

GIS 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 for the anticipated contract term, from 01st March to 30th September 2024.

4. The Contractor (**national consultant of Geographic Information System**) 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: Filling data on the Zarafshan basin

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

- 4.1.1. Coding of water bodies of the Kashkadarya river basin of the Zeravshan basin zone (catchment area 26 objects, river network 26 objects, inter-farm water intakes 95 objects, irrigators 129 objects).
- 4.1.2. Corrections after comments for Kashkadarya river basin in NWIS geodatabase.
- 4.1.3. Entering settlements on Vakhsh basin according standard into NWIS attribut tables (data will be obtained from Hydrophil, project on survey in accessibility to drinking water).

4.2. Task 2: Filling data on glaciers of the RT, including the Zarafshon basin

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

- 4.2.1. Filling the attributes table with data on the population of the Republic of Tajikistan.
- 4.2.2. Coding of glaciers of the Republic of Tajikistan from the Randolph Global Catalogue (more than 7000 objects).
- 4.2.3. Fill in attribute tables of glaciers of the Republic of Tajikistan.
- 4.2.4. Transfer of glaciers layer to NWIS geodatabase and geoportal (more than 7000 objects).

4.3. Task 3: Organization of the trainings and support to NWIS

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

- 4.3.1. Updating of layers in the geoportal.
- 4.3.2. Prepare training materials (module, handouts, presentations, pre and post evaluation) for GIS trainings for MEWR and RBOs staff.
- 4.3.3. Conduct GIS trainings for MEWR and RBOs staff.
- 4.3.4. Accepting works from other projects (inventory of Zafarabad, Hydrophil settlements).
- 4.3.5. All geospatial data work should be transferred from the Syr Darya, Zarafshon, Kofarnihon, Vakhsh and Pyanj basins, processed and then integrated into NWIS. Also from other projects working in Tajikistan

4.4. Task 4: Obtain approval of the WB and WMA delineation to support the establishment of the water balance application

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

- 4.4.1. Documentation of WB and WMA, compilation of a register of reference points of the boundaries of WB and WMA and description of the boundaries of WMA, construction of linear diagrams of WMA.
- 4.4.2. Coding of WB and WMA of ZBZ, harmonized with the coding system of hydrographic units.
- 4.4.3. Coding of WB and WMA by assigning unique numerical codes consisting of the hydrographic unit code.

- 4.4.4.** Description of the physical-geographical passage of the boundary line of the WB and WMA on the ground in connection with elements of the landscape, the hydrographic network and other geographical components.

5. Deliverables and reports

The deliverables foreseen in this consultancy are the following, Under Task 1-4:

Milestones

Filling data on the Zarafshan basin under the task 1

<ul style="list-style-type: none"> All water bodies of the Kashkadarya river basin in the Zarafshan basin are coded (catchment area 26 objects, river network 26 objects, inter-farm water intakes 95 objects, irrigators 129 objects). 	February 2024
<ul style="list-style-type: none"> After all comments, all corrections of the Kashkadarya River basin in the NWIS geodatabase were made. 	February 2024
<ul style="list-style-type: none"> All settlements in the Vakhsh basin have been entered into layers and attribute tables according to NWIS geospatial data standards. (data were received from Hydrophil, Drinking Water Availability Research Project). 	February-March 2024

Filling data on glaciers of the RT, including the Zarafshon basin under the task 2

<ul style="list-style-type: none"> Attribute tables are filled with data on the population of the Republic of Tajikistan. 	March-April 2024
<ul style="list-style-type: none"> All glaciers of the Republic of Tajikistan are coded. Data were obtained from the Randolph global catalogue (more than 7000 objects). 	April-June 2024
<ul style="list-style-type: none"> Attribute data on glaciers of the Republic of Tajikistan, were filled in the attribute table. 	June 2024
<ul style="list-style-type: none"> The glacier layer has been transferred to the NWIS geodatabase and geoportal (over 7000 objects). 	June 2024

Organization of the trainings and support to NWIS under the task 3

<ul style="list-style-type: none"> All layers have been updated in the geoportal. 	February-September 2024
<ul style="list-style-type: none"> Training materials for MEWR and RBO staff have been prepared. 	February-August 2024
<ul style="list-style-type: none"> Training of MEWR and RBO staff will be conducted. 	February-August 2024
<ul style="list-style-type: none"> Receiving completed work from other projects (inventory of Zafarabad, Hydrophil settlements). 	February-September 2024
<ul style="list-style-type: none"> All geospatial data work was received from the Syr Darya, Zarafshon, Kofarnihon, Vakhsh and Pyanj basins, processed and integrated into NWIS. Also from other projects working in Tajikistan 	February-September 2024

Obtain approval of the WB and WMA delineation to support the establishment of the water balance application under the task 4

Prepare a package of documents for approval by MEWR, in accordance with MEWR methodology, which consists of the following documents:

<ul style="list-style-type: none"> A systematic list of water management areas on the territory of the Republic of Tajikistan in tabular form 	March-July 2024
<ul style="list-style-type: none"> An album of maps with the boundaries of 7 WB and 3 WMA of the Zarafshan Basin Zone and reference points on these boundaries marked on them 	March-July 2024
<ul style="list-style-type: none"> Description of the boundaries of water management areas 	March-July 2024
<ul style="list-style-type: none"> Register of reference points of water management areas boundaries 	March-July 2024

Period of assignments: **from 06th March to 30th 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. GIS Expert for NWIS:

1.1.1. General qualifications

➤ Education:

- University degree (bachelor's/master's) or professional qualification in Information and Communication Technologies, or other relevant subject, with a professional qualification.

➤ Professional experience:

- More than 15 years of experience in cartography, practical application of programs and software for geographic information systems, development and design of GIS database structures, processing space images and data from drone accented in implementation of the water sector reform program with a focus on NWIS.
- More than 5 years of experience in the development of the geospatial component of the NWIS.
- More than 5 years of experience in developing standards for the geospatial component of the NWIS.

- More than 5 years of experience in connecting a geospatial component to online databases and a geoportal.
 - More than 10 years of experience in checking the quality of work on the creation of an NWIS component.
 - More than 10 years of experience in the development of technical requirements and instructions for NWIS.
 - Skills in creating a database to ensure full coverage of the republic by the administrative boundaries of the region, district, jamoat, settlements.
 - Skills in creating topographic maps in WGS-84 (World Geodetic System) coordinate systems for air navigation support.
 - Ability to work with the Microsoft Office, Internet Explorer, GIS, QGIS, Erdas Imagine, AgisoftPhotoscan, e-Motion, CorelDraw, Adobe Photoshop, programs and software.
- **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.
- **Language skills:**
- Knowledge of English, Russian and Tajik at C1 level in the Common European Framework of Reference for Languages.

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
• Implementation: Task 1	1	23	
• Implementation: Task 2	1	53	
• Implementation: Task 3	1	44	
• Implementation: Task 4	1	20	
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	
• Travel costs (train, private vehicle)	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 ₂ 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 TJ_Quotation@giz.de before 17:00 of **29th of February 2024** indicating the tender number “**83459611**” 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 **27th of February 2024**. All questions should be submitted in writing and with

indication of the tender number “**83459611**” in the subject of the email to the address Procurement.TJK@giz.de

- 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: <https://filetransfer.giz.de> 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.