



## **European Union Water Initiative Plus for the Eastern Partnership (EUWI+ 4 EaP)** **Armenia**

### **Terms of References for local contractor**

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29 January 2018

#### **Terms of Reference**

**Local contractor for preparation of a detailed assessment of modern flow measurement equipment needs for irrigation water accounting in Sevan and Hrazdan pilot basins of Armenia**

#### **1. Financing**

European Union (ENI/2017/389-679)

#### **2. Procedure**

Single tender procedure according to EU PRAG

#### **3. Contracting Authority**

International Office for Water (IOW)

#### **4. Nature of contract**

Service contract

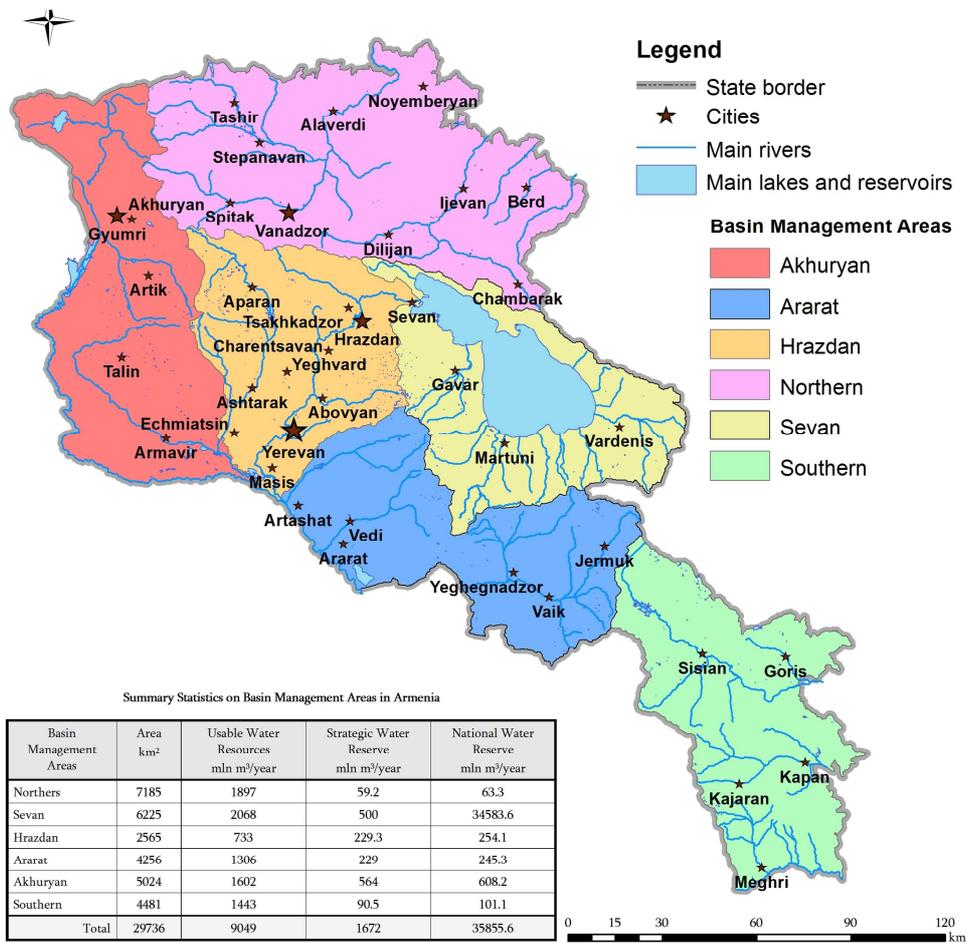
#### **5. Time period of implementation**

February – April 2018

#### **I. Background**

The “European Union Water Initiative Plus for Eastern Partnership (EaP) Countries (EUWI+)” involves six eastern neighbours of the EU: Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine. The EUWI+ project addresses existing challenges in both development and implementation of efficient management of water resources. It specifically supports the EaP countries to move towards the approximation to EU acquis in the field of water management as identified by the EU Water Framework Directive (WFD).

River Basin Management Plans are recommended planning tools that give the overall orientation of water management in the basin and the objectives to be reached, and the priorities in the actions to be developed. In Armenia the Sevan and Hrazdan River Basin Districts are selected as pilot areas for the EUWI+ project. One of the expected outputs of the project is to have adequate infrastructure available for sound monitoring of water quality and quantity in pilot areas, to support the process of development of RBMPs in the project countries.



