Workshop on Environment Statistics and Information for Sustainable Development in the Arab Region

Beirut, Lebanon 12-16 November 2018

Status and needs of environment statistics for sustainable development

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Official Statistics
Statistical Operations @ NSO

Natural Resources and Environment

Households
- Agriculture
- Industries

Water Collection
Treatment Supply
ISIC 36

Sewerage
ISIC 37

Rest of the World Economy
Imports
Exports

FDES

SEEA

Outside territory of reference
Inflows

Sea

GOV

Regular Statistical Operations
Population and HH Census and Surveys
Agriculture Census
Economic Census
Special Surveys
Urban Rural Subregional
HH level Not by Gender Age Ethnic Group
Monitoring Stations Modelling
Precipitation

NSO

ISIC 36
ISIC 37

Government
Other Data Sources

**Administrative Records**
Records of Water Utilities and Sanitation Services on connected HH Farms Industries
Need Classifications, Conversions to be Integrated with Surveys
+ Regular, Frequent Data, Cost Effective, easily obtained
Water Collection Treatment Supply ISIC 36
Sewerage ISIC 37

**Science and Research**
- Hydrological Models for precipitation, run off, recharge,
- Coefficients for calculations for water use in agriculture/other sectors
- Impact on Ecosystems

**Geospatial Data**
Dynamic information over space and time for the extent and quality of ecosystems, land use and hydrology
The SEEA Central Framework is an international statistical standard that integrates environmental and economic data and describes the relationship between economy and the Environment.

Focus on environmental assets: water, energy, land…

The SEEA - Experimental Ecosystem Accounting complements the Central Framework; ecosystem-based, assess how environmental assets interact within a spatial area to provide benefits.
1. **Stock accounts** for environmental assets: natural resources and land. Physical (e.g. fish stocks and changes in stocks) and/or monetary values (e.g. value of natural capital, depletion).

2. **Flow accounts**: supply and use tables for products, natural inputs and residuals (e.g. waste, wastewater) generated by economic activities.
   - Physical (e.g. m³ of water) and/or monetary values (e.g. permits to access water, cost of wastewater treatment, etc.).

3. **Activity / purpose accounts** that explicitly identify environmental transactions already existing in the SNA. E.g. Environmental Protection Expenditure (EPE) accounts, environmental taxes and subsidies.

4. **Combined physical and monetary accounts** that bring together physical and monetary information for derivation indicators, including depletion adjusted aggregates.
**SEEA framework**

- **Sectors**
  - Industrial output of goods and services
  - Industrial intermediate demand
    - Environmental protection expenditures
  - Resource production by industries
    - Resource use by industries
  - Waste consumption by industries
    - Waste output by industries
- **Commodities**
  - Final demand
    - Environmental protection expenditures
  - Resource production by households/gov’t
    - Resource use by households/gov’t
  - Waste consumption by households/gov’t
    - Waste output by households/gov’t
- **Wastes**
  - Changes in and holding gains/losses on natural resource assets
  - Other changes in volume & holding gains/losses on financial & produced assets
- **Assets**
  - Financial and produced assets, opening balance
  - Natural resource assets, opening balance
  - Gross fixed capital formation
    - Capital expenditures for environmental protection
  - Natural resource assets, closing balance
  - Financial and produced assets, closing balance
  - Changes in natural resource assets
# Flow Accounting: Supply Tables

## Table 3.1
General physical supply and use table

<table>
<thead>
<tr>
<th>Supply table</th>
<th>Production; generation of residuals</th>
<th>Accumulation</th>
<th>Total supply of natural inputs (TSNI)</th>
<th>Total supply of products (TSP)</th>
<th>Total supply of residuals (TSR)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Natural inputs</strong></td>
<td>Production; generation of residuals by industries (including household production on own account), classified by ISIC</td>
<td>Generation of residuals by households, industries — classified by ISIC</td>
<td>Flows from the rest of the world</td>
<td>Total</td>
<td>Natural resources residuals and waste (including energy)</td>
</tr>
<tr>
<td><strong>Products</strong></td>
<td>C. Output (including sale of recycled and reused products)</td>
<td>D. Imports of products</td>
<td></td>
<td>Total</td>
<td>Natural resource residuals and waste (including energy)</td>
</tr>
<tr>
<td>Residuals</td>
<td>I1. Residuals generated by industry (including natural resource residuals)</td>
<td>J. Residuals generated by household final consumption</td>
<td>K1. Residuals from scrapping and demolition of produced assets</td>
<td>L. Residuals received from rest of the world</td>
<td>M. Residuals recovered from the environment</td>
</tr>
<tr>
<td></td>
<td>I2. Residuals generated following treatment</td>
<td></td>
<td>K2. Emissions from controlled landfill sites</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Flow Accounting: Use Tables

