

**Pilot Program for Climate Resilience
Building Resilience to Climate Related Hazards Project
(Component – A, B, & C)**

Terms of Reference

CONSULTING SERVICES TO DESIGN, CONDUCT AND ANALYZE AN END-LINE SURVEY ON USERS SATISFACTION WITH SERVICE DELIVERY BY DHM

(Contract ID No: PPCR/DHM/S/CQS-55)

**Government of Nepal
Ministry of Energy, Water Resources and Irrigation (MoEWRI)
PPCR/BRCH Project Management Unit (PMU)
Naxal, Kathmandu, Nepal**

May 2019

A. Background

1. Nepal is a predominantly agricultural country and the country gains more than 33% of its GDP from agriculture. The agricultural sector alone employs two-thirds of the total work force which depend on it for their livelihoods. However, only about 20% of the total land in Nepal is arable of which only 40% is irrigated with modern means. The major portion of the arable land (60%) is still rain fed whose productivity is dependent on the monsoon rain. Frequent occurrence of heavy showers, hailstorm, droughts, floods, heat waves, cold waves etc. due to climate variability has a negative impacts on agricultural productivity and poses challenges to food security. The rational use of weather forecast and/or early warning systems of floods and effective management of soil and water are important to minimize the impacts of climatic hazards. Nepal is among the most vulnerable countries to the impacts of climate variability and change. Extreme weather vagaries as a result of variable monsoon, agriculture-based economy, and poor coping capacity of the people have been contributing towards the poor adaptive capacity in Nepal. Agriculture is the most important sector in Nepal's economy in terms of income generation, employment and food security. Rice, wheat and maize account for about 35% of agricultural GDP (AGDP) and other crops contribute 15%, livestock 26%, horticulture 17% (including fruits and vegetables) and fisheries 2% (NARC, 2010) and rest by the forests and other minor products. Rice is the main staple food in Nepal followed by wheat.
2. Nepal has made significant progress in reducing poverty in the last decade. The share of population below poverty line (with income less than 1\$/day) has dropped from 42% in 1995/96 to 31% in 2003/04, and to 25.16% in 2010/11 (CBS, 2011). However, population living under poverty line is estimated to be approximately 55% if calculated on the basis of the international poverty line (US\$ 1.25/day).
3. Currently economic losses in Nepal due to natural disasters appear to be in the order of 0.5% of GDP. Using the likely global benchmark (0.017% of GDP) as a lower bound and the actual loss figures for Nepal (0.10%) as an upper bound, and applying the methodology proposed by Hallegatte (2012), potential economic benefits of implementing disaster management strategies including building resilience to climate related hazards are estimated to be around USD \$2.9 - \$17 million.
4. In addition to saving lives and property, modernized hydro-meteorological systems can significantly enhance economic productivity. A conservative global benchmark is that 25% of world GDP is generated in climate sensitive sectors, and that modern forecasts add value of 0.1% to 1% in weather-sensitive sectors or 0.025% and 0.25% of GDP. In Nepal, climate sensitive sectors represent even larger share of the economy. Using the likely global benchmark (25% of GDP) as a lower bound for the share of climate sensitive activities in the economy and the actual share of agriculture in GDP (35%) as a high (but still conservative bound), potential benefits are estimated to be USD \$42.5 - \$59.5million.

5. The Building Resilience to Climate Related Hazards (BRCH) project¹ is one of these five projects. The main objective of the BRCH project is to enhance government capacity to mitigate climate-related hazards by improving the accuracy and timeliness of weather and flood forecasts and warnings for climate vulnerable communities, as well as developing agricultural management information system (AMIS) services to help farmers mitigate climate-related production risks.
6. This will be achieved by establishing multi-hazard information and early warning systems, upgrading the existing hydro-meteorological system, creating an agricultural management information system, and enhancing human capacity. Activities funded through the project will help improve decision-making and planning in key climate vulnerable and water resources dependent sectors particularly agriculture, health, water, and disaster management, and contribute to building climate resilience for communities at risk.
7. In Nepal, a coordination modality, the Climate Change Program Coordination Committee (CCPCC) was established to create an umbrella framework to link eight climate change projects, including the five (*one dropped*) supported by PPCR. The CCPCC is chaired by the National Project Director (NPD) for PPCR at the then Ministry of Population and Environment (MoPE) and is responsible for ensuring integration of project-specific monitoring and evaluation (M&E) frameworks, consolidation of project lessons learnt, and facilitation in information, data, and output sharing amongst the climate change programs. Close coordination between project level and program level managers is extremely important for monitoring and reporting of the BRCH project into program level results management frameworks (RMF) to assess the overall impact of climate adaptation related projects in Nepal.

