Systems thinking: towards more effective impacts of SDGs on public policy

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The SDGs at the level of the nation state – utilitarian or not?

- While the SDGs have multiple stakeholders, at the heart of the process are the nation states who committed to them in 2015 and who primarily influence or drive priorities and direction within their jurisdiction

- The SDGs can either be seen as simply an aspirational set of goals or can they be a tool-kit for driving progress in nation states.

- The former largely drives a repackaging of business as usual and then reporting that as progress. Most countries have adopted this approach.

- But the nature of the challenges ahead for all countries, means that if they are to be useful, the SDG framework should impact on the policy process

International Science Council
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STI, policy making and the SDGs

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- The need to distinguish between policy for science and science for policy is well understood and an analogous separation can be made with respect to the SDGs. Not doing so has led to confusion.

  – Most discussion (has been about using the SDGs to drive STI activity that might help achieve progress on them (policy for science)

  – There is a relative and conceptual void relating to the more critical question – how can robust evidence and analysis be used better to advance the SDGs? (science for policy)

  – Yet the latter must precede the former given the reality of limited bandwidths

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Policy making

- Policy making is fundamentally about making choices between options that affect different stakeholders in different ways with differing spillover benefits and costs

- Governments struggle with priorities claimed from within policy silos, from advocacy with civil society, from the knowledge community and from the political process.

- Any decision always has both anticipated and unanticipated flow on effects, both positive and negative

- Systems thinking can assist and the need for it is increasingly understood particularly in finance ministries

- There are few tools that encourage systems thinking in government beyond the central finance agency

- The SDG challenge reflects this realty

Policy making and the SDGs

- Governments do not organize themselves around the SDGs

- The goal, targets and indicators do not necessarily reflect national priorities or political process.

- The SDGs were not developed with policy making as the main driver, yet policy making is a critical element

- Nation states have other frameworks that drive their policy choices

- At the political level, domestic frameworks seem more attractive and are seen as 'bottom-up'

- Thus to have any resonance at the policy and political level across most nation states there will have to be some form of compelling and utilitarian linkage between current and evolving bottom-up domestic frameworks and the top-down SDG framework.
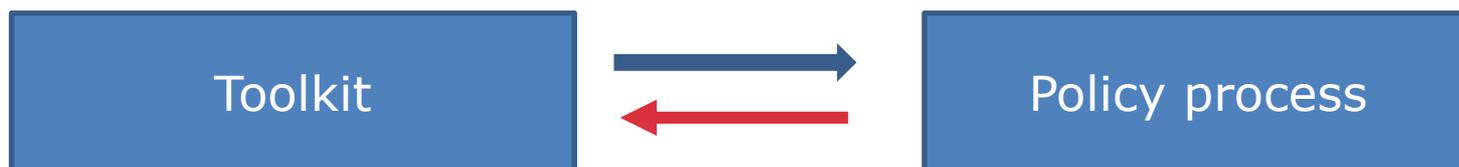
Interactions matter

- Systems thinking requires understanding interactions

    - They are where much policy making at the central agency level occurs

    - They are where risk and benefit can be better understood

    - They can inform the policy maker of where priorities might lie

    - They illustrate tradeoffs and spillover effects which impact on the policy decision making process

    - Discussions with policy makers and politicians in both developed countries and LMICS suggest that a focus on interactions has more meaning

   - The 2030 Agenda papers acknowledge the importance of interactions

Rationale of the ISC-INGSA- IIASA –JRC - UNDP -……. project

- The ISC-INGSA-IIASA project has two components
  - Focuses on interactions
  - Builds the evidence - policy nexus
  - Customized according to context and domestic priorities
  - promote **collaboration between key stakeholders** including scientists and policy makers

