan Revenues (AGPR). These procedures are highly cumbersome, and the projects are often delayed which leads to double the project cost and duration[37]. While preparing the PC-1, the MOCC did not take serious note of this issue as this is a routine matter for it[38]. However, at the time of implementation, the MOCC desired to open a "Project Account" to be operated by the NPD and NPM, as has been practiced under PCOM (Project Cycle Operations Manual) in the past. However, UNDP took a position that the PCOM has been phased out and either follow the "UNDP Supported NIM Modality" or "full NIM Modality" whereby UNDP will transfer funds to the MOCC's any new or old Assignment Account. However, if "UNDP Supported NIM" is to be followed then the UNDP does not need to open a separate bank account and give authority to NPD to operate. This was a contentious issue and delayed the implementation for a significant period.

  Finally, it was agreed between MOCC and UNDP, that the Responsible Parties (RPs) will open their "Project Accounts" or use any of their old accounts and after the approval of activity budget by NPD, UNDP via the P&DDs will transfer the funds to RPs account. At

[37] In the case of UNDP-GEF SLMP-II project, the federal and provincial governments have provided co-financing which is channeled through the assignment account and AGPR system. The MTR of SLMP-II recorded that one of the reasons of delays in implementation of activities is the complex accounting system and non-availability of funds in time.

[38] Ideally, the MOCC should have mentioned in the PC-1 that the implementation arrangement is "UNDP Supported NIM Modality" and explained the anticipated use of UNDP system for financial management and procurement, which is possible. In case of UNDP-Govt. of Punjab Biosaline II project, the Punjab Government channeled its own funds (US $ 9 million) as cost-sharing through UNDP system. In this way, it was also able to purchase imported double cabin picks up for field work, which is not allowed in the government system.

present, all the RPs have operational project accounts in which they could receive funds and make the expenditure.

- ***Adaptive Management.*** The ground implementation of the activities could not take place due to complex management arrangements and misunderstandings between the MOCC and UNDP about their roles and responsibilities, nevertheless, the project took the following adaptive actions to expedite implementation and enhance project delivery:

    - The budget allocation for the purchase of emergency preparedness and response equipment for 2019 was US$ 400,000 in AWP 2019. However, the total cost of equipment identified by the experts and agreed by the governments of KP and GB was much higher than the 2019 allocation. Keeping in view the need for equipment, a decision was made to purchase all the equipment in 2019 in one go while remaining within the total ceiling of US$ 1,111,100 during the project period. Thus, the AWP was revised, and it was frontloaded with activities to purchase all the emergency and response equipment during 2019.

    - Though the project was making considerable implementation progress during the first half of 2019 in comparison of 2018, the Executing Entity (MOCC) desired to change the implementation arrangements in September 2019. The MOCC expressed its intention to revoke the LOA which is an instrument binding the two parties to implement the project. UNDP prepared a roadmap to change the management arrangement after having several consultation meetings with MOCC but the Secretary MOCC (designated NPD) was transferred in December 2019. The new Secretary designated the Additional Secretary (comparatively less vulnerable to transfers) as the NPD and decided to use the UNDP support for implementation under NIM modality, after making some adjustments to the LOA signed in 2018. The new arrangement still calls for prior approval of activities 'on file' which is the root cause of delays. The transition to implementation without UNDP support services remains to be agreed and formally decided.

- In summary, the Project faced serious issues which led to delaying the implementation of all activities, these issues could be summarized- in chronological order - as follows:

    - The delay in getting the final clearance from the GCF. The GLOF II Project was approved by the GCF Board in its B14 meeting in October 2016, with some covenants and conditions. One of the conditions included was: *Before the first disbursement, UNDP will present the report of a technical assessment on the possible risk of natural disasters affecting the project area.* The report was prepared and submitted by UNDP to the GCF in February 2017. The GCF Secretariat provided comments in October 2017 that were addressed, and the report was resubmitted in November 2017, then another round of comments was also addressed. Finally, the report was officially cleared by the GCF in February 2018, which was a signal to proceed with project implementation.

    - While the GCF Board approved the project in October 2016, signed the FAA in May 2017 (conditional), the final clearance was received in February 2018 and the first disbursement from the GCF was made in April 2018. This is almost one year and a half delay in the start of implementation since its approval.

    - During the one year and a half, MOCC and UNDP collaborated to initiate activities that do not need financial support. Both parties have signed the ProDoc, reviewed and approved the PMU's TORs, and the project was officially approved by the Planning Commission and the ECNEC.

    - The project was designed to follow the UNDP's NIM modality, which supersedes the PCOM, a previously agreed set of project implementation rules and regulations approved between the Government of Pakistan and UNDP. The GOP has had a revised version of the NIM called "NIM 2015", which is a modified version of the global NIM guidelines that was localized to suit the local context. According to the interviewed stakeholders, there were two main confusions over the project implementation modality during the first two years of implementation: the use of PCOM versus the use of NIM, and the use of NIM 2011 versus the use of NIM 2015. UNDP and the GOP have agreed, after long and

intensive discussions and exchange of emails and official letters to use the 2011 NIM modality[39].

- The "NIM 2011" presents several challenges within the existing Government of Pakistan financial rules (opening of assignment account, etc.). UNDP and MOCC have agreed to use UNDP HR/finance/procurement systems through an LOA to expedite project implementation. It was agreed that in the absence of UNDP support-services to the project, project implementation pace may be impacted.
- The LOA for the Provision of Support Services by UNDP was signed on 10 May 2018 which detailed support services to be provided by UNDP, which marked the operational launch of project implementation.
- However, all project-related activities approved in 2018 AWP were not completed as planned. Following a change in Government in July 2018, key officials across partner institutions were transferred to other institutions which significantly impacted the pace of implementation. Through an official letter in October 2018, MOCC called for a review of implementation arrangements earlier agreed with UNDP and activities were requested to be put on hold in the meantime, despite AWP 2018 being approved by the PSC, based on which UNDP had initiated recruitment of staff, procurement of goods and services and baseline assessments.
- This change in management at MOCC was not a one-time change. Frequent changes in MOCC's top management has greatly impacted the project progress. The MOCC is usually headed by a Secretary, and it is customary to transfer secretaries after 3-year time or earlier. This position is very critical for the Project as the Secretary position used to hold the NPD position for the Project. However, unusually seven secretaries/NPDs changed over the past 2 years. This has greatly affected the Project as some Secretaries had only spent a few months or less and then transferred to another ministry.
- Relations between UNDP and MOCC have been strained since October 2018 and partially lessened in April 2020. Discussions between UNDP, MOCC and other members of the PSC continued over a year and a half, which has impacted the pace of implementation. Several issues were raised by MOCC concerning the project management arrangement. Those, according to Project APR 2018, required a revision of project implementation arrangements, which in turn requires a revision of the PC1 of the project[40]. Also, as some changes were made to the ProDoc during the IW, a revision of the PC1 is required to reflect all changes. However, both parties agreed that this is a lengthy process, based on earlier experience, and may take between 6-12 months to complete. So, it was agreed that:

    1. The project to complete activities already initiated (such as baselines assessments) under existing implementation arrangements, and
    2. UNDP and MOCC to continue discussion and negotiation over the best way forward; either to modify the PC1 or revise the LOA.

- The problem escalated again as MOCC Secretary / NPD was transferred to another institution in January 2019. A new Secretary MOCC has arrived and taken over the

[39] Para 6, Information Note for PSC members
[40] PC-1 (Planning Commission Performa 1) is a Government project template for development projects.

charge. UNDP CO has taken rigorous steps to move the discussion with MOCC and reach an agreement[41].

- In 2019, several multilateral and bilateral consultations continued to reach an agreement between UNDP and MOCC. An agreement was reached to resume project activities on a form of an amendment to the LOA, and AWP 2019 was approved in the PSC meeting in March 2019 with the following changes to the implementation arrangement[42]:
  1. an explicit provision for participation of relevant federal and provincial Government representatives in procurement panels; and
  2. reduction of estimated Direct Project Costs (DPCs), for UNDP's support to execution, due to planned implementation of certain activities directly by provinces.
- Based on this revision, 2019 AWP was approved, followed by an explanatory note issued by MOCC, detailing working arrangements requiring approval **'on-file'** from MOCC for each activity in the AWP before those are initiated.
- However, and even though the LOA was revised in 2019 to fulfil the requirements of MOCC, another problem was raised in September 2019. The NPD complained poor performance of the NPM who then resigned from his position, and the position could not be filled – up until the time of the IE - due to disagreement between UNDP and MOCC regarding the NPM's TOR, reporting lines, etc. The IE team could not get any proved poor performance of the NPM.
- In September 2019, MOCC called for another review of implementation arrangements, expressing its intention to revoke the LOA for provision of support services by UNDP and take full charge for implementation of the project. However, as the Secretary MOCC was transferred in December 2019 to another ministry, the new Secretary who joined in January 2020 was interested to move with the current Project management arrangement after making a new amendment to the LOA.
- In April 2020, a second amendment to the LOA was agreed between UNDP and MOCC. In this amendment, the following changes to the project management arrangement were approved[43]:
  i. The implementation of any activity at federal and provincial level will be implanted with prior approval of NPD and in close coordination with MOCC at federal and/or provincial level; and

[41] *As documented in the Project APR 2018. Steps from UNDP CO included: UNDP's DRR, ARR, PO, TS and NPM attended the 2nd PSC meeting and explained the implementation arrangements and the LOA signed previously between MoCC and UNDP. 2. The ARR, PO, NPM and TS held separate meetings with Joint Secretary, and staff of the Economic Affairs Division (EAD) of the Govt explaining the NIM guidelines, legal status of the LOA. 3. The RR has held meeting with the Advisor to Prime Minister on Climate Change on the same issue. 4. The RR, DRR, ARR and NPM have held meeting with the new secretary and explained the current implementation arrangements and the need to resume all activities. 5.The matter was earlier escalated at BRH level. UNDP Executive Coordinator (EC) and Desk Officer were informed, and the EC was requested to deliver a talk and hold meeting with MOCC officials.*

[42] Amendment to LOA between MOCC and UNDP, 2019. Signed on 22 March 2019.

[43] Amendment to LOA between MOCC and UNDP, 2020. Signed on 24 April 2020.

ii. MOCC and the line departments will be kept in the loop through quarterly reporting and regular coordination by PMU and PIUs at every stage of the implementation for effective monitoring.

Against this analysis, and based on collected information and evidence, the rating for the management arrangement and adaptive management component is Moderately Unsatisfactory (MU).

3.4.2 Work Planning

Project Annual Work Plans (AWPs) were produced every year since 2018. These plans were developed following UNDP project management guidelines, including the calendar year cycle (January to December for each year), in addition to several key documents and plans including monitoring plan, the mandatory GCF M&E requirements and associated budget, recruitment plan, procurement plan, project management plan and planning, monitoring and reporting, offline risk log and the project legal context.

The approval process is relatively complicated as it reportedly includes approval at different levels of the Government (Province, PIUs, PMU, MOCC and UNDP) and approval at each level is granted only after a horizontal review by relevant units at each level so completion of the process takes several weeks/months. After obtaining the approval from the Government side, PMU submits AWP to UNDP for approval. The AWPs are developed at the district level by different line departments in collaboration with the PIUs. Then, the P&DDs at the Province level compiles all line departments' plans and submit to PMU, copying the line departments, and PIUs. The PMU in Islamabad discusses and compiles the two provincial work plans in one AWP. Once finalized, these AWPs are reviewed and endorsed by the PB and approved by MOCC and UNDP. These AWPs, presented in a tabular form, details the list of activities to be conducted during the coming year following the structure of the log frame of the project (output and respective activities). They also include for each activity, a tentative schedule (per quarter) when it will be implemented, a corresponding budget, responsible party, source of funds, and the target for the year for each activity.

The IE team noted that AWP for the first year of the project implementation (2018) was approved after the Project's IW in July 2018[44]. The delay in preparing and approving AWP for 2018 resulted from the fact that the GCF fund was received in April 2018, and to commence project implementation, necessary project structure had to be established and manned, namely PMU and PIUs. As PMU and PSC were already operational from 3rd 2018, improvements in AWP approvals were expected for AWPs in 2019 and 2020. However, AWP for 2019 was approved in March 2019, AWP for 2020 was approved in March by UNDP and in April by MoCC. Delays in AWP approval have consequences on the project implementation down the line as AWP includes the procurement and recruitment plans for the same calendar year. The approval process for requesting funds for line departments has the same complexity as it is subject to the same complicated process of clearances at different levels. The line departments must report technically and financially to the PIUs, which in turn is going to compile at the province level and submit to PMU in Islamabad. The PMU is going to review, clear, and submit to MOCC and UNDP. This process is even more complicated than the AWP as it should take place every quarter. Up until the IE time, only 2 quarterly reports have been submitted. In 2019, funds were received in October and thus line departments had to return the fund to the P&DDs then to UNDP. In 2020, the funds were received in July (during the IE exercise). The line departments did not report yet on the use of financial resources.

Since the project implementation should take place during March-October due to the prevailing weather conditions in targeted districts, the collected evidence clearly shows that practically two to three-quarters of each of the first two implementation years were lost in waiting for the AWP approval and transfer of funds.

Based on the information collected, the IE Team compared the budgeted annual work plans with the actual annual disbursements, the results are presented in Table 11 below:

[44] Project APR 2018. Section 2: Implementation Progress.

Table 11. Annual Work Plans versus Actual Expenditures[45]

Year	AWP Budget	Actual Expenditures	% Spent
2018	2,569,870	180,052	**7.01%**
2019	6,266,757	1,439,314	**22.97%**
2020	13,962,640	1,591,548	**11.40%**
Total	**22,799,267**	**3,210,910**	**14.08%**

Numbers presented in the table above reveal that the total expenditure for the last 3 years is only ***14%*** of the total planned budgets in the AWPs. The implementation team has been guided by activities to be implemented to reach the expected results. Each AWP included a list of activities and a tentative budget. Through the implementation of activities, the use of adaptive management measures was limited and thus did not change the progress of the project toward its expected results. However, the planned 2020 expenditures, particularly the costly items such as procurement of IT equipment, automatic weather stations equipment, generators, gauges, and vehicles, may shift the expenditure and result in enhancing 2020 annual expenditures.

Analysis of the history of AWPs and fund transfer approvals in 2019 and 2020 thus clearly demonstrates that the mandatory sequential preparation of AWPs and fund transfers is one of the root causes for the delays in the implementation at the district level. Despite some good elements in the work planning overall, this component did not lead to effective and efficient implementation of the project. Given the challenges the project will be facing in accelerating the implementation, the adaptability and flexibility of this component must be improved. AWPs for next year should be approved by the end of the previous year, so the funds can be transferred in January or maximum February to allow for proper implementation of the Project activities. **Therefore, the rating for the work planning component is Moderately Unsatisfactory (MU).**

3.4.3 Finance and Co-finance

As discussed earlier, the implementation modality of the project is the UNDP Support Services to NIM. In this modality, UNDP is requested to provide support services to the GLOF II project, which must be done following UNDP rules and regulations.

At the time of this IE, the review of financial records as recorded in the UNDP Atlas system indicates that the actual expenditures including commitments allocated against the GCF project grant for the years April 2018[46] to August 2020 (29 months) represent about **8.7%** (US$ **3,210,914**) of the approved budget of US$ **36,960,000** versus an elapsed time of **57%** (29 months out of 51 if we consider the project start date as per the ProDoc, July 2017) and **48%** (29 months out of 60 if we consider the project start date as per the first fund disbursement from the GCF, April 2018). The breakdown of project expenditures by output and by year is presented in **Table** 12.

As of August 30, 2020, the remaining budget from the GCF grant is US$ **33,749,090 (91.31%).** When considering the timeline left for implementing the project, the entire budget should be expended by July 2022. The spending is very low for Output 2, around **6.56%** of the total allocated budget, while Output 1 has slightly high spending but did not reach **13%** of the originally planned budget. About **13%** of the project management budget has been spent as of the end of August 2020. If the project is to be extended, and all positions proposed in the ProDoc to be filled, the project management cost might need to be increased. Figure 2 illustrates the gap in the project spending by comparing the planned budget in the ProDoc vis-à-vis planned budget in the AWPs and the actual expenditure up to August 2020.

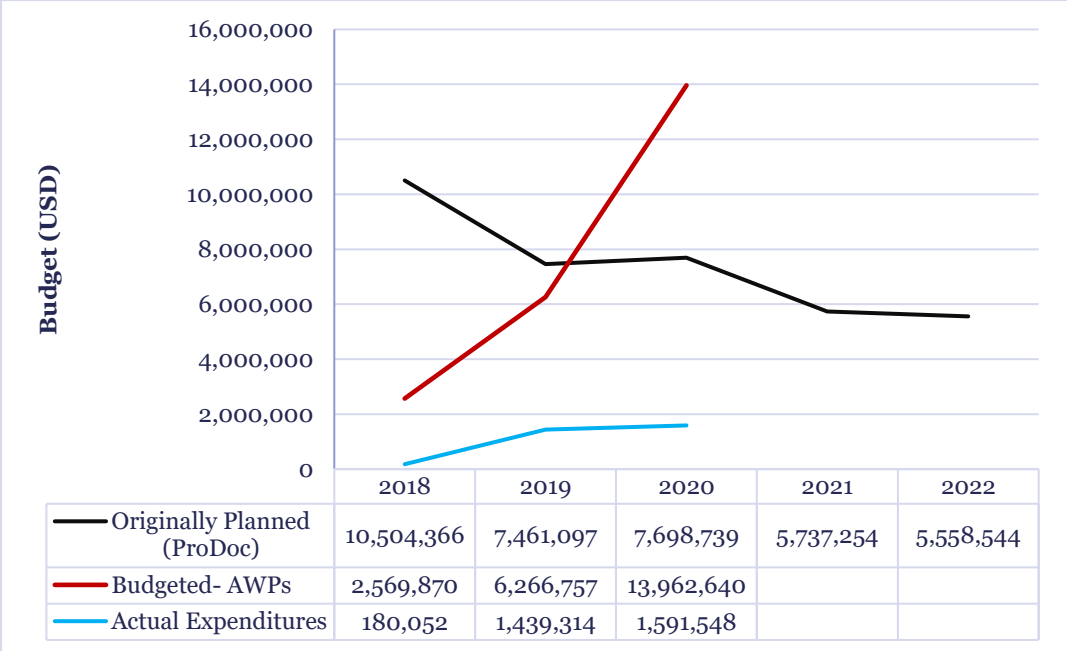
[45] Source: Project AWPs and UNDP-Atlas CDR Reports.
[46] April 2018 was considered instead of July 2017 as the first disbursement from GCF was received in April 2018.

Finally, the project was not subject to any financial audit during the last 3 years.

Co-financing / Parallel Financing

Co-financing commitments at the outset of the project totalled the amount of US$ 4,500,000 as parallel co-financing (see Table 13), which represented about 11% of the total financial resources required in the project document of US$ 41,460,000 (GCF grant + co-financing) for the implementation of the project. All pledged amounts listed in the table below were supported by co-financing letters and are part of the UNDP ProDoc.

