

**OUTLINE OF TORs &  
INSTRUCTIONS FOR CONSULTING FIRMS**

**For Submission of**

**EXPRESSION OF INTEREST**

**“Consultancy Services for feasibility studies of additional Irrigation schemes”**

**Under Proposed Balochistan Integrated Water Resources Management  
and Development Project**

**June 2022**

**GOVERNMENT OF BALOCHISTAN**

## **PART-I**

### **BALUCHISTAN INTEGRATED WATER RESOURCES MANAGEMENT AND DEVELOPMENT PROJECT**

#### **OUTLINE OF TERMS OF REFERENCE FOR CONSULTANTS FOR FEASIBILITY STUDIES OF IRRIGATION SCHEMES**

##### **1. PROJECT BACKGROUND AND INTRODUCTION**

The economy of Balochistan is agriculture based. In fact, in the province, the situation is more concentrated to agriculture and livestock rearing as the other sources of livelihood are limited. Agriculture is, therefore, the lifeline of the economy of the province. There is no dearth of arable land in Balochistan but acute shortage of irrigation water is the basic problem in development of agriculture according to needs. There are negligible small valleys where the limited surface perennial flow in streams is source of irrigation. Climatically Balochistan is arid and the rainfall is scanty. The major proportion of streams in the province is dry, there is no flow in these streams except the run-off but unfortunately, this run-off escapes waste due to absence of adequate irrigation arrangements. The main concern of the Government is maximally utilizing the run-off either by conservation in reservoirs or through the flood irrigation.

The Government of Balochistan has obtained a credit (No. 5885-PAK) from the World Bank for implementation of the Balochistan Integrated Water Resources Management & Development Project (BIWRMDP). The BIWRMDP Project is being implemented by the Government of Balochistan through the Balochistan Irrigation Department with support from other government departments and various consultants.

The BIWRMD Project intends to carry out the feasibility studies of additional Irrigation schemes through the saving from the BIWRMD Project.

The detailed study will provide all necessary aspects covering;

- (i) Detailed feasibility studies for four (04) irrigation schemes in table 1 with necessary technical design and tender documents for implementation, and
- (ii) A detailed design and construction planning/supervision arrangement modality on the improved irrigation efficiency for optimal operation and utilization of water management in the given schemes command areas.
- (iii) Detailed Social and Environmental assessment studies for the proposed schemes.

The detailed feasibility report will include all necessary aspects covering technical, institutional and economics, social/environmental assessments, procurement and financial management etc. required for approval by the Government and the international funding institution, the World Bank.

##### **1.1 Objective:**

The main objective of the consulting services is to arrange a detailed feasibility study of four (04) irrigation schemes given in table 1 for the rehabilitation/improvement for the overall irrigation efficiency improvement of the schemes.

The list of schemes for carrying out feasibility studies has been endorsed by the Project Steering Committee in its meeting held on 11<sup>th</sup> January, 2022. The Project intends to hire the consultants for about twelve (12) months, to provide the services described in these Terms of Reference. Table 1 gives the details of the Projects.