Source: EPIRB (2013)

The Sevan-Hrazdan system is the main and by far the most important irrigation system of the country, which serves over 40,000 ha of agricultural lands. This includes 5 primary canals and over a dozen of secondary canals which supply water to Water Users' Associations. In the Sevan-Hrazdan system irrigation accounts for over 80% of overall water use, and proper accounting of irrigation water abstraction through the primary and secondary canals becomes prerogative, including for development of the RBMPs and particularly their chapters on calculation of water economic balance and water supply and demand assessment.

The following Terms of Reference are the basis for a detailed assessment of irrigation water accounting in Sevan and Hrazdan pilot basins of Armenia through installation of modern flow measurement equipment.

## II. Scope of work and deliverables

With the support of the World Bank financed “Irrigation Systems Enhancement Project” in Armenia over 80 units of radar and ultrasonic measuring stations for water level measurement at primary irrigation canals, including remote data transmission and Supervisory control and data acquisition (SCADA) software have been successfully installed and commissioned in Armenia in the period of 2013-2014. This significantly contributed to improved irrigation accounting in selected irrigation systems of the country, and the State Committee on Water Systems of the Ministry of Energy Infrastructures and Natural Resources has applied to the EUWI+ project to improve irrigation water accounting also in Sevan and Hrazdan pilot basins, using similar approaches, which will contribute significantly to development of RBMP and promoting data exchange and sharing between the key water institutions in the country.

Consequently, against this background the selected local contactor for this assignment will assess in detail the modern flow measurement equipment needs for irrigation water accounting in Sevan and Hrazdan pilot basins of Armenia, and will include the following tasks:

1. Description of the technical-economic characteristics of the primary and secondary canals in the Sevan and Hrazdan pilot basins (see the map above):
  - dimensions, regular minimal and maximal discharge, characteristics,
  - year of construction/rehabilitation,
  - origin of water (surface/groundwater/mixed, natural/influenced),
  - regulation system, operators,
  - activities served: drinking, hydro-electricity, agriculture (dominant cropping-pattern, surface areas, type of irrigation equipment),
  - users characteristics per inlet: total number, collective/individual, permanent/temporary delivery...
  - performance indicators if available: efficiency, service continuity, days of water shortage, cost recovery, number of infringements,
  - brief description of the management rules for each of them;
2. The inventory of the type of measuring equipment existing and their operating state; a brief analysis of their recorded failures, reliability and acceptability; the maintenance and reading bodies; the existence of water theft or illegal connections and explanatory reasons.
3. Inventory and GIS mapping of all surface or buried canals, intake points, existing irrigation schemes and water measurement junctions.
4. Proposals for new ones (additional location or replacement) at the primary and secondary irrigation canals of the pilot basins, and reasons/criteria justifying these choices;
5. Assessment of the preparatory works for installation of water measuring posts/equipment in the key junctions;
6. Technical specification and preliminary financial assessment of the proposed equipment, and devices to be installed at the key junctions for installation of required equipment, as well as design works for small-scale constructions. Any protection equipment for water meters may have to be envisaged and explained;
7. Detailed cost estimate for installation of the proposed equipment and associated small-scale construction works, and subsequent prioritization of the proposed investments;

8. Preparation of final report, incorporating the main outputs of the tasks above in Armenian and English languages. The report will include hydraulic schemes, delivery schedules whenever available and any useful complementary document in annex.

A briefing and de-briefing with the EUWI+ national coordinator will be organised at the beginning and at the end of the assignment.

#### **Deliverables:**

It is expected that by the end of the assignment Final Report will be prepared in Armenian and English languages and submitted to the EUWI+ project in printed (1 copy in each languages) and electronic versions (in Word and PDF formats). Together with the Final Report geo-database of all GIS maps shall be presented by the Local Contractor. The Proposed Outline of the Final Report is presented in Annex 1. The technical specifications for datasets and GIS map production are in annex 2.

### **III. Reporting**

The contractor shall report to Mr. Volodya Narimanyan, EUWI+ Project National Focal Point for Armenia and Deputy Chairman of the State Committee on Water Systems, and Mr. Vahagn Tonoyan, Local Representative of the EU Member State Consortium in Armenia under EUWI+, regarding the progress of works and for all day-to-day management issues.

### **IV. Timeframe and payment schedule**

The duration of the assignment is about **2.5 months**. The expected commencement of the assignment is February 19, 2018 and the completion date is April 30, 2018 the latest.