The table indicates that all co-financings were pledged by UNDP and Government of GB as parallel financing. At the time of the IE, there were no reported co-financing contributions. Any contributions should be confirmed by letters from the MOCC and UNDP and are also confirmed by the review conducted for this IE. The 2019 APR indicated that "given the overall context of operational challenges, the project co-finance pledged by the Government of Gilgit-Baltistan could not be programmed and utilized".



	2018	2019	2020	2021	2022
Originally Planned (ProDoc)	10,504,366	7,461,097	7,698,739	5,737,254	5,558,544
Budgeted- AWPs	2,569,870	6,266,757	13,962,640		
Actual Expenditures	180,052	1,439,314	1,591,548		

Figure 2. Planned budget in the ProDoc and the AWPs vis-à-vis expenditure

Table 12. UNDP GCF Project Funds Disbursement Status (August 2020 in USD) [47]

Project Components	Budget Approved (USD)	Expenditure as of August 2020				% of budget spent	Committed 2020	Total committed and Spent	Difference between actual and planned budget
		2018	2019	2020	Total spent				
Output 1	6,082,539	11971	444,052	330,562	786,585	12.93%	0	786,585	5,295,954
Output 2	26,046,154	55,707	707,342	946,480	1,709,529	6.56%	0	1,709,529	24,336,625
Project Management Cost	4,831,307	112,374	289,881	230,225	632,480	13.09%	368,271	1,000,751.00	3,830,556.00
Unrealized loss/gain	0	0	-1,960	84,280.42	82,320.42	0			
TOTAL GCF	**36,960,000**	**180,052**	**1,439,314**	**1,591,548**	**3,210,914.42**	**8.69%**	**368,271**	**3,579,185.4**	**33,380,814.58**

Table 13. Co-financing Status[48]

Sources of co-financing	Name of co-financer	Type of co-financing	Amount confirmed at FAA approval (US$)	The actual amount contributed at the stage of IE (US$)	Actual % of Expected Amount
GCF Accredit Agency	UNDP	Parallel	4,000,000	0	0%
Receipt Government	GoGB	Cash	(PKR 50 Million) = US$500,000[49]	0	0%
Total (USD)			**4,500,000**	**0**	**0%**

[47] Source: UNDP Atlas CDRs and Information Provided by the Project team.

[48] Source: UNDP ProDoc. Letter from the Government of GB, and Project documentation provided by the Project team.

[49] PKR 50 million was committed by Government of GB at the time of project development. It was an equivalent of USD 500,000. As of August 2020, the same amount is around USD 310,000 based on current operational exchange rate.

3.4.4 Coherence in Climate Finance Delivery with other Multilateral Entities

This project was designed and built upon the experiences, information, data, networks, and experiences created by the GLOF I project, which was financed by the Adaptation Fund. At the time of Project development, there were key significant investments in GB and KP to manage GLOFs risks. A list of initiatives was provided in the Funding Proposal, Page 9 and 10. Currently, the Project is building up and/or coordinating with some initiatives and projects funded by different UN agencies, development partners and donor agencies. Those include UNDP/GEF, KfW, DFID, IFAD, Adaptation Fund, and the Government of Pakistan. Furthermore, the project is being implemented under the UNDP Environment and Climate Change Portfolio which is directly responsible for implementing other ongoing UNDP-supported initiatives. The Projects cooperates with the following initiatives:

- ***"Reducing Risks and Vulnerabilities from Glacier Lake Outburst Floods in Northern Pakistan"***
  The Project was funded by the Adaptation Fund, the Government of Pakistan, and the UNDP. It has implemented key measures to reduce the vulnerability of communities in Bagrot and Bindogol valleys of GB and KP districts. It was successful in helping the most vulnerable communities in these districts better prepare for GLOF risks through infrastructure enhancement engineering structures (gabion walls, diversion walls, bridges, assembly points and safe evacuation routes). It also enhanced the understanding, preparedness, and response of communities to climate-induced disaster risks. The GLOF II Project should benefit from the assessment and vulnerability and feasibility studies that have been conducted and documented through the project[50].
- In 2019 the Project developed a partnership with a similar ongoing project of Environment and Climate Change Unit UNDP (***Building Disaster Resilience Project – Pakistan***) by jointly strengthening the stakeholders (PDMA and District Administration) of KP through the provision of Response and Relief Equipment. Furthermore, the Project Jointly in collaboration of Government of Pakistan Ten Billion Tree Tsunami Project through targeted and Vulnerable communities, planted more than 10,000 trees (***Under activity "Adopt a tree"***).
- In 2020, the Project in collaboration with the Generating Global Environmental Benefits from Improved Decision-making Systems and Local Planning Systems (GEB) Project (implemented by MoCC under NIM 2011 guidelines) is strengthening MoCC through the establishment of Digital Library/Platform at Federal and Provincial level.

However, as all activities have been delayed, the project did not contribute, up until the IE time, to achieving stronger and more coherent integration of shift to low emission sustainable development pathways or increased climate-resilient sustainable development in Pakistan.

3.4.5 Project-level Monitoring and Evaluation Systems

The standard UNDP and GCF M&E procedures were presented in a comprehensive M&E plan in the FAA and UNDP ProDoc[51]. A total budget of US$ 520,000 was allocated to M&E, representing about **1.4%** of the GCF grant. Up until the IE, the expenditure on M&E reached **US$ 39,450** (**7.6%** of the originally planned budget for M&E activities).

Below is a summary of the M&E plan operating modalities (combined from UNDP ProDoc and GCF FAA):

- ***NIM Audit as per UNDP audit policies:*** Audits are conducted following UNDP Financial Regulations and Rules and applicable audit policies on UNDP projects. No audit of this project has been conducted until the time of the IE.

[50] Studies include design and cost-estimates of various engineering structures; study on GLOF socio-economic impact in Chitral and Gilgit; impact of GLOF on biodiversity and ecosystems.
[51] UNDP ProDoc. Section VIII. Monitoring and Evaluation Plan. Pages 34-38.

- ***Inception workshop and report:*** it was organized in July 2018 in Islamabad. The IR was submitted on December 2018 (around 5 months after the IR). According to the GCF regulations, the IR should be submitted within 3 months of project launch (12 July 2017 is considered by the GCF as the effective date). The UNDP CO has secured the approval for IR late submission due to late approval of GCF final clearance, late fund disbursement. The approval was granted by the GCF with the new submission date indicated as 31 December 2018 instead of November 2017.[52]

  The project design was reviewed, including the Project LF, management arrangement, and project available resources for implementing the project. Discussions were facilitated on roles and responsibilities of the Implementing Agency (UNDP), the Implementing Partner (MOCC), other partners/stakeholders and the Project Implementation Team. The AWP for 2018 was reviewed, discussed, and approved. The formulation of the PSC was discussed and approved. Finally, a comprehensive set of recommendations to the Project Team and IA were identified and documented in the inception report.

- ***GCF Annual Project Reports/ Annual Performance Reports (APRs):*** These annual reporting requirements are submitted by the Project Manager to the PSC, using a GCF template for project progress reporting. These APRs include a summary of implementation progress, a summary of performance against the GCF investment criteria, achievements against the overall targets identified in the project document; a summary of the implementation process, progress against the LF, challenges faced the project and lessons learned, financial information in the form of an excel worksheet, report on environmental and social safeguards and gender. The Project has submitted 3 APRs: 2017, 2018 and 2019.
- ***Lessons learned, case studies, and knowledge generation:*** Results from the project are to be disseminated within and beyond the project intervention area through existing information-sharing networks and forums. The project is to identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects. A two-way flow of information between this project and other projects with a similar focus is also encouraged. To date, the work on this M&E tool was limited to documenting lessons learned in the project's APR.
- ***Independent interim evaluation (IE) and final evaluation (FE) reports:*** The IE evaluation (Interim Evaluation (IE)) is underway (this report); a final evaluation will take place three months before the final PB meeting and will follow UNDP and GCF evaluation guidelines. According to the UNDP ProDoc M&E plan, the IE report was due in the 3rd quarter of 2019. The process was initiated around a year later taking into considerations the delay encountered at the beginning of the project due to the 1-year delay in receiving the fund from the GCF.
- ***Final report:*** Final report along with the FE report will serve as the final project report package. These should be submitted to the PB during the project terminal review meeting to discuss the lesson learned, opportunities for scaling up, and the recommendations made in the FE and associated management response.
- ***Project Board Meetings (PB/PSC):*** The PB/PSC holds project reviews to assess the performance of the project and appraise the AWP for the following year. The PSC met 4 times since the project launching. Minutes of the meetings were prepared and shared with members of the PSC.
- ***Supervision (UNDP) and oversight (UNDP Regional Office) missions:*** UNDP CO visited MOCC several times to discuss management arrangement issues. A few reports shared with the IE team. The UNDP Regional Office in Bangkok is heavily involved, through the UNDP CO, in finding suitable ways to support the project implementation. The UNDP Executive Coordinator and Director of Environmental Finance, BPPS UNDP visited Pakistan in February 2019 and discussed the status of the GLOF II implementation with the Advisor to the Prime Minister on Climate Change.

[52] UNDP letter to GCF. Subject: Request for extension of inception report submission for FP018 Pakistan. Dated 15 May 2018.

- ***GCF learning missions/site visits:*** no learning missions or site visits were conducted by the GCF team up until the IE time.

- ***Project Implementation Reports (PIRs)*** are UNDP/GEF requirements. These reports are prepared by the end of the GEF yearly cycle, June. In the GCF FAA, a reference to prepare these reports was made as these are very detailed M&E reporting tool. The IE team found that the Project team did not prepare any PIR. Although preparing PIR will add another reporting burden on the project team, the IE team believes that PIRs are more important than bi-weekly reports that are being prepared by the project team. The PIRs include an assessment of the progress, rating by different project stakeholders, analysis of the financial status of the project, detailed analysis of the risks and associated management response. These details are critical and would support the project team in its M&E efforts.

- ***Quarterly Progress Reports (QPRs)*** were planned to monitor the progress and record it in the UNDP Enhanced Results Based Management Platform. Risks have also been reviewed quarterly and updated in the Atlas system when needed. The IE team found that 2 QPRs were only prepared for this project, 2nd, and 3rd QPR for 2019. The absence of this monitoring tool represents a weakness in the M&E cycle.

- ***Logic framework indicators (Performance indicators):*** A set of 7 indicators with their respective baselines and targets at the end of the project were identified and documented in the Project Results Framework, one is at the objective level, one at the outcome level and five at the output level, to monitor the performance of the project at the objective, outcome, and output levels. A comprehensive review of the LF is provided in section 3.3. The seven indicators and their respective targets have been used on yearly bases to report progress made in the APRs.

  Most of the indicators are SMART as discussed in the previous section. The review of these indicators and associated targets reveals that the monitoring framework is not adequate to assess the performance of the project.

Overall, the IE team noticed that the monitoring framework in place is workable and the project implementation team has been able to use this framework to annually report progress made by the project, yet, not adequate to assess the performance of the project at the mid-term point. It is recommended to replace the bi-weekly report by the UNDP/GEF PIRs and to ensure the regular preparation of the QPRs as effective monitoring tools to support the project team in measuring project progress on quarterly and annual bases. It is also recommended that the project management team works with MOCC and UNDP to review the LF and its baseline and establish meaningful yearly targets for the remaining time of the project.

Based on the above, the evaluators adjudge that the project level monitoring requires remedial actions particularly in the area of i) the quarterly and annual monitoring of risks and issues that hinder the project implementation, and ii) the annual targets for individual outputs and activities of the project to improve effectiveness and efficiency of the project implementation. Accordingly, the rating given for the project level monitoring component is ***Moderately Unsatisfactory (MU).***

3.4.6 Stakeholder Engagement

According to the UNDP ProDoc, the Project benefited from the established working model with various national, sub-national and international stakeholders, which was developed as part of the pilot UNDP Project (GLOF I). The development of the GLOF II project's activities has been generated through consultation with stakeholders and beneficiaries. These consultations included meeting with officials at the federal, provincial, and local levels. Women, men, and youth, farmers and pastoralists across the project's districts are the main beneficiaries of GLOF I and have been consulted in the formulation of the GLOF II Project[53]. The UNDP ProDoc also

[53] In KP the consultation meetings were held on the 20th, 22nd, 23rd and 24th of June 2015. In Gilgit the meetings were held on the 20th, 22nd, 24th and 27th of June 2015: FAA. Section E.5.3. Engagement with NDAs, civil society organizations and other relevant stakeholders.

included a list of key stakeholders to be involved in the implementation of the project which also articulated their respective expected roles and responsibilities.

The PMU is based in a separate premise due to limited spaces at MOCC. It is believed that the PMU should be based in the MOCC which will be a good incentive to stimulate ownership of project achievements by key stakeholders. Finally, the PSC is composed of all key Implementing Partners. They have met once a year so far, yet more PSC meetings will certainly contribute to good coordination and collaboration among project partners.

However, despite that key line departments and government entities at districts, provinces, and federal levels are engaged in the limited on-going project's activities facilitating the future institutionalization of project achievements, the assessment of stakeholder engagement in the project conducted by the IE Team reveals that the civil society - and to some extent, the private sector - are not much involved in the implementation of the project. This might be because the project technical activities did not start yet. Yet, the project managed to organize several public awareness activities at the district levels. The project conducted several events for sensitizations, consensus building, mobilization and awareness-raising of stakeholders, communities, and the public about GLOF and climate change risks. In total, 15 community meetings and 12 coordination workshops with Government officials and communities were conducted in KP and GB in 2019[54].

Furthermore, the funding proposal identified the need to develop a multi-sectoral stakeholder committee[55]. This committee should be established in each of the districts to support the implementation of the project activities, facilitate dialogue and discussion on GLOFs and coordination among different stakeholders. The stakeholder involvement plan was not fully identified, however, a description of the nature of stakeholders involved include the development of a system for effective monitoring and enforcement of the process and delineation of roles and responsibilities among stakeholders.

At the time of the IE, the team noticed the absence of these multi-sectoral stakeholders' committees, no clear mechanisms to facilitate and engage stakeholders at the district level. It is recommended that the project put more focus on involving civil society and the private sector in the implementation of the GLOF II project.

3.4.7 Reporting

The main reports have been produced according to UNDP project management and the GCF reporting guidelines. They include AWPs, APRs, IR, and 2 QPRs. The AWPs and APRs both are reviewed and endorsed by the PSC. The IR was prepared and submitted in December 2018, around 5 months after the Project IW. The IE team was able to collect and review 2018, 2019 and 2020 AWPs, the APRs for 2017, 2018 and 2019, the 2019 second and third quarterly reports, and the project IR.

Progress made by the project is reported, following GCF project performance reporting guidelines. Implementation progress was given per each activity as a percentage of implementation progress (implementation progress on a cumulative basis as of the date of the report). This percentage ranged between 5% to 25% in the 2019 APR. The APRs document the progress made against the project outputs and activities every year using indicators and targets set at the outset of the project. The APR includes reporting of environmental and social risks and related management plans, gender, co-financing, and financial commitments, GCF 'conditions precedent' outlined in the FAA, amongst other issues. The 3 APRs were submitted to UNDP for the submission to the GCF in the first quarter of each year of the implementation. Nevertheless, the standard UNDP Annual Progress Reports and UNDP/GEF Project Implementation Reports (PIRs) were not prepared as part of this project monitoring and

[54] Project's APR 2019.
[55] Funding proposal. Section E.5.3. Engagement with NDAs, civil society organizations and other relevant stakeholders. Pages 34-35.

reporting protocol. Although the FAA explicitly mentioned the need to prepare PIRs on annual basis "the PM, the UNDP CO, and the UNDP RTA will provide objective input to the annual PIR for each year of project implementation"[56], no PIRs were prepared for this Project.

It was noticed by the IE team that the project's risks were not monitored quarterly. Yet, risks logs have been updated as part of the AWPs and submitted on an annual basis. Thirteen risks were identified since the start of the project until the IE time. These include political, social, environmental, regulatory, technical, and operational risks. The last update of the risk log was in November 2019. It was also noticed that the status of only 3 risks out of the thirteen changed. The IE team did not get screenshots of UNDP ATLAS Risk Log to enable the team assessing whether the CO recorded progress in the UNDP ATLAS Risk Log. It was also noted that none of the risks was reported as critical even though several risks should be reported as critical as they have high impacts on the project and high probability to occur. Risks should be reported as critical when the impact and probability are high. Management responses to critical risks should also be reported in the Annual Project Report.

3.4.8 Communications

As communication function is an integral part of the project, it was embedded in the strategy, LF, i.e., it is part of the expected results/deliverables. As a result, communication is part of the performance monitoring of the project; one indicator is focusing on tracking communication activities under Output 2 [*by the end of the project 100% of households in target communities are able to receive and respond to early warnings and take the appropriate actions* ..]. Thus, communication is an important technical part of the project's activities *[… when warnings are triggered, PMD will issue meteorological and hydrological alerts regarding possibilities of GLOF events in the target valleys. The communication channels for PMD to disseminate the alerts will be mobile phones (Call + SMS), sirens, FM Radio, Internet website (GLOF II Webpage). Most effective communication is GSM technology which is available in most of the valleys…]*.

Moreover, communicating knowledge and learning is part of the M&E plan whereby under the potential for knowledge and learning section "*results from the project will be disseminated both within and outside of GB and KP through a number of existing information-sharing networks and forums*". The IE team noted that a specific budget line was planned for this activity in the M&E plan, under the "lessons learned, case studies, and knowledge generation, with a total budget of 15,000 USD in 5 years.

Under Activity 1.2, the project needs to identify and prepare lessons learned to share locally through printed materials and videos to share information about the successful experiences and lessons learned from the project and its potential for replication in other locations. The project is also due to sharing climate change-related information at the national level by capturing and disseminating lessons learned through the MOCC's webpage as well as in cooperation with other stakeholders like the Ministry of Food Security and Research and the Ministry of Water.

The project implementation team – following its M&E plan - has been communicating the status of project implementation through numerous events. The Project has produced a *Knowledge, Attitude and Practices (KAP) study* and documented local/indigenous knowledge for 15 districts in KP and GB. The study was released in May 2020. The main objectives[57] of the KAP study are to "*understand the existing knowledge, attitude and practice around the issue of GLOF risk reduction in target districts, identify what is known and done about these subjects, establish the baseline for use in future assessments, and in the long-run, when KAP surveys are repeated, measure the effectiveness of project interventions."*

Furthermore, the project has organized a visit of journalists in Chitral in July 2019, which was very much covered by the print media. Also, advisor to the MOCC visited project sites in GB on 28 August 2019. The event was covered by the print media, Pamir Times and Passu Times. It included pictures of some people wearing a T-shirt having the project logo.

[56] FAA, Section H.2. Arrangements for Monitoring, Reporting and Evaluation. Page 52.
[57] KAP Study. Prepared by MDC and CMDO for the GLOF II Project. May 2020.

