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**Water and
Environment Support**
in the ENI Southern Neighbourhood region



WES Information Bulletin

Water Accounting Training

Online, 12 – 26 October 2020

ABBREVIATIONS

CIS	Common Implementation Strategy for the European Water Framework Directive
DPSIR	Drivers, Pressure, Status, Impact, Response
EEA	European Environment Agency
ENI	European Neighbourhood Instrument
ENP	European Neighbourhood Policy
EU	European Union
GW	Ground Water
IMS	Indicator Management System
ISIC	International Standard Industrial Classification of All Economic Activities
IWMI	International Water Management Institute
IWRM	Integrated Water Resources Management
IWRS	International recommendation for Water Statistics
MDIAK	Monitoring — Data — Indicators — Assessments — Knowledge
PSUT	Physical supply and use tables
SDG	Sustainable Development Goals
SEEA-CF	UN System of Environmental Economic Accounting Central Framework
SEEA-W or SEEA-Water	System of Environmental Economic Accounting for Water
SNA	System of National Accounts
SEIS	Shared Environmental Information System
SW	Surface Water
UN	United Nations
WA	Water Accounting
WFD	Water Framework Directive
WIS	Water Information System
WISE	Water Information System for Europe

INTRODUCTION

As part of the Water and Environment Support (WES) project, a five-day regional training was held on Water Accounting. The training took place online, between 12 and 26 October 2020.

The training was in line with the Water Financing Strategy of the UfM and is closely connected with the UfM Mediterranean Water Knowledge Platform. It referred to International Standards – the UN System of Environmental Economic Accounting Central Framework (SEEA-CF), and the UN System of Environmental Economic Accounting for water (SEEA-water). Furthermore, it ensured complementarity with the ENI SEIS II South Support Mechanism (Shared Environmental Information System (SEIS) principles and practices in the ENP South region) implemented by the European Environment Agency (EEA). EEA aims at improving the availability and access to relevant environmental information to the benefit of effective and knowledge-based policymaking in the Neighbourhood South region. The programme of this training was co-developed with the ENI SEIS II South Support Mechanism.

This bulletin aims to also inform stakeholders that have not directly participated in the training and to provide them with a summary of points discussed and useful links to explore in order to gain a better understanding of the various methods of Water Accounting.

OBJECTIVES WATER ACCOUNTING TRAINING

The purpose of the training on Water Accounting was to introduce water accounting as a tool to achieve integrated water governance for all users and to promote sustainability between water availability and demand. It also aimed to reflect on the the SEEA-Water standard and its important role in planning and assessing the availability of water resources under a common conceptual framework by encouraging transparency, communication among different levels of administration and international cooperation. SEEA also allows to further develop environment and water related indicators (e.g. Sustainable Development Goals (SDG) 6 Target)

Throughout the training sessions the following issues were tackled:

1. A comprehensive introduction to the overall concept of water accounts (environmental and economic components) and its different approaches (e.g. FAO, EU)
2. Learning about the benefits of water accounting and the use of the accounting tables outputs (e.g. assessment, planning, policy decision, UN SDG process)
3. Familiarisation with the Physical Flow accounts and Physical Assets accounts, using the UN System of Environmental Economic Accounting for Water (SEEA-Water)
4. Introduction to the economic accounts using the SEEA-Water
5. Review of data needs and requirements for water accounting based on UN International recommendation for Water Statistics (IWRS) and the role of the different institutions in water accounting and data collection strategies

6. Exploring the practical use of water accounting through countries' case studies (preferably from the MENA region)
7. Implementation of water accounting practical exercises
8. Sharing of experience on real situations in the project countries where water accounting can be implemented

TRAINING PROGRAMME

Dates	Module title	Session nr.	Session Title
Monday 12/10/2020	Module 1: Introduction to Water Accounting + how to use the accounts	S1.1	Introducing SEEA-W
		S1.2	Use and benefits of Water Accounting
	Module 5: Practical use of water accounting - Case studies	S5.1	FAO water accounting experience in MENA countries
Wednesday 14/10/2020	Module 2: Flow and assets accounts - The UN Standard System of Environmental Economic Accounting for water (SEEA-water)	S2.1	Water in the Economy
		S2.2	Main water accounting tables
	Module 5: Practical use of water accounting - Case studies	S5.2	Spanish experience on the water balance
Monday 19/10/2020	Module 2: Flow and assets accounts - The UN Standard System of Environmental Economic Accounting for water (SEEA-water)	S2.3	Deriving indicators from physical water accounts tables
	Module 5: Practical use of water accounting - Case studies	S5.3	National physical water flows accounts (physical supply and use tables and data collection strategies)
	Module 5: Practical use of water accounting - Case studies	S5.3	Jordan case study on SEEA-W (2012)
Thursday 22/10/2020	Module 3: Introduction to Economic Accounts	S3.1	Hybrid and economic accounts: hybrid supply and use table & water-related activities carried out for own use

