

Science and the Sustainable Development Goals

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1. Introduction

In September 2015, the 193 member nations of the UN adopted Agenda 2030 consisting of a set of 17 Sustainable Development Goals (SDGs), including 169 targets. The SDGs replaced the Millennium Development Goals (MDGs), agreed in 2000, after their 2015 deadline. Building on the principles put forward in the outcome document of the Rio+20 Conference, held in 2012, the SDGs represent: a global agenda relevant to all countries in all parts of the world; an integrated agenda in which environmental sustainability, social inclusion, and economic development are equally valued; an inclusive agenda, calling on multi-sectoral, multi-stakeholder collaboration and “whole of government” approaches; and a potentially transformative agenda, challenging and changing systems, institutions and the values underlying them. Ban Ki Moon, UN Secretary General at that time coined the narrative of an agenda for “people, planet, peace, prosperity, and partnerships”.

Agenda 2030 also embraces other major post-2015 agendas for action, notably the Paris Climate Agreement under the UN Framework Convention on Climate Change (UNFCCC), the New Urban Agenda in the context of UN Habitat and the Sendai Framework representing the 2015 – 2030 update of the UN International Strategy for Disaster Reduction (UNISDR).

The Rio+20 outcome document affirmed that the development of the global goals and their implementation at national, regional and global levels must be evidence based and the scientific community must be made a key partner. To this end, several science based initiatives have been launched after 2015 in the context of the UN and individual UN agencies. The essentials of this new UN landscape in science for the SDGs include: first, science-based initiatives of individual UN agencies/programmes, generic or SDG specific, such as the UNESCO sustainability science initiative or the UNESCO-IOC led UN Decade of Ocean Science. Second, the UN is mandated to prepare in four-year intervals a Global Sustainable Development Report (GSDR) aimed at “assessing” the science behind the set of 17 SDGs, with special attention to the information needs of decision-makers, and thus strengthening the science-policy interface. Third, UN member states established equally in 2015 the Technology Facilitation Mechanism (TFM), a dedicated structure to advance science, technology and innovation (STI) for the SDGs.

The TFM consists of an Inter-Agency Task Team (IATT) on STI (35 UN bodies, including the World Bank) advised by the multi-stakeholder 10 Member Group appointed by the UN Secretary General. A good number of scientists from a range of disciplines and from all parts of the world are currently members of this advisory group. The IATT and the 10 Member Group are jointly responsible for organising an annual STI Forum at the UN in New York, an event during which the STI community engages directly with UN member states to discuss strategies and priorities for their collaboration on SDG implementation.

The main political body for monitoring and guiding the implementation of the SDGs is the UN High-Level Political Forum (HLPF) on sustainable development. It meets

annually under the auspices of ECOSOC, the UN's Economic and Social Council. While being the main platform providing political leadership and guidance on sustainable development issues at the international level, the core element on its agenda annually relates to reviewing implementation of SDGs. This review process is undertaken in two ways, by annually focusing on the state of implementation of a selected cluster of SDGs and by inviting country-led "Voluntary National Reviews" covering all SDGs and allowing to address challenges and opportunities, as well as best practice in SDG implementation at the national level.

Promoting science for sustainable development is one of the main areas of activities of the International Science Council. This is done by ISC focusing on four functions. The first one consists of ISC representing and advocating international science in UN policy formulation, implementation and review. The formal mechanism for ISC to be able to sit at the table is the UN Major Groups System, with the Scientific and Technological Community being one of the nine Major Groups invited by the UN to participate in UN policy processes. Promoting international research relevant to the SDGs represents the second function of ISC supporting science for the SDGs. ISC is the key scientific sponsor of the leading SDGs related international research programmes: Future Earth, the World Climate Research Programme, Integrated Research on Disaster Risk, and Urban Health and Wellbeing, as well as Comparative Research on Poverty. The third way for ISC to promote science for SDGs consists of funding SDG-relevant research through two funding schemes made possible by grants from the Swedish International Development Agency (SIDA): (i) Transformations to Sustainability, a scheme with world-wide coverage, and (ii) Leading Integrated Research for Agenda 2030 in Africa (LIRA). Finally, the fourth function is focused on preparing expert reports providing scientific input and advice related to SDG implementation. A first report presented a review of SDG targets, while the second report demonstrated a methodology to address interactions between SDGs. A third project aimed at providing scientific advice for national-level SDG interactions analysis, prioritization and implementation is being developed in cooperation with the International Network of Government Science Advisors (INGSA).

Within the broader international scientific landscape related to science for the SDGs, the International Science Council works with different partners. There are those covering specific sectors and niches of the global scientific and technological community such as the World Federation of Engineering Organisations, the InterAcademy Panel or the Sustainable Development Solutions Network. Other international interdisciplinary partners such as the International Institute for Applied Systems Analysis focus on specific methodological approaches. A third category of potential partners in action aimed at strengthening science for the SDGs consists of the broad array of our international scientific union members cutting across most scientific disciplines in the natural and social sciences. The International Astronomical Union (IAU) with its Flagship Programme "Astronomy and the Sustainable Development Goals" represents a fine example in this respect.