IT expert for NWIS

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# I. General information

# 1. Brief information on the project

The Water Sector Reform Program (2016-2025) was adopted based on the Decision of the Government of the Republic of Tajikistan (GoT) No. 791 of 30 December 2015 to achieve the objectives and principles of water sector reform. River basin management and integrated water resources management (IWRM) are the main principles of the reform program. The program reflects issues in all water-related subsectors and includes an action plan for implementation.

The technical assistance provided by development partners to the Ministry of Energy and Water Resources (MEWR) to implement the reform process is aimed at both the national and river basin levels. Regarding the river basin level, Article 22 of the Water Code divides the Republic of Tajikistan into five (5) river basin zones.

GIZ supports the Water Sector Reform Program within the Integrated Rural Development Project (IRDP) financed by the German Federal Ministry for Economic Cooperation and Development (BMZ) and co-financed by the European Union.

The water component under Component 1 of IRDP provides technical support to MEWR in the Zarafshan river basin, as well as at the national level. Such technical support includes technical advisory services and capacity building measures aimed at increasing its capacity for implementation and coordination of the entire reform process.

The Water Component of IRDP has structured its work processes into four Work Packages (WP), which include all the above-mentioned elements. The four WP are (1) Water Governance, (2) Information and Knowledge Sharing, (3) Capacity Building, and (4) Water-resilient Food Systems.

Work Package 2 promotes knowledge management and the exchange of data and information on water resources among relevant stakeholders at the national and basin levels. The objective of Work Package 2 is to establish a digital basin information system in the Zarafshan RBO linked to NWIS with sufficient relevant water information to provide a solid basis for evidence-based decision-making and integrated water resources management in the NWIS basin. Work Package 2 assists MEWR in the implementation of the NWIS concept.

According to the Decree of the Government of the Republic of Tajikistan (GoT), the Information and Analysis Centre on the National Water Information System (IAC NWIS) is the structural subdivision of the MEWR.

The IAC NWIS will consist of 5 main on-line applications:

- 1) State Water Cadastre (SWC);
- 2) Water Management Balance (WMB);
- 3) Irrigation Management Information System (IMIS);
- 4) Geoportal;
- 5) Drinking Water Supply and Sanitation Information System (DWSS).

In addition, the IAC NWIS will use hydrological modelling tools to determine water availability in the basin using Spatial Processes in Hydrology (SPHY) and Water Evaluation And Planning (WEAP) for water distribution in the basin.

### 2. Context

MEWR RT appealed to the Integrated Rural Development Project (IRDP/TRIGGER II) with a request to continue to provide technical support in the process of step-by-step creation of the Information Analytic Center for NWIS that will support the efforts of the Government of Tajikistan in creating a comprehensive reliable information system with applications for at the national and basin levels, including with a focus on the Zarafshan Basin, as a means to improve the monitoring and use of water resources, as well as to provide accurate and timely water data and to introduce information technologies and analytical tools to support informed decision-making in the field of water and energy sectors.

It should be noted that on March 11, 2022, MEWR held a meeting with representatives from MEWR, the World Bank, and the IRDP/TRIGGER II Water Component, where it was decided to continue supporting NWIS with IRDP/TRIGGER II, which will support it until the end of the project.

The various tasks of the IAC NWIS support will be carried out by a team of six national consultants. The assignment will be led by a NWIS Technical Coordinator with extensive experience in programming and database management. The second national consultant should have extensive knowledge of information technology (IT) and local and wide area networks (LAN/WAN). The third national consultant should have experience with a Geographic Information System (GIS). The fourth national consultant with extensive knowledge of information technology and experience in Geographic Information System (GIS) and local database management. The fifth and sixth local databases and data entering to the NWIS applications.

In addition, the NWIS team will actively support the staff of the Zarafshan RBO in the creation of a digital basin information system for the Zarafshan basin.



# 3. GIZ shall hire the contractor (IT expert) for the anticipated contract term, from 06<sup>th</sup> March to 30<sup>th</sup> September 2024.

**4.** The Contractor shall, in consultation with the Project Team, provide the following works/services and activities, including but not limited to the following:

### 4.1. Task 1: Monitoring and coordination

The first task involves the following steps in collaboration with other consultants:

# 4.1.1. Maintenance of hardware and software in servers located in the Information System Centre (ISC) of the MEWR:

- > Responsibility for maintaining hardware and software systems:
- Configuring, monitoring and updating software, devices, servers, databases and other IT infrastructure;
- Security checks (threats, multiple network attacks);
- Read system logs (logs);
- Checking the status of hard discs;
- Storage and backup of ISC data:
- Management, customisation and monitoring of data storage systems in the ISC MEWR;
- Implementation of ISC cloud storage for data sharing and external access to data;
- Ensuring regular and secure data backups of all sites (database, email accounts and virtual servers).
- ISC cybersecurity:
- Ensure databases are protected from intruders;
- Implement and update firewalls;
- Update and monitor anti-virus programmes;
- Implement and apply Pretty Good Privacy (technology for data encryption);
- Implementation and application of Identity and Two-Factor Authentication technology;
- Monitoring and managing user access to the Local and Global network.