Dates	Module title	Session nr.	Session Title
Monday 26/10/2020		S3.2	National expenditure and financing accounts & derived indicators for policy assessment
	Module 5: Practical use of water accounting - Case studies	S5.3	Israeli case study on SEEA-W
	Module 5: Practical use of water accounting - Case studies	S5.4	Implementation of water accounts at EEA covering 39 member states
	Module 4: Data needs and requirements for water accounts - Apply the International Recommendations for Water Statistics (IRWS)	S4.1	Data needs and requirements for building water accounts
		S4.2	Development of indicators

1.1 DETAILS DAY 1

Module 1 – Session 1.1 Introducing SEEA-W

Key points:

- Environmental data (data types, Monitoring — Data — Indicators — Assessments — Knowledge (MDIAK) information chain
- Key accounting concepts from SEEA - Central Framework (CF) (assets, flows, stocks, emission accounts)
- Tools and approaches – introduction to the SEEA-Water main types of accounts (assets, emission, quality, valuation of water resources
- Broader context: SEEA-W relations with Natural Capital Accounting and Ecosystem Accounting

Module 1 – Breakout session 1.1 Game role positioning in MDIAK reporting chain

Key points:

- Declaration and discussion on the role of institutions from each country on the MDIAK information chain.

Module 1 – Session 1.2 Use and benefits of Water Accounting

Key points:

- Benefits of water accounting for policy
- SDG Reporting using SEEA-CF
- Other approaches of water accounting (FAO –water accounting and auditing; Water accounting plus using remote sensing; EU Water Balance; EU Environmental Economics Accounts)

Case study: FAO water accounting experience in MENA countries

Key points:

- FAO water accounting concepts and steps
- Activities in MENA countries in the framework of NENA-WePS project: Implementing the Agenda 2030 on water efficiency/productivity and sustainability in the NENA region” (2017-2022)

1.2 DETAILS DAY 2

Module 2 – Session 2.1

Key points:

- Water in the Economy; introduction to physical supply and use tables
- Flows of water from environment to the economy and vice versa; identification of pressures; economic agents, evaluation of policy strategies
- Main elements of water flows; water abstractions, water reuse, water returns; losses
- The International Standard Industrial Classification of All Economic Activities (ISIC) standard for the classification of economic activities
- Detailed descriptions of major blocks of economic sectors
- Examples

Module 2 – Session 2.1 – Break out session – Exercise 1

- The purpose of this breakout session was to introduce the participants to the terminology and approach of ISIC Rev 4 standard to successfully identify and organize the economic activities in their countries. An indicative list of economic sectors was given along with a list of activities to be assigned. The exercise was conducted for each of the participants in separate columns. By the end of the session along with questions there was a short discussion based on difficulties faced

Module 2 – Session 2.2

Key points:

- Water accounting tables; physical supply and use, water asset tables
- Structure of water accounts as a workflow
- The concept of water stocks
- Water balances in the inland water systems and the hydrological cycle
- Water exchanges as major hydrological modelling outputs
- Examples

Case study: Spanish experience on the water balance

Key points:

- Water balances in the framework of River Basins Management Plans (revised every 6 years)
- Deployment of a water allocation model (Aquatool) on all Spanish river basins
- Results from pilot projects implementing water accounting at river basin level with a monthly time scale, calculation of WEI+ (Water Exploitation Index)
- Importance of SEEA-W for natural capital accounting

1.3 DETAILS DAY 3

Module 2 – Session 2.3

Key points:

- Introduction to environmental indicators; definitions, scope, link with MDIAK chain
- Indicator specifications and assessments based on the DPSIR (Drivers, Pressure, Status, Impact, Response) assessment framework
- The direct use of water accounts tables/data for the derivation of water related indicators (water use, water availability)
- Climate indicators – Copernicus example for droughts
- The United Nations (UN) SDG 6 – group of indicators, examples of 6.4.1 & 6.4.2
- European Union (EU) work on water balances

Case study: National physical water flows accounts in the Republic of Belarus

Key points:

- Implementation based on a robust approach supported by a legal and policy framework

- Methodological approach agreed by a multi-institutional team, supported by the EEA
- Physical water account tables
- Pending issues (reused water, valuation of water resources, water included in products, role of precipitation in economic activities)

Case study: Jordan case study on SEEA-W

Key points:

- Water accounting as part of Jordan National Statistical Strategy
- Importance of the Jordanian Water Information System together with data sharing agreements for building water accounting
- Physical water accounts developed
- Assessment of data availability

1.4 DETAILS DAY 4

Module 3 – Session 3.1

Key points:

- Links System of National Accounts (SNA) → SEEA → SEEA Water central framework
- Split off Water resources & Economy (main economic agents)
- Exchanges within the economy
- Main SNA concept & rules
- Monetary supply & use table
- Hybrid and economic accounts (tables V1, V2, V3, V4)

Module 3 – Session 3.2

Key points:

- Water-related collective consumption services (table V5)
- Taxes, fees and water rights
- Payment for water supply & sanitation National expenditure & Financing accounts (table V6)
- Financing accounts for Wastewater management (table V7)
- Derived indicators
- Examples of Water Productivity (Australia & Uganda)