<table>
<thead>
<tr>
<th>Natural inputs</th>
<th>Flow to the rest of the world</th>
<th>Flow to the environment</th>
<th>Total use of natural inputs (TUNI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Extraction of natural inputs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B1. Extraction used in production</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>B2. Natural resource residuals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Products</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>E. Intermediate consumption (including purchase of recycled and reused products)</td>
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<tr>
<td>F. Household final consumption (including purchase of recycled and reused products)</td>
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<td></td>
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<tr>
<td>G. Gross capital formation (including fixed assets and inventories)</td>
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<tr>
<td>H. Exports of products</td>
<td></td>
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<td></td>
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<tr>
<td>Residuals</td>
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<tr>
<td>N. Collection and treatment of residuals (excluding accumulation in controlled landfill sites)</td>
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<td></td>
<td></td>
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<tr>
<td>O. Accumulation of waste in controlled landfill sites</td>
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<tr>
<td>P. Residuals sent to the rest of the world</td>
<td></td>
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<tr>
<td>Q. Residual flows to the environment</td>
<td></td>
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</tr>
<tr>
<td>Q1. Direct from industry and households (including natural resource residuals and landfill emissions)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Q2. Following treatment</td>
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</tr>
</tbody>
</table>

| Total use                     |                               |                          |                                    |

* No entries for government final consumption are recorded in physical terms. All government intermediate consumption, production and generation of residuals is recorded against the relevant industry in the first column of the PSUT.

- SEEA is an accounting framework
- Integrates statistics into “accounts”
- (water, energy, land, ecosystems)
- Links to SNA by using same classifications and methods
- Good for compiling integrated indicators to assess trade-offs (water intensity of economy)
- Does not cover all issues of environmental issues

- FDES is an organizing framework
- Based on Pressure-State-Response
- Good for compiling basic statistics and reporting
- Covers most issues of concern
The SNA and SEEA are statistical standards that can be used to monitor a number of environmental-economic SDG Indicators in an integrated way.
**Mandate** to work on SEEA from Countries: Recommendations from expert groups and intergovernmental meetings. Interest from countries in environmental accounting and focus on water, energy and land accounts.

**Partner** with UNSD on International work on SEEA (UNCEEA and London Group). International Recommendations and Sub-accounts on Water (IRWS & SEEA-Water) and on Energy (IRES & SEEA-Energy).

**Regional dimension**
- Studies on SEEA Framework for Arab region
- Arabic Revision SEEA CF
- On-line Arabic Training on SEEA
- On-line Glossary of Eng Arab terms including SEEA
- SDG Metadata translation into Arabic (SDGs Env Related)
Recent Support on SEEA

Arab Working Group on Environment and Sustainable Development Indicators Third Meeting 13-15 March 2017 Amman, Jordan


Training on Statistical Frameworks to compile SDG Indicators

• Arabic Version of e-learning Course on the System of Environmental-Economic Accounting 2012 - Central Framework (SEEA CF)
• National and Regional Workshop on Integrated Environmental and Economic Accounting Systems Sustainable Development Goals (SDGs) in the Arab Region 26 to 29 March 2018. Amman, Jordan
• Workshop on Environment Statistics and Information for Sustainable Development in the Arab Region (UNSD UNESCWA UNEP and EEA) 11-16 NOV 2018 Beirut, Lebanon

Technology and Official Statistics

• UN-ESCWA and ETC-UMA relevant geospatial information available, national workflows to monitor SDGs, build geospatial skills nationally address country challenges to SDG monitoring
### Environmental-Economic Accounting in ESCWA

<table>
<thead>
<tr>
<th>Not started</th>
<th>Pilot Accounts Water</th>
<th>Pilot Accounts Energy</th>
<th>EPE</th>
<th>Published Accounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kuwait</td>
<td>2014: Jordan Tunisia Iraq</td>
<td>Qatar UAE</td>
<td>Jordan</td>
<td>Jordan Started a unit for EEA-Monetary accounts</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>2010 Lebanon Syria Bahrain Oman Morocco Palestine Qatar</td>
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<tr>
<td>Libya</td>
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<td>Sudan</td>
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<td>Yemen</td>
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</tbody>
</table>
Main Messages

1. FDES to compile basis environmental statistics
2. Implementing SEEA in an incremental way, starting from priority accounts that inform policies
3. Support official statistics in the implementation of the SEEA as it supports integrated policies called for by the 2030 Agenda for sustainable development
4. NSOs need to develop collaboration and partnerships with various stakeholders in the government to identify priorities and compile accounts in particular
   • Data producers of sectoral statistics
   • Data users to ensure that SEEA information compiled is in policy
   • Academia to support new tools
   • Global partners to share methods for estimating the data using innovative techniques such as from Earth observations
4. Support South-South cooperation and partnership to share knowledge on SEEA implementation