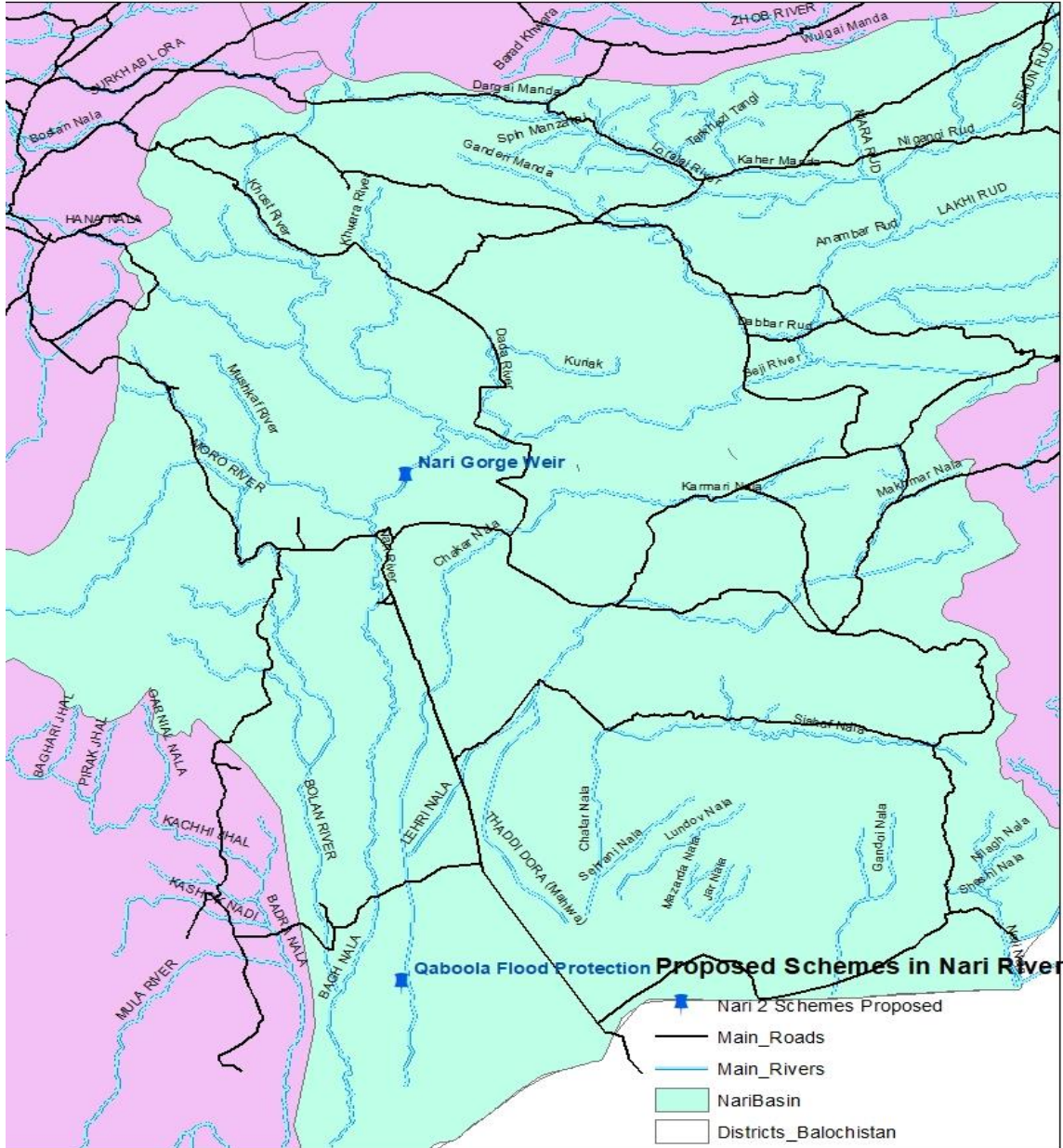
**Table 1: Name of Proposed Schemes**

<b>Sr. Nr.</b>	<b>Name of Scheme</b>	<b>RIVER BASIN</b>
1.	Feasibility Study of Qaboola Flood Protection Scheme/ Flood Dispersal Structure Including Construction of Wazir Minor, Murad Minor and Muheem Minor and related Watershed & Rangeland management works and Command Area Development Works	Nari
2.	Feasibility Study for Titian Flood Irrigation Scheme in Porali River Basin	Porali
3.	Feasibility Study & Detailed Design for Rehabilitation/ Remodelling of Nari Gorge Weir.	Nari
4.	Feasibility Study for Flood Protection along both banks of Porali River	Porali

