

TWINNING CONTRACT

AM/14/ENP/ST/15

Strengthening of the National Statistical System of Armenia – Phase II



MISSION REPORT

on

Water Accounts

Activity 6.1. Assessment of the current status on water statistics and water accounts

Mission carried out by

Ms. Simona Ramberti, ISTAT

Mr. Stefano Tersigni, ISTAT

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National Statistical Service
Republic of Armenia



Italian National Institute
of Statistics



Expert contact information

Simona Ramberti

ISTAT

Address Viale Oceano Pacifico,171 00144 Rome - Italy

Phone +390646734322

Email ramberti@ISTAT.it

Stefano Tersigni

ISTAT

Address Viale Oceano Pacifico,171 00144 Rome - Italy

Phone +390646734348

Email sttersig@ISTAT.it

Table of contents

1. General comments.....	4
2. Assessment and results.....	4
3. Conclusions and recommendations	7
Annex 1: Terms of Reference	9
Annex 2: Programme for the mission	11
Annex 3: Persons met	12

List of Abbreviations

ESEA	European Strategy for Environmental Accounting
EU	European Union
ISTAT	Italian National Institute of Statistics
NSSRA	National Statistical Service of the Republic of Armenia
PWFA	Physical Water Flow Accounts
SEEA	System of Environmental-Economic Accounting
SEEA-CF	System of Environmental-Economic Accounting Central Framework
SEEA-Water	System of Environmental-Economic Accounting for Water
SNA	System of National Accounts
WA	Water Accounts
WR	Water Resources
WS	Water Statistics

1. General comments

This mission report was prepared within the Twinning Project “Strengthening of the National Statistical System of Armenia – Phase II”. This was the first activity in component 6 and the actions planned for this activity were carried out as scheduled. The general objective of the Twinning Project-component 6 is the reinforcement of the NSSRA capacities in Water Statistics and Water Accounts as well as the exploitation of the Armenian data production that is in line with the international and European standards, with the final goal to fill in Water accounts tables.

The purposes of the first mission were:

- assessment of current situation;
- presentation and discussion on methodology and compilation of water statistics and water accounts based on international and European standards;
- to involve relevant stakeholders in the discussions and in further work.

The MS experts would like to express their sincere thanks to all officials and individuals met for the kind and professional support and valuable information which they received during the stay in Armenia and which highly facilitated their work. The views and observations stated in this report are those of the experts and do not necessarily correspond to the views of EU, NSSRA, ISTAT or Statistics Denmark.

2. Assessment and results

Assessment of current situation

The current state of the art on WS and WA was described by ISTAT experts. After having shown the organization of the Italian National Institute of Statistics, the list of main activities on Water Resources was presented, distinguishing the national and international data enquiry on water issues that ISTAT production has to satisfy. It was underlined that especially for environmental statistics, the availability of a large amount of unprocessed observations and measurements from different sources and data producers calls for strongest coordination, collaboration, cooperation and standardization. For this purpose, referenced International Statistical Frameworks, international projects and Task Forces on water issues were presented to the NSSRA staff.

It was highlighted that WS and WA are part of an integrated programme where WS provide the list of variables and indicators related to water and WA measure the interactions between the hydrological system and the economy. The ESEA approved in 2003 and revised in 2008, recommended water supply and use accounts as a priority area for development.

The main purpose of compiling WA and WS is to identify areas of social, economic or environmental stress, to monitor relevant policies and to promote the use of environmental accounting as a key element of environmental assessment and policy support. Data must be integrated, analysed and converted into useful information for policy-makers, the general public, managers and researchers. It needs a comprehensive conceptual framework to guide the process of data integration and its transformation into policy relevant information. For this purpose, the United Nations adopted SEEA-Water as conceptual framework. Eurostat adopted PWFA, that is very close to the SEEA-CF. At the moment Eurostat is in the process of reviewing (streamlining, simplifying) its WS and setting up WA. Eurostat together with OECD have been collecting data on WS through a Joint Questionnaire on Inland Waters (JQ-IW). Besides, a Joint Task Force on Water Statistics and Accounts has the aim to conceptualize and design the architecture of a joint reporting vehicle for WS and WA. The development of WA is part of the ESEA for 2014-2018.