The kind of contract is a global price. The fee paid by the contracting authority to the contractor for the successful execution of this work will be determined by competitive bidding according to EU PRAG.

The tranches made will be subject to acceptance of the tasks according to the following breakdown:

- 30% upon signature of the contract,
- 70% upon completion and acceptance of all works by the contracting authority.

### **V. Implementation modality**

The consultant has to provide all means and technical equipment (e.g. hardware, software) necessary for a successful implementation of these services.

All correspondence and documents related to these services must be written in English.

IOW will support the consultant through helping with organization of necessary meetings through the EUWI+ project national coordinator for Armenia, particularly with the respective staff of the State Committee on Water Systems and its structural sub-divisions.

The Consultant agrees to adhere to the EU visibility guidelines.

## **VI. Selection and award procedure**

The local companies must have the following qualifications and skills:

- At least 5 years of demonstrated experience in projects related to IWRM, river basin planning and management, irrigation water management and monitoring, and GIS mapping; and
- Demonstrated experience in implementation of donor-funded projects in water sector, preferably projects funded by the European Union.

The contracting authority will invite local companies with these qualifications to submit an expression of interest and financial offer. In addition, these TORs will be published on the following web-sites:

- EUWI+ Project;
- Delegation of the European Union in Yerevan;

The contracting authority will evaluate all offers and award the contract according the best-bidder principle based on the best value for money.

## **VII. Contact details**

Interested companies must send their expression of interest in English language, including CVs of key staff, references and list of projects implemented, as well as financial offer by email to the following addresses: [yahagn.tonoyan@euwipluseast.eu](mailto:yahagn.tonoyan@euwipluseast.eu), and [f.pintus@oieau.fr](mailto:f.pintus@oieau.fr)

The deadline for submission is 12 February 2018, 18:00 CET. Tenders submitted after the deadline will not be considered.

The publication of these Terms of Reference does not commit the Contracting Authority to award the announced contract. The Contracting Authority can withdraw from this call at any given time. In no event shall the Contracting Authority be liable for any damages whatsoever including, without limitation, damages for loss of profits, in any way connected with the cancellation of a tender procedure.

## **Annex 1: Proposed Outline of the Final Report**

1. Detailed description of the technical-economic characteristics of the primary and secondary canals in the Sevan and Hrazdan pilot basins;
2. The inventory of the type of measuring equipment existing and their operating state;
3. GIS mapping and tabular information on all surface or buried canals, intake points, existing irrigation schemes and water measurement junctions;
4. Proposed locations of the new irrigation flow measuring points at the primary and secondary irrigation canals;
5. Assessment of the preparatory works for installation of water measuring posts/equipment in the key junctions;
6. Technical specification and detailed cost estimate for installation of the proposed equipment, and small-scale constructions, and subsequent prioritization of the proposed investments.

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## **Annex 2: Specifications for datasets, metadata and maps production**

It is not allowed to present / use datasets in a map or an indicator if the corresponding data sets:

- is not described in the catalogue of metadata established by the project;
- Is not made available in the national FTP

As a consequence the task of the consultant should include:

- To collect the necessary datasets at the level of the producers
- To work with the data producers in order that the dataset provided are described on line into the metadata catalogue made available by the project
- To copy the raw data made available by each producer on the ftp made available by the project

The corresponding expected results can be formulated as follow:

- All datasets used are described in English and in armenian into the metadata catalogue
- All raw dataset used are available on ftp

### ***Methodology for metadataproduction***

The letter of request for data should include the obligation that the data producer provides the corresponding metadata sheet fulfilled (Cf. annex 3).

The consultant will insure that the metadata are entered in the catalogue with in addition:

- Capture of a thumbnail
- Capture of geographical limits
- Translation in English/armenian of all metadata entered
- Description of right of dissemination
- Declare of public access the metadata sheet

### ***About specifications of data to be collected***

- Layers the closest possible of scale 1/50000
- Layers in Esri format (.shp)

### ***Specifications for map production***

- Maps are produced in Qgis format
- Maps are produced using the map template A4 or A3 prepared by the project
- Maps respects the official projection adopted at national level (e.g. "UTM zone 38 N" in Armenia)
- Maps include only layers and dataset described into the metadata catalogue and having raw data available on ftp.

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**Annex 3 : metadata sheet to be completed (EN and ARM)**