On the internet, the IE team observed a few press releases of UNDP related to the GLOF II Project on UNDP Facebook and twitter page. The project launch event was covered by a leading English Newspaper https://www.dawn.com/news/1485840, a negative project story was also carried by the Preventionweb and https://reliefweb.int/report/pakistan/project-glacial-flood-risk-reduction-stuck-red-tape and the Dawn Newspaper https://www.dawn.com/news/1480318. Furthermore, there was another story about the late start of the project on chitraltoday.net.

From a branding perspective, the IE Team noted that the project used the UNDP, MOCC and GCF logos in some of its reports. However, the use of the logos in the project's technical deliverables was not consistent and did not follow the UNDP and GCF visibility requirements. Furthermore, in many cases, the MOCC's logo was missing. It was also communicated by the MOCC's senior officials that the Ministry is disappointed with the Project team introducing themselves as UNDP staff, referring to the GLOF II project as UNDP Project, and not using the MOCC logo in the project reports, documents, and events. The IE team has noticed that too.

Many of the interviewed partners have referred to the Project as UNDP Project or GLOF II project, but none have referred to it as MOCC project. This was also highlighted by MOCC senior management. The Project needs to be more proactive in producing and disseminating information on the project and ensure its visibility. All Partners and key stakeholders should be aware of MOCC, UNDP and GCF roles in the Project.

3.5 Project Progress against GCF Criteria

3.5.1 Impact Potential

The Project was designed to contribute to the Fund level impact of increased resilience and enhanced livelihoods of the most vulnerable people affected by climate-related disasters and variability[58]. Project interventions have been tailored to address climate change impacts and GLOF risks by preventing loss of human lives and materials based on a holistic approach in 10 glaciated districts in GB and 5 in KP, thus contributing to climate-resilient sustainable development in the long-term.

It was also designed to benefit 348,171 women and girls and 348,171 men and boys, totalling 696,342 People on average directly in both GB and KP provinces, and about 29,233,000 indirect beneficiaries, of whom half are women and girls. The beneficiary groups represent around 15% of the total population of the Country.

The project impact perspective remains unchanged, and impact potential of project interventions remains very relevant and urgently needed. However, at the time of the IE, the project technical work is very limited and thus the IE team is in no position to define the potential impact at the IE time.

3.5.2 Paradigm Shift Potential

The project was designed to ensure a paradigm shift and can catalyze impact beyond the project's investment. This is ensured through: i) the project was built as a holistic model of climate-resilient development to enable 15 districts of Pakistan to manage the risks from GLOFs and other impacts of climate change; ii) it incorporated top-down regulatory support, bottom-up community preparedness, and long-term planning for sustainable and climate-resilient use of natural livelihood assets; iii) activities are interlinked which should result in a management paradigm shift that would enable the long-term resilience of the region, and vi) it tied the ecosystem-based adaptation measured with the mainstreaming of climate change risks and proposed solutions through the environmental and social management plan.

However, at the time of the IE, the progress is very limited and hence the IE team could not evaluate the progress against this criterion.

[58] FAA. Section E.1. Impact potential.

3.5.3 Sustainable Development Potential

As stated earlier, the main impact of the project is to save human lives and materials/property through the operation of EWS and protective structures and the promotion of slope stabilization through ecosystem-based interventions. Furthermore, the project is due to produce substantial co-benefits in terms of improved quality of human lives, sustainable land use, enhance climate-resilient, introduce income and business generation activities, enhance community capacity to ensure long term sustainability of the impacts, improve quality of human life, and empower women.

Nevertheless, as the project has faced several challenging situations since its inception up until the IE time, it only managed to initiate several actions, launching several procurement events and recruitment processes, but no results yet to assess, hence, the sustainable development impact is yet to be meaningfully assessed.

3.5.4 Needs of the Receipt and Country Ownership

The effects of climate change are fast unfolding in Pakistan, which is evident in the form of increased intensity and frequency of extreme events. Since 1999, Pakistan has witnessed +152 extreme events indicating that its vulnerability to climate change is increasing[59]. Besides economic losses, it has lost 9,989 lives during the period 1999-2018. The rainfall pattern has changed over time. For example, in 2010, the three weather systems (monsoon from the Bay of Bengal, Arabian Sea, and westerlies from the Mediterranean) hit Pakistan simultaneously in the last week of July – the first week of August 2010, leading to super floods. During 2019 and 2020, the anomalies in temperature in the Indian Ocean[60] have resulted in increased rainfall in Pakistan, e.g., in Karachi, some 484 mm of rain had fallen in August 2020- of which 130 mm on 27 August 2020 which led to unprecedented floods in Karachi after 1931[61]. The impact of simultaneous rains in the up-country in the riverine plains is yet to be seen.

The Funding Proposal Annex VIII records, the losses caused by 23 major GLOFs which occurred in the project valleys of KP and GB. The increase in temperature has accelerated the melting of glaciers. For example, INDC Pakistan[62] reported that the rate of glacial melt in Pakistan is 2.3% per annum. It has placed Pakistan amongst the fastest melting glacial regions in the world. The glacial meltwater, is a lifeline for the food-, energy- and water-security of Pakistan, as it is available during the year in such a period when rainfall is negligible and the country does not have enough capacity to store the monsoon rainwater. Therefore, the activities proposed under the project are of the utmost priority to the country.

Thence, the climate change agenda is one of the top priorities of the government, being advocated through the NCCP. The policy has also recognized the fast melting of glaciers and associated GLOFs as a major risk to the local and national economy.

The ProDoc recognizes 5 barriers[63], namely, poor institutional capacity and coordination at the sub-national level, limited financial resources and logistical capacity of public institutions to construct infrastructure projects, capacity and information availability at the community level, lack of access to financial resources at the household level to respond to risks of GLOFs, and use of unsustainable practices for land, water and natural resources. However, the Funding Proposal Annex II Feasibility Study recognizes several other barriers in addition to the aforementioned. The other barriers highlighted are harsh weather, data gaps in glacial

[59] https://www.dawn.com/news/1520402
[60] https://eos.org/articles/record-locust-swarms-hint-at-whats-to-come-with-climate-change#.Xw3OQtj5pBI.twitter
[61] https://tribune.com.pk/story/2261496/at-least-18-die-as-record-breaking-rainfall-sinks-karachi-again
[62] https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Pakistan%20First/Pak-INDC.pdf
[63] ProDoc page 7-8.

research, non-availability of clear guidelines for DRR at the community level, and lack of awareness[64].

The IE team thinks limited time available for fieldwork in the project area (only summer) due to snowfall in winter is another major barrier. In northern Pakistan which hosts 3,300 glacial lakes, of which 33 are highly dangerous and could lead to GLOFs at any time, the accessibility to the glaciers and lakes is extremely difficult, costly and the opportune time to work in high altitude mountains is only 6 months in a year (summer) as the area is not accessible during winter due to snowfall. The IE team also thinks that another important barrier is the lack of technical expertise in glacial melt and flood management modelling and institutional coordination. There are a few institutions with the overlapping mandate but limited technical expertise of working in the high-altitude mountains which require special skills, gears, and training. Above all, the rigid and outdated government procedures and political interference in projects' implementation undermine the achievement of projects objectives.

The government is resource-poor as its major budget goes on debt servicing and other priorities. However, the government has taken the issue of climate change seriously as is evident from the 2019-2020 budget allocation for climate change projects was about US$ 46 million- almost nine times higher than the budget of 2018-1965,[66]. On the other hand, Pakistan Climate Public Expenditure and Institutional Review conducted in 2015 by UNDP recognized that the average annual adaptation costs are estimated to range from 3% of GDP by 2015 to 1.5% of GDP by 2050. That represents, from now to 2050, around US$ 6 billion–US$ 14 billion, or an average US$ 10.70 billion per annum over the next 40 years[67].

The MOCC, other government ministries, and UNDP have gone through a cumbersome and lengthy process spanning over almost 2 years to get the GLOF II project approved from all the quarters, including GCF, despite strong reservations discussed in the GCF board meeting which finally approved. The project is a key intervention as highlighted in the NCCP. It further draws insights from Vision 2025 and the National Disaster Risk Reduction Policy. The project is managed by the PSC which provides a mechanism of coordination and exchange of information with other relevant ministries/entities, such as Water, Economic Affairs, Finance, Planning Development & Special Initiatives, NDMA, National Disaster and Risk Management Fund (NDRMF), provincial P&DDs, PMD and UNDP. In the provinces, the project is implemented by the line departments (Forestry, Agriculture, Environment and PDMAs). Specialized technical agencies such as PMD and academia are also engaged in project implementation. At the district level, the main implementers are the Community Based Organizations (CBOs) with the support of District Disaster Management Authorities (DDMAs), Rescue 1122 and local NGOs. Though at present the project is facing several administrative issues due to complex management arrangements, all the ministries, concerned line departments, and beneficiaries at large are enthusiastic about the project.

3.5.5 Efficiency and Effectiveness

Effectiveness *is the extent to which the intervention achieved, or is expected to achieve, its objectives, and its results, including any differential results across groups[68].*

[64] Funding Proposal Annex II Feasibility Study page 60-62.
[65] https://www.geo.tv/latest/239933-federal-budget-2019-20-rs7579-million-allocated-for-climate-change
[66] https://profit.pakistantoday.com.pk/2018/04/27/budget-2018-19-govt-allocates-rs-802-million-for-climate-change-division/
[67] https://www.pk.undp.org/content/pakistan/en/home/library/environment_energy/climate-public-expenditure-institutional-review.html
[68] Effectiveness definition: UNDP GEF Mid-Term Review manual.

The Project has not been effective in achieving its specific objectives to empower communities to identify and manage the risks associated with GLOFs and other related impacts of climate change; strengthen public service systems to lower the irks of GLOF related disasters, and support the development of sustainable and climate-resilient livelihood options for communities in the regions targeted by the project.

The ineffectiveness of the project strategy is evidenced by:

- The level of dissatisfaction with the Project progress expressed by all stakeholders during the IE is high. Stakeholders reported that the level of effectiveness of this Project is very low-up until the time of the IE- in comparison to other projects they been involved with.
- The project was not effective during its first three years of implementation. According to 2019 APR, the maximum activity achievements is 25% of the target while some activities reached only 5%. Some work has been done under different activities, most of the project's work happened during the last year of implementation.

Considering the above-mentioned facts, Effectiveness was rated as **Unsatisfactory**.

Efficiency *is the extent to which the intervention delivers, or is likely to deliver, results in an economic and timely way*[69]*.*

The Project has been inefficient due to:

- The proposed co-financing resources are not being mobilized or tracked by the project team. According to UNDP ProDoc, UNDP and the Government of GB will contribute US$ 4.5 Million as an in-kind contribution. Until the IE time, there is no sign for any co-financing provided to the project.
- The slow progress at the beginning due to the disagreement between the implementing partner and the executing agency over the management arrangement. Stakeholders expressed concerns over the issue. It took around two years to be finally resolved and agreed upon, however, the disagreement over the announcement of the NPM TOR shows that this issue is not fully resolved and confirms the inability of the project team to deal with that.
- Substantial delay of the project with recruitment and procurement processes mainly for critical positions like the NPM.
- The long delay in recruiting consultants/experts due to the need to comply with the UNDP rules and regulations and the MOCC request to be involved in all procurement and recruitment evaluation committees.
- The delay from MOCC side in approving AWPs; development and approval of TOR, bidding documents, advertisement, screening, contracting, etc.
- The MOCC sees that its involvement, along with the concerned line departments, in the in-project decision-making process was not up to their expectation. This has resulted in halting the project implementation for several months until a new amendment was achieved to the LOA in April 2020. This issue has caused difficulties in project implementation.

Overall, it emerges that the Project has been **Unsatisfactory** when it comes to efficiency.

3.6 Sustainability

This section discusses how sustainable project achievements should be over the long-term. It includes a review of the management of specific risks such as financial risk, socio-economic risks, institutional framework and governance risks, and environmental risks.

Project risks were identified at the formulation stage and documented in the FAA, including the risk category, level of risk, probability of the risk occurring and mitigation measures for each identified risk factor. The overall rating of the project risk was Moderate. The identified risks and the overall risk rating were reviewed during the inception phase and no changes were

[69] Efficiency definition: UNDP GEF Mid-Term Review manual.

made. The FAA included a list of 9 risks. To the IE team, these risks are considered important and cover all possible risks the project might have faced.

A detailed risk log, following the UNDP Risk Log template, was prepared and annexed to the UNDP ProDoc. The UNDP risk log included 13 risks in total; 11 risks were identified during project formulation phase in July 2016, 9 of which are described in the FAA, while the remaining 2 new risks were added in January 2018.

The IE team believes that risks were not correctly monitored during the implementation phase. A new political risk has been identified in September 2018 on the changing of political support and ownership of the project from key government stakeholders. However, it was not rated as critical although it hindered the project implementation for the last two years. The monitoring of the Project risks is not up to the expected level as risks logs were not quarterly/regularly updated and mitigation measures were not identified as per the UNDP M&E guidelines[70]. Offline risks logs were attached to the AWPs. In these risks' logs, the 13 risks were listed. The 2 new risks added in 2019 are regulatory and political. It was also noticed that the status of 10 risks out of the 13 in 2019 log remains "no change" with only 3 risks changed. APRs for years 2018, 2019 and 2020 did not discuss risks and their management at all. The UNDP offline risks logs included political, regulatory, environmental, and technical risks.

The IE team considers the management of the project's risks needed some improvement and the lack of follow up on the project's risks and potential risks might have affected the success of the project.

However, when considering the objective of the project and the capacity at the national level, one more risk should be added and monitored; that is the risk of a lack of financial resources to sustain project achievements after the project end. After the closure of the project, the equipment will require financial resources to run and be maintained and maybe to be replaced in the long term. The Government of GB is contributing US$ 500,000[71] to the GLOF II implementation. At the time of project formulation, the PMD committed to including the operation and maintenance of the EWSs in its regular budget which need to be ensured by receiving a commitment letter from PMD. But more budget is needed after the end of the project to the maintenance of physical infrastructure. If no additional financial resources are found after this project, this risk may hinder the sustainability of project achievements. It is recommended to add this risk to the risk log and to monitor/report as part of the reviews of risks.

3.6.1 Financial Risks to Sustainability

The project was fully dependent on the financial support of the GCF. The Government of GB and the UNDP also contribute co-financing with a total amount of US$ 4.5 million. UNDP CO is implementing several GEF-supported projects in environment and climate change.

For such a technical project with a large component of procurement and construction when reviewing the sustainability of project achievements, financial risk is an area where some questions related to the long-term sustainability of project achievements need some attention. Section 3.1.1 discussed the five key barriers preventing the implementation of the long-term solution to protect human and materials from the GLOFs risks in vulnerable areas. The project baseline conducted at the formulation stage of this project also revealed that the country financial resources to enhance resilience to GLOFs events in Pakistan is underfunded (see Section 3.1.1).

Within this context, the project will support the procurement of equipment to the selected valleys and pilot sites to pilot new management approaches (EWS/AWS, discharge measuring equipment, emergency preparedness and response equipment). The different types of equipment to be used for applying new management measures in the 15 targeted districts. It will allow the districts governments, the local communities, and the project activities to be carried out with the required resources from the GCF. However, once the project will end,

[70] Risks logs in UNDP ATALS should identify crucial risks and issues monitoring and management response.
[71] The commitment was in Pak Rs., and due to devaluation, it has been reduced.

financial resources will still be needed to run and maintain this equipment (recurring costs) and over the medium to long term to replace it.

PMD has committed to including the operational cost of the EWS in its regular budget and that it will provide a commitment letter to MOCC/UNDP after the second year of implementation. However, the maintenance and repair of the infrastructures is the responsibility of the provincial Civil and Works Department, which in general lacks financial resources. So far, the government is committed to the project objective and has the "instruments" (institutional and legal frameworks) to carry out its programme to reduce the risks of GLOFs events in Pakistan. The project should ensure that the government will continue to support the project achievements with the necessary financial resources from the national budget and possibly from other funding sources.

3.6.2 Socio-economic Risks to Sustainability

The project is highly relevant to the needs of the local communities, as these are suffering from the capital and human loss due to GLOFs and flash floods repeatedly. The water channels emanating from the glacial lakes or glacier snouts are the lifeline of local communities who are managing these channels on a self-help basis. In the project area, several communities' development programmes have been implemented by NGOs such as Sarhad Rural Support Programme and Agha Khan Rural Support Programme and community organizations at the village, Union Council and sub-district level are well functioning. These community structures implement the projects at the local level amicably with the public, NGOs, or their funds. The IE team does not see any socio-economic risk to sustainability.

3.6.3 Institutional Framework and Governance Risks to Sustainability

As explained in the above section, there seems to be no institutional or governance risk at the local level. In each district, a District Disaster Management Unit (DDMU) under the supervision of the Deputy Commissioner performs well and provides support to the affected population during disasters under the overall guidance of the PDMA and NDMA. However, there are conflicting or overlapping mandates of the line departments and ministries. The organization of TWG in GB under the leadership of the Environment Department (all the activities conducted by the PDMA, Forest and Agriculture Department) has resulted in an institutional rift. Another example is that the glacial monitoring work is being conducted by several institutions, such as PMD, WAPDA, SUPARCO, University of Peshawar Centre of Excellence in GIS, Punjab University, Lahore, and several other universities. Many times, the researchers adopt different methodologies for research and analysis which leads to conflicting results. SUPARCO being an organization under the Ministry of Defense is the custodian of all the remotely sensed data. It also researches glaciers and glacial lakes. Such information is not available to other institutions due to security reasons. The IE team considers the lack of coordination among institutions a moderate risk to operation and sustainability of the project.

3.6.4 Environmental Risks to Sustainability

The project has not performed any activity on the ground yet, so no opinion could be passed about environmental risks to sustainability. However, the review of all the project interventions indicates that the activities will rather enhance the environment. The plantations, adoption of bio-engineering techniques of landslide stabilization, and high-efficiency irrigation techniques will contribute towards overall environmental enhancement, increased water use efficiency and halting of land degradation. There is a minor risk of environmental degradation during the construction of infrastructures, which is mentioned in the Funding Proposal along with mitigation measures. The IE team sees no further environmental risk to sustainability. Also, it is worth highlighting that the Environment and Social Management Plan of the project is currently being revised, which proposes mitigation strategies for all relevant risks related to environmental degradation for hard construction processes.

3.7 Innovativeness in Results Areas

The project has not yet initiated any activity on the ground, except feasibility study, KAP survey, GIS survey, and identification of valleys and lakes where the EWSs are to be installed. It has yet to identify the sites where civil infrastructures are to be established to minimize the GLOF risks. The IE team recognizes the innovativeness of establishing AWSs and water-flow measuring gauges to make forecasts related to climate change, glacial melting, flash floods,

and management of streams/rivers. The modelling work that will be conducted at such a scale covering mountainous areas comprehensively will lead to the generation of new knowledge-emanating from the sort of land-locked valleys. It will be of high importance at the global level for better understanding and management of glacial melting and GLOFs. It will set a stage for high-level research and teaching in universities and research institutions.