Case study: Israel's water accounts and statistics

Key points:

- Overview of the water sector in statistics
- History of water accounts development from 2005,
- Data sources used
- Importance of an Information system for building annual water accounts
- Difficulties and challenges: staff turnover, building a new IT system considering new activity classification (ISIC4), budget, training, estimation of industrial pollution

1.5 DETAILS DAY 5

Case study: Implementation of water accounts at EEA

Key points:

- EU Policy frameworks requiring robust and systematic water data and indicators at different scale
- Accounting modules: assets and flow accounts plus emissions and ecosystems conditions accounts at experimental level
- Practical examples of application and use of the water accounts
- Lessons learnt importance of completeness and accuracy of data, refinement needed for some concepts (climatic parameters, reservoirs and returns components)
- Next steps 2021-2013

Module 4 – Session 4.1

Key points:

- Data needs and requirements for water accounts
- Modular structure of water accounts as an advantage to progressively develop
- Challenges among different administrative units responsible for data collection, water assessments and decision making
- Data collection, sharing and prioritization strategies
- EU and international dataflows (EEA – WISE 3, OECD/Eurostat JQ IW, FAO Aquastat)

Module 4 – Session 4.2

Key points:

- Global challenges on water resources management

- Policy objectives and historical background
- The Water Framework Directive (2000/60/EC) and the DPSIR assessment framework
- Quantitative pressures and water dependent sectors
- Integration frameworks – NEXUS approach
- Indicative policy questions and decoupling of economic output linked with resource use.

CONCLUSIONS OF THE TRAINING

All five water accounts modules (introduction to water accounting, flow and assets accounts, economic accounts, data needs and requirements and practical use of water accounting) presented during the web-training have been regarded as of average difficulty to be adopted at national level in the MENA region in the years to come, despite the fact that most of the participants know specific administrative barriers especially in inter-administrative cooperation and data sharing strategies.

The workshop managed to increase awareness and improve the knowledge of advanced water resources management topics under water accounts concepts. The training made clear that water accounting can support integrated assessment of the impact and efficiency of water policy measures.

Perspectives were shared on the required efforts, time and economic resources investments to elaborate water accounts as well as the principles of ENI on data sharing and transparency of environmental information. This information will boost international and transboundary cooperation around water issues and provide the necessary knowledge base towards the sustainable use and protection of water resources.

Barriers that still exist to start with proper water accounting concentrate around 2 main issues: building interinstitutional teams to jointly develop the water accounts; data availability and streamlining from existing databases. In this context the main challenges are related to regulation and policy frameworks enabling joint production of the data necessary using adapted format with sufficient frequency.

USEFUL LINKS

For further background reading and useful documents, please refer to the links provided here below.

EU background documents:

- [Water balances and water resources management targets](#)
- [Natural Capital Accounting](#)
- [Accounting for natural capital - recognising the contribution of nature to human welfare](#)

SEEA background documents:

- [System of environmental ecological accounting](#)

- Economy-wide Material Flow Accounts and the Sustainable Use of Natural Resources in the Economy
- Joint OECD/UNECE Seminar on the Implementation of SEEA
- Overview on SEEA-related activities of International Organisations

UN background documents:

- Water accounting and auditing
- Water accounting in the Nile River Basin
- Water accounts in Armenia

Various:

- Water Account Australia
- The potential of natural capital accounting for better water management
- Scottish Natural Capital Accounts: 2020
- More countries publishing ecosystem accounts, considering environment in economic decisions
- Putting a price on groundwater and other natural capital
- Water Accounts: A new information system for policy makers
- A Natural Capital Accounting Community of Practice for Africa
- Expanding Support to Water Accounting in River Basins and Water Productivity Measurement in Irrigation Projects

PRESENTATIONS OF THE TRAINING

You can find all powerpoint presentations of the training at:

https://www.wes-med.eu/activities_type/rw-2-reg-training-on-water-accounting-2/

WES PROJECT AND WES SUPPORT

The Water and Environment Support (WES) is a regional project designed to contribute to the implementation of an integrated approach to pollution reduction and prevention, in line with the Union for the Mediterranean agendas and the Barcelona Convention. WES is also meant to contribute to a more efficient management of scarce water resources in the ENI Southern Neighbourhood region.

The project aims to do so by increasing the capacity of stakeholders that are involved in pollution reduction and water management and support them in formulating and implementing the environmental and water policies.

WES supports the shift to a more sustainable consumption and production model, promotes an integrated and efficient management of water, combats plastic pollution and marine litter and fosters

dialogue on key environmental and sustainable development issues. In this way, WES also supports mutual understanding, cooperation and peace in the region.

The WES Project Countries are Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Libya, Palestine, Syria and Tunisia. However, in order to ensure the coherence and effectiveness of EU funding or to promote regional cooperation, the eligibility of specific actions can be extended to neighboring countries in the Southern Neighborhood region.

For further information of the WES project, please visit: www.wes-med.eu

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