B. Introduction

8. This Terms of Reference (ToR) is prepared for consulting firms to design, conduct and analyze an End-line Survey on Users Satisfaction with Service Delivery by DHM as compared to the Baseline Users Satisfaction Survey², which was conducted in 2015 by an independent contracted consultant. In general, User Satisfaction Surveys are conducted to collect feedback and quality ratings from key users in order to improve products and services of any institutions and thereby increase added value to customers.
9. The BRCH project, signed on April 30, 2013 between the Government of Nepal and the World Bank, aims to transition Nepal's hydro-meteorological services into a modern customer-oriented system that will build resilience today as well as adaptive capacity for the future. It

¹ *Project Appraisal Document (PAD), Report No. 73185, 6 Dec. 2012*

² *Final Report on Baseline Survey - satisfaction survey of DHM service delivery system, August 2015: Total Management Services, Recham Consult (Pvt.) Ltd. & Card Consult (P.) LTD*

intends to enhance government capacity to mitigate climate related hazards by improving the accuracy, timeliness and delivery of weather and flood forecasts and warnings for climate-vulnerable communities. The project is supporting agricultural management information system services (AMIS) to help farmers mitigate climate-related production risks. The enhanced hydro-meteorological services through, the BRCH project will benefit a number of public sectors including key sectors 1) *General Public*, 2) *Agriculture*, 3) *Civil Aviation*, 4) *Disaster Management* and 5) *Tourism* among others.

10. An important part of the BRCH project is to enhance, strengthen and modernize the operative weather forecasting system within DHM. Situation monitoring and forecasting services will be equipped with modern production tools such as meteorological workstations and a TV presentation system allowing daily presence of DHM in the Media (TV, Internet & Social Media). Establishment of automated products generation will allow near realtime weather products update and displaying all information online on the DHM's web pages and other mobile applications.
11. The project comprises four components:
 - A. Institutional strengthening, capacity building and implementation support of DHM;
 - B. Modernization of observation networks and forecasting;
 - C. Enhancement of the service delivery system of DHM; and
 - D. *Creation of an agriculture management information system (AMIS).*

First three are being implemented by the Department of Hydrology and Meteorology while the last one is implemented by the Ministry of Agriculture and Livestock Development (MoALD). Components A, B, and C implemented by DHM focuses on enhancing government capacity to mitigate climate related hazards by improving the accuracy and timeliness of weather and flood forecasts and warnings for climate-vulnerable communities, as well as support agricultural management information system services to help farmers mitigate climate-related production risks.

12. Services provided by DHM as of now include:
 - i. **Public Weather Forecast** - general forecast twice a day, city forecast - twice a day for five cities: Dhankuta, Kathmandu, Pokhara, Birendranagar, & Dipayal. WMO city forecast once a day for Kathmandu only, fog monitoring – during December, January & February, special weather bulletin, weather advisory occasionally as per requirement and demand
 - ii. **Aviation Forecast** - landing and take-off forecast, wind, visibility, temperature, pressure, significant weather, provide observation data and forecast for international Airport as per need/demand, trend forecast in METAR (if possible), TAFs, SIGMETs
 - iii. **En-Route Forecast for international flights** - Kathmandu Aerodrome Forecast and

Terminal forecast for destination and en-route/alternate aerodromes, en-route weather conditions such as significant weather chart, wind at different levels and temperature chart

- a. **Mountain weather Forecast for expeditions** - issued daily including wind and temperature data at 3000, 5500, 7000 and 9000 m respectively with weather forecast, weather outlook for agriculture and a special weather forecast as and when needed
- iv. **Flood Early Warning System** - real or near real-time river water level monitoring and flood forecasting
- v. **Climate Services** - Monthly weather summary, extreme rainfall, temperature analysis, monsoon monitoring, daily temperature monitoring, climate normal, seasonal and annual climate reports
- vi. **Agromet Services** - weekly weather report to the MoALD, weekly weather observation for Agromet Advisory Bulletin, Weekly Weather Outlook for Agromet Advisory Bulletin
- vii. **Hydrological and meteorological observation data** – time series hydro-meteorological data

The quality of DHM services is in the process of improvement through the installations of new observation networks which include automated hydro-meteorological stations, upper air radiosonde, lightning detection network, radar network, high power computer workstations and numerical weather prediction systems etc.

