



Consultancy Ref No: 89/RP/North/24-25

# **RFP FOR CONSULTANCY SERVICES WWF-RECHARGE PAKISTAN**

## **SUBJECT:**

### **Hydrology and Flood Modelling For Recharge Pakistan**

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#### **Application Submission:**

Application Submission: Interested consultants should submit the Proposal on the Application Form Available Online or can access through the following Link:

<https://forms.gle/HD8x6J1EoQUyByXx6>

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## 1) INTRODUCTION & BACKGROUND

Contract type:	Consultancy and Services
Duration of assignment:	03 months
Type:	Firm/ Individual

### Background of Project & Assignment:

Recharge Pakistan is a cornerstone of the Government of Pakistan's vision — as highlighted in its updated 2021 Nationally Determined Contributions (NDCs) — to leverage natural systems to enhance Pakistan's resilience to climate change to reduce flood and drought risk across the Indus Basin.

The project will catalyze transformational change in Pakistan by investing in Ecosystem-based Adaptation (EbA) and green infrastructure (GI) interventions at four project sites in the Indus Basin to reduce the impacts of increasingly severe floods and droughts on vulnerable communities and ecosystems. As the largest investment at the national level to date in an ecosystems-based approach to flood and water resources management, this project will accelerate climate innovation in Pakistan by establishing proofs of concept for EbA and green infrastructure interventions that provide evidence of their cost-effectiveness and efficiency, flood and drought risk reduction benefits, and sustainability. The project interventions will be implemented at specific locations in DI Khan, Ramak, Manchar, and Chakar Lehri to maximize the flood reduction benefits to vulnerable communities from these interventions.

The implementation of these tangible adaptation interventions will be used as evidence to create an enabling environment for climate action in Pakistan that removes barriers to novel climate solutions through the promotion of integrated strategies, planning, and policymaking. Economic evaluations of the project's EbA and green infrastructure interventions will demonstrate their cost-effectiveness and efficiency in reducing the impacts of climate change-induced floods and droughts on vulnerable communities and ecosystems in Pakistan.

## 2) GENERAL CONDITIONS

- I. The WWF-PAKISTAN reserves the right to reject or accept any proposal. The WWF-PAKISTAN reserves the right to proceed with the implementation of any Service, in whole or in part, as described in the Proposal.
- II. The WWF-PAKISTAN reserves the right to engage in discussions with any BIDDER to clarify responses or discuss certain issues with regards to the proposal or services requested. The WWF-PAKISTAN has no obligation to notify the other BIDDERS of the discussions, clarifications, or other information provided by a BIDDER. Any additional information required for preparation of the BID shall be distributed to all participants at the same time.
- III. The WWF-PAKISTAN reserves the right to award the proposal based on experience, qualification, completion date, service cost and other criteria, and not necessarily the lowest cost.
- IV. Based on the RFP BID the WWF-PAKISTAN is entitled to change/replace or omit any clause/part of the preliminary defined scope of services of the proposal. The WWF-PAKISTAN shall conduct negotiations with the service provider to achieve the full compliance to the requirements.
- V. The WWF-PAKISTAN reserves the right in the event the successful CONSULTANT fails to comply with the terms and conditions as listed, to cancel this contract and award it to another CONSULTANT without penalty or action against the WWF-PAKISTAN. The RFP does not constitute an agreement or order.
- VI. The RFP is not a binding agreement between the parties, submission of a proposal or response by a proponent is voluntary.
- VII. By submitting a bid, the BIDDER is deemed to have acknowledged all of the undertakings, specifications, terms and conditions, **WWF Fraud and Corruption Prevention and Investigation Policy and WWF's Environment Social & Safeguard for consultant agreement** and to be bound by them if the BID is accepted. All expenses incurred by the Bidder in connection with the preparation of its proposal are to be borne by the RFP participant, and the WWF-PAKISTAN shall not incur any obligation whatsoever toward the Bidder regardless of whether such bid is accepted or

rejected.

### 3) PURPOSE

The objective of the consultancy is to conduct hydrologic and hydraulic analysis of proposed project interventions and document the methodology so that it can be repeated and used as an evaluative tool through the course of the project (which runs through 2031). The consultant will select an appropriate model to simulate flood events of varying magnitudes in the project's focal catchments. Based on modelled outputs, the consultant will work with the Recharge Pakistan Project Management Unit (PMU) and technical experts from WWF-US to derive quantitative benchmarks for the performance of the selected EbA and green infrastructure interventions.

### 4) SCOPE OF WORK AND TASKS

The hydrologic and hydraulic analysis will build on analytical work previously conducted during the project design phase (namely, a feasibility study and economic analysis)—this will be provided to the consultant as reference material. The primary adjustment to this previous work will be in taking a probabilistic risk analytic approach, modeling multiple events of varying magnitude. WWF Pakistan (through the PMU) will provide necessary data inputs, including catchment outlines, stream networks, precipitation, land cover, and design specifications for green infrastructure elements. Digital elevation models used for this project should be freely available, and preferably at ~30m or 90m resolution for rainfall-runoff modeling and 10-12m resolution for the hydraulic analysis. The consultant(s) will then be expected to:

- Advise on and work with WWF staff to improve upon input datasets and modeling assumptions where possible and/or necessary to enhance the reliability of the modeled outputs
- Select a hydrologic model (or coupled hydrologic and hydraulic models) available at low or no cost (i.e., open source) and designed to provide outputs including peak flow and peak inundation at the appropriate scale
- Model a select set of scenarios (e.g., 5-, 10-, 25-, and 50-year return period floods) with and without project interventions
- Conduct a sensitivity analysis focused on parameters associated with the EbA and GI interventions as well as the inundation threshold
- Document the methodology employed and include expert recommendations on areas that could be improved in future work (including priority areas for obtaining higher-resolution [ $<1\text{m}$ ] DEMs), as well as major areas of uncertainty
- Meet virtually with WWF staff as needed to discuss workflow, troubleshoot, and adjust methodology

### 5) DELIVERABLES

As described above, the consultant will produce and submit the following outputs:

- Flood extent datasets for three catchments showing A) no interventions and B) EbA and GI interventions across the set of return period scenarios [.txt or another raster format]
- A brief written summary (2-3 pages) of the sensitivity analysis, along with flood extent datasets
- Technical report documenting methodology developed, with references, including core assumptions, uncertainties, and any recommendations for future improvements to input data, model parameters, etc.