3.8 Environmental and Social Safeguards and Progress Concerning the Gender Action Plan.

The project activities are well thought out, and these will contribute to the overall environmental enhancement in the project valleys. The construction of small-scale infrastructures, such as check dams, river spurs, strengthening of glacial lakes moraines, and installation of water discharge gates will have minor negative environmental effects. The IE team agrees that there is no need of any EIA for such small-scale projects. The Environmental and Social Management Plan also recognizes the minor environmental risks and proposes adequate mitigation measures. Since the activities are not yet started on the ground, nothing more could be added at this stage. The activities are to be implemented with full consultation of the local communities which will also be trained in flood risk management and maintenance of the EWS. Regarding the gender action plan, the project is thus far at the teething stage, so no plan is prepared yet, however, there is a plan available as part of the Funding Proposal, which is being revised at the time of the IE.

It was observed by the IE team that the feasibility study and KAP survey conducted by the project contain gender-disaggregated data, indicating the sensitivity of the project implementers towards gender mainstreaming.

3.9 Unexpected Results, Both Positive and Negative

The project activities have not yet been started; hence it is too early to say about any positive or negative project outcomes.

3.10 Replication and Scalability

The forecasting and modelling work on glacial melting and stream/river management and community management of GLOFs, avalanches and flash floods will be of high scientific value and it is anticipated that it will be highly useful for replication in other parts of Himalayas, the Karakorum, Hindukush, Andes and in Northern Patagonian (Brazil) ice field affecting the Baker River basin.

4. Conclusions and Recommendations

4.1 Conclusions

1. *The project is very relevant; it is part of a larger approach to strengthening the capacities of vulnerable communities to address the GLOF issues in Pakistan.*

The project supports the government to address five main barriers, which eventually will determine the overall effectiveness of the project at the end. Removing these barriers is critical for empowering communities to identify and manage the risks associated with GLOFs and other related impacts of climate change, strengthen public service systems to lower the risk of GLOF related disasters. The project is aligned with several key national strategies, programmes and priorities. It is also part of a member of ongoing projects supporting the government to enhance resilience to climate change by strengthening capacities of vulnerable communities to address the GLOF issues. Together, these projects are instrumental in steadily upscaling district, provincial, and federal capacities ongoing initiatives on early warning systems and small, local-sourced infrastructure to protect communities from GLOF risks. They are contributing to strengthening the technical capacity of sub-national decision-makers to integrate climate change and disaster risk management into medium- and long-term development planning processes.

2. *The project strategy provides a good response to national needs/priorities to face a critical gap in technical and technological capacity to monitor the status of glaciers and streams through hydrological monitoring and forecasting.*

The project strategy provides a good response to establish efficient and effective mechanisms to enhance the resilience of vulnerable communities; particularly addressing five barriers of enhancing resilience. The project "chain of results" – activities, expected outputs, the expected outcome, and objective - is logical; aiming to empower communities to identify and manage the risks associated with GLOFs and other related impacts of climate change, strengthen public service systems to lower the risk of GLOF related disasters, and support the development of sustainable and climate-resilient livelihood options for communities in the regions targeted by the Project. The project document is well structured and follows the UNDP ProDoc template. However, the Project LF lacks needed details at the mid-term levels such as indicators/targets to measure progress.

3. *Project Duration and Extension*

At the formulation stage, it was envisaged to accomplish the target of installation of 50 AWSs, 408 hydrological monitoring stations, 250 small infrastructures projects, slope stabilization on 700 ha, and installation of 240 water-efficient farming techniques in 5 years. The working season in the project area is March through October (maximum 6-8 months/year). The activities are seized for the remaining period of the year due to heavy snowfall and closure of roads, hotels, etc. Further, during August-September in many places, the roads are closed due to landslides because of heavy monsoons. The access to project lake sites at many places requires trekking of several hours or even 1-2 days. Thus, the achievement of all the hard and soft targets with complex implementation arrangements involving several stakeholders at all levels in 40 months over 5 years (effective time 3.3 years) and a limited workable period during the year seem to be unrealistic. The project was officially started on 12 July 2017 and it took almost one year in seeking necessary approvals from GCF and GOP. Then the project was stalled for 19 months at the advice of the MOCC due to issues with the LOA. Thus, the effective operational time from 12 July 2017 till the time of IE was only 6 months (6 months over a total period of 3 years). Further, the IPs received advance funds for 2020 only in July, leaving only 4 months in 2020 to complete the fieldwork as per Annual Work Plan 2020. Moreover, due to heavy rains in August 2020, the roads are closed due to landslides, which means a limited time available for fieldwork during 2020. The project targets are certainly highly ambitious which cannot be achieved during the remaining half-life of the project. Therefore, the extension in project duration for the time lost is inevitable.

4. *Project Implementation Modality, Adaptive Management, and the LOA*

The UNDP Project Document (ProDoc) signed by both the UNDP and MOCC is the instrument of binding to both the institutions. The ProDoc narrates the signing of the LOA between MOCC and UNDP to provide support services by UNDP for the project and this purpose a Project

Support Unit is to be established in UNDP. The LOA was later signed by the two parties. However, in the government, the document to be followed is the approved PC-1. The approved PC-1 does not give details of the implementation modality but simply mentions that NIM Modality will be adopted and there is no mention of seeking support services from UNDP, which became the contentious issue. This is an oversight by both the institutions.

One of the requirements of the NIM modality is to have a micro-assessment of the executing agency (MOCC), which was performed by international consultants[72]. The report highlights certain grey areas, which prompted UNDP to sign the LOA to have enhanced oversight of the project, and it indicated during discussions that it would not like to have a project as an accredited agency on which it has no control or oversight.

Contrary to the above, the MOCC desires to implement the project as per the Project Cycle Operations Manual (PCOM) which was the modality adopted by UNDP in the past. This modality renders full authority to the NPD for implementation but the responsibility of procurement, issuing of contracts, financial management, asset management, and audit rests with the UNDP. In the case of another project (Forest Sector Management Project), the MOCC requested UNDP to grant special permission to implement the project with PCOM procedures which was accepted. In the case of GLOF II, the MOCC also approached UNDP through EAD to continue to adopt the PCOM procedures but UNDP indicated its inability due to its global policy and decision of its Executive Board, of which Pakistan is a member.

Although at present the LOA is in force with some modifications (two amendments in 2019 and 2020) and it requires that after approval of the AWP by the PSC, the project will have to seek **approval of the MOCC on-file** to implement each activity which was the main reason for the delayed implementation in the past. There are also examples where provinces approved some activity but were not accepted by the MOCC which created disagreement between the institutions[73]. Besides, improved efficiency compared to the public sector organizations, another advantage of bringing UNDP in implementation is that the MOCC will not come under political and other pressures to accommodate activities that are not in the mandate of the project, e.g., ecotourism[74] and providing AWS to other institutions[75] which are not the approved project IPs or recruitment of staff/consultants.

5. Technical Working Group at the Province Level

In GB, a Technical Working Group has been formalized, with the orders of the Chief Secretary, to oversee the project- another layer in project management. The TORs are the same as of the PSC, and the PIU will have to seek approval of every activity from the TWG. It is likely to further complicate the management arrangement and delay implementation.

6. The signing of Annual Agreements with the Provinces

After the approval of AWP by PSC, the PMU prepares LOAs to be signed between UNDP and the concerned line departments via P&DD for the implementation of activities. After the signing of these LOAs, the funds are transferred to the accounts of the line departments. Re-initiating the signing of LOAs with the P&DDs/line departments annually takes a lot of time, and by the time these are signed the working season is almost off in the mountainous areas. There are examples that the provinces returned funds to UNDP, as the working season was off, and nothing could be done.

7. The progress made by the project so far is Unsatisfactory.

The implementation of the Project's activities has made very limited progress so far under its two outputs while it has already spent more than 3 years of implementation. It should contribute

[72] ProDoc Annex 15. HACT Micro-Assessment Report.
[73] Interviews with government officials at province level.
[74] 4th PSC meeting minutes
[75] Recently the NPM received a request from WAPDA through proper channel to provide1 AWS to WAPDA.

to "*support rural communities to avoid human and material losses from GLOF events in vulnerable areas*" and should meet all its targets by July 2022. Progress highlights under each output include:

Under Output 1 the project supported the development of a few baseline assessments which would establish, along with other assessments, the baseline situation, and confirm the indicators and targets to be achieved under the results framework of the project. The project was also able to conduct large-scale sensitization, consensus building, mobilization and awareness-raising of stakeholders, communities, and the public about GLOF and climate change risks. 15 community meetings and 12 coordination workshops with Government officials were conducted in KP and GB.

Output 2: The project identified 33 valleys for GLOF risk potential, out of which 22 valleys were notified as potentially hazardous. A ground truthing study was conducted in the project area, and the potential sites to EWS have been identified, along with the required equipment. At the province level, the provincial teams carried out Hazard, Vulnerability and Risk Assessments in 5 Districts of KP and 10 Districts of GB to document potential threats, history of recurring floods, the feasibility of infrastructure, water management, and slope stabilization activities. Furthermore, GIS mapping was carried out to further aid in assessing the vulnerability of potential valleys. As a result of the initial capacity and needs assessment of provincial Governments of GB and KP, emergency preparedness and response equipment worth US$ 1,111,000 was procured and handed over to KP and GB Disaster Management Authorities. The project organized a Glacier Grafting activity at Kuwardo village in Skardu, which was based on indigenous knowledge, sets to graft a new glacier in the hopes of improving water supply to several villages in the area in the years to come. The project facilitated and supported reciprocal visits by stakeholders from KP and GB, and media exposure visits to GLOF potential sites and vulnerable communities. Government authorities in GB requested the support of the GLOF-II project in installing telemetric equipment (AWSs), already procured by the Government. The project supported a joint mission of experts from PMD and GBDMA to assess the situation, after which recommendations were produced and an AWS was successfully installed.

8. *The project is addressing the five barriers to enhance resilience to climate change in targeted communities.*

The project strategy seems logical and should be effective in addressing five barriers to avoid human and material loses from GLOF events in vulnerable areas: i) institutional capacity and coordination at the sub-national level, and across relevant agencies to address the risks from GLOFs and climate change is limited; ii) government institutions have limited resources, capacity, and logistical feasibility to construct infrastructure required for remote mountain communities to reduce exposure and respond to disasters and climate change, iii) capacity and information availability at the community level to prepare for and respond to immediate threats from GLOFs is limited, iv) there is a lack of access to readily available financial capital for households to cope with GLOF-related risks and v) current natural resource, land, and water use practices are unsustainable. However, at the mid-term point of implementation, the long-term solution is hindered by these barriers due to the limited progress made by the project. Lifting these barriers are key critical success factor for the implementation of sustainable solutions to enhance rural communities' resilience to climate change.

9. *The current management arrangements are conducive for effective implementation of the project but complex and require a lot of coordination efforts.*

The management arrangements as planned at the outset of the project are detailed in terms of outlining partners' responsibilities, project personnel, and the overall governance structure, however, it is abstracted and not conducive for a smooth and effective day-to-day implementation of project activities. For example, the details for funds transfer at the federal and provinces/district level is completely missing. It is not clear how MOCC and the provincial government would receive the funds, what kind of report they should submit to UNDP/GCF, when to submit the reports, etc. Although this might be defined and clear in the NIM modality, it should have been discussed, agreed upon, and articulated in the ProDoc to avoid any misunderstanding, like what the project has experienced for the last 3 years on who is who.

The project is implemented by a management team supported by a part-time ITS and short-term experts bringing together a broad range of skills and knowledge in climate risk management, flood and river management, bio-engineering, glaciologist, hydrologist, climate

change, agriculturist, environmentalist, forest, kitchen gardening, land management, indigenous knowledge, and stakeholders need assessment. Out of the 31 proposed positions, only 10 are currently filled. The status of the recruitment/procurement of short-term experts is not better. Out of the 18 short-term consultancies, a few experts have just joined the project in August 2020. The PMU, based outside MOCC, follows up with the Governments at the provinces level to implement the project's interventions, finalizes the AWPs, prepares needed reports to be submitted to UNDP. The implementation of the activities at the provincial level, though very limited until now, has been truly nationally implemented; they have provided a framework for good collaboration among Partners and the project. Overall, the project enjoys a good partnership with key government entities, who are all members of the PB/PSC. They meet once a year, review the progress made by the project, and endorse annual work plans, although signing AWPs took very long times in all the years. Key decisions for the implementation of the project are made collaboratively among members of the PB/PSC. However, relations between UNDP and MOCC have been strained at times which has significantly delayed the progress of project implementation.

10. *The disbursement of the GCF grant is not on track and the entire GCF grant should be expended by the end of the project.*

At the time of this IE, the review of financial records as recorded in the UNDP Atlas system indicates that the actual expenditures allocated against the GCF project grant for the years April 2018[76] to August 2020 (29 months) represent about **8.7%** (**US$ 3,210,914**) of the approved budget of **US$ 36,960,000** versus an elapsed time of **57%** (29 months out of 51 if we consider the project start date as per the ProDoc, July 2017) and **48%** (29 months out of 60 if we consider the project start date as per the first fund disbursement from the GCF, April 2018). So far, project expenditures are way behind the planned timeline, with most of the planned procurement of equipment still to take place later this year.

11. *The monitoring framework in place is workable but needs to be improved.*

The project implementation team has been able to use the monitoring framework to report progress made by the project annually using the GCF standard APR. UNDP Annual and Quarterly reports should be prepared to allow for close and proper monitoring of the progress. The Project's LF is composed of a set of 7 indicators with their respective baseline and targets. There are SMART indicators used to measure the progress made by the project with a good mix of quantitative and qualitative indicators. However, a few mid-term indicators were introduced at the project inception report. These indicators are not enough to allow for proper monitoring of project progress. Also, AWPs are action-oriented. They should be deliverables-oriented to allow the team measuring the progress against the project's targets.

The Project should revisit the project LF and prepares/ updates indicators and targets to guide the management of the adaption measures after the end of the UNDP-GCF funded project. This should include a clear identification of the risks[77] and assumptions upon which the strategy is based upon and coherent plan to deal with risks if and when they materialize. Risk management by UNDP CO should be enhanced. Management response to the Risks should be prepared and updated on ATLAS systematically.

12. *Communication activities and knowledge management are very limited and need to be enhanced to provide good visibility of the project.*

Overall, the project has been covered by the Pakistani media but negatively on many occasions. So far, the national media coverage focused on the long delay in project implementation, lack of collaboration between partners, and changes to protect human lives wasted due to the lack of achievement. Project activities are also communicated through social media and newspapers and the project produced a short video presenting the objectives of the project that is available online. Following these communications, the project team should enhance the project's image by focusing on enhancing project activities visibility. Furthermore,

[76] April 2018 was considered instead of July 2017 as the first disbursement from GCF was received in April 2018.
[77] Financial, operational, and technical risks.

The Project did not make progress in its activities' implementation, yet based on the review of the proposed activities, the IE team would like to share the following conclusions:

13. *Medical and Life Insurance of Project and IP Staff*

It was pointed out by the staff of IPs that they are entitled to medical treatment in the government health facilities with certain limits assigned for different officials placed in different pay scales. Particularly the low-ranking officials, such as gauge readers in PMD have a very low ceiling of medical and life insurance. On the other hand, the project area is a very difficult terrain prone to landslides, avalanches, earthquakes, GLOFs, etc., thus the risk to life is very high. The meagre amount of salary and almost no medical and life insurance, demotivates the staff to go in difficult terrains to implement activities and regular maintenance of equipment and recording of data.

14. *Record of all the AWSs and Data Accessibility*

The recording of data from mountainous areas has been a major issue in the country, and many AWSs were installed by several projects with the assistance of GiZ, CIDA, for example. Further, the data is recorded by different public sector organizations as well as by some private parties, and data sharing among the research institutions and universities is not practised. This is confusing, as there is no consolidated record of locations of AWSs and no common data repository.

15. *Design of Drip Irrigation System*

The design of the drip irrigation given in Fig. 31, Page 101 of Annex II- Feasibility Study of the Funding Proposal is faulty as the main pipeline from the water tank runs horizontally, which provides connections to the several irrigation pipelines laid out vertically. Under this scheme, the water pressure at the low end of the field will be the highest and minimum at the topside of the field. This will result in an unequal distribution of water to plants at the low and high elevation sides (fields at the bottom will get more water) which will be difficult to control.

16. *Project achievements should be sustained over the long-term, though the five barriers remain till the time of the IE.*

The project has not performed any activity on the ground yet, however, when assessing the risks to sustainability, neither socio-economic nor environmental risks were found to hinder the sustainability of project achievements. The same is true for institutional and governance risks at the local level. In each district, a DDMU under the supervision of the Deputy Commissioner performs well and provides support to the affected population during disasters under the overall guidance of the PDMA and NDMA. However, there are conflicting or overlapping mandates of the line departments and ministries. The lack of coordination among institutions is a moderate risk to the operation and sustainability of the project. However, financial risk is an area where there are questions related to the long-term sustainability of project achievements. As it stands currently, there is a risk of a lack of financial resources to support these new measures after the project end, though PMD is committed to bear the operation and maintenance expenditures of the EWS. So far, the government is committed to the project objective and has the needed institutional frameworks to carry out its programme to enhance the resilience of vulnerable communities. Nevertheless, additional financial resources will need to be found to sustain the achievements of the project.

4.2 Recommendations

This section presents the findings and synthesizes and interprets them into Recommendation. Recommendations are then specific actions the IE team proposes to be taken by the project stakeholders that are based on the findings and conclusions. To provide the background for the recommendation, the recommendation pairs to the evaluative evidence, a finding statement is presented first and then followed by the relevant recommendation. Since the project did not make progress to achieve the attained results, the recommendations are cutting across the entire project, they are not related to specific outputs. Instead, the recommendations are classified into two groups, namely conditional and critical recommendations. Recommendations under point No. 1 are the conditional ones since they address the main condition to allow for the project continuity and completions. While the remaining recommendations are critical. They have a significant impact to sustain project implementation when properly sustained and managed. If the project stakeholders fail to achieve

recommendation No.1, then the project should be terminated or undergo a major management arrangement redesign.

4.2.1 Corrective Actions for the Design, Implementation, Monitoring, and Evaluation of the Project.

Corrective action 1: UNDP should ensure that management arrangement and project governance are fully discussed and agreed upon during any project development/formulation phase. More emphasis should be put on the project inception phase.

Corrective action 2: UNDP to put more emphases on the projects' inception phases. All details about the project structure, reporting, monitoring and evaluation schemes, financial transfer and use of funds, and the role of the implementing partner viz-a-vie the executing partner should be discussed again during the project inception phase, changes should be documented and followed carefully to ensure smooth implementation of the projects.

Corrective action 3: A comprehensive revision of the project log-frame and baseline at the inception workshop is crucial to ensure that the project design, baselines, and log frame are still valid.

