Scope of Work
EWS ASSESSMENT REPORT FOR MACHELI AND MOHANA WATERSHED

1. Introduction

Mercy Corps is an international, non-governmental humanitarian relief and development agency that exists to alleviate suffering, poverty and oppression by helping people build secure, productive, and just communities. Mercy Corps works in 40 countries, and has been present in Nepal since 2005. Mercy Corps' current work in Nepal focuses on agriculture, food security, disaster risk reduction and climate change, access to finance, and youth engagement.

Mercy Corps Nepal is implementing DRR programs since 2007 in Nepal. One of the major learning of traditional DRR approaches was that they have proven effective at saving lives, but are less effective at mitigating economic impact of disasters and are rarely tied to strategies to build economic security and increase incomes. Mercy Corps has commenced implementation of an innovative 3-year program titled the "Managing Risks through Economic Development –Phase II" (M-RED -II) in Nepal as a continuation of MRED program. The Margaret A. Cargill Philanthropies funds the program, which will work to scale up and replicate an effective and sustainable model for DRR in vulnerable communities of Nepal, providing 4000 households with a more sustainable approach that links DRR to economic security. M-RED will continue with the model that addresses risk reduction together with economic development to promote economic security.

The M-RED program will achieve three outcomes:.
  a) Strengthened Disaster Preparedness and Response Systems for Protecting and Saving Lives and Property.
  b) Beneficiaries' livelihoods are more resilient to ecological hazards and/or results of climate change.
  c) Produce and disseminate research and learning for expanded impact of integrated approaches to building resilience to natural hazards and climate change.

To date, MRED project activities have been implemented through local partner agencies reaching 52 communities and more than 4000 households. Regular monitoring is part of the M&E system and supports for an efficient feedback mechanism to inform the project of what is working well or not. For this very reason, a gathering of all the implementing team is sought for in form a M&E workshop.

2. Rationale

Different organisations have installed different types of gauge stations; manual and automatic stations, in the upstream communities and the communities where they work individually or together with the technical/financial support of the DHM. Mercy Corps also together with technical support from the DHM team in Karnali Basin Office, Far Western Regional Climate Office Surkhet, DHM Field Office Attariya, DHM Field Office Dadeldhura prepared a report which detailed the assessment conducted in 2015 and subsequent repair, re-paint and re-installation of pre-existing gauge stations and installation of new gauge stations, where required. Mercy Corps also had done a scoping study to list all the gauge stations installed by different organisations and follow their status in 2014. Care together with District administration office also did a assessment of all gauge stations within Kailali district in 2017 together with DHM field office, Attariya. Although no actual report was found, we were able to find the map resulting of this work. Using the details from the mapping work, new updated list of gauging stations have been created and uploaded in form of map. Although, there have been efforts from all relevant stakeholders to strengthen and update the early warning system, the topographical challenge itself, river shifting and subsequent siltation and scouring resulting from flooding has left many of the stations damaged or irrelevant.

4. Purpose of the Assignment

The main objective of this assignment is to provide decision support to set up scientific network of meteorology and hydrology stations in the Macheli and Mohana Watershed.

The specific objectives are:
- Analysis and Review of the Mohana and Macheli Watershed situation in terms of meteorology and hydrology.
- Review the existing rainfall and river gauge stations and their networks.
- Outline the framework for better for end to end flood early warning system.

5. Scope of work and Methodology

5.1. Scope of Work
The consultant is expected to carry out the study on status of early warning system in Macheli and Mohana Watershed with specific focus on DHM based stations and adequacy of these stations for the aforementioned area and outline the framework for rainfall based flood EWS.
The duration of study is set for 4 weeks.

5.2. Methodology

The methodology for this study will be mostly desktop study, review of DHM reports and research work involving use of GIS for spatial analysis together supported by reports from field assessment. The consultant is expected to review and propose any gaps in current early warning system and provide inputs for planned EWS workshop after.

- Review past documents on efforts for flood EWS in the watershed
- Review the condition and status of gauge stations in the watershed
- Conduct geospatial analysis of the existing gauge stations for adequacy of these stations within the watershed using appropriate technologies.
- Review field assessment reports from the field visit /monitoring visits conducted of these stations.

6.   Deliverables

S. N.	Deliverables	Target delivery date
1.	Submit draft report with analysis of adequacy of the existing gauge stations and recommendations for better flood ews	Last week of January 2019.
2	Submit final report with analysis of adequacy of the existing gauge stations and recommendations for better flood ews	First week of February 2019.

7. Monitoring and Supervision

The consultant will report directly to the Project Manager of MRED (Managing Risk through Economic Development) and work in close coordination with Mercy Corps MRED Project team. The Mercy Corps Resilience MERL and Technology Advisor will be responsible for assimilating all technical inputs to ensure and maximize standard and quality deliverables.

8. Duration
The duration of the assignment will be from 17 January 2019 to Feb 11 2019 with 10 total full working days.

9. Administrative and Financial Arrangement

The consultant hiring process will be initiated by Mercy Corps Country Office Nepal based on track record of expertise on research, policy review on DRR, CCA and flood EWS. The consultant should have registered in PAN/VAT as per existing rules and regulations of Government of Nepal. The consultant should manage any logistics part by himself/herself such as transport, stationery materials and other items pertained with this task. The consultants shall cover their cost for their lodging, food and DSA from the amount agreed for the consultancy fee. Payment will be made as follows:
- 100% upon submission of final report

10. Work Experience and Required Qualifications

- Master's degree in Hydrology, Environmental Science, Development Studies, Disaster Risk Management, Climate Change, Social Science or a related field.
- Minimum of 5 years of experience in research or Disaster Risk Management, or on issues related to environment, flood resilience or climate change adaptation
- Professional expertise in development, Disaster Risk Management, specifically significant understanding of policies, plans, programs, guidelines and national strategies on Disaster Risk Management and climate change adaptation.
- An ability to analyze, perform statistical and GIS analysis to produce research products and point out the gaps, suggest solutions, and recommendations
- Prior experience conducting meteorological and hydrological data analysis.
- Excellent communication and coordination skill with multiple stakeholder and government authorities

11. Selection Criteria

- Master's degree in Hydrology, Environmental Science, Development Studies, Disaster Risk Management, Climate Change, Social Science or a related field.
- Minimum of 5 years of experience in research or Disaster Risk Management, or on issues related to environment, flood resilience or climate change adaptation
- Professional expertise in development flood early warning system.
- An ability to analyze, perform statistical and GIS analysis to produce research products and point out the gaps, suggest solutions, and recommendations
- Prior experience conducting meteorological and hydrological data analysis.