ESCAP’s Methodology for Integration of the SDGs and Application to SDG 6 (Water and Sanitation)

National SDG Workshop, Pakistan
Integration Session, 7 November 2017

Aneta Nikolova, Environment Affairs Officer, EDPS, EDD
The Evolution of the Integrated Approach

1970: The Limits to Growth (Club of Rome)
• The Limits to Growth spoke on whether high rates of economic growth were desirable or possible. “Earth had a limited supply of physical resources and that exceeding the limits of exploitation could end in catastrophe.” (Meadows, 1972)

1972: UN Conference on Human Environment, Stockholm

1987: Brundtland Report (World Commission on Environment and Development)
• The Report spoke about redistributing resources towards poorer nations to encourage their economic growth to enable all human beings to achieve their basic needs. It established three fundamental components: economic, environment, and social dimensions to yield the “Triple Bottom Line.” It also recognized the inherent tension between economic growth and environmental protection.

1992: Rio Earth Summit 1992
• The Rio Summit yielded two key outputs: the Rio Declaration and Agenda 21, both of which developed environmental themes to benefit social good, namely: quality of life, efficient use of natural resources, protection of global commons, management of human settlements, and Lastly, sustainable economic growth.

2000: Millennium Summit 2000
• The Summit produced the Millennium Development Goals (MDGs) which would serve as internationally-accepted targets using 1990 as a baseline, and progressing towards 2015. “The livelihoods and wellbeing of the world’s poor are now conceptualised in terms of access to opportunity and absence of insecurity and vulnerability.” (Adger et al., 2007) The MDGs were a political expression of the principle of equilibrium between the three dimensions, but progress was pursued individually, in silo-like fashion.

2002: Johannesburg Conference 2002
• The Conference was known as the Implementation Summit of the MDGs. “We are moving the concept of sustainable development towards a more productive exploration of the relationship between economic development and environment quality.” (Asefa, 2005)

• The Conference produced the outcome document: “The Future We Want”, which took stock of the progress towards MDGs and launched progress to develop a set of SDGs, which, built upon the MDGs, would converge with the post-2015 Development Agenda. It is an indication of further mainstreaming and recognition of the importance of all three dimensions of sustainable development.

2015: Sustainable Development Summit
• From the Summit, the 2030 Agenda for Sustainable Development was legitimized with the Sustainable Development Goals (SDGs), active between 2016 to 2030, representing “an indivisible tapestry of thinking and action that spans the every community everywhere in the world. They are universal...and indivisual. Though they are presented as individual goals. They actually represent a total, completely intertwined lattice of action that is relevant for every human being, everywhere.” (Making the Goals Happen, 2016)
A Focus on Water Resources

The Asia-Pacific region hosts 2/3 of the world's population.

490 million undernourished people, equivalent to 58 Londons.

70% of global freshwater withdrawals are used for food production in Asia-Pacific.

Asia-Pacific is the world's biggest producer of:
- Wheat
- Pepper
- Mango
- Meat
- Fish

Asia-Pacific has the lowest water endowment per capita in the world.

About 40% of the land in the region is used for agriculture, and another 30% is forested.
A Focus on Water Resources

NEXUS OF ENERGY FOOD & WATER

EXACERBATED OVER EXTRACTION OF WATER

70% to 90% OF WASTEWATER ARE DISCHARGED UNTREATED INTO FRESH WATER BODIES

POSITIVE TRENDS IN THE REGION

ACCESS TO SAFE DRINKING WATER GREW

FROM 74% IN 1990 TO 94% IN 2015

BUT

ACCESS TO BASIC SANITATION GREW

FROM 44% IN 1990 TO 65% IN 2015

277 MILLION PEOPLE LACK ACCESS TO SAFE DRINKING WATER

&

1.7 BILLION PEOPLE LACK ACCESS TO IMPROVED SANITATION

LACKS ACCESS TO CLEAN DRINKING WATER

SOUTH-WEST AND SOUTH ASIA LAGGING BEHIND
Interlinkages within SDG 6 (Water & Sanitation for All)

Preliminary observations about the water system

1. Water sustains the natural environment and is a factor for systems to produce ecological services.

2. There is a strong link between water security, economic activity and human development.

3. Scientific data, information and civil engagement are core drivers.

4. Without proper water governance, increased competition for water is likely.
ESCAP Methodology
ESCAP Methodology supporting the Implementation of the 2030 Agenda
Target 6.b – Support and strengthen the participation of local communities in improving water and sanitation management.

Fourth most inter-linked target;
Direct causal inter-linkages with 48 other targets from 14 SDGS;
Indirectly linked with another 28 targets;
Directly driven/influenced by 27 other targets and is a key driver / influencer of 21 other targets;
Most strongly influenced by SDG 5, 16, and 17
Has the most direct influence on SDG 1, 6, 11, 12, 13, and 14.
## Systems Thinking Approach for Integration

<table>
<thead>
<tr>
<th>System Dynamics</th>
<th>Strategic Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>System is stagnant or stalled</td>
<td>• Look for constraints</td>
</tr>
<tr>
<td>Vicious cycles</td>
<td>• Identify “brakes”</td>
</tr>
<tr>
<td></td>
<td>• Examine intervention points to return process to virtuous cycle</td>
</tr>
<tr>
<td>Reinforce virtuous feedback cycles</td>
<td></td>
</tr>
<tr>
<td>Find the strongest feedback structure operating then review the implications and generic leverage points.</td>
<td></td>
</tr>
<tr>
<td>Examine each link and consider the consequences of strengthening it or weakening it</td>
<td></td>
</tr>
</tbody>
</table>
Developing Causal Loop Diagram
SDG 6 Pilot Application: Fiji