Corrective action 4: UNDP should develop a small project to build the capacity of the MOCC, assist it in business process re-engineering to improve its efficiency, and organize micro-assessment exercise again and when the desired level of efficiency and business processes is achieved, advise and support MOCC to adopt full NIM modality.

Corrective action 5: UNDP to provide continuous training, even if not requested, on NIM modality covering all its components to various government's agencies at federal, provinces and district levels.

Corrective action 6: Even if the project is not progressing well, the project team should pay more attention to the monitoring and evaluation plan. Quarterly and annual progress reports are crucial not only to provide progress against the planned targeted but also to keep the risks, and issues closely monitored and managed.

4.2.2 Findings and Specific Recommendations

Finding 1: Implementation of project activities, procurement events and recruitment of staff and consultants suffered from delays caused by a variety of reasons, in particular the need to get the MOCC written approval, decisions on the reassignment of implementation responsibilities on procurement and recruitment between UNDP and MOCC were taken with very long delays, and need to comply with the 2020 amendment to the LOA which requires formal approval of MOCC as well as the participation of the concerned MOCC staff on various recruitment and procurement events organized by UNDP. Nonetheless, the participation of the MOCC representative was proven to be limited and has delayed the finalization of several procurement and recruitment events. Thus, flexibility for implementation by the implementing partners built on the signed LOA and its two amendments has not been used effectively and to its full potential that has proved to have negatively affected the project implementation.

For example, the NPM position is still vacant for a year. Both parties failed to agree on the TOR. Specific actions should be taken to ensure that key positions are filled before the end of the year. If the two parties fail to hire the NPM as well as key staff before December 2020, it means that there is no genuine desire to move the project forward and that the newly agreed management arrangements prove to be inefficient.

Another issue is the location and level of effort of the TS. MOCC's officials prefer to host the TS at the PMU or in the MOCC premises to be able to get fast and continued support whenever needed. Yet, this issue is not discussed or addressed.

> **Recommendation 1.1:** High-level officials from UNDP, MOCC, and EAD need to meet urgently to discuss the way forward to improve the adaptive management mechanisms for project implementation using the NIM modality and the signed LOA and its

amendments. A set of concrete actions need to be defined and agreed upon by all partners to be achieved before the end of 2020 (Project Revival Plan)[78].

Recommendation 1.2: By December 2020, UNDP, MOCC and EAD assess the progress on the Project Rival Plan. Depending on the context, this may constitute a "major change"[79].

One of the following options should be adopted:

- If the "Revival Plan" is fully implemented as planned, the project should continue and follow up on the list of recommendations listed below.
- If the two parties; UNDP and MOCC fail to achieve any of the planned activities due to lack of trust, collaboration, and communication. The Project should be terminated.
- If the two parties could not achieve some of the planned activities (50% of the agreed plan) due to the delay in getting the needed approval and/or the limited participation of the MOCC personnel in different procurement and/or recruitment events[80]; the Project should be extended but a "major change" should be considered as follows.
  - convert the management arrangement from NIM to Direct Execution Modality (DIM), or
  - change the project implementing partner to be the provincial governments of GB and KP.

The below set of findings and recommendations should be taken into consideration if the Revival Plan 2020 is achieved.

Finding 2: After the slow start of the project, the implementation has recently been accelerated. However, most of the activities and outputs are expected to be carried out for completion beyond the planned completion date of the project (12 July 2022). Hence, the planned completion date of the project is not realistic. To ensure full achievement of all planned end-of-project targets, the project implementation period must be extended. Furthermore, because of the slow implementation of the project, the timelines for all targets listed in the project log-frame are outdated. This will cause problems at the operational monitoring level as well as at the stage of the terminal evaluation.

Recommendation 2.1: UNDP should submit a request to GCF for project extension by 2-years. UNDP should organize an independent rapid assessment of completed infrastructure targets at the end of every year to assess progress and define bottlenecks if any. For 2021, the project should achieve at least 30% of the hard targets (installation of hydro-meteorological equipment and completion of infrastructure projects).

Finding 3: The role of the project steering committee seems limited to reviewing project progress and approving annual work plan. A single PSC meeting per year appears to be insufficient for ensuring the full effectiveness of the project monitoring. There is a need to strengthen PSC implementation support function focusing more on the achievement of results and providing strategic guidance to PMU. Consideration of an additional PSC meeting in mid-year and decision making on ad-hoc important matters would be the desired improvement.

[78] A draft Project Revival Plan is attached in annex 5.8.

[79] If it does, then the project needs reconsideration by GCF Board and may therefore need restructuring/ repurposing.

[80] MoCC expressed that its representatives were expected to participate as observers, which MoCC did not deem to be useful. Furthermore, notices for participation in the meetings were issued at short notice, making it difficult to attend.

Recommendation 3: UNDP and MOCC should consider revision of the PSC/PB Terms of Reference to better define its role and functions for the project. The updated TOR could include e.g. possibility of one additional meeting per year as well as alternatives for decision-making processes on urgent implementation issues.

Finding 4: All implementation-related decisions must be approved on-file by the lead implementing partner (MOCC). Primarily this stands for the approval of the annual work plan at the beginning of the calendar year. The current approval mechanism is complicated, including many actors, and has caused delays in the project implementation. Delays in the approvals of the project work and transfer of funds to GB and KP indicate that the project might be lacking high-level decision-making support in the lead implementing agency. The insufficient support could raise questions about the actual national ownership of the project. It is important to cut down various steps to implement activities on a fast-track basis due to limited working time available to the project. The use of the logos in the project's technical deliverables was not consistent and did not follow the UNDP, MOCC, and GCF visibility requirements.

Recommendation 4.1: MOCC in consultation with UNDP should streamline and simplify the approval mechanism of project-related decisions to avoid delays in project implementation. After approval of the AWP by the PSC, the PMU/IPs should be allowed to implement activities as per plan without the approval of each activity on the file. On the other hand, more details should be shared with the NPD; a monthly brief and detailed quarterly report would keep his office fully abreast of the progress, emerging issues, and adaptive actions being taken

Recommendation 4.2 The Project to be more proactive in producing and disseminating information on the project and ensure its visibility. All Partners and key stakeholders should be aware of MOCC, UNDP and GCF roles in the Project.

Finding 5: Owing to inefficiencies in the project work planning and adaptive management project's activities have started only recently and are not likely to be completed by the approved date of the project completion. The creation of another tier of management in GB (TWG) will further complicate implementation and consequent delays. Furthermore, due to the prevailing weather conditions in targeted areas, and the complexity to reach and work in these places, further delays in implementation could put at risk their completion even if project extension is granted. The annual work plans are action-oriented instead of being deliverable-oriented. The annual targets are not set at the operational level and do not contain enough information about the status of progress to end-of-project targets. Thus, operational monitoring of the project progress does not achieve the desired effectiveness

Recommendation 5.1 The Secretary MOCC, EAD, and UNDP should call for a meeting immediately to eliminate this TWG in GB.

Recommendation 5.2 UNDP should sign a blanket agreement with each P&DD/line department for the entire project duration indicating the activities to be completed along with the estimated budget. Then based on the approved AWP of each year, a memo is to be sent to the P&DDs/line departments highlighting activities to be implemented during the year and the funds transferred to their accounts. In the PSC, the provinces are represented by the Additional Chief Secretaries (Development), therefore, their commitment is already there. This practice will save a lot of time and effort from all the parties. The signing of LOAs with IPs every year should be eliminated.

Recommendation 5.3 PMU and the executing beneficiaries in GB and KP should develop a deliverables-oriented annual plan to accelerate the implementation of project activities to ensure completion of the components by the end of the extended project period.

Recommendation 5.4 PMU with the support of MOCC and UNDP should refit the project LF, complete with indicators, identify risks[81], assumptions and propose reassignments of budgets. Risk management by UNDP CO should be enhanced and

[81] Particularly in respect to the additional risks identified by the IE (financial, technical, and operational).

management response to the risks should be prepared and updated on ATLAS systematically.

Recommendation 5.5 The PMU should ensure that AWPs contain a monitoring component in terms of the status of progress to the end of project targets to improve operational monitoring of the project progress.

Finding 6: As most of the project, activities are at the initiation phase with very limited actions completed. The IE team could not provide any technical concrete recommendations, except a few.

Recommendation 6.1: Keeping in view the difficult and dangerous terrain where the project is operational, it is imperative to provide comprehensive medical and life insurance to all the staff of the project and IPs involved in fieldwork. The staff is already entitled to daily subsistence allowance as per UNDP rules which are conducive for their engagement in the project.

Recommendation 6.2: The PMU and PIUs to consult a qualified engineer to design a proper irrigation scheme for equal distribution of water in all the corners of the field. This could be achieved by laying the main pipeline vertically, and lines for the water outlets horizontally.

Recommendation 6.3: PMD should compile a database of all the AWSs and water-flow meters installed in the mountainous region of KP and GB and publish this on its website. With the assistance of MOCC, the PMD should collect all the available historical and new GIS, weather, and water-flow data from all the public and private (INGOs/NGOs) organizations, develop metadata and deposit all datasets with the nationally designated data repository (maybe Federal Bureau of Statistics) and the Higher Education Commission so that it could be accessed easily by researchers for further analysis.

Finally, as the case for all interim and terminal evaluations, a debriefing virtual meeting at the end of the IE exercise was requested with the senior management of MOCC. However, the PMU did not manage to set up the meeting. For the IE team, this debriefing meeting is a vital opportunity to sensitize the senior management to proposals on how to bring the project back on implementation track has not been utilized. It is not known to the IE team if the PMU did not initiate a request for the meeting on time, or if senior management at MOCC was not interested/available to attend the debriefing. However, the IE team was able to present the finding and discuss the recommendations with the NPD after submitting the draft report and before submitting the final IE report. The active engagement of the implementing partner's senior management in the IE is vital to the success of the project.

Recommendation 7: Senior management of MOCC should provide support to the project by actively engaging with the project implementing teams on important events such as this IE exercise.

5. Annexes

5.1 Interim Evaluation ToR

International Consultant for the Interim Evaluation of the UNDP-supported GCF-financed project 'Scaling-up Glacial Lake Outburst Flood (GLOF) risk reduction in Northern Pakistan'

Location: home-based
Type of Contract: Individual Contract
Post Level: International Consultant
Languages Required: English
Starting Date: 10 June 2020
Duration of Contract: 24 working days (must complete the assignment by 22 July 2020)

1. INTRODUCTION

This is the Terms of Reference (ToR) for the Interim Evaluation of the UNDP-supported GCF-financed project titled 'Scaling-up Glacial Lake Outburst Flood (GLOF) risk reduction in Northern Pakistan' (PIMS 5660) implemented through the Ministry of Climate Change, which is to be undertaken in 2020. The project started on the *12 July 2017* and is in its 3rd year of implementation. This ToR sets out the expectations for this Interim Evaluation.

2. PROJECT BACKGROUND INFORMATION

The melting of the Hindu Kush, Karakoram, and Himalayan glaciers in Northern Pakistan due to rising temperatures has created 3,044 glacial lakes in the federally-administered territory of Gilgit-Baltistan (GB) and the province of Khyber Pakhtunkhwa (KP). It is estimated that 33 of these glacial lakes are hazardous and likely to result in glacial lake outburst floods (GLOFs). Such outbursts have occurred in the past and when they do, millions of cubic metres of water and debris is released in a few hours, resulting in the loss of lives, destruction of property and infrastructure, and severe damage to livelihoods in some of the most remote areas of Pakistan. Currently, 7,101,000 people remain at risk in GB and KP. In July 2015, over 280,000 people in GB and KP were affected by a combination of heavy rains and GLOFs.

At present, the country faces a critical gap in technical and technological capacity to monitor the status of glaciers through hydrological monitoring and forecasting. Current early warning systems (EWS) cannot support the management of risks posed by rising water levels in the lakes or the ability to issue early warnings to communities. The design and implementation of medium- and long-term disaster management policies, as well as risk reduction and preparedness plans, are also not fully geared to deal with the specifics of GLOF threats.

The Government of Pakistan has recognized the threat from GLOFs in its National Climate Change Policy and in its Nationally Determined Contributions (NDCs) to monitor changes in glacier volumes and related GLOFs to be able to strengthen capacities of vulnerable communities to address the GLOF issue urgently in the scale that is needed, the Government of Pakistan needs financial support from international donors. Flood hazards are already greater than what national public finance can manage. As a result, it has secured GCF resources to upscale ongoing initiatives on early warning systems and small, locally sourced infrastructure to protect communities from GLOF risks. The interventions proposed for scale-up by this project will be based on activities implemented in two districts that have demonstrated success. In these districts engineering structures like gabion walls have been constructed and automatic weather stations, rain gauges and discharge equipment were installed. Rural communities receiving this support we can avoid human and material losses from GLOF events. The proposed GCF project will expand coverage of interventions to twelve districts in the Khyber Pakhtunkhwa and Gilgit-Baltistan provinces. It will strengthen the technical capacity of sub-national decision-makers to integrate climate change and disaster risk management into medium- and long-term development planning processes.

The GCF project grant totals US$ 36.96 million with planned co-financing of US$ 0.5 million from the Government of Gilgit-Baltistan).

3. OBJECTIVES OF THE INTERIM EVALUATION

The Interim Evaluation will assess the implementation of the project and its alignment with FAA obligations and progress towards the achievement of the project objectives and outcomes as specified in the Project Document, and assess early signs of project success or failure to identify the necessary changes to be made to set the project on-track to achieve its intended results. The Interim Evaluation will also review the project's strategy and its sustainability risks, as well as the following:

- Implementation and adaptive management
- Risks to sustainability
- Relevance, effectiveness, and efficiency of projects and programmes.
- Coherence in climate finance delivery with other multilateral entities;
- Gender equity;
- Country ownership of projects and programmes;
- Innovativeness in results areas (the extent to which interventions may lead to the paradigm shift towards low-emission and climate-resilient development pathways);
- Replication and scalability – the extent to which the activities can be scaled up in other locations within the country or replicated in other countries (this criterion, which is considered in document GCF/B.05/03 in the context of measuring performance could also be incorporate d in independent evaluations); and
- Unexpected results, both positive and negative.

4. INTERIM EVALUATION APPROACH & METHODOLOGY

The Interim Evaluation team (international consultant + national consultant) must provide evidence-based information that is credible, reliable and useful.

The Interim Evaluation team will conduct a thorough review of all relevant sources of information including documents prepared during the preparation phase (i.e. baseline Funding proposal submitted to the GCF, the Project Document, project reports including Annual Performance Reports, Quarterly Progress Reports, UNDP Environmental & Social Safeguard Policy, project budget revisions, records of surveys conducted, national strategic and legal documents, remote sensing data, GIS data, stakeholder maps, and any other materials that the team considers useful for this evidence-based review).

The Interim Evaluation team is expected to follow a collaborative and participatory approach[82] ensuring close engagement with the Project Team, Implementing Partner, NDA focal point, government counterparts, the UNDP Country Office, Regional Technical Advisers, and other principal stakeholders and beneficiaries, to the extent possible, using virtual tools such as online meetings, online interviews telephone calls and rapid surveys.

Engagement of stakeholders is vital to a successful Interim Evaluation. Stakeholder involvement should include (where possible, given the COVID situation) surveys/questionnaires, focus groups, interviews with stakeholders who have project responsibilities, including but not limited to executing agencies, senior officials and task team/component leaders, key experts and consultants in the subject area, Project Steering Committee, project stakeholders, local government, CSOs, project beneficiaries, etc. If not all stakeholders are available to engage virtually, this must be documented in the Interim Evaluation report.

[82] For ideas on innovative and participatory Monitoring and Evaluation strategies and techniques, see UNDP Discussion Paper: Innovations in Monitoring & Evaluating Results, 05 Nov 2013.

Data collection will be used to validate evidence of results and assessments (including but not limited to: assessment of Theory of Change, activities delivery, and results/changes occurred).

The final Interim Evaluation report should describe the full evaluation approach taken and the rationale for the approach making explicit the underlying assumptions, challenges, strengths and weaknesses about the methods and approach of the review. The final report must also describe any limitations encountered by the Interim Evaluation team during the evaluation process, including limitations of the methodology, data collection methods, and any potential influence of limitation on how findings may be interpreted, and conclusions are drawn. Limitations include, among others: language barriers, inaccessible project sites (due to travel restrictions because of COVID), issues with access to data or verification of data sources, issues with availability of interviewees, methodological limitations to collecting more extensive or more representative qualitative or quantitative evaluation data, deviations from planned data collection and analysis set out in the ToR and Inception Report, etc. Efforts made to mitigate the limitations should also be included in the Interim Evaluation report.

5. DETAILED SCOPE OF THE INTERIM EVALUATION

The Interim Evaluation team will assess the following four categories of project progress.

i. Project Strategy

Project design:

- Review the problem addressed by the project and the underlying assumptions. Review the effect of any incorrect assumptions or changes to the context of achieving the project results as outlined in the Project Document.
- Review the relevance of the project strategy and assess whether it provides the most effective route towards expected/intended results. Were lessons from other relevant projects properly incorporated into the project design?
- Review how the project addresses country priorities. Review country ownership. Was the project concept in line with the national sector development priorities and plans of the country (or of participating countries in the case of multi-country projects)?
- Review decision-making processes: were perspectives of those who would be affected by project decisions, those who could affect the outcomes, and those who could contribute information or other resources to the process, taken into account during project design processes?
- Review the extent to which relevant gender issues were raised in the project design. See Annex 9 of *Guidance for Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects* for further guidelines.
- If there are major areas of concern, recommend areas for improvement.

Results Framework/Logframe:

- Undertake a critical analysis of the project's logframe indicators and targets, assess how "SMART" the midterm and end-of-project targets are (Specific, Measurable, Attainable, Relevant, Time-bound), and suggest specific amendments/revisions to the targets and indicators as necessary.
- Are the project's objectives and outcomes or components clear, practical, and feasible within its time frame?
- Examine if progress so far has led to, or could in the future catalyse beneficial development effects (i.e. income generation, gender equality and women's empowerment, improved governance, etc.) that should be included in the project results framework and monitored on an annual basis.
- Ensure broader development and gender aspects of the project are being monitored effectively. Develop and recommend SMART 'development' indicators, including sex-disaggregated indicators and indicators that capture development benefits.

ii. Relevance, Effectiveness and Efficiency

- Were the context, problem, needs and priorities well analysed and reviewed during project initiation?
- Are the planned project objectives and outcomes relevant and realistic to the situation on the ground?

