



TERMS OF REFERENCE

Review and update existing baseline studies (social, economic, ecological, environmental, market, risk) of key areas of the Indus Delta Ecoregion Landscape which includes Ketī Bunder & Khārō Chann, Keenjhar Lake, Manchar Lake, Nara Canal, and Chotiari Reservoir in Sindh.

1. INTRODUCTION

Project Title: DFCD Discover Phase – [Indus Delta Ecoregion Landscape – Pakistan]
Contract type: Consultancy Services (Desk and Field based)
Duration of assignment: November 2020-January 2021

Established in 1970, World Wide Fund for Nature-Pakistan (WWF-Pakistan) is the largest conservation non-governmental organization in Pakistan. WWF-Pakistan works *inter alia* with local and indigenous communities, national and provincial governments, civil society, international organizations, industries, and corporate entities, and is committed to the conservation of the country's rich biodiversity, sustainable use of natural resources, and climate change mitigation. WWF-Pakistan further focuses its efforts in seven (7) different practice areas, which includes wildlife, freshwater, oceans, climate change & energy, forests, and food & markets. As part of the global WWF Network, which has an active presence in around a 100 (hundred) countries, WWF-Pakistan, with a Head Office in Lahore and more than 25 offices across Pakistan, has a presence in all provincial capitals, as well as considerable outreach in targeted field sites, protected areas, and other key ecological sites. The organization has over 250 employees, among which the professional staff includes zoologists, biologists, foresters, freshwater experts, agriculturists, sociologists, environmental economists, and GIS experts.

2. BACKGROUND

Launched in December, 2019, the Dutch Fund for Climate and Development (DFCD) is managed by a pioneering consortium of **Climate Fund Managers (CFM)**, **World Wide Fund for Nature Netherlands (WWF-NL)** and **SNV Netherlands Development Organisation**, led by the Dutch Entrepreneurial Development Bank (**FMO**) and supported by the **Ministry of Foreign Affairs of the Netherlands**.

The DFCD consortium aims to serve as a leading example for institutional partnerships, to attract and deploy public and private capital in well-designed and impactful climate-friendly projects. The consortium connects the long-standing project development expertise of SNV Netherlands Development Organisation and WWF-NL to the capital raising and investment capabilities of Dutch Entrepreneurial Development Bank (FMO) and Climate Fund Managers.

In late 2019, WWF-Pakistan submitted the Indus Delta Ecoregion as potential landscape before the DFCD, and was subsequently chosen out of 61 submissions. The Indus Delta Ecoregion hence is among the first few Landscapes to be selected by the DFCD to pilot and develop what it terms as "Bankable Projects", that is conservation projects that have the ability to be financially self-sustaining i.e. investment based conservation.

The idea behind investment based conservation is to move away from the grants-based model to a type of self-sustaining, for-profit model for conservation projects. Moreover, it is to establish and forge partnerships with the private sector who would be willing to invest and pilot in such conservation projects. Moreover, this type of approach looks at conservation at the landscape level. Despite numerous studies having been conducted in various landscapes to identify and assess environmental pressures, vulnerabilities, poverty-environment linkages, and natural capital, most of these have been limited in scale and scope to a few sites and do not look at the landscape as a whole.



Therefore, the Landscape Approach provides a platform to integrate conservation, sustainable use and where necessary restoration across a whole landscape mosaic to sustain biodiversity and ecosystem services, whilst ensuring room for subsistence and commercial activities.

For this purpose, socio-economic and ecological studies and market-assessments are key in to establishing a comprehensive baseline of the landscape to help identify and evaluate the potential of bankable projects.

3. INDUS DELTA ECOREGION LANDSCAPE

The Indus Delta Ecoregion (924470 hectares) has been ranked 40th amongst the G200 most biologically rich ecoregions in the world. The Indus Ecoregion covers approximately 65% of the province of Sindh, while a small north-western part of the ecoregion extends slightly into Balochistan. Located in a semi-arid environment, the ecoregion harbors riverine forests along the Indus River, wetlands, mangrove forests in the coastal areas, and desert ecosystems occupy the periphery of the ecoregion. WWF-Pakistan has been working in the Indus Delta Ecoregion for almost two decades and has undertaken a number of studies including socioeconomic and ecological baselines under various projects. These baseline studies need to be updated and aligned as per the scope of DFCD Landscape Project.

Areas: The project will focus five priority areas of the Indus Ecoregion Landscape including (i) Keenjhar Lake and surrounding areas in Thatta District; (ii) Chotiari Reservoir and surrounding parts in Sanghar District; (iii) Nara Canal and surrounding communities in Khairpur District; (iv) Manchar Lake and surrounding communities in Jamshoro District; and (v) Ketu Bunder and Kharo Chann including surrounding communities in Thatta and Sajawal Districts respectively.

