

Annex 11 Monitoring and evaluation plan

Recharge Pakistan: Building Pakistan's resilience to climate change through Ecosystem-based Adaptation (EbA) and Green Infrastructure for integrated flood risk management

The monitoring and evaluation (M&E) plan outlines the work required for monitoring the project's progress towards the targets set in the project logical framework.

A full-time M&E Manager seated within the PMU will oversee project M&E and be the focal point for project-level M&E information as and when required by AE, PSC, National Project Manager and WWF-Pakistan. The M&E Manager will coordinate with regional managers (based in PIUs) on a quarterly basis to assess the progress of activities as per agreed protocols and timelines (see detail in Annex 11: M&E Plan below). Similarly, the M&E Manager will coordinate closely with the PMU's ESS and Gender focal points to ensure that implementation of the ESMF and Gender Action Plan is tracked according to the relevant indicators. The M&E Manager will be the custodian of all project-level M&E data, including the development and maintenance of a centralized database for data collation, consolidation, analysis and reporting.

Three full-time Provincial M&E Officers (one in each PIU) will be contracted to report directly to and receive technical guidance from the M&E Manager. They will develop data collection tools for the project's interventions and train the project field teams based in site implementation units (SIUs) on their use. The M&E Officers will monitor the project's progress against the targets specified in the Logical Framework (see Section E1–6) at the provincial sites and be the custodians of provincial-level M&E data. The documentation maintained at SIU levels will be quality assured and validated by the M&E Officers during their quarterly monitoring visits to the project sites.

Using the information from the M&E Officers (as described above), the M&E Manager will measure the project's overall progress against its targets ((see Sections E.1–6 and the table below). A final progress report will be produced annually by the M&E Manager and submitted to WWF Pakistan's M&E Unit (Head Office based) for review. Following this review, the findings will be presented at Programme Support Unit (PSU) meetings (internal to WWF-Pakistan). WWF Pakistan's PSUs will meet quarterly for project progress reviews and technical oversight. The M&E Manager will organize at least one reflection session per year with the PM, EEs and relevant technical project staff to assess the project monitoring data against the project's Theory of Change and Logical Framework to adaptively manage the project.

The AE will arrange and contract for independent interim and final evaluations that will contain the information described in Section 15.02(b) of the AMA and will apply the relevant GCF and AE policies identified in the AMA. The AE will, in collaboration with the PMU, prepare a formal management response to the findings of the independent evaluations, and will provide the evaluation reports and the management response to the GCF.

Table 1. Indicative measurement methodology and costs against the project logical framework.

Monitoring plan and costs					
No.	Data/Source	Collection Tool	Frequency	Indicator	Indicative Budget
E.3. GCF Outcome level: Reduced emissions and increased resilience (IRMF core indicators 1-4, quantitative indicators)					
ARA1	Household survey; Interventions completion reports; Government census data; Government records ¹ ; Post disaster needs assessments will be used to supplement the government records mentioned above, as necessary.	Survey/questionnaire Documents Review Surveys, Focus Group Discussions	Annual	Core 2: Direct and indirect beneficiaries reached Supplementary 3.1: Change in expected losses of economic assets due to the impact of extreme climate-related disasters in the geographic area of the GCF intervention	Included under the costs for Outcome 1 below.
	Farmers' list ² ; Key informant interviews; Site surveys	Survey/questionnaire Documents Review Surveys, Focus Group Discussions	Annual	GCF Supplementary Indicator 2.1: Beneficiaries (female/male) adopting improved and/or new climate-resilient livelihood options	Included under the costs for Outcome 1 below.
	Farmers' list ³ ; Key informant interviews; Site surveys	Survey/questionnaire Documents Review Surveys, Focus Group Discussions	Annual	Supplementary 2.5: Beneficiaries (female/male) adopting innovations that strengthen climate change resilience	Included under the costs for Outcome 1 below.

¹ Government records include reports from Federal Flood Commission and disaster management authorities at district, provincial or national level. These reports are generated at least twice per year.

² This is housed within the Department of Agriculture and WWF-Pakistan.

³ This is housed within the Department of Agriculture and WWF-Pakistan.

ARA4	GIS maps, design documents, site surveys and photographs	Field observation visits Key informant interviews GIS based mapping Documents Review	Annual	Core 4: Hectares of natural resources brought under improved low-emission and/or climate-resilient management practice	Included under the costs for Outcome 1 below.
				Supplementary 4.1: Hectares of terrestrial forest, terrestrial non-forest, freshwater and coastal marine areas brought under resoration and/or improved ecosystems	
E.4. GCF Outcome level: Enabling environment (IRMF core indicators)					
No.	Data/Source	Collection Tool	Frequency	Indicator	Indicative Budget
C5	Assessment undertaken by the PMU or consultant (primary data)	Document review Government data/records	Interim and final	Core Indicator 5: Degree to which GCF investments contribute to strengthening institutional and regulatory frameworks for low emission climate-resilient development pathways in a country-driven manner	Included under the costs for Outcome 2 below.
C7	Details of businesses supported by Financial Institutions, business records	Documents Review Government data Key Informant Interviews	Interim and final	Core Indicator 7: Degree to which GCF Investments contribute to market development/transformation at the sectoral, local, or national level	Included under the costs for Outcome 3 below.
C8	TNA report, training manual, Training evaluation reports, details of private public partnerships	Post training evaluations	Interim and final	Core indicator 8: Degree to which GCF investments contribute to effective knowledge generation and learning processes, and	Included under the costs for Outcome 2 below.