- Are the project Theory of Change (ToC) and intervention logic coherent and realistic? Do the ToC and intervention logic hold or does it need to be adjusted?
- Do outputs link to intended outcomes which link to broader paradigm shift objectives of the project?
- Are the planned inputs and strategies identified realistic, appropriate and adequate to achieve the results? Were they sequenced sufficiently to efficiently deliver the expected results?
- Are the outputs being achieved promptly? Is this achievement supportive of the ToC and pathways identified?
- What and how much progress has been made towards achieving the overall outputs and outcomes of the project (including contributing factors and constraints)?
- To what extent is the project able to demonstrate changes against the baseline (assessment in approved Funding Proposal) for the GCF investment criteria (including contributing factors and constraints)?
- How realistic are the risks and assumptions of the project?
- How did the projected deal with issues and risks in implementation?
- To what extent did the project's M&E data and mechanism(s) contribute to achieving project results?
- Have project resources been utilized in the most economical, effective and equitable ways possible (considering value for money; absorption rate; commitments versus disbursements and projected commitments; co-financing; etc.)?
- Are the project's governance mechanisms functioning efficiently?
- To what extent did the design of the project help or hinder achieving its own goals?
- Were there clear objectives, ToC and strategy? How were these used in performance management and progress reporting?
- Were there clear baselines indicators and/or benchmark for performance measurements? How were these used in project management? To what extent and how the project apply adaptive management?
- What, if any, alternative strategies would have been more effective in achieving the project objectives?

iii. Progress Towards Results

Progress Towards Outcomes and Outputs Analysis:

- Review the logframe indicators against progress made towards the end-of-project targets using the Progress Towards Results Matrix and colour code progress in a "traffic light system" based on the level of progress achieved; assign a rating on progress for each outcome; make recommendations from the areas marked as "Not on target to be achieved" (red).

Table. Progress Towards Results Matrix (Achievement of outcomes against End-of-project Targets)

Project Strategy	Indicator [83]	Baseline Level[84]	Level in 1st PIR (self-reported)	Midterm Target[85]	End-of-project Target	Midterm Level & Assessment [86]	Achievement Rating[87]	Justification for Rating

[83] Populate with data from the Logframe and scorecards
[84] Populate with data from the Project Document
[85] If available
[86] Colour code this column only
[87] Use the 6-point Progress Towards Results Rating Scale: HS, S, MS, MU, U, HU

Fund Level Impact:	Indicator:							
Outcome 1:	Indicator:							
	Indicator:							
Output	Indicator:							
Output	Indicator:							
Outcome 2:	Indicator:							
	Indicator:							
Output	Indicator:							
Output	Indicator:							
Etc.								

Indicator Assessment Key

Green= Achieved	Yellow= On target to be achieved	Red= Not on target to be achieved

In addition to the progress towards outcomes and outputs analysis:

- Identify the remaining barriers to achieving the project objective in the remainder of the project.
- By reviewing the aspects of the project that have already been successful, identify ways in which the project can further expand these benefits.

iv. Project Implementation and Adaptive Management

Management Arrangements:

- Review the overall effectiveness of project management as outlined in the Project Document. Have changes been made and are they effective? Are responsibilities and reporting lines clear? Is decision-making transparent and undertaken promptly? Recommend areas for improvement.
- Review the quality of execution of the Executing Agency/Implementing Partner(s) and recommend areas for improvement.
- Review the quality of support provided by UNDP and recommend areas for improvement.

Work Planning:

- Review any delays in project start-up and implementation, identify the causes and examine if they have been resolved.
- Are work-planning processes results-based? If not, suggest ways to re-orientate work planning to focus on results?
- Examine the use of the project's results framework/ logframe as a management tool and review any changes made to it since project start.

Finance and co-finance:

- Consider the financial management of the project, with specific reference to the cost-effectiveness of interventions.
- Review the changes to fund allocations as a result of budget revisions and assess the appropriateness and relevance of such revisions.
- Does the project have the appropriate financial controls, including reporting and planning, that allow management to make informed decisions regarding the budget and allow for timely flow of funds?
- Informed by the co-financing monitoring table to be filled out, provide commentary on co-financing: is co-financing being used strategically to help the objectives of the project? Is the Project Team meeting with all co-financing partners regularly to align financing priorities and annual work plans?
- Assess factors that contributed to low/high expenditure rate

Coherence in climate finance delivery with other multilateral entities

- Who are the partners of the project and how strategic are they in terms of capacities and commitment?
- Is there coherence and complementarity by the project with other actors for local other climate change interventions?

- To what extent has the project complemented other on-going local level initiatives (by stakeholders, donors, governments) on climate change adaptation or mitigation efforts?
- How has the project contributed to achieving stronger and more coherent integration of shift to low emission sustainable development pathways and/or increased climate-resilient sustainable development (GCF RMF/PMF Paradigm Shift objectives)? Please provide concrete examples and make specific suggestions on how to enhance these roles going forward.

Project-level Monitoring and Evaluation Systems:

- Review the monitoring tools currently being used: Do they provide the necessary information? Do they involve key partners? Are they aligned or mainstreamed with national systems? Do they use existing information? Are they efficient? Are they cost-effective? Are additional tools required? How could they be made more participatory and inclusive?
- Examine the financial management of the project monitoring and evaluation budget. Are sufficient resources being allocated to monitoring and evaluation? Are these resources being allocated effectively?

Stakeholder Engagement:

- Project management: Has the project developed and leveraged the necessary and appropriate partnerships with direct and tangential stakeholders?
- Participation and country-driven processes: Do local and national government stakeholders support the objectives of the project? Do they continue to have an active role in project decision-making that supports efficient and effective project implementation?
- Participation and public awareness: To what extent has stakeholder involvement and public awareness contributed to the progress towards the achievement of project objectives?

Reporting:

- Assess how adaptive management changes have been reported by the project management and shared with the Project Board.
- Assess how well the Project Team and partners undertake and fulfil GCF reporting requirements (i.e. how have they addressed poorly-rated APRs, if applicable?)
- Assess how lessons derived from the adaptive management process have been documented, shared with key partners and internalized by partners.
- Assess the efficiency, timeliness, and adequacy of reporting requirements

Communications:

- Review internal project communication with stakeholders: Is communication regular and effective? Are there key stakeholders left out of communication? Are there feedback mechanisms when communication is received? Does this communication with stakeholders contribute to their awareness of project outcomes and activities and investment in the sustainability of project results?
- Review external project communication: Are proper means of communication established or being established to express the project progress and intended impact to the public (is there a web presence, for example? Or did the project implement appropriate outreach and public awareness campaigns?)
- For reporting purposes, write one half-page paragraph that summarizes the project's progress towards results in terms of contribution to sustainable development benefits, as well as global environmental benefits.

v. Sustainability

- Validate whether the risks identified in the Project Document, APRs and the ATLAS Risk Management Module are the most important and whether the risk ratings applied are appropriate and up to date. If not, explain why.
- Besides, assess the following risks to sustainability:

Financial risks to sustainability:

- What is the likelihood of financial and economic resources not being available once the GCF assistance ends (consider potential resources can be from multiple sources, such as

the public and private sectors, income-generating activities, and other funding that will be adequate financial resources for sustaining project's outcomes)?

Socio-economic risks to sustainability:

- Are there any social or political risks that may jeopardize the sustainability of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Is there sufficient public/stakeholder awareness in support of the long term objectives of the project? Are lessons learned being documented by the Project Team continually and shared/ transferred to appropriate parties who could learn from the project and potentially replicate and/or scale it in the future?

Institutional Framework and Governance risks to sustainability:

- Do the legal frameworks, policies, governance structures and processes pose risks that may jeopardize sustenance of project benefits? While assessing this parameter, also consider if the required systems/ mechanisms for accountability, transparency, and technical knowledge transfer are in place.

Environmental risks to sustainability:

- Are there any environmental risks that may jeopardize the sustenance of project outcomes?

vi. Country Ownership

- To what extent is the project aligned with national development plans, national plans of action on climate change, or sub-national policy as well as projects and priorities of the national partners?
- How well is country ownership reflected in the project governance, coordination and consultation mechanisms or other consultations?
- To what extent are country-level systems for project management or M&E utilized in the project?
- What level and types of involvement for all Is the project as implemented responsive to local challenges and relevant/appropriate/strategic concerning SDG indicators, National indicators, GCF RMF/PMF indicators, AE indicators, or other goals?
- Where the modes of deliveries of the outputs appropriate to build-essential/necessary capacities, promote national ownership and ensure the sustainability of the result achieved?

vii. Gender equity

- Does the project only rely on sex-disaggregated data per population statistics?
- Are financial resources/project activities explicitly allocated to enable women to benefit from project interventions?
- Does the project account in activities and planning for local gender dynamics and how project interventions affect women as beneficiaries?
- Do women as beneficiaries know their rights and/or benefits from project activities/interventions?
- How do the results for women compare to those for men?
- Is the decision-making process transparent and inclusive of both women and men?
- To what extent are female stakeholders or beneficiaries satisfied with the project gender equality results?
- Did the project sufficiently address cross-cutting issues including gender?
- How does the project incorporate gender in its governance or staffing?

viii. Innovativeness in results areas

- What role has the project played in the provision of "thought leadership," "innovation," or "unlocked additional climate finance" for climate change adaptation/mitigation in the project and country context? Please provide concrete examples and make specific suggestions on how to enhance these roles going forward.

ix. Unexpected results, both positive and negative

- What has been the project's ability to adapt and evolve based on continuous lessons learned and the changing development landscape? Please account for factors both within the AE/EE and external.
- Can any unintended or unexpected positive or negative effects be observed as a consequence of the project's interventions?
- What factors have contributed to the unintended outcomes, outputs, activities, results?

x. Replication and Scalability

- What are project lessons learned, failures/lost opportunities to date? What might have been done better or differently?
- How effective were the exit strategies and approaches to phase out assistance provided by the project including contributing factors and constraints?
- What factors of the project achievements are contingent on specific local context or enabling environment factors?
- Are the actions and results from project interventions likely to be sustained, ideally through ownership by the local partners and stakeholders?
- What are the key factors that will require attention to improve prospects of sustainability, scalability or replication of project outcomes/outputs/results?

Conclusions & Recommendations

The Interim Evaluation team will include a section of the report setting out the evaluation's evidence-based conclusions, considering the findings. Explain whether the project will be able to achieve planned development objective and outcomes by the end of implementation.

Recommendations should be succinct suggestions for critical intervention that are specific, measurable, achievable, and relevant. A recommendation table should be put in the report's executive summary.

The Interim Evaluation team should make no more than 15 recommendations in total.

Ratings

The Interim Evaluation team will include its ratings of the project's results and brief descriptions of the associated achievements in an *Interim Evaluation Ratings & Achievement Summary Table* in the Executive Summary of the Interim Evaluation report. See Annex E for rating scales. No rating on Project Strategy and no overall project rating is required.

Table. Interim Evaluation Ratings & Achievement Summary Table for 'Scaling-up Glacial Lake Outburst Flood (GLOF) risk reduction in Northern Pakistan' (PIMS 5660)

Measure	Interim Evaluation Rating	Achievement Description
Project Strategy	N/A	
Progress Towards Results	Objective Achievement Rating: (rate 6 pt. scale)	
	Outcome 1 Achievement Rating: (rate 6 pt. scale)	
	Outcome 2 Achievement Rating: (rate 6 pt. scale)	
	Outcome 3 Achievement Rating: (rate 6 pt. scale)	
	Etc.	
Project Implementation	(rate 6 pt. scale)	

& Adaptive Management		
Sustainability	(rate 4 pt. scale)	

6. TIMEFRAME

The total duration of the Interim Evaluation will be *24* working days over some time of *6* of weeks. The tentative Interim Evaluation timeframe is as follows:

ACTIVITY	NUMBER OF WORKING DAYS	COMPLETION DATE
Document review and preparing Interim Evaluation Inception Report	*2 days*	*By 15 June 2020*
Virtual stakeholder meetings, interviews,	*12 days*	*By 29 June 2020*
Presentation of initial findings	*1 day*	*30 June 2020*
Preparing draft report (due within 1 week of concluding virtual interviews)	*5 days*	*By 8 July 2020 (Comments from UNDP on the draft report by 15 July)*
Submission of final Interim Evaluation report plus Audit Trail from feedback on draft report (due within 1 week of receiving UNDP comments on the draft)	*4 days*	*By 22 July 2020*

7. MIDTERM REVIEW DELIVERABLES

#	Deliverable	Description	Timing	Responsibilities
1	**Interim Evaluation Inception Report**	Interim Evaluation team clarifies objectives and methods of the evaluation	By 15 June 2020	Interim Evaluation team submits to the Commissioning Unit and project management
2	**Presentation**	Initial Findings	30 June 2020	Interim Evaluation Team presents to project management and the Commissioning Unit
3	**Draft Interim Evaluation Report**	Full report (using guidelines on the content outlined in Annex B) with annexes	Within 1 week of concluding virtual interviews	Sent to the Commissioning Unit, reviewed by RTA, Project Coordinating Unit, NDA focal point
4	**Final Interim Evaluation Report***	Revised report with audit trail detailing how all received comments have (and have not) been addressed in the final report	Within 1 week of receiving UNDP comments on the draft	Sent to the Commissioning Unit

*The final Interim Evaluation report must be in English. If applicable, the Commissioning Unit may choose to arrange for a translation of the report into a language more widely shared by national stakeholders.

8. INTERIM EVALUATION ARRANGEMENTS

The principal responsibility for managing this Interim Evaluation resides with the Commissioning Unit. The Commissioning Unit for this project's Interim Evaluation is the Vertical Fund Directorate within Nature, Climate and Energy team at UNDP HQ.

The Project Team will be responsible for liaising with the Interim Evaluation team to provide all relevant documents, set up stakeholder interviews, etc.

9. TEAM COMPOSITION

A team of two independent consultants will conduct the Interim Evaluation - one team leader (with experience and exposure to projects and evaluations in other regions globally) and one team expert, usually from the country of the project. The consultants cannot have participated in the project preparation, formulation, and/or implementation (including the writing of the Project Document) and should not have a conflict of interest with project's related activities.

The selection of consultants will be aimed at maximizing the overall "team" qualities in the following areas: The required qualifications of the team leader are as follows:

- Recent experience with result-based management evaluation methodologies (10%);
- Experience applying SMART indicators and reconstructing or validating baseline scenarios (10%);
- Competence in adaptive management, as applied to climate change adaptation (10%);
- Experience working in South Asia *(5%)*;
- Work experience in relevant technical areas for at least 10 years (15%);
- Demonstrated understanding of issues related to gender and climate change adaptation; experience in gender-sensitive evaluation and analysis (10%);
- Excellent communication skills (10%);
- Demonstrable analytical skills (10%);
- Project evaluation/review experiences within the United Nations system will be considered an asset (10%);
  A Master's degree in natural resource management, environmental sciences, development studies, international development, or other closely related fields. (10%)

The team expert (national consultant) will be recruited under a separate Terms of Reference.

10. PAYMENT MODALITIES AND SPECIFICATIONS

20% upon submission and approval by the Commissioning Unit of the final Interim Evaluation Inception Report

50% upon submission and approval by the Commissioning Unit of the draft Interim Evaluation report

30% upon submission and approval by the Commissioning Unit, Regional Technical Advisor and Principal Technical Advisor of the final Interim Evaluation report and submission of completed Audit Trail (approval signatures are required on the Report Clearance form)

11. EVALUATOR ETHICS

This evaluation will be conducted under the principles outlined in the UNEG 'Ethical Guidelines for Evaluation'. The Interim Evaluation team must safeguard the rights and confidentiality of information providers, interviewees and stakeholders through measures to ensure compliance with legal and other relevant codes governing the collection of data and reporting on data. The Interim Evaluation Team must also ensure the security of collected information before and after the evaluation and protocols to ensure anonymity and confidentiality of sources of information where that is expected. The information knowledge and data gathered in the evaluation process must also be solely used for the evaluation and not for other uses with the express authorization of UNDP and partners.

12. APPLICATION PROCESS

The team leader for this Interim Evaluation will be selected from the GPN/ExpRes roster of vetted consultants. The selection process will follow standard UNDP procurement processes.

5.2 List of Documents Reviewed

S. No.	Document Title
1.	Addendum to the Letter of Agreement signed by UNDP and MOCC (22 March 2019 and 23 April 2020)
2.	Administrative Approval of GLOF II Project by ECNEC
3.	Annual Development Plan 2019-20 (Government of Pakistan)
4.	Annual Project Report 2017
5.	Annual Project Report 2018
6.	Annual Project Report 2019
7.	Annual Work Plan 2017
8.	Annual Work Plan 2018
9.	Annual Work Plan 2019
10.	Annual Work Plan 2020
11.	Approved PC-1 of GLOF II Project
12.	Back to Office Report Programme Associate 20-25 May 2019
13.	Back to Office Report Resident Representative 24 May 2019
14.	Back to Office Report International Technical Specialist 9-11 October 2019
15.	Country Programme Document 2018-2022
16.	Combined Delivery Report 2018
17.	Combined Delivery Report 2019
18.	Combined Delivery Report till end August 2020
19.	Decision of the 14th Board Meeting
20.	Delegation of Authority to UNDP CO
21.	Draft LOA with Pakistan Meteorological Department
22.	Email from Secretary MOCC to UNDP RR dated 28 Oct 2019
23.	Email to Secretary MOCC- reference Work Plan 2020- Feb 2020
24.	Evaluation Plan
25.	Exchange of Letters on HACT
26.	Extension Request for Inception Workshop Report
27.	Field Visit Report of Advisor to PM, 2019
28.	Field Visit Report of PMD, KP to Project Sites in KP
29.	Financial Report 2019 (Section in APR 2019)
30.	Funding Activity Agreement (FAA)
31.	Funding Proposal
32.	Funding Proposal Annex 1- NDA No Objection Letter
33.	Funding Proposal Annex 2- Feasibility Study
34.	Funding Proposal Annex III(a). Integrated Financial Model
35.	Funding Proposal Annex III(b). Loan Amortization Schedule

36.	Funding Proposal Annex IV. Co-financing Letters
37.	Funding Proposal Annex IX. Maps
38.	Funding Proposal Annex V. Timesheet
39.	Funding Proposal Annex VI(a). Social and Environmental Screening Procedure
40.	Funding Proposal Annex VI(b). Environment and Social Management Plan
41.	Funding Proposal Annex VI(d). Gender Analysis and Action Plan
42.	Funding Proposal Annex VII. PAC Meeting Minutes
43.	Funding Proposal Annex VIII. GLOF- I Mid-term and Final Evaluation
44.	Funding Proposal Annex X. Timetable of Project Implementation
45.	Funding Proposal Annex XII(a). Economic Analysis
46.	Funding Proposal Annex XII(b). Cost-Benefit Analysis
47.	Funding Proposal Annex XIII. Additional Background Details- Procurement Plan
48.	Funding Proposal Annex XIV. Responses to GCF Comments
49.	Funding Proposal Annex XV. Internal Approval to Implementation
50.	GCF_B.14_17. Decision of the 14th Board Meeting
51.	GLOF GIS Report 2020
52.	GLOF Mission Report- Skardu (project launch)
53.	Golain GoI GLOF Incident Report 2020
54.	Ground Truthing Report, 2019
55.	HACT Micro-Assessment Report
56.	Hazards, Vulnerability and Risk Assessment of GLOF II Valleys, 2020
57.	Inception Report
58.	Independent Technical GLOF Assessment
59.	Information Note for PSC Members Issued by NPD
60.	Knowledge, Aptitude and Practices in Project Valleys, 2020
61.	Letter from EAD to UNDP- meeting to discuss GLOF Implementation Arrangements
62.	Letter from MOCC appointing New Focal Point 28 Oct 2019
63.	Letter from MOCC de-facto Halting of Activities
64.	Letter from MOCC to UNDP (Poor Performance in Working of GLOF Project Team)
65.	Letter from MOCC to UNDP Showing Displeasure with Pace of Implementation
66.	Letter from RR to Advisor MOCC 7 Feb 2020
67.	Letter from UNDP to MOCC- Conditions for Signing the AWP
68.	Letter from UNDP to MOCC- in-principle agreement to conditions
69.	Letter of Agreement between UNDP and MOCC and its Addendums
70.	Letter of Agreement signed between UNDP and MOCC, 10 May 2012
71.	Letter of Agreement with Government of GB
72.	Letter of Agreement with Government of KP