C. Objective

13. A key step in the monitoring and evaluation of DHM's performance as it modernizes and upgrades its capabilities in developing a strong national weather service with delivery of above mentioned seven services (i-vii) including forecasting, flood early warning, climate monitoring, and specialized hydro-met and agro-meteorological products, is to update the status of outputs and outcomes of the BRCH Project activities. The key objective of this consultancy is to establish the **End-line** status through ground survey for two indicators of the BRCH Project defined in its Results Framework³.
14. DHM is seeking to hire a consulting firm i) to develop a framework to conduct **End-line** Survey for assessing the post-project state of service delivery by DHM. ii) conduct **End-line Users Satisfaction Survey** and iii) to prepare a study report by assessing the level of satisfaction among key users (respondents) of DHM services.
15. The motivation for assessing the progress on users satisfaction comes from the need to (i) identify critical gaps in current delivery of DHM services, (ii) obtain feedback and information

³ *Annex 2: Results Framework and Monitoring, Project Appraisal Document (PAD), Report No. 73185, 6 Dec. 2012*

that can aid in improving the design and delivery of DHM services, and (iii) assess the effectiveness and impact of the BRCH project on services provided by DHM and thereby measure the impact of the project activities.

D. Scope of Work

16. The consultancy will comprise of three Phases: (i) developing a framework for assessing these two project indicators including defining the user satisfaction indices, designing the survey instruments and developing the methodology for the survey ii) developing a guidelines to use developed framework, indicators, indices and survey instruments for the future evaluation of DHM services (iii) conducting the **End-line Users Satisfaction Survey**, analyzing the results, reporting the End-line for the two indicators, and conducting *demand analysis for DHM services*.
17. The consultancy will take in to consideration of:
 - a. Technical consultations with the DHM Project Management Unit (PMU) – National Project Director (NPD), Assistant Project Directors (APDs), Project Technical Coordinator, Social and Communication Specialist, Environment Safeguard Specialist, Systems Integrator (General Consultant), M&E Specialist, and Focal Persons of this Project among others.
 - b. Discussions with relevant stakeholders, including the CCCPC, other relevant committees, and institutions as desired
 - c. Review of relevant literature and international surveys, and documents (from DHM, MoALRD, WMO and other relevant institutions)
 - d. Respondents will include respondents of all identified sector eg. i) *General Public* (users of the DHM services, focal points of rural/municipality & wards at selected vulnerable sites) , ii) *Agriculture* (MoALD, NARC, Agricultural advisors at the 25 pilot districts of AMIS), iii) *Civil Aviation* (CAAN, Flight Operators, Airport Managers), iv) *Disaster Management* (MOHA, DoEWRI, Nepal Army, Nepal Police, AFP, I/NGOs) and v) *Tourism* (*Tours and travels, Trekking & Mountaineering firms, among others but not limited to.*
 - e. The results of these meetings and discussions should also be well documented in the reports and follow the guideline – Annex 3
 - f. The key guiding principle for this End-line Users Satisfaction Survey will be: i) Final Report on Baseline survey - satisfaction survey of DHM service delivery system, August 2015: Total Management Services, Recham Consult (Pvt.) Ltd. & Card Consult (P.) LTD and ii) Project Appraisal Document (PAD), Report No. 73185, 6 Dec. 2012
 - g. All the activities conducted should be in line with equity and gender perspectives in Nepal

