

Measuring Sustainable Development

How Can Science Contribute to Realizing the Sustainable Development Goals?

An international conference held at the German House and at UN Headquarters in New York, 23-24
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The international conference on science and the SDGs was organized by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) in collaboration with the United Nations University (UNU) and with the assistance of the Permanent Mission of the Federal Republic of Germany to the United Nations (UN) in New York. It focused on issues of global sustainability and in particular the contribution of science to realizing the sustainable development goals. The two-day meeting brought together more than 60 international experts from all scientific disciplines, from relevant UN institutions, as well as representatives from both political and civil society organizations. The final session took place at the headquarters of the United Nations in an event jointly organized by the Permanent Missions of Brazil and Germany.

Main findings: the contributions of science to realizing the SDGs revolve around four topics and include the following recommendations:

Indicators and Monitoring

- An essential step in realizing the SDGs will be to develop and use a sound and informative indicator framework. This framework can assist member states in tracking progress towards achieving individual SDGs. The framework should be comparable across countries, reward current and future states, take into account underlying trade-offs, and be easy to communicate.
- It may be possible to distill down the number of indicators to a relatively small set of “essential sustainability variables”. The basic idea being that each variable/indicator could be applied to more than one target or goal. Keeping the set of indicators small could result in very significant cost savings for the member states, because the smaller the number of indicators, the lower the monitoring costs.
- The indicator framework would need to be suitable and applicable to all countries in order to make developments comparable across countries/regions. It further should be able to aggregate numbers at different spatial levels. In order to get a reasonable sense of the progress that has been achieved, the indicator framework would need to take into account the

various current stages of development among countries/regions. Future states of development could be assessed based on this information.

- The added value of evidence-based decision-making can be demonstrated, i.e. incorporating better data and indicators can result in improved policy.
- Building technical capacity around the world and in particular in developing countries is necessary; this includes both the training of scientists and the building of indicator-enabling institutions that are sufficiently strong and transparent, in order to remain politically independent.

Assessment and Evaluation

- To be successful, SDGs need: (i) regular evaluations that provide continuous information to member states and other stakeholders on their progress in reaching goals and targets; and (ii) on-demand assessments that provide needed feedback to member states and other stakeholders on key scientific issues concerning SDGs.
- Assessments need to be multi-level, integrated, transparent, participatory, and consensual in their summaries; their guiding questions need to be framed jointly by the policy and science communities. The methodology for doing these assessments is readily available from the scientific community.
- Assessments to support SDGs need to “go the extra mile” by assessing inter-linkages and trade-offs embedded within the SDGs, and policy options to transform trade-offs to synergies.
- All underlying assessment data should be made widely available on new digital platforms (e.g. “UNEP Live”)

Synergies and Tough Choices

- Synergies as well as trade-offs are always context specific, because there is no robust *ex ante* knowledge of how to exploit synergies or deal with trade-offs. Science can play a pivotal role in the implementation of development goals, in terms of data, analysis, and scenario building, since science is a continuous learning process.
- Short-term vs. long-term trade-offs between goals can be handled by suitable incentives and/or focused temporary support. Other trade-offs should be approached by increased efficiency in the use of resources, often requiring changes in behavior.
- A multi-stage approach to indicator development should be envisioned and explored, from a goal-related to a policy-related indicator framework (five years from now), which should utilize synergies and handle possible trade-offs.

Ownership

- Ownership by countries and other actors will be essential in order to translate global targets into national targets, strategies and policies. Participation of all national stakeholders and participatory monitoring of country-level implementation will be instrumental for achieving local ownership. Beyond that, it is necessary to explore ways to strengthen ownership of SDGs dealing with global common goods.
- The international legal framework for SDGs should have a reinforcing loop to strengthen stakeholders. Frameworks of international law with regard to different societal areas can be used and integrated in national regulations and settings. For example, international

conventions on gender and diversity could frame and guide country-specific laws on these issues.

- Efforts should be made to engage local communities and utilize local knowledge as much as possible. The time invested in this will ensure long-lasting ownership of the SDG process at all societal levels, but it also requires building up the necessary capacities for doing so at a large scale.

Conclusion:

Science can make a significant contribution to the SDG process in several ways. First, the implementation of the SDGs can only be evaluated through a meaningful indicator framework, and this framework needs scientific input. Second, science can support the establishment of evidence-based procedures for evaluating the SDGs and tracking progress in their achievement. Third, science is needed for co-designing and carrying out scientific assessments that address key questions arising in the SDG process. Fourth, scientific knowledge is needed for understanding the many inter-linkages and trade-offs embedded in the SDGs and for developing policy options for transforming trade-offs to synergies. In general, science must provide the factual basis for the SDGs.

Scientific Program Committee:

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(For further information on the

conference:http://www.dfg.de/en/dfg_profile/head_office/dfg_abroad/north_america/reports/2015/150421_dfg_unu_conference_dossier/index.jsp)