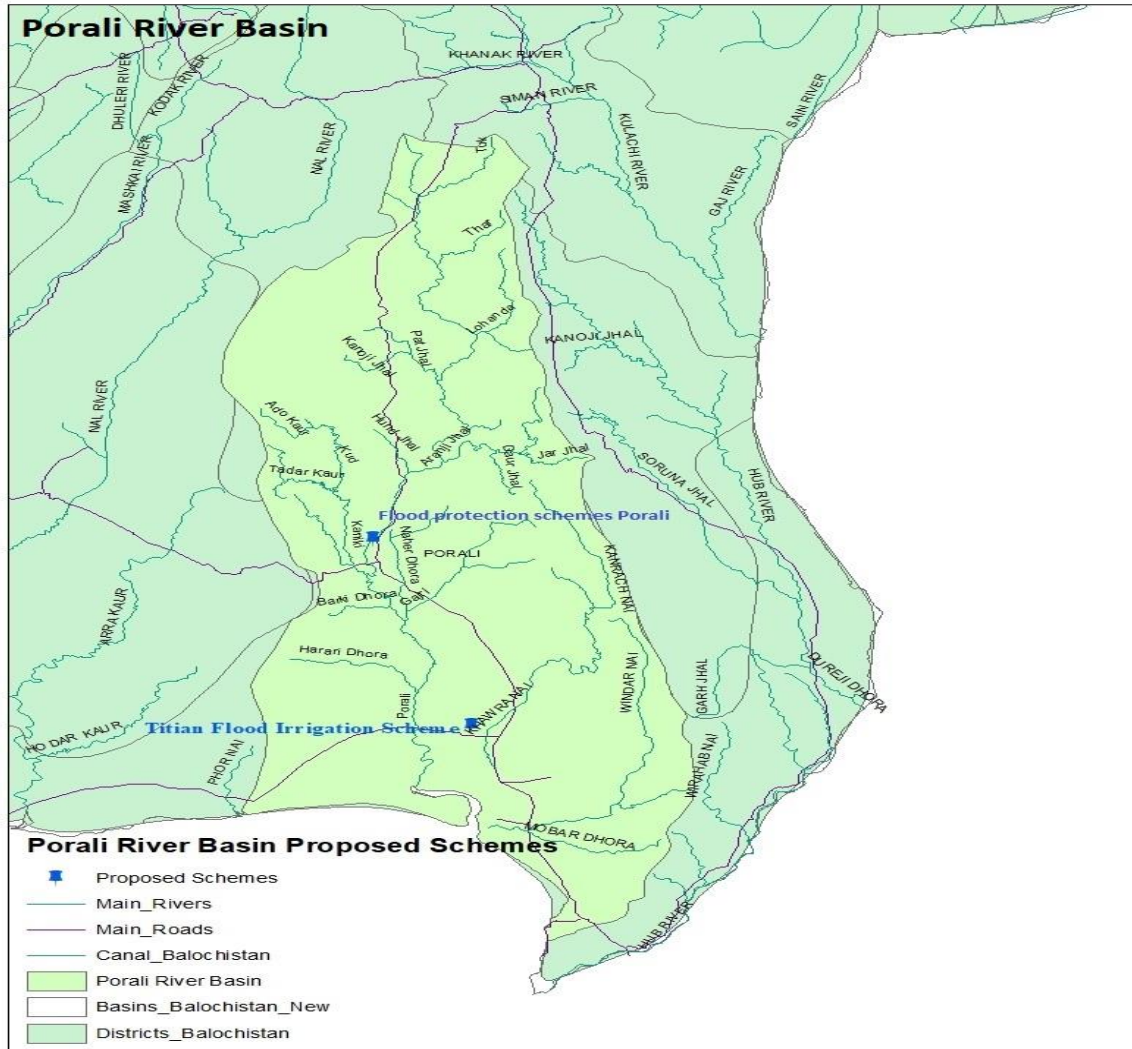
## **1.2 Location Of The Proposed Schemes (Basin Wise):**



# Nari River Basin



**Figure-1.** Map shows the location of Two No. of Schemes falling in the Nari River Basin, Balochistan



**Figure-2.** Map shows the location of Two No. of Scheme falling in the Porali River Basin, Balochistan

## 2. SCOPE OF SERVICES

The Irrigation schemes feasibilities would be carried out in comprehensive and detail analysis with a detailed feasibility study according to the international standards, which will form the basis for project appraisal by International Financial Institution (the World Bank) and the Government of Balochistan, which will cover design of major works and tender documents to be implemented under the project.

