

KYRGYZ REPUBLIC

**CLIMATE-RESILIENT WATER SERVICES PROJECT IMPLEMENTATION
UNIT**

**WATER RESOURCES SERVICE
MINISTRY OF WATER RESOURCES, AGRICULTURE AND PROCESSING
INDUSTRY OF THE KYRGYZ REPUBLIC**

TERMS OF REFERENCE AND SCOPE OF SERVICES

**LOCAL HYDRAULIC ENGINEERING CONSULTANT FOR THE WRS DAM AND
LEVEE AUTHORITY UNDER THE MINISTRY OF WATER RESOURCES,
AGRICULTURE AND PROCESSING INDUSTRY OF THE KYRGYZ REPUBLIC**

1. BACKGROUND

The Water Resources Service under the Ministry of Water Resources, Agriculture and Processing Industry of the Kyrgyz Republic (hereinafter referred to as WRS), through the Project Implementation Unit (PIU), carries out the Climate-Resilient Water Services Project (CRWSP), which is funded by the International Development Association.

CRWSP

The project development objectives are to (i) increase access to climate-resilient water services in selected river basins and (ii) strengthen institutional capacity for climate-resilient water management at local and national levels.

Sub-component 2.4 Dam Management. This subcomponent finances services and equipment needed to establish dam management in the country. Within the framework of the subcomponent, support is provided for the implementation of activities for:

- (a) creating a dam management unit within the WRS, which will be tasked with overseeing the management of dams throughout the country.
- (b) developing guidelines for the development of dam management plans.
- (c) developing dam management plans for four dams located in the KSA river basin (Papan, Naiman, Tortgul and Bazar- Korgon).
- (d) development of a dam information module as part of the Digital Water Information System. The subcomponent will finance the acquisition of equipment to enable innovations in remote dam monitoring, such as unmanned aerial vehicles (drones) and remote sensing.

Activities under this subcomponent will improve the resilience of dams to floods and droughts and related services, including low carbon hydropower generation.

This subcomponent aims to strengthen the capacity and institutional structure of WRS staff and operators overseeing dam management to identify and address any problems. This subcomponent supports climate adaptation, as dam management inherently involves the management of climate risks (floods and droughts), and therefore the expected improvements will help organizations to better plan for and respond to these risks. This subcomponent will support various activities to modernize institutions and information for dam management.

- **The first** main activity within this subcomponent is *the creation of a framework for dam management*, including creation of a dam management unit within the WRS, which will be entrusted

with supervisory functions and responsibilities and overall guidance for the management of dams throughout the country. The creation of this unit will require staffing and a team of three experts, including one international expert, in accordance with the requirements of the Water Code. The Dam Management Unit will act as a conduit for organizing national knowledge on dam management, attracting international experience and know-how, and collaborating with international organizations (such as ICOLD, International Commission on Large Dams (ICLD)).

- **The second** group of activities is aimed at *developing guidelines for dam management plans* and their application at dams throughout the Republic. The subcomponent will finance services and equipment to develop dam management guidelines based on international best practices and built on existing World Bank approaches, including “Extending the Life of Reservoirs. Sustainable Sediment Management for Dams and River Hydroelectric Power Plants”. This activity will establish systems to improve the development and implementation of dam management plans, including identifying funding needs for dam management.

- **The third** group of activities is aimed at building on the dam management manual, the subcomponent will finance *the development of dam management plans for four dams* located in the KSA basin (Papan, Naiman, Tortgul, Bazar-Korgon, and Orto-Tokoy (Kasan-Sai)).

-**The fourth** group of activities is aimed at *integrating information on dam management* into the existing DWIS. To further exploit the potential of the DWIS, this sub-component will develop a dam management information module in the Digital Water Information System and finance the acquisition of equipment to implement innovations in the field of remote monitoring of dams, such as unmanned aerial vehicles (drones) and remote sensing.

2. PURPOSE AND OBJECTIVES OF THE ASSIGNMENT

The purpose of the assignment of the Local Hydraulic Engineering Consultant for the WRS Dam and Levee Authority (hereinafter referred to as the Consultant) is to provide advisory support for the establishment of the WRS Dam and Levee Authority on hydro-technical constructions, as well as providing analysis, development and promotion, issuance of regulatory legal acts, manuals/strategies, instructions, memoranda, contracts for the implementation of the activities of Component 2.4 within the framework of the CRWSP, with an emphasis on legislation and regulations in the field of water resources.