18. The geographical coverage extends to 16 representative districts covering all four ecological divisions of Nepal: the High Himalayas, the Lesser Himalaya, the Churia Range, and the Terai (listed in Annex 1). The consultancy will also include reporting on the demographic and socio-economic features of these districts in-line with baseline survey (including X, Y, Z coordinates of the surveyed households and other respondents). The data needs to be disaggregated compatible with the baseline survey by location (district, ecological zone, coordinates, gender, income and poverty levels (identifying those below the poverty line), vulnerable communities to climate change (complying with standard socio-economic definition), sectors and other related variables, if any.
19. The methodology for the **End-line** survey needs to be forward oriented and should take into account anticipated changes in the post-project DHM services, expected sectoral or economic changes that influence users satisfaction and other factors that will contribute to the monitoring and evaluation of interventions under components A, B, and C of the project.
20. The **specific tasks**, but not limited to, of the consulting firm are:
 - Task 1:** Conduct a review of secondary information and documentation of the BRCH project, and conduct technical discussions with the key stakeholders (DHM, MoALD, NARC, CAAN, DHM Regional and Basin offices and Provincial and Local administrative offices as necessary, members of the CCPC and other relevant institutions/agencies)
 - Task 2:** Develop a framework for conducting an **End-line survey** and assessing and evaluation of the two project indicators as per the Results Framework of the BRCH Project namely: i) Project Development Outcome Indicator (PDO 3): *Increased Satisfaction of Users with DHM services as measured by a **Composite Satisfaction Index** (expressed as a % where 100% is completely satisfied) for users of DHM services* and ii) Intermediate Results Indicator (IR 7): *Development and reliable operation of a public weather services, providing meteorological and hydrological warnings for extreme and high-impact events reaching climate vulnerable communities as measured by a **Satisfaction Index** for climate vulnerable communities* and conducting the demand analysis of services being provided.
 - Task 3:** Design the survey methodology and instruments in line with the **Baseline Survey -2015 and Guideline for Evaluation Parameters, Questionnaire Development and Focus sectors** as desired.
 - Task 4:** Develop a framework including questionnaire and roadmap for an **Online User Satisfaction Survey** (to be included in the DHM web portal, which is under construction) compatible with both **Baseline** and **End-line** surveys. This is a new task, not included in the Baseline survey, and therefore needs careful consideration to make it compatible with the DHM web portal under construction.

- Task 5:** Develop the database management system of the survey data that will enable data analysis for survey results, production of report on users satisfaction survey as desired.
- Task 6:** Prepare manuals on the process and use of the survey instruments. Conduct a training to selected DHM staffs (4-6) on Users satisfaction survey to be conducted in future.
- Task 7:** Prepare and submit an inception report with a detailed work plan and timelines of activities, outputs, monthly reporting and quality assurance measures.
- Task 8:** Test the survey instruments and prepare checklist to ensure data quality and usability through a trial. Inform key agencies (including local and regional and basin offices of DHM as well as Provincial and Local administrative offices as necessary) about the survey and seek their feedback. A similar survey will be conducted by Component D team (MoALD) and it is expected that there will be close collaboration between this consultancy and Component D team. Based on the feedback from the trial and consultations, finalize survey instruments.
- Task 9:** Identify and train enumerators. It is expected that enumerators with experience will be hired and training will be conducted to ensure common understanding of the survey instrument including hydro-met knowledge as well as on the behavior and responsibility of field staff, ensuring quality and confidentiality of data, etc.
- Task 10:** Conduct the survey of targeted respondents – through effective data collection instruments in line with the **Baseline Survey 2015** (structured questionnaire, focus groups, Individuals, Households etc.).
- Task 11:** Develop the survey questionnaire in a professional way for the survey before pre-inception meeting in order to receive a clear feedback from all respondents
- Task 12:** Conduct the survey of 16 representative districts (Annex 1 & 2) of all 4 Ecological zones covered during the **Baseline Survey 2015**.
- Task 13:** Conduct analyses, and prepare and submit draft report, addressing all objectives of the consultancy mentioned above.
- Task 14:** Organize and/or participate in feedback forums as advised by the PMU to receive feedback on the draft report. Incorporate the feedback and make revisions to the draft report as needed till the final version is acceptable to the World Bank.
- Task 15:** Conduct a workshop event at the end to share the details of the End-line Survey 2019 – its development process, approach & methodology and analysis of results to key project officials including PMU.

