Indicators related to Water Accounts in the context of communication and awareness raising

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Joint OECD/UNECE Seminar on Implementation of SEEA
13-15 March, Geneva
Environmental Data exchange agreements

- Inter-institutional protocols
- Inter-sectorial Committee
- Regular official and working meetings with contact persons

Aligning with UNECE Indicators

43 assessed UNECE environmental indicators of Armenia (2022)
Environment related publications

- Socio- Economic Situation of RA
- Housing resources and public utility of the Republic of Armenia
- Marzes of the Republic of Armenia and Yerevan city in figures
- Armenia in figures
- Statistics for Schools
- Atlas the Republic of Armenia by the regions and Yerevan city
Physical Water Supply and Use Tables

- By types of water sources
- Years
- Indicators
- NACE categories

Formation of the System of Water Satellite Accounts in Armenia (arm. version)
## Physical flows

### Physical use

**Table 1** (millions of cubic meters), by NACE categories and households

1. Total abstraction from the environment (= 1.a + 1.b = 1.1 + 1.2)
   - 1.a. Abstraction for own use
   - 1.b. Abstraction for distribution
     - 1.1. Surface water
     - 1.2. Groundwater
2. Use of water received from other economic units
3. Total use of water (= 1 + 2)
   - 3.1. Total abstraction from the environment (= 1.a + 1.b = 1.1 + 1.2)

### Physical supply

**Table 2** (millions of cubic meters), by NACE categories and households

4. Supply of water to other economic units of which:
   - 4.1. Wastewater to sewerage
5. Total returns into the environment (= 5.a + 5.b)
   - 5.a. Losses in distribution because of leakages
     - 5.b.1. Surface water
     - 5.b.2. Groundwater
     - 5.b.3. Soil water
6. Total supply of water (= 4 + 5)
7. Consumption (= 3 - 6)

### The Matrix

**Table 3**

<table>
<thead>
<tr>
<th>A. Physical use table (millions of cubic meters)</th>
<th>Industries (by NACE)</th>
<th>Households</th>
<th>Supply of water to other economic units (row 4 of table 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Total abstraction from the environment (= 1.a + 1.b = 1.1 + 1.2)</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>1.a. Abstraction for own use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.b. Abstraction for distribution</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1. Surface water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2. Groundwater</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Use of water received from other economic units</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Total use of water (= 1 + 2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Supply of water to other economic units of which:</td>
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<td></td>
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<td>4.1. Wastewater to sewerage</td>
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<td>6. Total supply of water (= 4 + 5)</td>
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<td>7. Consumption (= 3 - 6)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Industries (by NACE)**

- X

**Households**

- X

**Use of water received from other economic units (row 2 of table1)**

- X

**Supply of water to other economic units (row 4 of table 2)**

- X
### Hybrid supply table 4

<table>
<thead>
<tr>
<th>1. Total output and supply (billion of drams) of which:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.a. Natural water (CPC 1800)</td>
</tr>
<tr>
<td>1.b. Sewerage services (CPC 941)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Total supply of water (millions of cubic meters):</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.a. Supply of water to other economic units of which:</td>
</tr>
<tr>
<td>2.a.1. Wastewater to sewerage</td>
</tr>
<tr>
<td>2.b. Total returns</td>
</tr>
</tbody>
</table>

### Hybrid use table 5

<table>
<thead>
<tr>
<th>1. Total intermediate consumption and use (billion of drams) of which:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.a. Natural water (CPC 1800)</td>
</tr>
<tr>
<td>1.b. Sewerage services (CPC 941)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Total use of water (millions of cubic meters):</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.a. Total abstraction of which:</td>
</tr>
<tr>
<td>2.a.1. Abstraction for own use</td>
</tr>
<tr>
<td>2.b. Use of water received from other economic units</td>
</tr>
</tbody>
</table>

### Key indicators

<table>
<thead>
<tr>
<th>Water consumption [million m³]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water consumption per GVA (gross value added) [m³ per 1000 drams]</td>
</tr>
<tr>
<td>Water consumption per Production Output [m³ per 1000 drams]</td>
</tr>
<tr>
<td>Water use [million m³]</td>
</tr>
<tr>
<td>Water use per GVA (gross value added) [m³ per 1000 drams]</td>
</tr>
<tr>
<td>Water use per Production Output [m³ per 1000 drams]</td>
</tr>
<tr>
<td>Water consumption/ water use</td>
</tr>
<tr>
<td>Losses in distribution / total water use</td>
</tr>
</tbody>
</table>
**Water Key indicators**

\[ \text{WEI} = \frac{\text{Abstraction} - \text{Return}}{\text{Total renewable freshwater resources - Environmental flow requirements}} \]

\[ \text{WEI} = \frac{\text{Water Stress}}{\text{Total renewable freshwater resources - Environmental flow requirements}} \]

**Abstraction**

**Return**

**Consumption**

**WEI**

**WEI+**

**Water Stress**
**Total output and supply** (billion of drams)

- Other economic activities
- E 37-Sewage
- E 36-Water collection, processing and distribution
- D 35. Electricity, gas, steam and air conditioning supply
- B 05-09. Mining and quarrying
- C 10-33. Manufacturing
- F 41-43. Construction
- A 03-fishing
- A 01-agriculture

**Supply of water** (millions of cubic meters)

Production (1000 drams per cubic meter)
Using infographics to communicate key messages

Production (drams per cubic meter)

A 01-agriculture

A 03-fishing

B 05-09. Mining and quarrying
C 10-33. Manufacturing
F 41-43. Construction

D 35. Electricity, gas, steam and air conditioning supply
Stakeholder engagement in the process

- **Accountability**: Stakeholder involvement in indicator selection and application increases the accountability demands to those authorities that implement the key activities.
- **Transparency**: Stakeholder participation in the process of selecting and ultimately applying the indicators is important to ensure transparency.
- **Making connections across sectors and jurisdictions**: The diversity of stakeholders involved makes connections across sectors and administrative boundaries on a basin level.
- **A better shared understanding**: The process of co-creating indicator frameworks also allows for the involved parties to build an understanding of the issues to be addressed through the use of indicators and to negotiate priorities among these issues.
- **Data and information access**: Involving critical data owners can play an important role in facilitating access to the information that is necessary to calculate indicators, or to spur the collection of new information.
- **Ownership**: Indicators represent the information that the users require and deem to be relevant.
Building Armenia’s National Transparency Framework under the Paris Agreement UNDP-GEF project

UN Framework Convention on Climate Change (UNFCCC)

Convention on Long-Range Transboundary Air Pollution (LRTAP)
Thanks!

Any questions?

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