4. PURPOSE AND OBJECTIVE OF BASELINE STUDY

To conduct a desk-review of existing literature and baseline studies for gap identification including geographic coverage of the previous work for the planning of subsequent survey to update baseline data on the existing status of the Indus Delta Ecoregion Landscape. This will help in planning and conducting subsequent research studies critical for the updation of existing baselines on the state of various components of the Indus delta landscape. The baseline study will also help to map the potential bankable project intervention sites. This consultancy therefore requests technical and financial proposals from most suitable individuals and firms to review and update existing socio-economic and ecological studies and market assessments to establish a reliable baseline for the Indus Ecoregion Landscape in Sindh, Pakistan.

5. KEY OUTPUTS/ DELIVERABLES

The following deliverables/outputs are expected from the firm/consultant:

- a) The firm/consultant shall submit an inception report after signing of the agreement detailing on the survey methods, tools and work plan. Further it should include following as well;
 - i. Review existing available baselines studies to identify gaps and prepare a gap analysis report;
 - ii. Develop survey proposal (brief concept) includes problem statement, research questions, conceptual frame of the research;
 - iii. Develop final survey proposal which includes introduction, literature review and methodology including five areas/communities and get consultation from Programme Management team (WWF-Pakistan) if need be;
 - iv. Prepare schedule for field work.
- b) Presentation of the key findings to the project team of WWF-Pakistan;
- c) Prepare and submit a draft baseline report covering all five sites and answer to requirements linked to specific socio-economic and ecological and market aspects in the Indus Delta Ecoregion Landscape context;



- d) The consultant shall submit a final report in both hard copies and electronic copies along with all survey data (in Excel or SPSS compatible formats), transcripts of the FGDs, photographs and ethical approval etc. The draft report is expected from the consultant before final report. The report will be written in simple English language and must be comprehensive. Reference will be cited after each important facts and figures. The final report should be edited by professional incorporating all comments and corrections if any. Completed checklists, questionnaires, case stories, quotes, photos have to be submitted to WWF-Pakistan;
- e) Based on the study findings, develop an investment-ready portfolio (minimum 3) of technically sound and economically viable climate change concepts (includes agro-forestry, processing schemes and supply chains and food security etc.) at the Indus delta ecoregion scale defining the potential role of private sector's involvement/ engagement.

6. ACTIVITIES

- Review of existing baseline studies to identify gaps;
- Preparation of survey methodology;
- Preparation of list of villages / geographical coverage (sample size should realistically be accommodated within the available budget);
- Selection of approach, tools and methods of survey;
- Preparation of questionnaires;
- Pre-testing of questionnaires and training of enumerators;
- Conduct of field survey including community and household level assessment, structured interviews and data gathering with key informants (KI) and focus group discussions (FGDs);
- Data compilation and organization (including writing up of KI and FGDs);
- Data decoding and statistical analysis (guidelines will be provided on the format required for the raw datasets and policies governing their use);
- Integrating qualitative and quantitative analysis;
- Report writing.

7. THE SURVEY MUST COVER BUT IS NOT LIMITED TO FOLLOWING INDICATORS:

Socio-Economic:

- Human Capital: Detailed profile of education levels in both male and female, technical skills including computer, leadership potential and health status. Nutritional level, food intake and sources. Development of a Human Development Index (HDI) using UNDP methodology;
- Natural Capital: access to land, possession of livestock, access to forest, availability of water, access to fish resources, access to biodiversity, soil fertility, water quality etc.;
- Physical Capital: Availability of schools, health centers, water & sanitation facilities, roads, transport, shelter, clean & affordable energy and source of information. May include farm equipment;
- Social Capital: formal community organizations, networks, connectedness, relationship of community trust, level of cooperation enjoyed;
- Financial Capital: Saving, household assets easily convertible to liquidity, transfers from state, remittances, access to credit.

Ecological/ Environmental:

- Develop a comprehensive list of all aquatic and terrestrial species (Flora and Fauna) and its associated risks and vulnerabilities, impact of climate change and identify commercially important terrestrial and aquatic species;
- The study will also suggest the species that are under immense human pressure, causes and its alternative means to mitigate and reduce pressure on the existing resources;



- The study will identify type of harmful nets; its number and impacts on the freshwater and marine biodiversity at village level and will recommend use of alternative fishing gears that less harmful but could not affect the livelihood of fishers, willingness of adoption alternative gears;
- Review and compile baseline surface hydrological conditions, baseline ground water conditions, baseline of water quality levels in the project priority areas;
- Analyze data to identify water quality (for drinking water sources) contaminants of concern, levels and extent of contaminating to determine ambient conditions, trending and cause/effect relationships for each area;
- Analyze soil quality of agricultural/ forestry sites (natural), afforestation including agro-forestry areas and identify new suitable areas;
- Climate change impact on the agriculture and fisheries resources – changing patterns of agriculture and fishing;
- Impact of reduced freshwater flow on the agriculture and fisheries in the Indus Delta Ecoregion;
- Impact of climate change vulnerability on the livelihood and health of the local community and suggest its mitigation measures and adoption;
- Environmental impacts and vulnerability assessment of natural and anthropogenic activities on the identifies areas of Indus Delta Ecoregion.