Annex 1: Selected (representative) Survey districts

| S. No. | Province | Representative Survey Districts (Component A ,B & C) | Major Ecological Zone | Representative Survey Districts (Component D) |
|--------|-------------------|--|-----------------------|---|
| 1. | Province 1 | Panchthar | LH | |
| 2. | | Solokhumbhu | HH | |
| 3. | | Udaipur | CR + LH | |
| 4. | | Sunsari | TP + CR | |
| 5. | Province 2 | Saptari | TP | |
| 6. | | Mahottari | TP | |
| 7. | Province 3 | Chitwan | VP + CR | |
| 8. | | Lalitpur | VP + LH | |
| 9. | | Makwanpur | LH | |
| 10. | Province 4 | Kaski | LH | AMIS services |
| 11. | | Mustang | HH | |
| 12. | Province 5 | Dang | VP + LH | |
| 13. | | Banke | TP | |
| 14. | | Rupandehi | TP | |
| 15. | Province 6 | Jumla | LH | |
| 16. | Province 7 | Kailai | TP | AMIS services |

Legend:

HH = Higher Himalaya

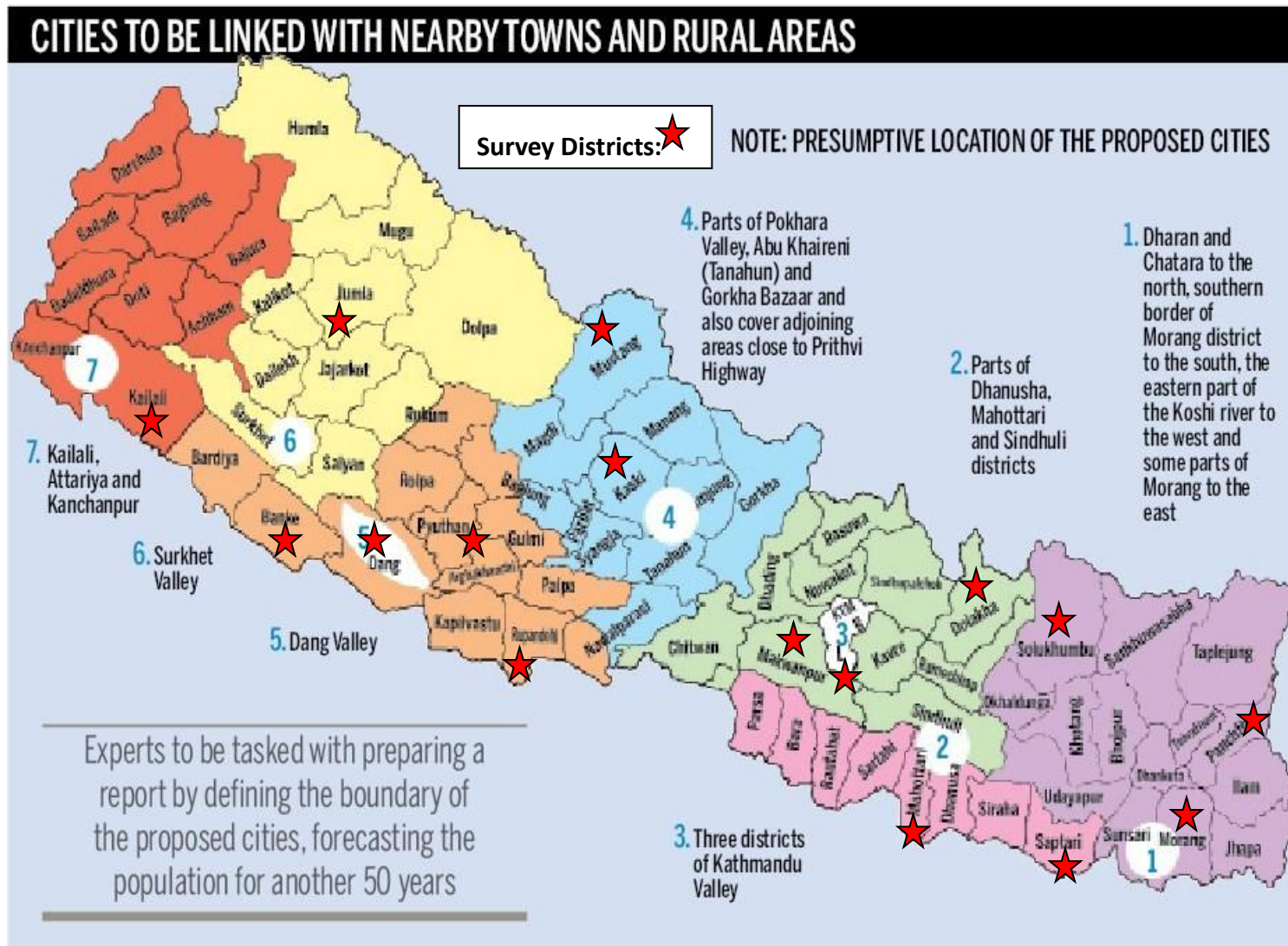
TP = Terai Plain

CR = Churia Range

LH = Lesser Himalaya

VP = Valley Plain

Annex 2: Map of Nepal with indication of proposed locations of the survey



E. Outputs and Deliverables

21. The expected outputs with their delivery dates are:
- i. Inception report and work plan (with detailed timeline and including results of desk review as well as draft versions of the framework for Questionnaire for FGDs, Individuals, Households etc. as desired and data management system, Survey Instruments and Methodology): **by 15 days of contract agreement**
 - ii. Revised inception report with finalized Questionnaire for FGDs, Individuals, Households etc. as desired and data management system, Survey Instruments and Methodology (including results of trials and consultations): **by 21 days after contract agreement**
 - iii. Operational plan for the End-line survey including manuals and data management system in place: **by 30 days of contract agreement**
 - iv. Surveys conducted (Master data set available): **by 100 days of contract agreement**
 - v. Draft report, including the following: **by 110 days of contracts agreement**
 - a. Background and contextual information (DHM services, details descriptions of surveyed DHM service users/sectors etc.)
 - b. Description of End-line Survey framework, indices, methodology
 - c. Analysis of End-line survey data
 - d. Demand analysis of DHM services
 - e. A framework including questionnaire and roadmap for a Online user satisfaction survey (DHM web portal - to be introduced in near future) compatible with Baseline/End-line survey
 - f. Relevant annexes and maps including a specific annex on data handling and its transfer with guidance on use of data and associated materials
 - vi. Results sharing and Feedback Workshop (key stakeholders collated and responses): **by 115 days of contract agreement**
 - vii. Final (Draft) report (and all associated materials such as raw data, data formats and software, maps, photos etc, including feedback from the workshop): **by 117 days of contract agreement**
 - viii. Submission of Final Report (6 hard copies and 3 soft copies) on End-line Users Satisfaction Survey after incorporating feedback/comments from DHM/BRCH-PMU and the World Bank: **by 120 days of contract agreement**

