

# **TWINNING CONTRACT**

**AM/14/ENP/ST/15**

## **Strengthening of the National Statistical System of Armenia – Phase II**



### **MISSION REPORT**

**on**

#### **Water Accounts**

**Activity 6.7: Statistics Denmark's experience with environmental accounts**

Mission carried out by

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Final version



National Statistical Service  
Republic of Armenia



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## List of Abbreviations

EU	European Union
NSSRA	National Statistical Service of the Republic of Armenia
JQ-IW	OECD/Eurostat Joint questionnaire on inland waters
PWFA	Physical Water Flow Accounts
SEEAW	System of Environmental-Economic Accounting for Water
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”. The Report refers on the activities conducted during the fifth activity in component 6 and on the actions planned linked to this activity to be carried out as scheduled.

The objectives of the mission were:

- Experience of compiling water accounts in Statistics Denmark
- Status of compiling water accounts by NSSRA with the support of ISTAT, revelation of current problems and obstacles
- Defining methodological approaches of introducing financial component of water accounts in the NSSRA
- The role and importance of water accounts in RA System of National Accounts, usability framework
- Publication of final results of water accounts, (format, content, frequency etc.)

The MS expert would like to express his 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 his 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 or Statistics Denmark.

## 2. Assessment and results

### Presentation of Armenian system

The Armenian system for compiling data for water statistics and water accounts were presented and discussed.

### Presentation of Danish system

The Danish system for compiling data for water statistics and water accounts were presented for NSSRA and a number of internal stakeholders. The Danish methodology was discussed by the participants. Some parts of the Danish methodology differ significantly from the Armenian methodology due to differences in the availability of data. However, organisation of the Danish work with Environmental-Economic Accounts within Statistics Denmark and dissemination of the results to external stakeholders may act as inspiration for NSSRA.

### Discussion of methodology

The SEEA-Water (System of Environmental-Economic Accounting for Water) was discussed. However, the Danish water account is built on the principles in the guide but does not follow the guide in details. Therefore, the tables in the guide have not been applied in the Danish work.

Therefore, a detailed discussion of specific tables has been postponed. The relevant tables are included in annex 4 and will be explained below.

### Table V.3 Hybrid account for supply and use of water

Row no. 1. Total output and supply: Figures may be available from the (monetary) National Account if necessary in cooperation with NA staff. The Danish values can be found in [www.statbank.dk/nabp69](http://www.statbank.dk/nabp69). For the latest year, 2015, the figures cannot be found for 37 only.

Row no. 1a and 1b may be found in the monetary water account and reflect the value of water supply and wastewater services in 36 and 37 as well as other sectors.

Row no. 2. Total intermediate consumption and use: Figures may be available from the (monetary) National Account. The Danish values can be found in [www.statbank.dk/nabp69](http://www.statbank.dk/nabp69). For the latest year, 2015, the figures cannot be found for 37 only.

Row no. 2a and 2b may be found in the monetary water account and reflect the consumption of water and wastewater services in 36 and 37 as well as other sectors.

Row no 3. Total added value: Calculated or may be available from the (monetary) National Account. The Danish values can be found in [www.statbank.dk/nabp69](http://www.statbank.dk/nabp69). For the latest year, 2015, the figures cannot be found for 37 only.

Row no. 4, 5, and 6: Gross fixed capital formation and closing stocks of fixed assets: Figures may be available from the (monetary) National Account. The Danish values can be found in [www.statbank.dk/nabk69](http://www.statbank.dk/nabk69). For the latest year, 2015, the figures cannot be found for 37 only.

Row no. 7 and 8: Total use of water and Total supply of water: Figures for consumption of water and discharge of water from physical water account.

Row no. 7a and 7b: Figures are from physical water account: abstraction of water/abstraction of water for own use as well as bought amount of water.

Row no. 8a and 8b: Figures are from physical water account: water to other companies/discharge to sewerage as well as direct discharge to environment.