3. SCOPE OF SERVICES AND RESPONSIBILITIES

The Consultant's responsibilities will include, but will not be limited to, the following:

1. The Consultant shall provide support to the WRS for the establishment of the Dam and Levee Authority in the WRS (preparation of technical papers and other documents);
2. The consultant shall provide support to the Water Resources Service; dam operators and the PIU, including: (a) preparation of guidelines for the development of dam management plans (regarding the hydraulic structures); (b) development of dam management plans for the four dams located in the KSA River Basin (Papan, Naiman, Tortgul and Bazar Korgon); and (c) development of a dam information module within the UWIS, including the introduction of remote sensing tools for dams and related functions. Activities under this task should contribute to improving the resilience of dams to floods and droughts and related functions, including low-carbon hydropower generation. This activity supports adaptation to climate change, as dam management includes climate risk management (floods and droughts).
3. The Consultant shall develop recommendations, technical requirements for hydraulic structures for dam management in accordance with the national and international standards of the KR;
4. The Consultant shall carry out an engineering hydraulic survey of the current condition of irrigation facilities to prepare an analytical report on the dams located in the KSA basin (Papan, Naiman, Tortgul, Bazar-Korgon) and submit it to the PIU and WRS;
5. The Consultant will assist in developing a policy for the dams and hydraulic infrastructure in the irrigation industry, and will supervise the process of gaining approval for this policy from

- the Water Resources Service, based on an analysis of the present state of hydraulic structures and considering international best practices;
6. The Consultant shall participate in the development of the dam information module of the Digital Water Information System on hydraulic structures. This will involve the integration of remote monitoring instruments like drones and remote sensing;
 7. Using digital mapping, he or she will assess the irrigation facilities (hydraulic structures) that are of the highest importance in accordance with the Irrigation Investment Framework to include them in the final edition of the Irrigation Investment Plan.
 8. The Consultant will examine other countries' dam-building experiences and the adoption of modern hydraulic structure technology;
 9. He/she will be responsible for creating the methodology for the operational costs of hydraulic structures (expenditures on capital repairs, maintenance of hydraulic structures, etc.) and getting it approved by the WRS;
 10. He/she shall develop a training program for the Main and District Water Management Organizations' specialists based on the developed methodologies/guidelines on hydraulic structures management;
 11. He/she shall conduct training for the Main and District Water Management Organizations' specialists based on the approved methodologies/guidelines for management of hydraulic structures;
 12. He/she will insure preliminary coordination of technical documents on hydraulic structures with the relevant ministries and departments on the establishment of dam management unit;
 13. He/she will prepare annual and work plan, report, and other documents on hydraulic structures for the World Bank, PIU and WRS and other governmental organizations;
 14. He/she shall provide operational advice on hydraulic structures;
 15. He/she will help the PIU in preparation of technical requirements for equipment for irrigation facilities under the Climate-Resilient Water Services Project.

4. REPORTING AND APPROVAL PROCEDURE

A time based contract shall be concluded with the Consultant, signed by the Consultant and the Director of the WRS.

The Consultant will work under the supervision of the Director of WRS, International Dam Consultant, in its day-to-day activities and will report directly to the Director of WRS.

A quarterly performance report will be prepared by the Consultant and sent to the International Dam Consultant and the Director of the WRS before being approved by the WRS.

Additionally, the Consultant will perform other tasks assigned by the PIU Director.

5. Institutional arrangements

The Consultant will work closely with PIU staff, the International Dam Consultant, and any other consulting firms providing services to the WRS, government agencies and all partner organizations involved in implementation of the PIU projects and its components.

In particular, the consultant will work in close liaison with the WRS, with the relevant departments, divisions of the MWRAPI on water resources development, legal and statutory instruments; with ministries and agencies of the Kyrgyz Republic, and specialized committees of the Jogorku Kenesh of the Kyrgyz Republic, and Presidential Administration of the Kyrgyz Republic.

6. DURATION OF THE ASSIGNMENT AND PAYMENT TERMS

The contract duration is 12 months, commencing from the date of contract signing, and may be extended. A 3-month probationary period will begin on the contract signing date, and upon completion of this probationary period, the PIU Director will confirm the extension of the contract in writing.

Monthly payments for services will be issued in compliance with July 12, 2022, Resolution # 371. Working hours are from 9:00 am to 6:00 pm, Monday through Friday. As required by the Kyrgyz

Republic's Tax Law, the Consultant must provide a certificate of individual entrepreneur registration as of the start of engagement.

7. Client`s input

The Client will provide the Consultant with relevant information about the project(s), underlying project documents, work plans, and available technical materials for the tasks described in the scope of work.

The Client shall create the necessary working environment at WRS for the employee to work and provide him/her with all necessary materials and tools to complete this assignment.

In compliance with Kyrgyz labor rules, the client additionally offers annual paid labor leave and timely and full salary.

8. Place of the assignment

The main part of the Consultant's work will be performed in the WRS office. Also, if necessary, the Consultant will travel to districts and oblasts of the Republic to fulfill certain tasks.

9. Qualifications and work experience

The consultant must meet the following qualifications and criteria:

- Higher education (Master degree) in the field of hydraulic engineering;
- Proven experience of at least 5 years in the field of design and supervision of hydraulic structures in governmental organizations;
- Knowledge of preparation of technical requirements for hydraulic structures;
- Knowledge of methods of design and maintenance of hydraulic structures used in irrigation;
- Good knowledge of oral and written Kyrgyz and Russian languages, knowledge of English is desirable.
- Good computer literacy.

10. Duration of the assignment

The term of the position will initially be 12 months, including the first 3 months of probationary period, with the possibility of extension by mutual agreement of the two parties.