F. Period of Performance and Reporting Schedule

22. The consultancy is expected to be accomplished within **4 months (120 days)** from the date of agreement excluding the 3 days training period of supervisors and enumerators. The consulting firm is required to develop the work schedule and strictly follow the timeline. The consulting firm will coordinate closely with and submit progress reports (within the 2rd weeks of every month) to the DHM/PMU, and will obtain clearance from the PMU before each task is undertaken.

G. Requirement and Qualification

23. The consulting firm should:
- Demonstrate capability to handle the assignment solely or in joint venture, and be able to put-together the necessary team, operational necessities and financial resources.
 - A minimum of 7 years of experience in the relevant field. Have a proven track record in developing and conducting various types of, studies, monitoring and impact evaluations and conducting surveys (in urban and rural settings) as well as in management and analysis of qualitative and quantitative data.
 - Have extensive knowledge and experience in conducting focus group discussion, key informants interview and using participatory methodologies.
 - Have extensive knowledge and experience in analyzing qualitative and quantitative data
 - Have a track record for timely delivery of agreed outputs/deliverables within agreed timeline and budgets.
24. The Team will include the following experts/professionals with working experience and skills depicted in the given below table.

| Experts | Key Qualification | Number | Expected Inputs | Experience and Skills |
|---|--|---------------|------------------------|--|
| 1. Team Leader/ Hydro- Meteorologist | Advanced degree in Meteorology/ Hydrology (at least Master's degree) | 1 (one) | 120 days | Master's and 10 years of relevant work experience or a PhD with 7 years of relevant work experience preferably with knowledge in program/project monitoring and evaluation |
| 2. Statistician | Advanced Degree in Statistics | 1 (one) | 60 days | Experience in conducting household surveys, conducting |

| Experts | Key Qualification | Number | Expected Inputs | Experience and Skills |
|---------------------------|--|---------------|------------------------|---|
| | and/or Economics (at least Master's degree) | | | baseline/End-line and impact evaluation studies and with proven skills in qualitative and quantitative analytical methods. |
| 3. ICT Engineer | At least Bachelor's degree in ICT/Software | 1 (one) | 60 days | At least 3 years of specific experience in development of online survey design/software after Bachelor's degree is desirable. |
| 4. Socio-economist | At least Master's degree in sociology or economics | 1 (one) | 120 days | At least 3 years of specific experience conducting socio-economic survey after master's degree preferably with knowledge in program/project monitoring and evaluation. Have experience in household survey with analytical ability of both qualitative and quantitative data/information. Experience of conducting Baseline/End-line/Impact study is advantageous |

