Water Accounts and Statistics for Sustainable Development Goal 6

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Workshop on ‘Capacity Development in Advancing Water and Sustainable Development’

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Outline

- Information Needs for Sustainable Development
- The FDES and SEEA
  - Strengthening Environment Statistics
  - SEEA-Water - an information system for policy
- UNSD Work
  - SEEA Implementation
  - Environment Statistics - data collection and dissemination
Sustainable Development: Policy

Increasing recognition that Sustainable Development Policy should:

1. **Be based on Evidence:** Policy should, to the greatest extent possible, be informed by rigorously established evidence

2. **Take an Integrated Approach:** Policy should be based on a better understanding of interactions and tradeoffs between the different realms of sustainability

**Implication:** An information system is needed to support policy analysis and decisions, which provides information on:

- The multiple issues relevant to sustainable development
- The interconnections between these issues
An information system to support integrated policy

Vision

National Development Goals

National Economic Development Plan / Planning and Budgetary Processes

Sector Strategies and Plans

Water
Energy
Economy
Oceans / Marine Resources

Forests
Biodiversity
Trade
Tourism
Agriculture
Fisheries
Health
Rural Development

Supporting Evidence

Integrated Information System

SNA and SEEA

Presenting integrated economic, environmental, and social dimensions

Sector statistics

Water
Energy
Economy
Forests
Agriculture
Ocean/Marine Resources
Tourism
Fisheries
Biodiversity
Etc. Etc.

Adapted from DESA
Silo Approach ➔ Integrated Statistics

Accounts to integrate statistics:
- Integrated statistical production process/chain and services
- Consistency between basic data, accounts and tables and indicators
- Linking policy needs and statistics
**FDES and SEEA**

- **Framework for the Development of Environment Statistics (FDES):** A conceptual framework to define the scope of environment statistics and strengthen environment statistics programmes in countries.
  - Endorsed by the UNSC in 2013

- **System of Environmental Economic Accounting (SEEA):** An accounting framework to bring the environment into a system of information on par with that used for the economy
  - Central Framework adopted as an international statistical standard by the UNSC in 2012
  - Experimental Ecosystem Accounting will add the link to well-being
Framework for the Development of Environment Statistics (FDES 2013)

- The FDES is the framework for strengthening environment statistics programmes in countries.
  - Flexible, multi-purpose conceptual and statistical framework
  - Enables and facilitates the collection, compilation and production of environment statistics, including water related statistics
  - It is broad, comprehensive and integrative, covering aspects of the environment that are relevant for policy analysis and decision making and can be applied to cross-cutting issues such as water (Chapter 5).

- The FDES and its supporting methodological tools are based on definitions and classifications that are consistent with those of the SEEA and the IRWS, where relevant.
The SEEA: Systems of coherent information:

- SEEA-Energy (forthcoming)
- SEEA-Agriculture, Forestry and Fisheries (forthcoming)
- Others (forthcoming)
SEEA-Water: An information System

- The SEEA-Water is a conceptual framework for organizing hydrological and economic information in a coherent manner.
- It can provide an information system for water policy by bringing together and organizing information relevant to four main quadrants of water policy.
- Main accounts in SEEA-Water provide information on:
  1. Flows of water between the environment and economy
  2. Stocks of water resources (and changes in stocks)
  3. Environmental pressures on water stocks from economy
  4. The water economy
I. IMPROVING WATER SUPPLY AND SANITATION SERVICES
Policies that aim to ensure the population has access to safe water as well as to means of disposing wastewater (Targets 6.1, 6.2 and 6.3 (partial))

INFORMATION ON WATER AND PEOPLE
Information on the provision of drinking water and sanitation to the population;
- Amount of water supplied and wastewater collected
- Quality and affordability of services
- Costs and financing of providing the services
- Efficient operation of water utilities, including losses

II. MANAGING WATER SUPPLY AND DEMAND
Policies that aim to improve water allocation to satisfy societal needs without compromising the needs of future generations or the environment (Targets 6.3, 6.4 and 6.5)

INFORMATION ON WATER AND THE ECONOMY
Information on the water cycle in nature and the economy including;
- Amount of water allocated for different uses and losses
- Trade-offs in the allocation of water
- Sustainability of water use by the economy
  - Financial resources water supply
  - Investments and financing of infrastructure

III. IMPROVING THE STATE OF THE ENVIRONMENT AND WATER RESOURCES
Policies that aim to preserve/improve the quality of water resources and aquatic ecosystems (Targets 6.3 and 6.6)

INFORMATION ON WATER AND THE ENVIRONMENT
Biophysical information on water related ecosystems, the services they provide and the factors affecting them;
- Conditions and provisioning services
- Characteristics of water bodies, such as the amount of pollutants in the water and the quantity of aquatic life
- Flow patterns and quantification of required environmental flows

IV. ADAPTING TO EXTREME HYDRO-METEOROLOGICAL EVENTS
Policies that aim to reduce the socioeconomic impact of water related disasters (Targets 6.5 and 6.6)

INFORMATION ON WATER AND RISKS
Information on extreme events related to water ecosystems and human response;
- Variability in water availability
- Frequency and magnitude of events and their effects
- The state of natural systems or manmade structures to regulate seasonal and inter-seasonal variations
- Expenditures related to mitigation, adaptation, etc.
SEEA-Water: A systems approach