#### 4.1.2. Providing full technical support to MEWR staff and the NWIS team:

- Providing assistance and advice in purchasing IT equipment, as well as installing software, setting up and updating various software products.
- Providing assistance in solving technical problems and restoring performance when using IT equipment, servers, computers and peripherals.

# 4.1.3. Conducting training for the staff of the MEWR and its structure in the basins of the RT (RBO stuff) on "Information-technological training of users of personal computers, servers and IT equipment":

- > Selecting the innovativeness and originality of the information;
- Creating training modules;
- Printing of handouts;
- > Preparation of a training report.



- **4.1.4.** Organise Videoconferences for ISC MEWR and NWIS team (online):
  - > Role-playing or conference call video conference call.
  - > Webinar or online educational conference call.

### 4.2. Task 2: Support and improvement

The second task includes the following steps in cooperation with other consultants:

# 4.2.1. Administration, training and consultancy on the Electronic Document Management System (EDMS) for MEWR:

- > To train and register outgoing and incoming documentation;
- Control their execution;
- Generate reports;
- Document management;
- Support project teams and the ability to collaborate on files;
- > Transfer paper documents into digital form by scanning, manage their images;
- > Archive maintenance and management, automation of document storage rules;
- > Automation of business processes with "workflow" technology;
- Web content management.

# 4.2.2. Monitoring of certified all sites, gateways, FTP connection and MEWR servers by Let's Encrypt technology in the ISC:

- Manually configure (as needed) web servers, ftp connection, gateways, email usage, and handle expired certificates;
- > Monitoring of received automatic certificates for all devices and gateways.

# 4.2.3. Improvement of work and addition of new functionalities to the Geonode Geodata Management System gis.wis.tj:

- > Implementation of a powerful geodata search engine using Python language;
- Managing metadata and attachments;
- > Adding to the functionality private or public distribution of data;
- > Creating and implementing functionality for multi-layered interactive maps;
- > Embedding maps into web pages via <IFRAME> command in Geonode in map mode;
- > Adding a button to print maps in PDF format.

#### 4.3. Task 3: Organization and support

The third task includes the following steps in cooperation with other consultants:

# 4.3.1. Updating new functionality, configuring and monitoring Proxy Server - Users Control for MEWR:

- Adding Dynamic Host Configuration Protocol IP address lease column;
- Adding IPv6 spoofing protection feature;
- Suspicious P2P connection detection (protection against unauthorised unwanted content);
- > URL categorisation in the content filter;



- Unified approach to URL entry in rules for MEWR users;
- > Encryption configuration fixes and VPN tunnel resetting;

#### 4.3.2. Integration of KMK, ALRI databases with the MEWR ISC server:

- > Open a secure certified gateway between servers;
- Test connections between databases;
- Verify the integrity of transferred information between servers;
- > Provide data access to users of the MEWR and NWIS team.

#### 5. Deliverables and reports

The deliverables foreseen in this consultancy are the following, Under Task 1-3:

#### Milestones

#### Monitoring and coordination under the task 1

•	Provided service for hardware and software maintenance on servers located at the MEWR Information Systems Centre (ISC)	March-September 2024
•	Provided full technical support to MEWR staff and NWIS team	March-September 2024
•	Trainings for the staff of the MEWR and its structure in the RT basins (RBO stuff) on "Information technology training of users of personal computers, servers and IT equipment" was carried out	March-September 2024
•	Full support in organising video conferences for ISC MEWR and NWIS team (online).	March-September 2024

#### Support and improvement under the task 2

•	Supported administration, training and consultancy on electronic document management system (EDMS) for MEWR staff	March-September 2024
•	Full monitoring of certification of all sites, gateways, FTP- connections and MEWR-servers using Let's Encrypt technology in ISC was carried out.	March-September 2024
•	Improved operation and added new functionality to the Geonode gis.wis.tj geodata management system	March-September 2024

#### Organization and support under the task 3

•	Updates to new functionality, configuration and monitoring of Proxy Server - User Control for MEWR were performed	March-April 2024
•	Integration of KMK, ALRI databases with the MEWR ISC server was carried out	March-April 2024

#### Period of assignments: from 01<sup>st</sup> March to 30<sup>th</sup> September 2024

Documents should be prepared and executed professionally, according to strict quality standards. All deliverables should be presented in Russian and English in the form of reports



and including prepared materials in the form of GIS source files and databases (layers, thematic maps, attribute tables and tables of completed data on discharge/level, water turbidity, river water temperature and water demand in difference sectors in Excel format).