The consultants with the assigned task would be responsible for carrying out detailed feasibility studies of the Projects and services, which would include, along with other things, the following responsibilities.

### 2.1 Collection of Data

Consultant shall collect available primary and secondary source data related to the study, as well as documents and recommendations of previous studies carried out for each of irrigation scheme listed in table 1, as well as discussions with relevant organizations, international and NGOs, covering the concept and options of the tasks, if necessary, and criteria for future operation.

## **2.2 Review of Data**

Consultant shall review all the data collected through previous feasibility studies, such as rainfall and stream flow data, climatic and weather data, topographic data, demographic data or any other data deemed necessary for the feasibility study. Examine and study all of the major structures in the proposed schemes, as well as the irrigation and/or water distribution systems that are associated with the system. Collect data and information for each major irrigation scheme on water availability, command area, cropping patterns, cropping intensity, water logging, salinity and alkalinity, type of soil texture and structure. It should also give insight on the effectiveness of existing perennial and flood irrigation systems, agricultural outputs, and farmer income.

## **2.3 Additional Data Collection**

The Consultants shall collect all additional data for the assessment of the limitations of the existing perennial and flood irrigation systems, as well as potential irrigation system enhancement measures including metrological data, groundwater data, agricultural data, soil quality data, water quality data, and so on, all of which are required for conducting feasibility studies and designing project components.

## **2.4 Collection of Baseline Data for Future Performance**

Collection of baseline data including agriculture, social, environmental and groundwater, soil quality, water logging & salinity and drainage for future monitoring of the impact of Schemes.

## **2.5 Investigations, Surveys and Analysis**

The investigations will include and not limited to the following

- Topographic Surveys, Geo-technical Investigations, Base Line Environmental and Monitoring Survey, Hydrology Studies and other studies of each proposed site which are essentially required for detail designing of a safe, technically reliable, and economically viable structure.
- Determination of foundation characteristics for design of hydraulic structures. This will be carried out through drilling and geophysical survey.
- Identification of the borrow areas for construction of associated structures and other characteristics of the soil.
- Evaluation of strength parameters by visual observation and testing in laboratory of foundation and construction material; soil profile survey of the cultivable command area for carrying out land classification survey in the command and ascertaining soil suitability for different crops.
- Prepare a Baseline Report pertaining to Environmental and Social conditions in the before-Project status of the project-affected areas. The baseline should include quantifiable indicators that allow to monitor environmental and social effects during project's implementation and during project's operation.
- Impact on Socio-Economic life of communities located at scheme sites, command areas and lower riparian.

- Detailed command area development, agriculture and soil studies to forecast the proposed cropping patterns based on water availability and crop water requirements.

## **2.6 Detailed Feasibility and Design of Proposed Schemes.**

Based on all reviews, data collection reports, technical investigations, surveys and analysis the consultant shall carryout the detailed feasibility study and design for each of the proposed schemes which will include but not limited to:

- Preparation of detailed feasibility studies for the proposed project interventions which would include technical/engineering studies, hydrological study, soil study, hydro-agronomical study and structural analysis, institutional and economic/financial analysis, and comprehensive environmental and social impact assessments including preparation of a Resettlement Action Plan if needed;
- Detailed designs of all works proposed to be undertaken under the project considering least cost options for works that could perform effectively for a long time with low and robust operation and maintenance (O&M) suitable for the local condition;
- Investigations including borrow material investigations, Laboratory testing of soil and water for the selected schemes;
- Preparation of detailed design, cost estimates including Bill of Quantities and Tender Documents based on detailed design for each of the proposed schemes.
- Preparation of financial and economic analyses;
- Preparation of land acquisition and resettlement plans, if required;
- Preparation of PC-I proforma as per guidelines of Planning Commission;
- Establishment of baseline for monitoring the indicators as well as intermediate indicators for project implementation and assessment methodology to measure impacts;
- Preparation of a Plan for Agriculture improvement and development in the scheme areas;
- Preparation of a Plan for Watershed & Rangeland Management for improvement and development of forestry related activities in the scheme areas;
- Preparation of construction planning/supervision arrangement modality; and
- Preparation of feasibility studies, detailed designs and bidding documents of all the projects given above.