73.	Letter to Advisor PM on Media Statements of MOCC with a copy to Ministry of Foreign Affairs and EAD 14 Feb 2020
74.	Letter to MOCC from UNDP ARR (Factual errors in Minutes of 4th PSC)
75.	Letter to MOCC Sharing AWP again for Signatures
76.	Letter to MOCC- Sharing guidelines and why LOA cannot be signed
77.	LOA Proposed by MOCC 25 Feb 2020
78.	LPAC meeting agenda and minutes
79.	Meeting Note – resident Representative with MOCC held on 13 March
80.	Minutes Approval letter by JS-DRR
81.	Minutes of Briefing to Additional Secretary MOCC dated 5 Nov 2019
82.	Minutes of Project Steering Committee Meetings
83.	Monitoring Plan
84.	NIM Implementation Guidance Note updated 2013
85.	NIM Manual 2011
86.	Notice of Effectiveness of FAA
87.	One United Nations Programme 2018-2022 (United Nations Sustainable Development Framework (UNSDF)
88.	PMD Authorization for Feasibility of Installation of AWS at Shisper Glacier
89.	Pre-LPAC meeting minutes
90.	Press Clippings
91.	Project Document
92.	Project Risk Log
93.	Project Steering Committee minutes 2017
94.	Project Steering Committee minutes 2018
95.	Project Steering Committee minutes 2019
96.	Project Steering Committee minutes 2020
97.	Report on Mission of Advisor to PM to GLOF II Potential Sites in GB
98.	Request from MOCC to Provide Reports and Progress Update
99.	Response to GCF Comments on GLOF II Inception Report
100.	Response to GCF Comments on Inception Report
101.	Response to LOA Proposed by MOCC 6 March 2020
102.	Response to Secretary MOCC's Email and Sharing Updated Options Paper
103.	Response to request from MOCC to provide Reports
104.	Revised AWP 2018 Circulated to PSC Members
105.	Technical Report by PMD Field Assessment
106.	Terms of Reference of Key Staff
107.	UNDP Micro-Assessment, Ministry of Climate Change, the Islamic Republic of Pakistan by Moore Stephens LLC Chartered Accountants, 27 December 2017
108.	UNDP Project Quality Assurance Report
109.	UNDP Response to MOCC on Halting of Activities

110.	UNDP-EAD thank you letter May 2020
111.	UNDP-MOCC thank you letter May 2020
112.	Various Field Visit Report of the On-Farm Management Programme Staff
113.	UNDP request for the first disbarment to GCF in 2018.
114.	M&E incurred costs
115.	GLOF-II Project risk log (ATLAS)
116.	Risk Log as of September 2020. Proposed update.
117.	Communications and Advocacy Strategy
118.	2018 PMD commitment letter to UNDP to ensure project sustainability
119.	GLOF II Minutes of Meeting with Secretary MOCC/ NPD
120.	Minutes- GLOF 2 Briefing for MOCC

5.3 Example Questionnaire used for Data Collection

Many of the below questions were used in the virtual interviews. These questions were used to make sure that all aspects are covered, and the needed information is requested to complete the review exercise and a guide to preparing the semi-structured interviews.

I. Relevance - How does the Project relate to the main objectives of the UNDP/GCF/GOP and the environment and development priorities?

1. Is the Project relevant to the GCF objectives?
2. Is the Project relevant to UNDP objectives?
3. Is the Project relevant to the Country development objectives?
4. Does the Project address the needs of target beneficiaries?
5. Is the Project internally coherent in its design?
6. How is the Project relevant considering other donors?
7. What lessons have been learned and what changes could have been made to the Project to strengthen the alignment between the Project and the Partners' priorities and areas of focus?
8. How could the Project better target and address the priorities and development challenges of targeted beneficiaries?

II. Effectiveness – To what extent are the expected outcomes of the Project being achieved?

1. How is the Project effective in achieving its expected outcomes?
2. How is risk and risk mitigation being managed?

III. Efficiency - How efficiently is the Project implemented?

1. Was the adaptive management used or needed to ensure efficient resource use?
2. Did the Project logical framework and work plan and any changes made to them use as management tools during implementation?
3. Were the accounting and financial systems in place adequate for Project management and producing accurate and timely financial information?
4. Were progress reports produced accurately, timely and respond to reporting requirements including adaptive management changes?
5. Was Project implementation as cost-effective as originally proposed (planned vs. actual)? Was the leveraging of funds (co-financing) happening as planned? Were financial resources utilized efficiently?
6. Could financial resources have been used more efficiently?
7. Were there institutionalized or informal feedback or dissemination mechanism to ensure that findings, lessons learned and recommendations about Project design and implementation effectiveness were shared among Project stakeholders, UNDP CO and UNDP Regional Hub Staff and other relevant organizations for ongoing Project adjustment and improvement? Did the Project mainstream gender considerations into its implementation?
8. To what extent were partnerships/ linkages between institutions/ organizations encouraged and supported?
9. Which partnerships/linkages were facilitated? Which one can be considered sustainable?
10. What was the level of efficiency of cooperation and collaboration arrangements? (between local actors, UNDP and relevant government entities).
11. Was an appropriate balance struck between utilization of international expertise as well as local capacity?
12. Did the Project consider local capacity in the design and implementation of the Project?

IV. IMPACTS - What are the potential and realized the impacts of activities carried out in the context of the Project?

1. Will the project achieve its objective that is to improve fiscal measures for collecting, managing, and allocating revenues for global environmental management?
2. How is the Project impacting the local environment such as impacts or likely impacts on the local environment; on poverty; and, on other socio-economic issues?

V. Sustainability - Are the initiatives and results of the Project allowing for continued benefits?

1. Are sustainability issues adequately integrated into Project design?
2. Did the Project adequately address financial and economic sustainability issues?
3. Is there evidence that Project partners will continue their activities beyond Project support?
4. Were laws, policies, and frameworks being addressed through the Project, to address the sustainability of key initiatives and reforms?
5. Is the capacity in place at the national and local levels adequate to ensure the sustainability of the results achieved to date?
6. Did the Project contribute to key building blocks for social and political sustainability?
7. Are Project activities and results being replicated elsewhere and/or scaled up?
8. What are the main challenges that may hinder the sustainability of efforts?

5.4 Interim Evaluation Agenda

International Evaluator and Team Leader: Dr Amal Aldababseh

National Evaluator: Dr C. Inayatullah

"*Scaling-up Glacial Lake Outburst Flood (GLOF) Risk Reduction in Northern Pakistan*"

Date	Time	Name / Title / Organization
1 July 2020	0900-1100	Ms. Aliona Niculita, Deputy Resident Representative, UNDP
		Mr. Amanullah Khan, Assistant Resident Representative, UNDP
		Mr. Muhammd Sohail, Programme Officer, UNDP
		Mr. Fahad Bangash, National Project Manager (a.i) / Provincial Project Coordinator, KP, GLOF II
		Mr. Abduvakkos Abdurahmanov, Technical Specialist
2 July 2020	0900-1000	Mr. Karma Lodey Rapten, Regional Technical Specialist (Adaptation), Nature, Climate and Energy, Bureau for Policy and Programme Support/Global Policy Network, Bangkok Regional Hub, UNDP
2 July 2020	1000-1100	Mr. Benjamin Larroquette, Regional Technical Advisor, UNDP Bangkok Regional Hub
	1200-1400	Mr. Fahad Bangash, National Project Manager (a.i) / Provincial Project Coordinator, KP, GLOF II (separate detailed briefing)
14 July 2020	1100-1200	Mr. Faisal Balouch, Ministry of Planning, Development & Special Initiatives, GOP
14 July 2020	1230-1330	Dr. Muhammad Hanif, Chief Meteorologist, Pakistan Meteorological Department, GOP
15 July 2020	1130-1230	Ms. Shazia Atta, Deputy Director, Provincial Disaster Management Authority, KP
15 July 2020	1500-1600	Mr. Muhammad Adnan, Planning Officer Mr. Afsar Khan, Deputy Director, EPA Department of Forest, Environment and Wildlife, KP
16 July 2020	1130-1230	Mr. Zaheer Uddin Babar, Deputy Director, Disaster Management Authority, GB
16 July 2020	1400-1500	Mr. Naseeeb Ur Rehman, Director, On-farm Water Management Programme, KP
16 July 2020	1500-1600	Engr. Iftikhar Ali, Assistant Director, On-Farm Water Management Programme, GB
16 July 2020	1600-1700	Mr. Muhammad Alam, Assistant Chief, Planning & Development Department, GB
		Ms. Nilofur, Research Officer, Planning & Development Department, GB
17 July 2020	1500-1600	Mr. Zakir Hussain, Chief Conservator, Forest Department, GB
20 July 2020	1500-1600	Mr. Abdul Basit, Provincial Programme Coordinator, GB GLOF II

21 July 2020	1300-1400	Mr. Rashid Din, Field Officer, GLOF II, Skardu
21 July 2020	1600-1700	Mr. Syed Sabeeh, Chief, Strategic Management Unit, UNDP
22 July 2020	1430-1530	Mr. Joudat Ayaz, National Project Director / Additional Secretary, Ministry of Climate Change, GOP
23 July 2020	1000-1100	Ms. Aliona Niculita, Deputy Resident Representative, UNDP
30 July 2020	1130-1230	Ms. Samar, Joint Secretary, Ministry of Economic Affairs, GOP
13 Aug 2020	1330-1500	Mr. Ignacio Artaza Zuriarrain, Resident Representative, UNDP
		Ms. Aliona Niculita, Deputy Resident Representative, UNDP
		Mr. Amanullah Khan, Assistant Resident Representative, UNDP
		Mr. Muhammad Sohail, Programme Officer, UNDP
17 Aug 2020	1500-1600	Mr. Karma Lodey Rapten, Regional Technical Specialist (Adaptation), Nature, Climate and Energy, Bureau for Policy and Programme Support/Global Policy Network, Bangkok Regional Hub, UNDP
		Mr. Benjamin Larroquette, Regional Technical Advisor, UNDP Bangkok Regional Hub
21 Aug 2020	1100-1200	Mr. Fahad Bangash, National Project Manager (a.i) / Provincial Project Coordinator, KP, GLOF II
9 August 2020	1100-1200	Mr Faiz ul Bari, FAO/ GCF Project Manager
23 September 2020	1500-1600	Mr. Joudat Ayaz, National Project Director / Additional Secretary, Ministry of Climate Change, GOP
2 October 2020	1100-1130	Ms Nahid Shah Durrani, Secretary, Ministry of Climate Change, GOP

5.5 List of Persons Interviewed

	Name	Title	Organization
1.	Mr. Ignacio Artaza Zuriarrain	Resident Representative	UNDP
2.	Ms. Aliona Niculita	Deputy Resident Representative	UNDP
3.	Mr. Amanullah Khan	Assistant Resident Representative	Environment & Climate Change Unit, UNDP
4.	Mr. Muhammad Sohail	Programme Officer	Environment & Climate Change Unit, UNDP
5.	Mr. Syed Sabeeh	Chief	Strategic Management Unit, UNDP
6.	Mr. Karma Lodey Rapten	Regional Technical Specialist (Adaptation)	Nature, Climate and Energy Bureau for Policy and Programme Support/Global Policy Network Bangkok Regional Hub, UNDP
7.	Mr. Benjamin Larroquette	Technical Advisor	Bureau for Policy and Programme Support/Global Policy Network Bangkok Regional Hub, UNDP
8.	Mr. Judat Ayaz	Additional Secretary / NPD	Ministry of Climate Change
9.	Ms. Samar	Joint Secretary, UN Desk	Ministry of Economic Affairs
10.	Mr. Faisal Balouch	Chief	Ministry of Planning, Development & Special Initiatives
11.	Dr. Muhammad Hanif	Chief Meteorologist	Pakistan Meteorological Department
12	Ms. Shazia Atta	Deputy Director	Provincial Disaster Management Authority, KP
13.	Mr. Zaheer Uddin Babar	Deputy Director	Provincial Disaster Management Authority, GB
14.	Dr. Naseeb-ur-Rehman	Director-General	On-Farm Water Management Programme, KP
15.	Engr. Iftikhar Ali	Assistant Director	On-Farm Water Management Programme, GB
16.	Mr. Muhammad Adnan	Planning Officer	Department of Forests, Environment & Wildlife, KP
17.	Mr. Afsar Khan	Deputy Director, EPA	Department of Forests, Environment & Wildlife, KP
18,	Mr. Zakir Hussain	Chief Conservator	Department of Forests, GB
19.	Mr. Muhammad Alam	Assistant Chief	Planning & Development Department, GB
20.	Ms. Nilofur	Research Officer	Planning & Development Department, GB
21.	Mr. Abduvakkos Abdurahmanov	Technical Specialist	GLOF II Project

22.	Mr. Fahad Bangash	National Project Manager (a.i)/ Provincial Project Coordinator, KP	GLOF II Project
23.	Mr. Abdul Basit	Provincial Project Coordinator	GLOF II Project, GB
24.	Rashid Din	Field Officer	GLOF II Project, Skardu
25.	Mr. Faiz ul Bari	Project Manager	FAO/GCF Project with MOCC
26	Ms. Nahid Shah Durrani	Secretary	MOCC

5.6 Interim Evaluation Rating Scales

Ratings for Progress Towards Results: (one rating for each outcome and the objective)		
6	Highly Satisfactory (HS)	The objective/outcome is expected to achieve or exceed all its end-of-project targets, without major shortcomings. The progress towards the objective/outcome can be presented as "good practice".
5	Satisfactory (S)	The objective/outcome is expected to achieve most of its end-of-project targets, with only minor shortcomings.
4	Moderately Satisfactory (MS)	The objective/outcome is expected to achieve most of its end-of-project targets but with significant shortcomings.
3	Moderately Unsatisfactory (HU)	The objective/outcome is expected to achieve its end-of-project targets with major shortcomings.
2	Unsatisfactory (U)	The objective/outcome is expected not to achieve most of its end-of-project targets.
1	Highly Unsatisfactory (HU)	The objective/outcome has failed to achieve its midterm targets and is not expected to achieve any of its end-of-project targets.

Ratings for Project Implementation & Adaptive Management: (one overall rating)		
6	Highly Satisfactory (HS)	Implementation of all seven components – management arrangements, work planning, finance and co-finance, project-level monitoring and evaluation systems, stakeholder engagement, reporting, and communications – is leading to efficient and effective project implementation and adaptive management. The project can be presented as "good practice".
5	Satisfactory (S)	Implementation of most of the seven components is leading to efficient and effective project implementation and adaptive management except for only a few that are subject to remedial action.
4	Moderately Satisfactory (MS)	Implementation of some of the seven components is leading to efficient and effective project implementation and adaptive management, with some components requiring remedial action.
3	Moderately Unsatisfactory (MU)	Implementation of some of the seven components is not leading to efficient and effective project implementation and adaptive, with most components requiring remedial action.
2	Unsatisfactory (U)	Implementation of most of the seven components is not leading to efficient and effective project implementation and adaptive management.
1	Highly Unsatisfactory (HU)	Implementation of none of the seven components is leading to efficient and effective project implementation and adaptive management.

Ratings for Sustainability: (one overall rating)		
4	Likely (L)	Negligible risks to sustainability, with key outcomes on track to be achieved by the project's closure and expected to continue into the foreseeable future
3	Moderately Likely (ML)	Moderate risks, but expectations that at least some outcomes will be sustained due to the progress towards results on outcomes at the Midterm Review
2	Moderately Unlikely (MU)	A significant risk that key outcomes will not carry on after project closure, although some outputs and activities should carry on
1	Unlikely (U)	Severe risks that project outcomes, as well as key outputs, will not be sustained

5.7 Interim Evaluation Matrix

Evaluation Questions	Indicators	Sources	Methodology
Overall Project assessment, lessons learned and recommendations			
What do you perceive as the project's most significant achievements thus far?	Project achievements	Interviews Project documentation	Interviews Review of project documentation
Please comment on any lessons learned thus far through this project	Lessons learned	Project reports Interviews	Review of project documentation Interviews
What issues, if any, are impeding project progress and how might these be addressed?	Obstacles to progress	Interviews Project reports	Interviews Review of project documentation
Do you have any recommendations to strengthen project execution and delivery?	Recommendations	Interviews Project reports	Interviews Review of project documentation
Do you have any recommendations to maximize project impact and sustainability?	Recommendations	Interviews Project reports	Interviews Review of project documentation
Project Strategy: **To what extent is the project strategy relevant to country priorities, country ownership, and the best route towards expected results?**			
Is the project log frame and theory of change still relevant and appropriately designed given the project experience to date?	Technical design studies confirm the feasibility	project documents, project staff, project partners, data collected	document analysis, data analysis, interviews,
Are the project assumptions still valid and have any been missed?	Changes occurred in underlying conditions that affect design assumptions	project documents, project staff, project partners, data collected	document analysis, data analysis, interviews,
Were risks well-identified and mitigation measures well designed to adequately address the risks?	Verification relevance of risks and effectiveness of mitigation measures indicated in the ProDoc, through later Project reporting	Project documentation; interviews with Project team and relevant stakeholders	Documents review; consultation with Project team and relevant stakeholders
Are the project indicators and targets realistic?	Stakeholder views of the project design	project documents, project staff, project partners, data collected	document analysis, data analysis, interviews,
Is the project promoting stakeholder engagement?	Stakeholder response to expected community voluntary contributions	project documents, project staff, project partners, data collected	document analysis, data analysis, interviews,
Is the project in line with national development priorities (SDGs, National Climate Change Policy, Climate Change Act, etc.)?	Flood warning and management measures are proven in flood events or tested in exercises	project documents, project staff, project partners, data collected	document analysis, data analysis, interviews,
Are broader development and gender/social inclusion	The extent of targeting of vulnerable beneficiaries	project documents, project staff, project partners, data collected	document analysis, data analysis, interviews,

aspects addressed in the project design?			
Are the Project outputs and activities relevant and feasible for achieving the Project objective and outcomes?	Project outputs and activities logically lead to achieving Project objective and outcomes	Project documentation; interviews with local stakeholders	Documents review; consultation with relevant stakeholders
Does the project address DRR-CCA linkages?	Inter-ministry coordination activities	project documents, project staff, project partners, data collected	document analysis, data analysis, interviews,
Project Design			
Are there any aspects of the project design that should be modified at this point to maximize project impact or to better reflect the project reality?	Design changes required	Interviews Project documentation	Interviews Review of project documentation
Were the project's objectives and components clear, practicable and feasible within its time frame?	Content of logframe	Logframe Interviews	Review of logframe interviews
Were the capacities and resources of the executing institution and counterparts properly considered when the project was designed?	Capacity and resources of EA and counterparts at project entry	Interviews ProDoc	Interviews Review of ProDoc
Were the management arrangements and roles and responsibilities properly identified before project approval?	Detail and clarity of management arrangements	ProDoc	Review of ProDoc
Were partnership arrangements negotiated before project approval?	Agreements with partners on project implementation at project entry	Interviews ProDoc	Interviews Review of ProDoc
To what extent did stakeholders participate in the project formulation process?	Level of stakeholder participation in project design	Interviews ProDoc	Interviews Review of ProDoc
Were lessons from other relevant projects properly incorporated in the project design?	Project design reflecting previous lessons learned	Interviews	Interviews
Efficiency: **Was the project implemented efficiently, in line with international and national norms and standards?**			
To what extent have the results been delivered with the least costly resources possible?	Total amount spent compared to budget Amount spent per output and outcome compared to budget The total amount of co-financing secured	PIRs (particularly summaries of project expenses) Interviews	Review of project documentation Interviews
How efficient are partnership arrangements for the project?	The number of partnerships established.	Progress reports.	Review of project documentation Interviews