Market:

- Identify existing market access and supply chain mechanism of the local community for agriculture, fisheries and forests related products and suggest improvements;
- Identify potential seasonal and non-seasonal commodities (agriculture, fisheries, etc) and value chain addition and community willingness for adoption;
- Identify threats and challenges faced by local communities in supply chain of their products;
- Identify existing community cooperatives for agriculture and fisheries business like farmer's/ fishers networks or associations and document the challenges and opportunities.

8. GENERAL CONDITIONS

- All tasks under the contract shall be carried out as required by and to the satisfaction of Project Management Team;
- The contract may be terminated by Project Management Team through written notice in the event of breach of any condition of the ToRs;
- All reports, reference material data, collected under this assignment and papers written including field samples and photographs prepared under the contract shall be the property of the Project and shall not be used, published or distributed by the Consultant without the prior written permission of the Project Management Team;
- The field expenses including boarding, lodging, traveling, porter service and photocopying of the reference literature cited for the project office record as desired etc. will be borne by the consultants.

9. REQUIREMENT FOR EXPERIENCE AND QUALIFICATION

Minimum Requirement:

The consultant/firm should have expertise in carrying out baseline survey and prior experience of working in the aforementioned areas (Indus Delta Landscape) region. The consultant/firm should have good experience on participatory research methods and tools. S/he should have competency in managing and organizing and interpreting quantitative and qualitative data and information. The



consultant (s) shall also have cultural awareness and sensitivity to gender issues. The consultant(s) should have the following academic qualification and experiences:

- Team leader should have minimum Master's Degree in social/environmental studies or any other developmental field with minimum 10-years experiences in undertaking similar type of studies;
- Firm/Team members should have relevant experiences in their respective areas with 10 year experiences including field level data collection and qualitative research in similar type of studies;
- Firm/Consultant(s) should have comprehensive understanding of the tools development and draw the information from the baseline data and analytical report writing skills;
- Ability to be mobile and available for the duration of the survey independently;
- Good written and verbal communication skills;
- Language capabilities: Good in English writing and local language (Sindhi language would be an additional advantage).

Competencies:

- Demonstrates openness to change and ability to manage complexities;
- Demonstrates ability of analytical work and excellent report writing;
- Proactive and able to work with minimal supervision and high degree of initiative, reliability, flexibility, motivation, and resourcefulness;
- Professionalism: flexibility to make ad-hoc changes as and when the need arises; ability to perform under stress; willingness to keep flexible working hours.

10. DOCUMENTS TO BE INCLUDED WHEN SUBMITTING THE PROPOSAL

Interested individual consultant(s)/consultancy firm(s) is/ are expected to submit the following documents/information to demonstrate their eligibility:

- Technical Proposal: (i) Explaining why they are the most suitable for the work; (ii) Provide a brief methodology on how they will approach and conduct the work;
- Detailed work plan;
- Curriculum Vitae (indicating contacts on reference persons from at least three former employees/contractors);
- Former evaluation reports or other analytical outputs drafted by the applicant(s);
- Financial proposal (including fee, travel cost (if any), and other relevant expenses).

11. WWF-P PROJECT TEAM COMMITS ITSELF TO:

- Prepare and agree on a work-plan with the Firm/Consultant(s)
- Provide support with implementing the data collection.
- Coordinate with the Firm/Consultant(s)
- Provide requested documentation to Firm/ Consultant(s)

12. TIMETABLE

Timeline	Deliverables/Output	Comments
By 5 Dec 2020	Desk research	The firm/consultant will do desk research to get clear picture of baseline research including the gap analysis of available baseline studies.
By 10 Dec 2020	Finalizing baseline questionnaire	Based on the gap analysis, a detailed questionnaire will be devised, reviewed and



		adapted based on shared goals and intended outcomes.
By 10 Dec 2020	Outline the process of baseline (Training/Meetings with data collectors)	The firm/consultant will outline the process of baseline and deliver the baseline plan to project manager WWF-Pakistan.
By 30 Dec 2020	Field Research, coding questionnaires and data entering	The firm/consultant will conduct field surveys, organize data entry, coding and data analysis.
By 5 Jan 2020	Presentation of the findings, Consultation, feedback collection, refine report, incorporating in the report	The baseline findings should be supported and validated with raw-data collected during field survey and in consultation with key staff of the project.
By 12 Jan 2020	Reporting process	The firm/consultant will submit to project manager draft of the baseline report and incorporate comments shared by WWF-Pakistan project team.
By 20 Jan 2020	FINAL Baseline Assessment Report	The final baseline assessment report will be delivered to WWF-Pakistan in electronic format, in English, by January 20, 2021, at latest.

The Consultant will be engaged in the period from **November 20th to January 20th, 2021**, about 40 working days.