H. Ownership and Disclosure of Data/Information

25. All documents, project designs, drawings, data and information shall be treated as confidential and shall not be made available to any third party without the written approval of DHM. In addition, the consulting firm formally undertakes responsibility of not to disclose any parts of the confidential information to unauthorized parties. The utilization of the report is solely at the decision and discretion of DHM. All the documents containing both raw data/materials provided by DHM and final report are to be returned to DHM upon completion of the assignment. All documentation and reports written as, and as a result of the research or otherwise related to it, shall remain the property of DHM. No part of the report shall be reproduced except with the prior, expressed and specific written permission of DHM.

I. Transfer of Knowledge and Technology

26. The consulting firm will transfer the technology and knowledge through presentation, and one-on-one training sessions) to the DHM Staff. In addition, the consulting firm will submit all the data (back end raw data of survey, secondary information), survey instruments, original survey forms and surveyed data in accessible formats, online users satisfaction survey including manuals, Training manuals to DHM

J. Facilities to be provided by DHM/PMU

27. The PMU will supply all project related documents to the consulting firm for a quality and timely output of the survey. The consulting firm is required to manage all the survey arrangements in their own office premises with sufficient logistics, staff and infrastructure. No cost for such arrangements shall be borne by DHM.

K. Selection Criteria

28. The consulting firm shall be selected following Selection Based on the Consultants' Qualifications (CQS) method set forth in Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, January 2011. Firms having the required experience and competence relevant to the assignment shall be assessed and compared, and the best qualified and experienced firm shall be selected. Only the selected firm shall be asked to submit a combined technical and financial proposal.

Annex 3: Guideline to Consultants for Parameter Evaluation, Rating in Likert Scale (used during Baseline Survey), Model Questionnaire and Focus sector etc.

Evaluation Parameters of DHM services are:

P1 (Timeliness): DHM services (forecast/time series) provide early warnings on hazardous weather events (Weather, floods, and droughts) early enough

P2 (Adequacy): There is adequate hydrological and meteorological information and services available with DHM

P3 (Accuracy): Information and services on hydrology and meteorology of DHM are accurate and reliable

P4 (User-friendly): Hydrological and meteorological services provided by DHM are user-friendly, easy to understand and use

P5 (Accessibility): Hydrological and meteorological services and information provided by DHM are easily accessible to all

Rating in Likert Scale of DHM Services used during Baseline Survey is as below:

| SN | Particulars | Level of Satisfaction (Range) | Average Level of Satisfaction (x_i) |
|----|---------------------|-------------------------------|---|
| 1 | Highly satisfied | 80-100% | 90 |
| 2 | Satisfied | 60-80% | 70 |
| 3 | Neutral* | 40-60% | 50 |
| 4 | Dissatisfied | 20-30% | 30 |
| 5 | Highly dissatisfied | 0-20% | 10 |

***Neutral >>** To be replaced by better word at the time of pre-inception consultation meeting

Model Questionnaire to be included but not limited for the Survey are:

In line with above the consulting firm should develop the survey questionnaire in a professional way for the survey in order to receive a clear feedback from all respondents.

A. *Basic questions to be asked to All Respondents*

1. How frequently do you use DHM services?
 - i. Every day
 - ii. Once a week
 - iii. Once a month
 - d. More sparsely

- iv. Which DHM services do you use more frequently?
- 2. Do you get enough Hydro-meteorological information and services from DHM website
- 3. How do you rate the DHM weather services?
 - i. Accurate;
 - ii. User-friendly;
 - iii. Provide information on climate events early enough (lead time to prepare)
 - iv. Easy to access
 - v. Do you get what you need?