Row no. 9. Total gross emissions of COD: Figures from physical water account.

#### **Table V.5 Government accounts for water-related collective consumption services**

In the Danish Environmental-Economic Accounts similar results are presented in [www.statbank.dk/mreg22](http://www.statbank.dk/mreg22). The Danish table include e.g. wastewater management protection of soil, groundwater and surface water. Water supply is not included in the Danish table, however, it would be characterised as Public corporations. The data are compiled as part of public accounts for municipalities, regions and government. The rows in the Danish differs in level of details from table V.5

### **3. Conclusions and recommendations**

Based on the presentations and discussions during the visit the overall **conclusions** are as follows:

- There seems to be a good cooperation between NSSRA and ministries/governmental agencies regarding access to environmental data
- NSSRA has good data on physical water account
- NSSRA has a constructive dialogue with economic divisions regarding data on monetary water account
- The overall impression of the ongoing development of Water Accounts with the Italian experts is very good
- The SEEA water account tables gives a good and systematic overview over the water accounts, however, the tables are not easy to understand and are difficult to communicate to users

And **recommendations** can be given as follows:

- To continue work on standardized agreements for data exchange (MoU's) with owners of administrative environmental data - to ensure delivery of sufficient data of required quality in time in the future
- To continue working on developing water accounts as already planned and scheduled with Italian experts within the Twinning project
- To investigate and describe the data on "losses of water during transport in water supply system" further (Table 3)
- To generally improve data quality and level of detail
- To write an internal manual for the production and dissemination of environmental accounts
  - to ensure documentation of processes, calculation methods, and how data from various sources are combined
  - to ensure sustainability and coherence
- To write an external paper / report that document the applied data sources, data quality, calculation methodology as a part of the dissemination strategy
- To establish annual meetings with internal and external stakeholders regarding needs for environmental data and visions for future development
- To establish a steering committee with internal stakeholders

## **Annex 1: Terms of Reference**

### **Terms of Reference**

#### **EU Twinning Project AM/14/ENP/ST/15**

**13-15 February 2017**

#### **Component 6: Water Accounts**

##### **Activity 6.7: Statistics Denmark's experience with environmental 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 accounts compiled (July 2017)
- Staff of NSSRA trained on issues related to the water accounts compilation (July 2017)

#### **1. Purpose of the activity**

- Experience of compiling water accounts in Statistics Denmark
- Status of compiling water accounts by NSSRA with the support of ISTAT, revelation of current problems and obstacles
- Defining methodological approaches of introducing financial component of water accounts in the NSSRA
- The role and importance of water accounts in RA System of National Accounts, usability framework
- Publication of final results of water accounts, (format, content, frequency etc.)

#### **2. Expected output of the activity**

- Assessment of current status on development of water accounts in Armenia
- Discussion on experiences from Statistics Denmark
- Recommendations on how to move forward

### 3. Participants

#### **NSSRA**

Component leaders

- Mr. Yurik Pogosyan
- Ms. Nelli Baghdasaryan

Other staff from the division

- Ms. Naira Mandalyan
- Ms. Ani Hambardzumyan
- Ms. Astghik Podpomogova
- Macroeconomic indicators and national accounts division
- Finance statistics division
- Other line divisions if necessary