Furthermore, NSSRA staff and ISTAT experts shared information about their activity in water resources issues. NSSRA staff explained the system of submitting environmental statistical reports and structure of data in the Republic of Armenia. A deep presentation about Water reporting was made by NSSRA staff, useful to understand data production processes, data sources, variables already available

in NSSRA database. It concerns the administrative data, required in electronic form or paper, collected by the Ministry of the Natural Protection among water companies and Water Committee. An extract of the database was presented and the main checks on data quality were shown.

On the other side, ISTAT experts described the Italian experience on WS and WA, showing a brief description on Italian situation on water resources and the main projects related to Water, specifically the ISTAT project on climate statistics, urban water census, water use in agriculture and water use in industry, that are the main data sources used to fill in Eurostat questionnaires.

Presentation and discussion on methodology and compilation of water statistics and water accounts based on international and European standards

A full immersion on WS and WA was made between ISTAT experts and NSSRA staff. As WA is a consequence of WS, the first part of the ISTAT experts' talk was dedicated to analysing the current official WS collected and disseminated by Eurostat, observing in detail the two Eurostat questionnaires, the OECD/Eurostat Joint Questionnaire on Inland Waters (JQ-IW) for national data and the Eurostat Regional Environmental Questionnaire (REQ) for subnational data (NUTS2 and River Basin Districts (RBD)). The discourse started from the analysis of the JQ-IW, as the REQ is really similar to it and the main difference is the territorial aspect. The list of tables to be filled in was shown and the main variables required were deeply examined. Some information about international standards, definitions, terminology were given to Armenian colleagues. It was suggested to use the Data Collection Manual for the OECD/Eurostat Joint Questionnaire on Inland Waters for having a complete tutorial during the questionnaire compilation. During the discussion on WS some country specific questions were naturally jumped out by NSSRA staff and immediately faced.

Subsequently, ISTAT experts made a speech on WA. First of all there was a detailed overview of WA within the European Statistical System, focusing on the new EU Strategy for Environmental Accounts (ESEA 2014-2018) that points to water accounts as one of the areas for development. EU statistical laws were also presented. There was also a description of the activity of the Eurostat Working Group on Environmental Accounts that developed a system of water accounts allowing a more systematic approach to analyse water data, e.g. by way of double bookkeeping of flows (supply and use), consistent with the SNA (United Nations 2008) and with its concept of stocks and flows. In synthesis WA encompass: Asset Accounts (on water resources); PWFA (supply and use tables) between environment and economy as well as within the economy; Monetary Water Accounts.

It was remembered that Physical and monetary water accounts could be compiled with some legal cover in the coming years, to ensure compliance among all EU countries.

The International framework of Economic and Environmental Accounting Systems was described and main features were given for the SNA, the SEEA, the SEEA-CF and the SEEA-Water.

WA tables were presented:

- 1) Asset accounts, that give information on the stock of water at the beginning and end of an accounting period,
- 2) Physical supply and use tables for water flows and for emission, that show how the use of water resources can be monitored in physical terms, and that describe the pressure that the economy puts on the environment in terms of emissions into water,
- 3) Hybrid and economic accounts for activities and products related to water, that describe in monetary terms the supply and use of water-related products.

An in-depth analysis of PWFA was made: it was developed according to the accounting structures and principles of the SEEA-CF and it records all water flows associated with activities of resident units regardless where these activities actually take place geographically. Data on the physical flows of water are expressed in cubic meters. PWFA comprise the flows of water from the environment to the economy and describe the abstraction of water resources (water as natural inputs) from the environment into the economy, the water flows within the economy in the form of supply and use by industries and households (of water products) and finally flows of water from economy back to the environment (water residuals). PWFA also include emissions of relevant substances (pollutants) to water.

Most of the data needed to fill in the Physical Water Flow Accounts set of reporting tables come from WS (OECD/Eurostat Joint Questionnaire on Inland Waters) that constitute an established source of water information serving European water policies. For this reason the link between JQ-IW and PWFA tables was shown.

Meeting with stakeholders

A meeting with the stakeholders was organized by NSSRA. At first NSSRA presented the activity on environmental field. ISTAT experts had a short speech about WA, with the aim to explain *what* WA are and *why* a country should prepare WA. A short description of WA tables was given to the audience. The speech focused the attention on the importance of doing WA for a country, in terms of evaluation of WR and optimization of policies and promotion of the use of environmental accounting as a key element of environmental assessment and policy support. For this purpose some examples of relevant policy questions satisfied by data drawn from SEEA-Water tables were presented.