B.1 General Public (including Household) Sector

- a. Location: X, Y and Z Coordinates, Province, VDC
- b. Respondent's background: Gender ___M|F; Age ___(.....years old)
- c. Occupation:
 - i) Employee; ii) Director/Section Chief/Supervisor; iii) Entrepreneur; iv) Unemployed; v) Students; vi) Pensioner and vi) Others
- d. How much does the DHM Weather Forecasts and Early Warnings impact in your everyday life
- e. How much do the following Weather Parameter (phenomena) impact your everyday life (*Rating: 1 to 5 for each parameter*)
 - i) Temperature; ii) Cloudiness; iii) Heat wave; iv) Cold wave; v) Rainfall; vi) Snowfall; vii) Thunder; viii) Drought; x) Wind; x) Visibility
- f. Do the following Early Warnings provided by DHM help you to get prepared for related phenomena (*Rating: 1 to 5 for each parameter*)
 - i) Flooding ii) Drought iii) Heavy rain
- g) What kind of other services and warnings should DHM provide?
 - i) ii) iii)

B.2 Agriculture Sector (including Farmers)

- a. How much do the following Weather Parameters affect your farming (*Rating: 1 to 5*)
 - i) Temperature;
 - ii) Cloudiness;
 - iii) Heat wave;
 - iv) Cold wave;
 - v) Rainfall;

- vi) Snowfall;
 - vii) Severe Storm; (Gusts/Heavy rain/Lightning/Hail);
 - viii) Drought;
 - ix) Wind and
 - x) Visibility
- b. Do the Agro-met Advisory provided by DHM help you to get prepared for improving agricultural yield? *(Rating: 1 to 5)*
- c. Do the following Early Warnings provided by DHM help you to get prepared for related phenomena *(Rating: 1 to 5 for each parameter)*
- i) Flooding; ii) Drought; and iii) Heavy rain
- d. Is there a need for more services? If so, what kind of services?
- i) ii) iii)
- e. Where did DHM succeed and where not?
- i) ii) iii)

B.3 Civil Aviation Sector

- a. How much do the following Weather Parameters effect flight operations in Nepal *(Rating: 1 to 5 for each parameter)*
- i) Temperature ii) Cloudiness iii) Heat wave iv) Cold wave v) Rainfall vi) Snowfall vii) Severe Storm (Gusts/Heavy Rain/Lightning/Hail), viii) Drought ix) Strong Wind
- b. Do the following products provided by DHM serve ease the flight operations? *(Rating: 1 to 5 for each parameter)* *(Rating: 1 to 5 for each parameter)*
- i) METAR ii) TAF iii) SIGMET iv) TREND
- c. Do to following products provided by DHM promote the safety of flight operations? *(Rating: 1 to 5 for each parameter)*
- i) METAR ii) TAF iii) SIGMET iv) TREND
- d. Is there a need for more services? If so, what kind of DHM services?
- i) ii) iii)

B.4 Disaster Management Sector

- a. How much do the following Weather Parameters affect your DRR operations in Nepal? *(Rating: 1 to 5 for each parameter)*
- i) Temperature ii) Cloudiness iii) Heat wave iv) Cold wave v) Rainfall vi) Snowfall vii) Severe Storm (Gusts/Heavy Rain/Lightning/Hail), viii) Drought ix) Strong Wind

- b. Do the following Early Warnings provided by DHM help you to get prepared from the following potential disaster phenomena (*Rate from 1 to 5 for each parameter*)
 - i) Flooding ii) Drought iii) Heavy rain
- c. Is there a need for more services? If so, what kind of DHM services?
 - i) ii) iii)

B.5 Tourism Sector

- a. How much do the following phenomenon effect your business operations in Nepal (*Rating: 1 to 5 for each parameter*)
 - i) Temperature ii) Cloudiness iii) Heat wave iv) Cold wave v) Rainfall vi) Snowfall vii) Severe Storm (Gusts/Heavy Rain/Lightning/Hail) viii) Drought and ix) Strong Wind
- b. Do the following Early Warnings provided by DHM help you to get prepared due to the following weather phenomena (*Rating: 1 to 5 for each parameter*)
 - i) Flooding ii) Drought iii) Heavy Rainfall
- c. Is there a need for more DHM services? If so, what kind of DHM services?
 - i) ii) iii).....
- d. Where did DHM succeeds and where not?
 - i)ii) iii)

-----End-----