# II. Tender requirements

- 1. Qualifications of proposed expert
  - 1.1.IT expert:

# 1.1.1. General qualifications

- > Education:
  - Diploma in Water Management, Energy, IT and Communications.
- > Professional experience:
  - 5 years' experience in the working in Information and Communication Technologies accented in implementation of the water sector reform program with a focus on NWIS
  - At least 5 years of experience in the IT field.
  - Experience with OS: Windows 95/98/Me/2000/2003/XP/Vista/7/8/10, MCBC.
  - Experience in Network Administration.
  - Experience in Designing SCS.
  - Experience in Administration, configuration and installation of Windows Server, Linux, Mysql, MSSQL Server.
  - Client-server application development skills.
  - Skills of working with mail programs.
  - Skills of organizing user access to the Internet (Proxy, FireWall, antivirus).
  - Skills of working with address databases.
  - Database administration and maintenance of software systems.
  - Backup copying of databases of software systems.
  - Administration of users in an OS environment of the Microsoft Windows family.
  - Control over the use of computer technology.
  - LAN health support.
- > Experience in the region/knowledge of the country:
  - Excellent interpersonal and communication skills; ability to work in a diverse team.
  - Familiar with the rules of operation of GIZ and/or EU projects in the country.
  - Systematic analysis of the results of operation of the automation system and making proposals for improving the automated technology for collecting and processing information
  - Timely reporting



- Monitoring of loading and technical condition of technical means on which information resources are located.
- Timely software update and Teamwork skills
- > Language skills:
  - Knowledge of English, Russian and Tajik at C1 level in the Common European Framework of Reference for Languages.Specification of inputs

### 2. Specification of inputs

Fee days	Number of experts	Number of days per expert	Comments
Preparation/debriefing	1	1	Joint meeting with GIZ and a team of consultants
<ul> <li>Implementation: Task 1</li> </ul>	1	46	
Implementation: Task 2	1	46	
Implementation: Task 3	1	27	
Travel expenses	Number of experts	Number of days/nights per experts	Comments
Per-diem allowance in country of assignment	n/a	n/a	
Overnight allowance in country of assignment	n/a	n/a	
<ul> <li>Travel costs (train, private vehicle)</li> </ul>	n/a	n/a	
Flights	Number of experts	Number of flights per experts	Comments
International flights	n/a	n/a	
Domestic flights	n/a	n/a	
CO <sub>2</sub> compensation for air travel	n/a	n/a	
Other costs	Number of experts	Amount per experts	Comments
Flexible remuneration	n/a	n/a	

Calculate your financial bid exactly in line with the quantitative requirements of the specification of inputs above. There is no contractual right to use up the full days/travel or workshops or budgets. The number of days/travel/workshops and the budgets will be contractually agreed as **maximum amounts**. The regulations on pricing are contained in the price schedule.



# III. Other requirements

# 1. Requirements on the format of the tender

The CV submitted for each expert can have a maximum of four pages. The concept (if required) should not exceed five pages. If one of the maximum page lengths is exceeded, the content appearing after the cut-off point will not be included in the assessment. External content (e.g. links to websites) will also not be considered.

# 2. Materials

All materials produced/developed during the period of assignment must be handed over to the Project after completing all the activities.

# 3. Confidentiality

An expert must keep confidential all material that is delivered to it for the performance of its work and that is the property of the GIZ Program. Likewise, you may not give said material.

### 4. Submission of commercial offer

- The technical and financial offers must be submitted in separate PDF files.
- Technical proposal (CVs, certificates, diploma and etc);
- Financial proposal in local currency (prepared in a separate PDF file)

#### 5. Requirements for commercial offer:

- Provide full legal address, contact numbers and e-mail;
- Currency: Tajik somoni;
- Terms of payment: by transfer to the bank account.

#### 6. Address for submission:

Please send your commercial offer via E-mail to <u>TJ\_Quotation@giz.de</u> before 17:00 of **29<sup>th</sup>** of **February 2024** indicating the tender number "**83459615**" in the subject of the e-mail.

# 7. Special conditions

- Note: Proposals made for the supply of goods/services which are under sanctions or whose manufacturers/Suppliers are under sanctions will not be considered.
   Please sign the declaration (see attachments) and send it along with your price offer.
- Bidders should not contact other GIZ personnel unless directed to do so by the GIZ representative.
- Please raise any commercial, technical or procedural questions promptly, and no later than 27<sup>th</sup> of February 2024. All questions should be submitted in writing and with indication of the tender number "83459615" in the subject of the email to the address <u>Procurement.TJK@giz.de</u>
- The default size of e-mails is limited to 30 MB. Above that, GIZ's email servers refuse the message and its attachments. If necessary, send more than one e-mail.
- In case of bigger files, it is possible to transfer the file via GIZ's Filetransfer service: <u>https://filetransfer.giz.de</u> GIZ accepts only this specific filetransfer solution for submission of documents exceeding the default mail size of 30 MB.
- GIZ is not responsible for the failure of electronic delivery of e-mail messages to the address provided, either for technological problems on the part of GIZ or the candidate.
- This invitation to tender is in no way binding on GIZ. The GIZ's contractual obligation commences only upon signature of the contract with the successful Tenderer.
- Up to the point of signature, GIZ may either abandon the procurement or cancel the award procedure, without the candidates or tenderers being entitled to claim any compensation.



- All costs incurred in preparing and submitting tenders are borne by the tenderers and cannot be reimbursed.
- All tenderers will be informed in writing of the results of this tender procedure.
- GIZ reserves the right to disqualify and reject proposals from suppliers who do not comply with these guidelines.