#### **Other stakeholders taking part in the activity**

Representatives from

- RA Ministry of Nature Protection
- RA Ministry of Finance

will also be invited

#### **MS expert**

Mr. Leif Hoffmann, Expert, Statistics Denmark



## Annex 2: Programme for the mission

<b>Time</b>	<b>Place</b>	<b>Event</b>	<b>Purpose / detail</b>
Monday (13/2) <i>(start at 14:00)</i>	NSSRA	Meeting with BC Component Leader and BC Experts	To discuss the programme of the week  Presentation by BC of the current development of water accounts done by NSSRA and Istat
Tuesday, morning (14/2)	NSSRA	Meeting with BC Component Leader and BC Experts	Presentation by MS Experts of methodology and compilation of water accounts, and their usability in Statistics Denmark
Tuesday, afternoon (14/2)	NSSRA	Meeting with BC Component Leader and BC Experts	Discussions relating to methodological issues on compilation of the monetary component of water account, possibilities of introducing them in the NSSRA, definition of format and content of corresponding output tables
Wednesday, morning (15/2)	NSSRA	Meeting with BC Component Leader  Ad-hoc meetings	Discussions on the format, content, frequency of publication of final results on water ac- counts  Final clarifications with BC Experts, prepara- tion of report and presentation for BC Project Leader
Wednesday, afternoon (15/2)	NSSRA	Debriefing with BC Project Lead- er	Conclusions and decisions presented for BC Project Leader

## **Annex 3: Persons met**

### **NSSRA:**

Mr. Yurik Pogosyan, Member of the State Council on Statistics of RA

Ms. Anahit Safyan, Member of the State Council on Statistics of RA

Ms. Nelli Baghdasaryan, Head of Social Sphere and Natural Protection Division

Ms. Naira Mandalyan, Leading Specialist, Social Sphere and Natural Protection Division

Ms. Ani Hambardzumyan, Junior Specialist, Social Sphere and Natural Protection Division

Ms. Astghik Podpomogova, Statistician, Social Sphere and Natural Protection Division

Ms. Nadezhda Astvatsaturova, Chief Specialist, Macroeconomic Indicators and National Accounts Division

### **External stakeholders:**

Ms. Gohar Harutyunyan, Testing and Programming Specialist, “Information Analytical Centre” SNCO, RA Ministry of Nature Protection

### **RTA Team:**

Mr. Peter Bohnstedt Anan Hansen, Resident Twinning Adviser

Ms. Liana Atoyan, RTA Assistant

Ms. Anush Poghosyan, RTA Language Assistant

## Annex 4: SEEA Water

Table A1.4  
Hybrid account table for supply and use of water (physical and monetary units) (chap. V)

	Industries (by ISIC category)							Rest of the world	Taxes less subsidies on products, trade and transport margins	Actual final consumption			Capital formation	Total
	1-3	5-33, 41-43	35		36	37	38, 39, 45-59			Total industry	Households	Government		
			Total	(of which) Hydro										
1. Total output and supply (monetary units) of which:														
1.a. Natural water (CPC 1800)														
1.b. Sewerage services (CPC 941)														
2. Total intermediate consumption and use (monetary units) of which:														
2.a. Natural water (CPC 1800)														
2.b. Sewerage services (CPC 941)														
3. Total value added (gross) (= 1 - 2) (monetary units)														
4. Gross fixed capital formation (monetary units) of which:														
4.a. For water supply														
4.b. For water sanitation														
5. Closing stocks of fixed assets for water supply (monetary units)														
6. Closing stocks of fixed assets for sanitation (monetary units)														
7. Total use of water (physical units) of which:														
7.a. Total abstraction														
7.a.1. Abstraction for own use														
7.b. Use of water received from other economic units														
8. Total supply of water (physical units) of which:														
8.a. Supply of water to other economic units														
8.a.1. Wastewater to sewerage														
8.b. Total returns														
9. Total (gross) emissions (physical units)														

Note: Dark grey cells indicate zero entries by definition.

Table A1.6

Government account table for water-related collective consumption services (*chap. V*)

	Government (ISIC division 84) (by Classification of the Functions of the Government category)			
	05.2 Wastewater management	05.3 (part) Soil and groundwater protection	05.6 Environmental protection not elsewhere classified	06.3 Water supply
<b>1. Costs of production</b> (= 1.a + 1.b)				
1.a. Total Intermediate consumption				
1.b. Total value added (gross)				
1.b.1. Compensation of employees				
1.b.2. Consumption of fixed capital				