### 6) REQUIREMENTS

#### ROLES, COLLABORATION, AND SUPERVISION

- The consultant will work closely with the Manager, M&E from the Recharge Pakistan PMU, as well as with technical experts based in WWF US. The consultant will be expected to participate in occasional

online meetings to discuss progress and troubleshoot challenges. Final approval of deliverables and payments will rest with the project PMU.

## TEAM COMPOSITION & QUALIFICATIONS

- For this assignment, the below set of expertise are desirable and would be considered in the selection process. A team with specialized skillsets in each would be preferred.
- Hydrological Expertise: Expert in rainfall-runoff modeling (e.g., HEC-HMS, ArcSWAT) (MS degree in Water Resources Engineering/Hydrology with 10 years in hydrological modeling)
- Hydraulic Expertise: Expert in flood/inundation modeling (e.g., HEC-RAS). (MS degree in Water Resources Engineering/Hydraulic Engineering with 10 years in flood/hydraulic modeling)
- Eco-hydraulic Expertise: Experience in assessing the impact of nature-based solutions (NbS) and other green infrastructure.
- In addition, experience with climate change scenarios and ecosystem-based adaptation modeling would be preferable. Finally, a track record of academic/scientific publications would be an advantage.

## 7) LOCATIONS

Ramak Watershed in DI Khan

- DI Khan Watershed
- Chakar Lehri Watershed in Balochistan
- Manchar Lake in Dadu Sindh

## 8) APPLICATION SUBMISSION:

Interested consultants should submit the Proposal on **Application Form Available Online** or can access through following Link:

<https://forms.gle/HD8x6J1EoQUyByXx6>

1. If Any **Queries** may send through Email by attention to the Following:

**To:** Faiza khan ([fakhan@wwf.org.pk](mailto:fakhan@wwf.org.pk))

**Cc:** Muzzammil Ahmed ([mahmed@wwf.org.pk](mailto:mahmed@wwf.org.pk))

The RFP submission deadline mentioned on WWF-Website.

2. Any information and responses to enquiries will be made in writing and distributed by email to all proponents. Enquiries after the foregoing deadline will not receive a response.

## 9) FORMAT OF THE PROPOSAL

The BID submitted by the participant must be structured as per the below provided instructions:

- 1) **Application Form available at WWF-Website** - General information about the Bidder, covering qualification and experience, CV and all related Information.
- 2) **Experience:**
  - a) **Description of the complete projects:** the list and general information about the complete projects, description of the role in the project, other accomplishments of the Consultant.
- 3) **Proposal outlining scope consultancy service-** Description of scope and working process, stages, deliverables, exclusions, conditions;
- 4) **Provide template of already complete similar type of reports-** the WWF-PAKISTAN may request additionally;

- 5) **Service Provision Timeline** – Provide Detailed Work Plan as per Deliverable and TORs.
- 6) **Financial Proposal**- the prices shall be provided in Pak Rs, the total price shall include all costs related to service provision including applicable taxes.

**Note:**

Templates of all Information is provided on Application form available at WWF-Website. Any Additional Information related to the RFP can be attached along with application Form.

## 10) FINANCIAL PROPOSAL

The proposed prices shall be provided in PKR, the total price shall include all costs related to service provision including all Direct and Indirect taxes, Travel, Boarding & Lodging shall be based on actual receipt up to max Ceiling (If Any).

The consultant will submit the cost of the assignment in a lump sum, including all applicable taxes according to the Government of Pakistan and the Government of KP

**The Payment Term:** shall be defined by the contract to be concluded between WWF -Pakistan and the consultant.

## 9) EVALUATION PROCESS

## 11) EVALUATION PROCESS

Applicant's proposal shall be evaluated based on Quality and Cost Based Selection (QCBS) method. Under QCBS both technical and financial proposals shall be evaluated as per following criteria against a maximum score of 100 points.

- A) Technical Proposal (70%)
  - Detailed workplan
  - Expression of interest (EOI)
  - Company's Profile
  - Detailed methodology
- B) Financial Proposal (30%)
  - Detailed financial proposal which should be inclusive of all applicable taxes and out of pocket expenses. The financial proposal should follow a breakdown structure i.e., specifying cost(s) to each head and subhead
  - Company's registration certificate
  - NTN detail(s)
  - Any legal or technical certification required for the task
  - Audited Accounts Report (if available) of last FY

Note: Late/ incomplete submissions will not be accepted. Only three (03) top-ranked firms will be included in the comparative process.

## 12) DOCUMENTATION AND CONFIDENTIALITY

### DOCUMENTATION AND CONFIDENTIALITY:

All documents completed based on requirements of the present RFP shall be the property of the WWF-Pakistan, and shall not without the consent of the WWF-Pakistan be used, reproduced or made available to third parties beyond what is necessary in respect of the fulfilment of the Project. All documents issued and information given to the BIDDER shall be treated as confidential.