The audience, mostly consisting of personnel operating in the ministries involved in environmental issues, demonstrated interest and some questions were asked to the speakers.

All the meetings and discussions took place in the atmosphere of great mutual interest towards organizing a more productive future cooperation.

3. Conclusions and recommendations

Conclusions

- It seems that Armenian Water Statistics (WS) are in line with main Water Accounts (WA) requests, that is a very good starting point!
- The meeting with the Armenian stakeholders obtained a very good participation and interest, as further proof of the fact that NSSRA is in a good connection with central stakeholders engaged in the environmental issues.
- It's should be clear to all of us that WA are a strictly consequence of WS. Then, that it's necessary to consolidate and perform WS for producing accurate WA.
- The work to do will be surely arduous, but overall stimulating.
- ISTAT and NSSRA are confident in an efficacious cooperation, in a sharing of experiences that will produce a better performance of WA.

Recommendations

- Individuate, in NSSRA database, the indicators already available to fill in Eurostat-OECD Joint questionnaire on Inland waters and the missing indicators.
- Prepare the inventory of indicators data source usable in Eurostat-OECD Joint questionnaire on Inland waters.
- Describe the methodology used for calculating the indicators already available with the aim to verify the correspondence with Eurostat standards and for a better understanding of the NSSRA data usability in WA.
- Verify data quality: coherence, consistency, missing values treatment, presence of outliers, type of measurement, estimation methodologies.
- Use the standardized flags listed by Eurostat for indicating specific data characteristics.
- Verify the time series completeness.
- Analyse Eurostat “Manual for Physical Water Flow Accounts” and “Data Collection Manual for the OECD_Eurostat Joint Questionnaire on Inland Waters” (last upgrade).

Actions needed for moving forward as well as for preparing the next mission:

Action	Deadline	Responsible person
Describe data sources and flows (availability, information flow) for water statistics	End of April 2016	NSSRA
Fill available indicators with a high level of quality in the “Eurostat-OECD Joint questionnaire on Inland waters” and in the correspondent Water Accounts items	End of April 2016	NSSRA
Missing indicators or indicators with an uncertain quality have to be gradually underlined, with the aim to individuate the best practices to use (proxy variables, estimations models, surveys, administrative data)	End of April 2016	NSSRA

Analyse Eurostat “Manual for Physical Water Flow Accounts”	End of April 2016	NSSRA
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Given the complexity of the questionnaires and the high number of variables required, the co-operation activities started on February 1st will have to go "continuously" through exchanges of information, insights and suggestions that will take place by mail, in order to immediately resolve uncertainties and continue the work. Therefore, the next missions will aim overall to validate and share the outcomes.

In the next mission also monetary aspects of Water Accounts will be focused.

Annex 1: Terms of Reference

<p style="text-align: center;">Terms of Reference</p> <p style="text-align: center;">EU Twinning Project AM/14/ENP/ST/15</p> <p style="text-align: center;">1-4 February 2016</p>
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Component 6: Water Accounts

Activity 6.1: Assessment of the current status on water statistics and water accounts

0. Mandatory results and benchmarks for the component

Mandatory results:

- Water account compiled (July 2017)

Benchmarks:

- Inventory of data sources (availability, information flow) for water accounts defined (April 2016)
- Methodology for water accounts developed (January 2017)
- Meeting with stakeholders held (July 2017)
- Water account compiled (July 2017)
- Staff of NSSRA trained on issues related to the water account compilation (July 2017)

1. Purpose of the activity

- Assessment of current situation
- Presentation and discussion on methodology and compilation of water statistics and water accounts based on international and European standards
- To involve relevant stakeholders in the discussions

2. Expected output of the activity

- Current situation assessed
- International and European standards presented and clarified
- A lining up of work programme for the next activity (6.2 is scheduled to 16-20 May 2016)

3. Participants

NSSRA

Component leaders

- Mr. Yurik Pogosyan
- Ms. Nelly Baghdasaryan

Other staff from the division

- Ms. Naira Mandalyan
- Ms. Ani Hambardzumyan
- Ms. Asya Podpomogova

Other staff from NSSRA

- Macroeconomic Indicators and National Accounts Division
- Agriculture Statistics Division
- Industry Statistics Division
- Finance Statistics Division
- Trade and Other Services Statistics Division
- Methodology of Statistical Work and Classifications Division
- Construction statistics division will also be invited.