		Document reviews		use of good practices, methodologies and standards	
E.5. Project/programme specific indicators					
Outcomes/Outputs	Data/Source	Collection Tool	Frequency	Indicator	Indicative Budget
Outcome 1. EbA and green infrastructure interventions with improved community-led management reduce flood risk and enhance the climate resilience of the most vulnerable people in Pakistan's Indus Basin.	Government records ⁴ ; Watershed delineation and flood map analysis; Interventions completion reports	Document reviews Field surveys, Flood mapping and assessments	Annual	Area (ha) of flood extent reduced	38,036
	Water replenishment calculation reports	Field research study Field observation visits	Interim and Final	Amount (litres) of soil infiltration potential/water replenished through watershed management interventions	38,036
	Watershed delineation analysis reports; Design and specification documents	Field observation visits Field surveys Document review	Annual	Amount of water captured/retained by the EbA and green infrastructure interventions	35,579
Output 1.1: EbA interventions implemented to restore floodplain and watershed ecosystems.	Design documents; GIS maps; Photographs	Field observation Document review	Annual	Length (km) of natural water flow paths restored disaggregated by site (Badri, Paniala, Sehwan)	35,579

⁴ Government records include reports from Federal Flood Commission and disaster management authorities at district, provincial or national level. These reports are generated at least twice per year.

Output 1.2: Green infrastructure interventions established in Pakistan's Indus Basin.	Watershed delineation and flood map analysis; GIS maps; Household surveys	Field assessments GIS data Document review	Annual	Number of people (disaggregated by women and men) protected from flooding	35,579
	Engineering design documents; Engineering completion reports; Photographs; Government monitoring reports ⁵	Field observation visits, Government data/records Focus group discussions Document review	Annual	Number of green infrastructure interventions installed	35,580
Output 1.3: Strengthened community-based natural resource management to support water supply and flood attenuation services provided by EbA interventions implemented floodplains and watersheds.	Copy of community based NRM plans; Minutes of CBOs meetings; List of WUGs; TORs of WUGs, Membership details; Minutes of meetings	Documents review Focus group discussions	Annual	# Community-based management bodies (disaggregated by gender-responsiveness) supported through technical/institutional capacity building	33,125
	Signed agreements	Documents review	Annual	# Community-based natural resource management agreements signed between the Provincial Departments (Forestry, Irrigation, and Agriculture) and communities	33,125
Outcome 2: Enabling environment for climate	Scorecards duly filled	Scorecard	Annual	Level of integration of EbA and green infrastructure considerations into the implementation framework	56,615

⁵ WWF-Pakistan will work with relevant government entities such as MoWR (FFC) and the Provincial Irrigation Departments to prepare these reports on an annual basis.

action that has new procedures for implementing EbA and green infrastructure interventions for flood and water resources management in Pakistan.				of the National Water Policy, National Adaptation Plan and four Provincial Adaptation Plans for Khyber Pakhtunkhwa, Punjab, Balochistan and Sindh	
Output 2.1: Evidence base to support the adoption of EbA and green infrastructure interventions by the Government of Pakistan.	Evidence Report	Documents review	Annual	Evidence of economic benefits of EbA and green infrastructure	45,605
Output 2.2: Updated procedures for implementing EbA and green infrastructure in Pakistan.	Revised provincial adaptation plans; List of recommendations; Copies of provincial level climate-resilient Integrated Water Resource Management Plans; Supporting documents of implementation	Documents review	Annual	# of plans integrating EbA and green infrastructure solutions flood and drought risk management	45,605
Output 2.3: Strengthened capacity for implementing EbA and	Training reports	Post training evaluations Documents review	Annual	Number of national and sub-national decision-makers and planners trained on the application of the updated implementation	45,605

green infrastructure interventions in the Indus Basin for flood risk and water resources management.				framework of the National Water Policy, National Adaptation Plan, and four Provincial Adaptation Plans	
	Pre- and post-assessment questionnaires; Government staffing plans	Documents review Questionnaires Key informant interviews	Annual	% Change in knowledge and technical capacity of staff in the GoP on how to implement, operate and maintain EbA and green infrastructure interventions	45,605
	Training reports	Survey/questionnaire Document review Field observation visits	Annual	Number of community representatives/leaders trained on how to implement, operate and maintain EbA and green infrastructure interventions	45,605
Outcome 3: Enhanced resilience of community livelihoods in the Indus Basin.	Key informant interviews; Site visits/surveys; GIS maps	Key informant interviews Site visits GIS data	Annual	Number of people benefiting directly from the adoption of climate-resilient livelihoods and sustainable business	39,001
Output 3.1: Pipeline of feasible climate-resilient businesses.	Signed copy of agreements	Document review	Annual	Number of bankable projects (disaggregated by gender ownership/inclusion) financially supported under the project	34,440
Output 3.2: Improved climate-resilient livelihoods among vulnerable target communities.	Farmers' list; Key informant interviews; Site surveys	Field surveys Key informant interviews Document review	Annual	Area (ha) of land under improved climate-resilient agricultural management	34,440