| Toolkit | → ← | Policy process |

Toolkit
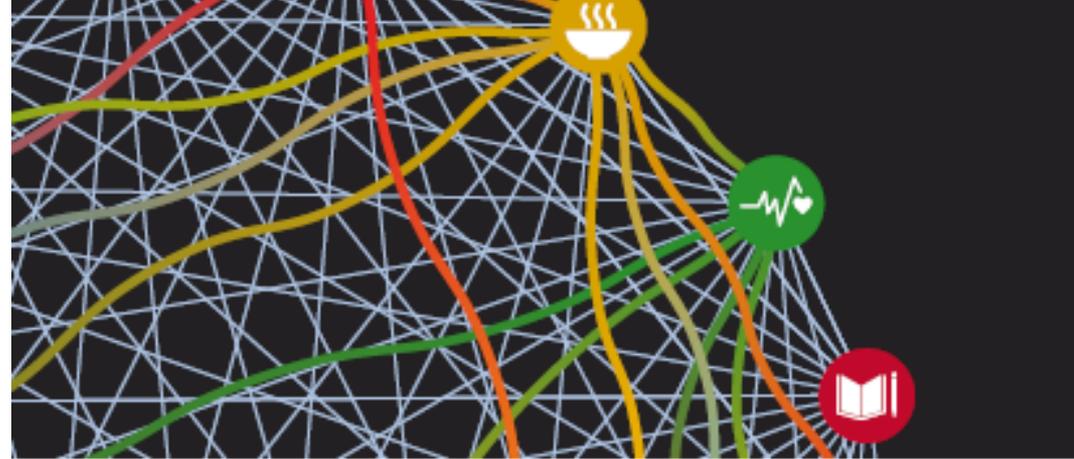
Building on the ICSU interaction analysis framework

A GUIDE TO
SDG INTERACTIONS:
FROM SCIENCE
TO IMPLEMENTATION

INTERNATIONAL
COUNCIL
FOR SCIENCE

GOAL SCORING
The influence of one Sustainable Development Goal or target on another can be summarized with this simple scale.

Interaction	Name	Explanation	Example
+3	Indivisible	Inextricably linked to the achievement of another.	Ending all forms of discrimination against women and girls is indivisible from ensuring women's full and effective participation and equal opportunities for leadership.
+2	Reinforcing	Aids the achievement of another goal.	Providing access to electricity reinforces water-pumping and irrigation systems. Strengthening the capacity to adapt to climate-related hazards reduces losses caused by disasters.
+1	Enabling	Creates conditions that further another goal.	Providing electricity access in rural homes enables education, because it makes it possible to do homework at night with electric lighting.
0	Consistent	No significant positive or negative interactions.	Ensuring education for all does not interact significantly with infrastructure development or conservation of ocean ecosystems.
–1	Constraining	Limits options on another goal.	Improved water efficiency can constrain agricultural irrigation. Reducing climate change can constrain the options for energy access.
–2	Counteracting	Clashes with another goal.	Boosting consumption for growth can counteract waste reduction and climate mitigation.
–3	Cancelling	Makes it impossible to reach another goal.	Fully ensuring public transparency and democratic accountability cannot be combined with national-security goals. Full protection of natural reserves excludes public access for recreation.

Going beyond synergies and trade-offs: a seven-point scale

- Negative interactions: cancelling (-3), counteracting (-2), constraining (-1)

- Neutral interaction: consistent

- Positive interactions: enabling (+1), reinforcing (+2) and indivisible (+3)

Nilsson, M., D. Griggs and M. Visbeck, 2016. Map the interactions between Sustainable Development Goals. Nature, 534:320-322.

Process and toolkit

- Analyze the first - third order interactions between SDG targets plus additional needed target

- Interactions weighted domestically by groups of policy makers, scientists and civil societies using designed software.

- The network analysis identifies critical interactions and informs of spill over effects

- Differences between the weightings and mappings are then actively reconciled and then rescored by the policy community – this requires active science-policy bridge building

- Priorities can then be set (eg to inform roadmaps)

- The toolkit can also be used in other ways (eg policy modelling).

Phase 2: Country based pilots

1. Several countries have volunteered piloting.

2. Could be done on a subset of goals

3. Separate focus groups: scientists; policy-makers; civil society/private sector to identify and weight the pre-identified interactions relevant to their respective national development priorities

4. Dummy targets can be used to add context specific interactions

5. Where there are substantive differences in the clustered priorities, this will be subject to facilitated discussion and even iteration before policy makers reweight. **This conciliation process itself is the core of the proposal.**

6. Policy makers then prioritize the critical interaction nodes for

   • Policy development (evidence informed) and option evaluation
   • Addressing knowledge and knowledge application gaps (can feed into STI road-mapping and indeed is the necessary precursor to effective policy relevant roadmapping)
   • Developing relevant and useful indicators

Rationale of the project

- Critically without some initial prioritization project of this type, road-mapping itself is impossible.

- There are just too many targets with diffuse and complex interactions.

- Traditional political driven policy making will not suit this situation.

- The interactions project provides a policy and political acceptable manner of prioritization that acknowledges the reality that the interactions and spillover effects need to be understood.