Sub-Region: The Pacific

Development Level: Developing, SIDS

2014 HDI: 0.727  Rank: 90

2016 WB Income: Upper-Middle

Development Concerns: Climate, Energy, Water resources, Sanitation, Economic Growth
SDG 6 Pilot Application: Tajikistan

Sub-Region: Central Asia

Development Level: Developing, LLDC

2014 HDI: 0.624  Rank: 124

2016 WB Income: Lower-Middle

Development Concerns: Water security, Sanitation, Climate, Energy, Peace, Economic Growth
SDG 6 Pilot Application: Sri Lanka

- **Sub-Region:** South-West Asia
- **Development Level:** Developing
- **2014 HDI:** 0.757, Rank: 73
- **2016 WB Income:** Lower-Middle
- **Development Concerns:** Water resources, Sanitation, Gender, Education, Energy
Sri Lanka’s Next Steps: Integration of SDGs into National Planning

Figure 9. A model of the planning process for inclusive transformation in Sri Lanka

- Governance
  - Cabinet Ministry on SD
  - Parliamentary Select Committee on SDGs
  - Cabinet Sub-Committee for SDGs
  - SD Act & SD Council
  - National SD policy, strategy, standards & guidelines

- Engagement
  - National SD Engagement Platform
  - Provincial SD Engagement Platform
  - Provincial sustainability plans

- Roadmap
  - Systems linkage mapping for institutional architecture
  - National visions, pathways, baselines & indicators
  - Monitoring & reporting mechanism

Sri Lanka’s Next Steps: Integration of SDGs into National Planning

Figure 10. Mapping of institutional convergences in Sri Lanka using the systems thinking approach

17 SD Goals
169 Targets
Planning must be
• inclusive
• supported by data & statistics
• impacts measurable
• drawing visionary pathways

51 Ministries
425 Line Agencies

Sri Lanka’s Next Steps: Integration of SDGs into National Planning

Figure 11. Systems mapping of agencies and stakeholder engagement
Anchored by the SDG Indicators

<table>
<thead>
<tr>
<th>Goal 6. Ensure availability and sustainable management of water and sanitation for all</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all</td>
</tr>
<tr>
<td>6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations</td>
</tr>
<tr>
<td>6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally</td>
</tr>
<tr>
<td>6.3.2 Proportion of bodies of water with good ambient water quality</td>
</tr>
<tr>
<td>6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity</td>
</tr>
<tr>
<td>6.4.2 Level of water stress: freshwater withdrawal as a proportion of available freshwater resources</td>
</tr>
<tr>
<td>6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate</td>
</tr>
<tr>
<td>6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation</td>
</tr>
<tr>
<td>6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes</td>
</tr>
<tr>
<td>6.a By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies</td>
</tr>
<tr>
<td>6.b Support and strengthen the participation of local communities in improving water and sanitation management</td>
</tr>
</tbody>
</table>
The Next Step: Quantitative Modeling

**Structural Equation Modeling**
- Software: IBM AMOS
- <10% Data Missingness
  - Output: Quantified indirect/direct effects
  - Overall: Concrete analysis of system dynamics

**Correlational Analyses**
- Software: IBM SPSS/ MS Excel
- >10% Data Missingness
  - Output: Non-directional strength of relation
  - Overall: Good indicator of system-fit
### Results from ESCAP Methodology & Conclusion

- Law and Governance
- Data Gathering and Sharing
- Strong Links to the Environment and Pollution
- Human and Institutional Capacity Building
- Mobilisation of Financial Resource
- Transboundary cooperation will be essential in delivering on water mandates

---

*Understanding interdependence key to implementing the SDGs*

Integrated management and system thinking can

- Prioritise sustainable development goal implementation
- Attract investments
- Identify “high-impact” leverage points
- Ensure cohesive monitoring and review mechanisms

*All water-related sectors must harmonise*
The ESCAP-developed comprehensive methodology developed assists policymakers with integration of the SDGs into national planning:

- Reviewing existing institutional architecture and mandates to determine their relationship with the 17 SDGs;

- Assessing the impacts of policies and identifying effective policy interventions (leverage points) for impactful investment and use of scarce resources; and

- Stakeholder mapping and engagement in collectively developing the aspirational qualitative vision for societal change.
ESCAP Knowledge Products

Integrating the Three Dimensions of Sustainable Development: A Framework and Tools
https://sustdev.unescap.org/Files/Integrating%20the%20three%20dimensions%20of%20sustainable%20development%20A%20framework.pdf

Analytical Framework for Integration of Water and Sanitation SDGs and Targets Using Systems Thinking Approach
https://sustdev.unescap.org/Files/resource/be091e7a9604024298e074d880312c16.pdf

Integrated Approaches for Sustainable Development Goals Planning: The Case of Goal 6 on Water and Sanitation
http://www.unescap.org/publications/integrated-approaches-sustainable-development-goals-planning-case-goal-6-water-and

Low Carbon Green Growth Roadmap for Asia and the Pacific
http://www.unescap.org/sites/default/files/Full-report.pdf

E-Learning Course: Low Carbon Green Growth Roadmap
https://sustdev.unescap.org/thematicarea/detail?id=5

E-Learning Course: Integration of SDG Into National Planning

NEW!