## **2.7 Environment and Social Safeguards Management**

The consultant shall be required to prepare Environmental and Social Safeguards Assessment aligned with the Project's Environment and Social Management Framework (ESMF).

- Conduct environmental and socio-economic surveys,
- Preparation of environmental and Social Assessments including preparation of a Resettlement Action Plan if needed; The consultations for the RAP would have been carried out in the Project area and all procedure would be followed according to the existing GOB and World Bank guidelines.

- Identify and assess impacts of the proposed intervention on the environmental and social receptors, and propose relevant mitigation measures according to the mitigation hierarchy.
- Prepare ESMP/ IEE / ESIA / EMMP of each site in accordance with the ESMF of the project, and in line with Government of Pakistan/ Government of Balochistan regulations and laws, and World Bank guidelines, and will get approval for each document and package from Balochistan Environment Protection Agency and Balochistan Forest & Wildlife Department.

## **2.8 Operational and Maintenance (O&M) Plan**

The Consultants are required to submit the O&M plan. The contents of O&M plan shall include:

- Details of the project Operation instructions pertaining to dry and flood periods, including flood forecasting.
- Maintenance program for the civil works, access roads, and wells; planned maintenance schedule.
- Surveillance program including visual surveillance, piezometer monitoring, and expert inspections.
- Long term asset management including sediment surveys and sedimentation management measures.
- Emergency preparedness in case of sudden release of water from the weir.

## **2.9 Financial and Economic Analysis**

As first step for financial and economic analysis, all benefits and costs of the project shall be assessed. Irrigation benefits shall be calculated as difference between ‘with project’ and ‘without project’ situations. Benefits shall be calculated in financial and economic terms. After the preparation of cost estimates, the concerned expert shall compose cost and benefit streams over the project life, and compute the economic internal rate of return and the net present worth of the project. Sensitivity of results shall be tested for changes in major parameters such as engineering cost estimates, expected years of service, projected yields, product prices and discount rates. The analysis shall establish whether the project is economically viable or not.

## **2.10 Preparation of Bill of Quantities and Estimate**

Based on the design, bill of quantities for the proposed schemes and related project components will be prepared and cost estimate prepared on the basis of market rates and compared with the Government of Balochistan, Schedule of Rates 2018 with approved premium as well as present market rates.

## **2.11 Final Feasibility Report and PC-I**

Based on the preceding activities Consultant shall prepare a Detailed Feasibility Report. The report shall include proposed mitigations for potential environmental and social impacts and its indicative budget. Based on the feasibility study the consultant shall submit PC-I for the assignment as per guidelines and specifications of Pakistan Planning Commission.

## **2.12 Bidding Documents & Engineer’s Estimates**



The Consultant shall prepare and submit complete Bidding Documents of the assignment as per World Bank Procurement Regulations November 2020. The document shall include Instructions to Bidders customized and contextualized through Bid Data Sheet, Eligibility, Qualifications and Experience Criteria, General Conditions of Contract customized and contextualized through Special Conditions of Contract, Bid Forms, Bill of Quantities and Technical Specifications, and other sections as warranted under World Bank requirements. Engineer's Estimates will be prepared on prevailing market rates.