Other stakeholders taking part in the activity

Staff from

- RA Ministry of Nature Protection
- RA Ministry of Economy
- RA Ministry of Agriculture
- RA Ministry of Finance
- RA Ministry of Healthcare
- RA Ministry of Territorial Administration and Emergency Situations
- Commercial organizations
- International organizations (UNDP, USAID, WB etc.)

will also be invited

MS experts

Mr. Stefano Tersigni, Expert, Istat

Ms. Simona Ramberti, Expert, Istat

Annex 2: Programme for the mission

Time	Place	Event	Purpose / detail
Monday, noon	Hotel / NSSRA	Meeting with RTA	To discuss the programme of the week
Monday, afternoon	NSSRA <i>In meeting room</i>	Meeting with BC Component Leader and BC Experts	Assessment of current situation Presentation of methodology and compilation of water statistics and water accounts based on international and European standards
Tuesday, morning	NSSRA	Meeting with BC Component Leader and BC Experts	Presentation of methodology and compilation of water statistics and water accounts based on international and European standards (continued...)
Tuesday, afternoon	NSSRA	Meeting with BC Component Leader and BC Experts	Discussion of methodology and compilation of water statistics and water accounts based on international and European standards Preparation for stakeholder meeting
Wednesday, morning <i>11:00</i>	NSSRA <i>In meeting room</i>	Meeting with BC Component Leader and BC Experts	Meeting with stakeholders
Wednesday, afternoon	NSSRA	Meeting with BC Component Leader and BC Experts	Discussion of results from stakeholder meet- ing
Thursday, morning	NSSRA	Meeting with BC Component Leader	Presentation of MS Experts' findings and agreement on the reached conclusions
Thursday, morning	NSSRA	Ad-hoc meetings	Final clarifications with BC Experts, prepara- tion of report and presentation for BC Project Leader
Thursday, afternoon	NSSRA	Debriefing with BC Project Lead- er	Conclusions and decisions and their conse- quences for the next activity and the implied work programme for BC Experts

Annex 3: Persons met

NSSRA:

- Stepan Mnatsakanyan, President of the NSSRA
- Anahit Safyan, Member of the State Council on Statistics of RA
- Yurik Pogosyan, Member of the State Council on Statistics of RA
- Nelly Baghdasaryan, Social Sphere and Nature Protection Division
- Diana Martirosova, Household Surveys Division
- Angela Dashyan, Business-register Division
- HaykushTitizyan, Finance Statistics Division
- Arsen Avagyan, Agriculture Statistics Division
- Asya Podpomogova, Social Sphere and Nature Protection Division
- Ani Hambardzumyan, Social Sphere and Nature Protection Division
- Naira Mandalyan, Social Sphere and Nature Protection Division
- Lusya Khachatryan, Macroeconomic Indicators and National Accounts Division
- Anahit Grboyan, Industry and Energy Statistics Division
- Lusine Paronyan, Construction Statistics Division

External stakeholders:

- Armen Balayan, State Committee of Water Economy of the RA MA
- Samvel Sahakyan, RA Ministry of Agriculture
- Roza Julhakyany, RA Ministry of Natural Protection, National Environmental Inspectorate
- Arpik Hakobyan, RA Ministry of Natural Protection, National Environmental Inspectorate
- Anna Yavruyan, State Committee of Water Economy of the RA MA
- Martin Mkrtchyan, RA Ministry of Healthcare
- Georgi Arzumanyan, United Nations Development Programme
- Aram Gevorgyan, U.S. Agency for International Development
- Lilit Harutyunyan, U.S. Agency for International Development
- Magda Avetisyan, U.S. Agency for International Development
- Arpine Davtyan, Water Resource Management Agency of the RA Ministry of Nature Protection
- Luisa Aghinyan, Water Resource Management Agency of the RA Ministry of Nature Protection
- Silva Sevoyan, State Health Inspectorate of the RA Ministry of Healthcare

RTA Team:

- Peter Bohnstedt Anan Hansen, Resident Twinning Adviser
- Sona Mirzoyan, RTA Assistant