Inland Water Resource System

Groundwater

Surface water

Soil water

Abstraction

Water supply

Households

Other industries (incl. Agriculture)

Sewerage

Import

Exports

Precipitation

Rest of the World Economy

Outside territory of reference

Sea

Sea

Inflows

Outflows

Return

Rest of the World Economy

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Workbook

Workbook
# SEEA-Water: Informing the SDGs

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<tr>
<th>Target Issue</th>
<th>Policy relevant information on SEEA-Water</th>
<th>Accounts</th>
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<tbody>
<tr>
<td><strong>6.1 &amp; 6.2 Access to drinking water and sanitation</strong></td>
<td><strong>Physical:</strong> Supply of water to households relative to economy, generation of wastewater by households and water-system characteristics affecting households (e.g. portion lost/treated)&lt;br&gt;<strong>Monetary:</strong> expenditure on household water supply and sanitation (incl. sources of funding), expenditures by governments and investment in fixed capital for water supply and sanitation</td>
<td>PSUT Combined Presentation</td>
</tr>
<tr>
<td><strong>6.3 Water quality, treatment and re-use</strong></td>
<td><strong>Pollution Release:</strong> the release of pollutants by different economic activities (i.e. households and industry type) and the pathway of their release&lt;br&gt;<strong>Within-economy water cycle:</strong> flows of wastewater between economic units and to the environment, including flows for treatment and re-use</td>
<td>Emissions Accounts PSUT</td>
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<td><strong>6.4 Water efficiency and sustainable withdrawals</strong></td>
<td><strong>Water Use:</strong> Water abstraction and use by economic activity (households and industry sectors)&lt;br&gt;<strong>Sustainability of withdrawals:</strong> Evolution of water stocks over time and sustainability of current pattern</td>
<td>PSUT Asset Accounts</td>
</tr>
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<td><strong>6.5 IRWM</strong></td>
<td>SEEA-Water is a tool for IRWM by bringing together different types of water information into one framework</td>
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<td><strong>6.6 Water-related ecosystems</strong></td>
<td><strong>Biophysical information:</strong> on areas and changes in areas of various types of water-related ecosystems, including their extent, condition and provisions of services.</td>
<td>Ecosystem Accounts</td>
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UNSD: Ongoing work

- **Water Indicators**
  - Process ongoing to develop an indicator set to monitor SDGs

- **Water Accounts (SEEA)**
  - Implementation Strategy for the SEEA Central Framework
  - Experimentation on Ecosystem Accounting
  - Core Tables and Accounts

- **Water Statistics (FDES)**
  - UNSD/UNEP Questionnaire on Environment Statistics
  - Country Assistance to strengthen statistical capacity through training workshops and direct technical assistance
UNSD: SEEA Implementation Activities

- **Implementation Strategy**: Incrementally establish national technical capacity for regular reporting on a minimum set of accounts in a flexible and modular approach. Four phases:
  1. Establish national institutional arrangements
  2. Self assessment using diagnostic tool
  3. Data quality assessment
  4. Preparation of strategic development plan

- **Technical Notes and Core Tables**: implementation support for compilers of the accounts including a minimum set of information for eventual national reporting

- **Global Assessment**: to serve as a baseline for accounts
  - Of ~85 responses, 54 countries have a programme on SEEA
  - 19 currently compiling water accounts, with 18 more in planning phase
UNSD: Data Collection for Environment Statistics

- UNSD/UNEP Questionnaire on Environment Statistics:
  - Biennial data collection on water and waste sent to national statistical offices and ministries of environment.
  - Consistent and harmonized with the OECD/Eurostat Questionnaire
  - 7th round of data collection being finalized
  - Questionnaires were sent to 172 countries and 70 countries responded to the water section
  - Data completeness and data quality remain a challenge

- Linked to economic statistics through the use of the International Standard Industrial Classification of all Economic Activities (ISIC Rev. 4) in 3 tables:
  - Abstraction and use of freshwater, freshwater supply, and wastewater generated, according to ISIC.

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<th>Water Section (5 Tables)</th>
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Thank-you

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References and Annex

- UNSD Data Dissemination on Environment Statistics, including water statistics and indicators:
  - Country Snapshots (these include UNSD environmental indicators and other economic/demographic data): [http://unstats.un.org/unsd/environment/Questionnaires/country_snapshots.htm](http://unstats.un.org/unsd/environment/Questionnaires/country_snapshots.htm)

- Resources for SEEA-Water:
## Water Statistics and the FDES

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<th>Component</th>
<th>Water related statistics</th>
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<td>Component 1: Environmental conditions &amp; quality</td>
<td>Meteorology, climate Hydrographic conditions Ecosystems, biodiversity Water quality</td>
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<td>Component 2: Environmental resources &amp; use</td>
<td>Water resources and use Aquatic resources and use</td>
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<td>Component 3: Residuals</td>
<td>Wastewater generation and management</td>
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<td>Component 4: Extreme events &amp; disasters</td>
<td>Water related disasters</td>
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<td>Component 5: Human settlements &amp; environmental health</td>
<td>Water and sanitation Water borne diseases</td>
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<tr>
<td>Component 6: Environment protection &amp; engagement</td>
<td>Water protection expenditure Water related regulations and policies</td>
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UNSD Environmental Indicators: maps, tables, etc