Did the project efficiently utilize local capacity in implementation?	The number of local experts and staff engaged in the project's implementation.	Project HR documents	Review of project documentation Interview
What lessons can be drawn regarding efficiency for other similar projects in the future?		Project financial reports and progress reports	Review of project documentation Interviews
Effectiveness: **To what extent have the expected outcomes and objectives of the project been achieved?**			
To what extent were each of the project outcomes and project objectives achieved thus far?	Each of the project outcomes and project objective achieved thus far? Logframe indicators at the objective and outcome levels	APRs, progress reports, consultancy reports Interviews	Interviews Review of project documentation
How is risk and risk mitigation being managed?	Risks are identified and a clear set of mitigation measures were identified and taken	Risks log	Review of project documentation
What lessons can be drawn regarding effectiveness for other similar projects in the future?	Lessons learned generated and shared	Lessons learned the report. Progress Reports	Review of project documentation Interviews
Progress Towards Results: **To what extent have the expected outcomes and objectives of the project been achieved thus far?**			
What quantitative and qualitative achievements have occurred in terms of output/outcome targets?	Changes from baseline conditions; water depth/ sediment monitoring data	project documents, monitoring reports, training reports, meeting minutes, project staff, project partners, data collected	document analysis, data analysis, interviews
How is progress rated relative to baseline status?	Lake lowering design and construction progress	project documents, monitoring reports, training reports, meeting minutes, project staff, project partners, data collected	document analysis, data analysis, interviews
What are the circumstances and issues affecting project achievements and components not on target?	Training participants and assessment data	project documents, monitoring reports, training reports, meeting minutes, project staff, project partners, data collected	document analysis, data analysis, interviews
What are the main causes and remedies for delays, appropriate for the operating context in Pakistan?	The extent of flood risk reduction measures adopted to date	project documents, monitoring reports, training reports, meeting minutes, project staff, project partners, data collected	document analysis, data analysis, interviews
Is there an enabling environment for project implementation at national and local levels?	Participant satisfaction with quantity and quality of outputs to date	project documents, monitoring reports, training reports, meeting minutes, project staff, project	document analysis, data analysis, interviews

		partners, data collected	
What actions are needed, if any, to ensure, accelerate or expand project achievements?	Responses to delays in the project schedule	project documents, monitoring reports, training reports, meeting minutes, project staff, project partners, data collected	document analysis, data analysis, interviews
How well is the project contributing to national policy and practice on flood risk management (National Flood Protection Plan, National DRM Plan, etc.)?	Evidence of policy uptake of project methods and results	National policies, data collected, project staff, project partners	document analysis, data analysis, interviews
Fund-level impacts: To what extent the project strengthened adaptive capacity and reduced exposure to climate risks.	The number of males and females reached by climate-related early warning systems and other risk reduction measures established/strengthened.	Project reports; interviews with relevant national and local stakeholders	Documents review; consultation with relevant stakeholders
Project Outcome: To what extent the project strengthened sub-national institutional capacities to plan and implement climate change resilient development pathways.	Strengthened institutional and regulatory systems for climate-responsive planning and development. The number of policies introduced to address GLOF risks or adjusted to incorporate GLOF risks.	Project reports; interviews with relevant national and local stakeholders	Documents review; consultation with relevant stakeholders
Outcome 2. Have community-based EWS and long-term measures are up-scaled to increase communities' adaptive capacity.	The number of vulnerable households in KP and GB covered by a GLOF early warning system. Several Community-based organizations trained in the operation and maintenance of the EWS. No. of physical assets constructed to withstand the effects of GLOF events.	Project reports; project technical deliverables, interviews with stakeholders and communities in the target districts	Documents review; consultation with relevant national and local stakeholders; questionnaires to selected communities in the target districts
Project Implementation and Adaptive Management: **Has the project been implemented efficiently, cost-effectively, and been able to adapt to any changing conditions thus far?** **To what extent are project-level monitoring and evaluation systems, reporting, and project communications supporting the project's implementation?**			
Are the management structure, the distribution of responsibilities, and the coordination mechanisms operating effectively?	Perceived clarity of roles and responsibilities in project implementation	Project staff, project partners, monitoring reports, training reports, data collected	document analysis, data analysis, interviews,
How effective are the working relationships and communications between the implementing partners?	Status of MoUs between implementing partners	Project staff, project partners, monitoring reports,	document analysis, interviews
Are follow-up actions, and/or adaptive management, taken in	Responses to M&E activities	Project reports Interviews	Interviews

response to M&E activities (e.g., in response to APRs, and steering committee meetings)?			Review of project documentation
Is the Implementing Partner providing sufficient management direction and how could it be improved?	Pro-active actions of management bodies (adaptive management)	Project staff, project partners, monitoring reports,	document analysis, interviews
Is UNDP providing effective support and quality assurance and how could it be improved?	Pro-active actions of management bodies (adaptive management)	Project staff, project partners, monitoring reports,	document analysis, interviews
Were any needs for adaptive management changes identified and implemented?	Adaptive management changes made and positively impacted project implementation	Project documentation; Project staff, UNDP CO and key national partners	Documents review; consultation with relevant stakeholders
Is the Project Board/Project Steering Committee providing effective oversight and guidance and how could it be improved?	Number of meetings and decisions taken by project committees	Project staff, project partners, monitoring reports,	document analysis, interviews
If changes in planned project outputs, activities or implementation methodology were made, were these adequately justified and approved by the project steering committee?	Explanations provided for changes during project implementation	Steering committee minutes Project reports	Review of steering committee minutes and project documentation
Are the project stakeholders and beneficiaries substantially engaged in implementation?	Participant satisfaction with decision making and communication processes	Project staff, project partners, monitoring reports, training reports	document analysis, interviews
Have the project and individual activities been implemented in line with the defined timeframe and budget, and accordance with the Annual Work Plans and Budgets?	Annual Work Plans and Budgets (AWPs) are based on the results framework and total budget and work plan; activities are implemented within the timeframe and budgets indicated in the AWPs	Project documentation; Project staff, UNDP CO and key national partners, RTA	Documents review; consultation with relevant stakeholders
Were the project monitoring and evaluation and reporting plans implemented satisfactorily and did they support the project's implementation?	Quarterly and Annual Reports submitted timely and provide adequate information on progress, bottlenecks, and proposed mitigation measures; M&E Plan implemented and used to improve the project's implementation	Project documentation; Project staff, UNDP CO and key national partners, RTA	Documents review; consultation with relevant stakeholders
What constraints have been encountered and how have they been	Self-assessment by implementing partners	Project documents, project staff, project	document analysis, interviews

addressed? If not, what needs to be put in place to address them?		partners, monitoring reports	
Does the project have the appropriate financial controls, including reporting and planning, for budgeting and for timely flow of funds?	The efficiency of disbursements and financial management Annual expenditures about annual budgets	Project staff, project partners, financial reports	document analysis, interviews
What is the status of expected and actual co-financing?	Tracking of co-financing contributions (table)	Financial reports	Document analysis
How effective are the monitoring and oversight functions and usefulness of the monitoring data?	Use of project indicators in progress reports	Project documents, monitoring reports, project staff, project partners, data collected	Document analysis, interviews, data collected
Are the monitoring and reporting based on the project's indicators?	Perceptions of effectiveness of the M&E systems	Project documents, monitoring reports, project staff, project partners	Document analysis, interviews
Were monitoring reports submitted promptly?	Reporting quality and completeness	Project documents, monitoring reports, project staff, project partners	Document analysis, interviews
Are sufficient resources being allocated to M&E and are they used effectively and efficiently?	Resources committed to M&E and data availability	Project documents, monitoring reports, project staff, project partners, data collected	Document analysis, data analysis, interviews
Have implementation issues been fully reported and discussed with the Board?		Project documents, monitoring reports, project staff, project partners, Project Board meeting minutes	Document analysis, interviews
Does the project have a communication strategy and adequate public outreach	Communication strategy documented Outreach activities completed and media products disseminated	Communication and KM products, media products, project staff, project partners	Document analysis, interviews
Have the critical risks affecting achievements and potential sustainability been sufficiently addressed?	Risks identified in the Pro Doc/ ATLAS Risk Management Module Risks noted in technical reports and Audit	Project documents, monitoring reports, project staff, project partners	Document analysis, interviews
Sustainability: **To what extent are there financial, institutional, socio-economic, and/or environmental risks to sustaining long-term project results?**			
To what extent is the project contributing to capacity development to sustain results?	Sustainability strategies in the project design	Project documents, project staff, project partners	Document analysis, interviews; training and capacity development reports
What policy or institutional measures are required to sustain the outputs of the project – O&M funding, etc?	Changes in policy or regulation to sustain project results	Project documents, national strategies/policies, project staff, project partners	Document analysis, interviews; training and capacity development reports

Are there adverse social, environmental, or other effects that need consideration?	Socio-economic or political factors observed	Project documents, national strategies/policies, project staff, project partners	Document analysis, interviews; training and capacity development reports
Will local stakeholders continue to stay engaged in the flood warning and risk management measures during and after project implementation? Why or why not?	Socio-economic or political factors observed	Project documents, project staff, project partners	Document analysis, interviews; training and capacity development reports
Mainstreaming			
Is it possible to identify and define positive or negative effects of the project on local populations?	Employment generated because of the project Impact of the project on income levels, food security, etc.	APRs, Interviews	Review of APRs Interviews
Do the project objectives conform to agreed priorities in the UNDP country programme documents, UNDAF, etc.?	The consistency of Project with CPD, CPAP, and UNDAF	Pro.Doc., CPD, CPAP	Review of Pro.Doc., and UNDAF.
Have gender issues been considered in project implementation? If so, how and to what extent?	Level and nature of participation of women in project implementation	PIRs, interviews	Review of PIRs, interviews
Project Finance			
Is there enough clarity in the reported co-financing and leveraged resources to substantiate in-kind and cash co-financing from all listed sources?	Table specifying co-financing and leveraged resources secured and sources thereof	Project reports Interviews	Review of project documentation Interviews
Have the reasons for differences in the level of expected and actual co-financing been made clear and are the reasons compelling?	Explanation of the difference between expected and actual co-financing	Project reports with co-financing figures	Review of project documentation Interviews
Are externally funded project components well integrated into the GCF supported components?	Components funded by co-financing	Project reports Interviews	Review of project documentation Interviews
Is the extent of materialization of co-financing influencing project outcomes and/or sustainability?	Total co-financing secured. Level of achievement of project outcomes Perceived project sustainability.	Project reports Interviews	Review of project documentation Interviews
Stakeholders			
Is the project involving the relevant stakeholders through information sharing and consultation and by seeking their active participation in project implementation, and M&E?	Level of participation of stakeholders in project implementation	Project reports Interviews	Review of project documentation Interviews

Gender equality and women's empowerment			
How is the project contributing to gender equality and women's empowerment?	Level of the progress of gender action plan and gender indicators in the results framework	Project documents Project staff Project stakeholders	Desk review, interviews, virtual meetings
In what ways is the project's gender results advancing or contributing to the project's climate change outcomes?	Existence of logical linkages between gender results and project outcomes and impacts	Project documents Project staff Project stakeholders	Desk review, interviews, virtual meetings
Replication and Scalability			
What are project lessons learned, failures/lost opportunities to date? What might have been done better or differently?	Lessons learned	Project reports Interviews	Review of project documentation Interviews
How effective were the exit strategies and approaches to phase out assistance provided by the project including contributing factors and constraints	Lessons learned generated and shared	Progress reports	Review of project documentation Interviews
What factors of the project achievements are contingent on specific local context or enabling environment factors?	Project document. Funding proposal	Progress reports	Review of project documentation Interviews
Are the actions and results from project interventions likely to be sustained, ideally through ownership by the local partners and stakeholders?	Level of ownership	Project reports Project technical deliverables	Review of project documentation Interviews
What are the key factors that will require attention to improve prospects of sustainability, scalability, or replication of project outcomes/ outputs/results?	Sustainability strategy. Government investments. Ongoing efforts to build on the project to ensure scalability and/or replicability.	Project reports Project technical deliverables	Review of project documentation Interviews

5.8 Draft Project Revival Plan 2020

A proposed GLOF II Project Revival Plan 2020 is presented below. The PMU team with the MOCC and UNDP support should further develop it and convert into a Giant chart to facilitate implementation.

Proposed GLOF II Project Revival Plan 2020				
Task	**involved entities**	**Date/s**	**Date completed**	**Notes**
Project Management				
Assign a focal point by UNDP	UNDP ARR	Immediately	Immediately	
Prepare Third Progress Report and submit to UNDP	PMU, NPD, UNDP	15 October 2020	23 October 2020	
PIUs and PMU meet and agree on internal deadlines to prepare needed reports (AWP 2021, 3rd QPRs, APR 2020, procurement, and recruitment plans)	PIUs, PMU	Immediately	No later than one week of the submission of the final IE report	
Prepare management response (MR) to the IE report	PIUs, PMU, UNDP, MOCC	2 weeks after the final submission of the IW.	No later than 25 October 2020	
Project Board/ PSC Meeting to present the Management Response to the IE, and the Project revival plan	UNDP, MOCC	After the submission of the MR.	No later than 30 October 2020	
Finalize and submit Annual Progress Report	PIUs and PMU	No later than 30 October		NPD should approve first
Preparation of the 2021 AWP	PIUs, PMU, NPD	The first week of November	No later than the first 2 weeks of November.	Approved by the PB/PSC and Submitted to UNDP
Preparation of project procurement plan for 6 months	PIUs and PMU	Within 2 weeks of the submission of the IE report	No later than 25 October 2020	Approved by the NPD first, discussed in the PB, then submitted to UNDP

Preparation of project Recruitment Plan for 3 months	PIUs and PMU	Within 2 weeks of the submission of the IE report	No later than 25 October 2020	Approved by the NPD first, discussed in the PB, then submitted to UNDP
Recruitment/ Mobilization of Expertise				
National Project Manager				
Finalize the TOR (approved by NPD and UNDP)	**NPD, UNDP ARR**	Within one week of the submission of IE		
Advertise NPM position on UNDP website and national print media	UNDP (Programme, HR)	One week after the submission of the IE report	No later than 30 October 2020	
Written exam	UNDP (HR)	After 2 weeks of the advertisement. 2 weeks for application. I week for shortlisting and setting of the exam	No later than the third week of November	
Interviews	UNDP (Programme, HR)	1 week after the exam	No later than 30 November	
Offer signed	UNDP (HR)	1 week after the interviews	No later than 7 December	The NPM should start by 1 of January 2021, maximum!
Other Project Staff				
Advertise the remaining 20 vacancies based on the Recruitment plan	UNDP (Programme, HR)	One week after the submission of the IE report	No later than 30 October 2020	
Written exam	UNDP (HR)	After 2 weeks of the advertisement. 2 weeks for application. I week for shortlisting and setting of the exam	No later than the third week of November	
Interviews	UNDP (Programme, HR)	1 week after the exam	No later than 30 November	with the participation of MOCC personnel as per the request of the NPD
Other Project Staff start date	UNDP (HR)	1 week after the interviews	No later than 7 December	

Consultants				
Prepare the TORs, RFP, RFQ as per the plan for mobilization of expertise (under Procurement Plan)	PIUs, PMU with the support of UNDP	One week after the submission of the IE report	No later than 30 October 2020	The PMU needs to present to the NPD and get the official approval
Hire relevant consultants as per the Procurement Plan to initiate the technical work. The focus should be given on assessments, studies, analyses (avoid all fieldwork due to the harsh weather conditions)	UNDP CO	Based on the approved procurement plan	No later than November (start the process)	The PMU needs to present to the NPD and get the official approval
PMU Established				
Orientation on UNDP, MOCC, and project	UNDP (programme)	Immediately upon the start of the assignment		
Office supplies, equipment	UNDP (Programme, operations)	As per the work plan	No later than 30 November	The PMU needs to get the approval of the NPD
Project Vehicle Purchasing (should be given a priority to facilitate the work of the team as of March 2021)	UNDP (Programme, operations)	As per the work plan	No later than 30 November	The PMU needs to get the approval of the NPD
Project revival plan meetings				
Internal workshops /meetings (on weekly basis)	PIUs, PMU, MOCC and UNDP	Discuss the progress in preparing plans, progress reports, recruitment, procurement, etc.		
Detailed AWP 2021 prepared and circulated with indicators attached. AWP should be results or deliverable-oriented and not action-oriented.	PIUs, PMU, MOCC and UNDP	15-Nov-20	No later than 30 November to be incorporated into UNDP ATLAS system	

Presentation and technical contents to measure progress and identify hiccups	PMU	30-Nov		MOCC and UNDP top management
Prepare/finalize project communication and knowledge management plan. Highlight the role of each partner. Use the logo of all partners whenever needed.	PMU with the support of UNDP and MOCC	30-Nov		Approved by UNDP and MOCC
Press release on the revival plan and progress made to enhance project image	Media UNDP/ PMU and MOCC media	30-Nov		

5.9 Signed UNEG Code of Conduct form

Evaluators/Consultants:

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 the 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 it and how issues should be reported.
5. They 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 respects the stakeholders' dignity and self-worth.
6. They 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 limitations, findings, and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Interim Evaluation Consultant Agreement Form

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

Name of Consultant:

Name of Consultancy Organization (where relevant): INDIVIDUAL CONSULTANT

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

Signed at (Jordan) on 7 September 2020

(Pakistan) on 7 September 2020

Signature:

5.10 Signed Interim Evaluation Final 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: _____

5.11 Annexed in a separate file: Audit Trail from received comments on draft IE report.