Project/programme co-benefit indicators					
No.	Data/Source	Collection Tool	Frequency	Indicator	Indicative Budget
CB1	GHG assessment reports	GHG assessment: National Forest Monitoring Systems and Greenhouse Gas Inventory Reports	Interim and final	Estimated GHG emissions reduced/avoided	Included under the costs for Outcome 1.
CB2	Midwinter waterfowl census report ⁶	Census data	Annual	Percentage increase in migratory birds' population at Manchar Lake	Included under the costs for Outcome 2.
	Midwinter waterfowl census report ⁷	Census data	Annual	Percentage increase in migratory birds' population at Indus Game Reserve (D.I Khan)	
	Annual fish survey and stock assessment studies ⁸	Census data	Annual	Percentage increase in fish species richness and abundance /Macro-invertebrates species richness	
	Annual macroinvertebrate species richness and abundance estimations ⁹				
	Five yearly population abundance estimation ¹⁰	Census data	Annual	Percentage increase in population abundance of the Indus River Dolphin (EN) ¹¹	

⁶ These reports will be produced annually by the Zoological Survey of Pakistan (ZSP) which is a department under the Ministry of Climate Change (MoCC).

⁷ These reports will be produced annually by the Zoological Survey of Pakistan (ZSP) which is a department under the Ministry of Climate Change (MoCC).

⁸ Annual fish stock assessment would be carried by the Sindh Fisheries Department, WWF-Pakistan, Pakistan Museum of Natural History (PMNH), and academic partners.

⁹ Annual fish stock assessment would be carried by WWF-Pakistan, Pakistan Museum of Natural History (PMNH), and academic partners.

¹⁰ Five yearly population abundance assessments would be carried out by the Punjab and KP Wildlife Departments and academic partners.

¹¹ <https://www.iucnredlist.org/> IUCN RED LIST STATUS

	Ramsar Information Sheet (RIS) for Man Ramsar Site, Indus Flyways; and	Documents/reports	Annual	Designation and nomination of restoration sites as sites of global ecological important such as Man and Biosphere Reserve and Ramsar Sites.	
	Key Biodiversity Areas (KBAs) proposal				
	Population abundance estimation surveys and turtle confiscation /seizure records ^{12,13}	Census data	Annual	Percentage increase in freshwater turtles (hard-shelled and soft-shelled turtles)	
CB3	Survey forms, baseline and end line reports.	Field surveys, Key informant interviews	Annual	Number of people benefiting from new jobs created and related new skills developed	Included under the costs for Outcome 3.

Total monitoring cost (A):	USD 611,853
Technical support for monitoring and learning provided by WWF-US Staff (B): 1 Goal Team Project Manager/CTA [Time allocation (%) 40% Y1 – Y7] 1 Safeguards Support Specialist [Time allocation (%) 15% Y1 – Y7] 1 Gender Mainstreaming Specialist [Time allocation (%) 15% Y1 – Y7] 1 M&E Support Specialist [Time allocation (%) 10% Y1 – Y7] 1 Project Finance [Time allocation (%) 10% Y1 – Y7] 1 Freshwater Adaptation Specialist [Time allocation (%) 15% Y1 – Y7] 1 Green Infrastructure Specialist [Time allocation (%) 15% Y1 – Y7]	USD1,477,120
Other evaluative costs within the project budget (C): Independent formative evaluation in Year 4 facilitated by WWF-Pakistan for internal M&E. WWF-Pakistan will cover these fees. Independent Ex-poste evaluation in Year 7 facilitated by WWF-Pakistan for internal M&E. WWF-Pakistan will cover these fees.	USD 65,306

¹² These records will include: i) official seizures reports maintained by Provincial Wildlife Departments; and ii) WWF-Pakistan's independent data collected from multiple sources such as trade monitoring portals, social media channels and UNODC.

¹³ Zoological Survey of Pakistan.

Total cost (A + B+C):	USD 2,154,279
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Project evaluation plan and costs

Evaluation			
Type	Timing	Independent/Self-evaluation	Indicative Budget
<i>Formative</i>	Interim	Independent	USD 250,000 (AE Fee)
<i>Ex-poste</i>	Final	Independent	USD 250,000 (AE Fee)
Total evaluation cost			USD 500,000