## **Part-II**

### **(General Instructions)**

1. The PMU BIWRMDP, GOVERNMENT OF BALOCHISTAN invites eligible consulting firms/ Joint Venture(s) with specific and proven competence and experience to indicate their interest in providing the services. Eligible firm(s) should submit Expression of Interest (EOI) in English language along with relevant complete details of the qualification and experience requested under Part-II.
2. Interested consulting firm(s)/ Joint Venture(s) must provide information indicating that they are qualified to perform above services (e.g. descriptions of similar assignments, value of previous assignments, experience under similar conditions, availability of appropriate professionals etc.).
3. In accordance with World Bank Guidelines, an association of consultants can take either be in the form of joint venture (JV) or a subcontract (sub-consultancy). Therefore, the consultant submitting their Expression of Interest in association should clearly mention whether their association is a Joint Venture or Sub-consultancy. Moreover under JV, each partner has to be reasonably qualified to take over the responsibilities and role of any of the partners in case one of them fails to perform or withdraws. Thus, the experience of all the firms in the JV will be considered for evaluation. In case of Sub-consultancy association, the Lead Firm must be clearly mentioned in the EOI.
4. A consulting firm(s)/ Joint Venture(s) will be selected in accordance with the procedures set out in the World Bank's World Bank's Guidelines: Selection and Employment of Consultants by World Bank Borrowers [January 2011 (Revised July 2104)] . The selection of the consultants will be selected in accordance with Quality and Cost Based Selection (QCBS) method set out in the World Bank's Guidelines: Selection and Employment of Consultants by World Bank Borrowers January 2011 revised (July 2014) [www.worldbank.org/procure](http://www.worldbank.org/procure).
5. The consultant should ensure that all submitted information is correct. An EOI containing significant omissions/errors may not be considered. An EOI with mis presentation of facts may be rejected at any stage till award of assignment
6. If the EOI consists of more than one volume, the applicant must clearly number the volumes constituting the EOI and provide an indexed table of contents for each volume. All documents should be securely bound.
7. Guidelines for Selection and Employment of Consultants by World Bank Borrowers can be perused at the website: [www.worldbank.org/procure](http://www.worldbank.org/procure).

### PART-III

#### (ESSENTIAL INFORMATION REQUIRED TO BE PROVIDED BY CONSULTING FIRM)

- i. Name, address, Phone, Fax and E-mail address along with postal and telegraphic address for the head office, branch offices and contact personnel.
- ii. Certificate of Registration of the firm as Legal Entity.
- iii. Firm(s)/ joint venture(s) name, address, copy of the Registration Certificate with relevant professional bodies of the concerned Government, supported by latest/ updated renewal, Country of Operations (if the firm is registered and operating in several countries). Memorandum/ Article of Association/ Partnership Deed or Joint Venture Agreement (if applicable) etc;
- iv. Names and short profiles of principals, proprietor, managing director, partners and directors, including their individual copy of the Registration Certificate with relevant professional bodies along with updated renewal.
- v. Details of the technical personnel available with the firm either as permanent staff or retainer consultants with their indicative qualifications and expertise, briefly. **Staff CVs are not required at this stage**
- vi. Sound financial position with documentary evidence in the form of last three years audited financial accounts' statement of the firm/joint venture members.
- vii. National Tax Number of the firm/joint venture/consortium members.
- viii. Data Sheets of relevant (similar and specific experiences) assignments/works, duly substantiated, by the firm(s)/ Joint Venture(s) members either completed or in progress, with the following details for last Ten (10) years. The Consultants should have successfully completed at least two assignments of similar scale and complexity.
  - a. Name of the Project
  - b. Cost of the Project
  - c. Name and address of the Client
  - d. If case of association of Consultant(s), the type of association i.e. either JV or sub-consultants be mentioned clearly along with names and address of all the partners.
  - e. Consultancy services rendered along with the Start & Completion Date.
  - f. A firm, which was a partner in a previous joint venture(s), should furnish a statement providing details of work, component of works performed individually and its over-all share (percentage) in the works performed by the joint venture.
- ix. Any additional documents to support relevant experience of firm(s)/ Joint Venture(s);
- x. List and status of litigation/arbitration by the firm or any member of the joint venture(s) against a client, if any.

- xi. A Certificate/Affidavit from all the participating partners of the association confirming that: (a) applicant firm(s)/ joint venture(s) have never been **blacklisted** by any International, Government/ Semi Government Organization and (b) All the information provided by the applicant firm(s)/ joint venture(s) is correct.

Any further information/clarification may be sought.

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