STI FORUM

Science, Technology & Innovation for the Sustainable Development Goals

Seventh annual Multi-stakeholder Forum on Science, Technology and Innovation for the Sustainable Development Goals

Thematic session 3: Global, national, and local innovation ecosystems

(10:00-11:00 EDT, 6 May 2022; hybrid)

Background

Paragraph 70 of the 2030 Agenda for Sustainable Development announced the launch of a "Technology Facilitation Mechanism" (TFM) to support the implementation of the Sustainable Development Goals (SDGs). The TFM will facilitate multi-stakeholder collaboration and partnerships through the sharing of information, experiences, best practices and policy advice among Member States, civil society, the private sector, the scientific community, United Nations entities and other stakeholders.

Under the TFM, the UN Inter-agency Task Team on Science, Technology and Innovation for the SDGs (IATT) has undertaken substantial analytical and operational work, including on STI roadmaps and action plans for the SDGs, in cooperation with the World Bank, the Government of Japan and the Joint Research Centre of the European Commission. This includes a joint Guidebook, many expert consultations and projects to assist governments in several pilot countries with the development of national STI roadmaps for the SDGs.

The IATT launched the Global Pilot Programme on Science, Technology and Innovation for SDGs roadmaps in July 2019. The first phase of the Programme included an initial group of five pilot countries. Under this phase, roadmaps are piloted in Ethiopia, Ghana, India, Kenya, and Serbia. Most recently, in February 2021, Ukraine also joined the Programme bringing the number of pilot countries to six. In addition, both the European Union and Japan joined the Global Pilot Programme to strengthen international partnerships on STI for SDGs Roadmaps. These pilots are implemented following the guidance of the "Guidebook for the Preparation of STI for SDGs Roadmaps".

The programme has provided inputs to the Guidebook and the development of roadmaps in a number of countries. The Guidebook has been developed by STI experts and representatives from UN IATT and other key strategic partners.

The initiative to develop STI for SDGs Roadmaps is being carried out by UN-IATT members including UN-DESA, World Bank, UNCTAD, UNESCO, UNIDO, FAO, UN-ESCAP, ESCWA, WIPO and UNSG Office of the Envoy on Technology, among others. Substantial support has been provided by international stakeholders, including the European Commission's Joint Research Centre, the Global Sustainable Technology and Innovation Conference Series, the Organization for Economic Co-operation and Development, the Government of Japan, and COVIDEA. The African Union Commission has expressed support for the implementation of roadmaps in African countries.

This pilot work is currently being expanded to a wider group of countries through a proposed Partnership in Action process.

A related IATT work stream on STI capacity-building has pooled training materials, developed a UN system wide training programme and UN staff experts have been jointly delivering multi-day sub-regional training courses to government officials in Jordan and Panama, with others scheduled for implementation once the COVID-19 pandemic allows. Due to the pandemic, training courses were moved online and reached wider regional audiences, such as stakeholders in Latin America and Caribbean and in the Southern African Development Community (SADC). At present, online material for future blended learning is also being developed by the group.

In order to ensure a qualitative discussion on the potential for synergies between national STI stakeholders, global organizations, national "sandbox" experiences on mission-oriented innovation to tackle global challenges in a more systemic manner will be shared and discussed, dynamically redefining mission innovation objectives and addressing, adapting, testing and prototyping each goal.

Each mission is circumscribed within the institutional and cultural context of each country, taking into account the challenges defined by society, national development plans, UN guidelines on STI for SDGs Roadmaps, as well as the priority mission areas defined at regional and local levels.

Contextual framework

Technological acceleration offers enormous and unimaginable possibilities for progress, wellbeing and inclusion for all, but it also makes the future increasingly uncertain in all areas of human activity.

It modifies the field of opportunities and risks for countries, governments, companies, academia and society in general. It increasingly compromises the dynamic capacities for adequate and timely adaptation to a changing environment and global economy and, therefore, for the achievement of sustainable and equitable development.

In this context, the role of innovation takes on a growing strategic importance to navigate the great transition that is coming in an inclusive, sustainable and fair manner towards the SDGs.

Regrettably, the ingredients for fostering a sustainable innovation culture and system remain elusive for most countries of the Global South, and also for disadvantaged sectors and vulnerable people everywhere. They lack the necessary technological capabilities and human skills, and the ability to visualise and understand the opportunities available to create new markets and take advantage of existing ones.

Most companies and individuals rightly fear that their ideas will be ignored, stolen, sabotaged, or exploited by more powerful or cunning third parties, and that the capacity to innovate lies elsewhere. Many lack the ability to assess risks and to access financing. A good part of human-technological talent migrates from poorer countries and regions to richer economies, while a systemic perception of hopelessness settles in among the most vulnerable.

Objectives and likely key messages

The UN TFM and IATT need to encourage countries to develop an effective system to stimulate, focus and channel creativity, and help protect, promote and finance all stages of innovation, particularly, reinforce

skills and higher education programmes, and strengthen the ability for technology-based business creation, compatible with achieving the SDGs.

In order to address these global inequalities and risks, the STI Forum could consider how to build a global, coherent, inclusive, far-reaching, easily reproducible, scalable, self-sufficient, collaborative, interconnected, autonomous and end-to-end financeable innovation system, framed within the SDGs and governed by the overarching goal of providing global public goods.

It could also explore how to establish a global system that effectively guides STI4SDG in an articulated, collaborative, informative and systemic manner. A coherent network of innovation ecosystems, particularly within the Global South, could induce long-term strategic funding to promote, support and protect creative ideas, innovators, research and development programmes, and mission-oriented efforts.

Members of the UN Secretary General's 10-Member-Group of High-level Representatives have developed a proposal for a network of banks of ideas and funds for innovation supported by ethical councils that could help spread coherent innovation ecosystems and financing for market value creation, improve education and skills, share best practices and useful information and systemic learning.

In parallel, the STI Forum should evaluate how to respond to the increasing pressure in most developing countries and weak communities to absorb innovations and technologies that often do not meet their cultural, institutional and economic needs and environment, by considering the establishment of standardisation and cataloguing, evaluation and certification, proof of concept and implementation of technologies and digitisation systems to be adopted by those countries and communities.

Similarly, the STI Forum could consider how to attract and coordinate existing research funds, charities, the non-profit sector, national and international aid organisations, national development banks and other public or private funds, to generate economic value. Within the quadruple helix model, it could explore how to induce the private and academic sectors, together with civil society, to respond to opportunities and find efficient solutions on their own, especially in sectors without market value, but relevant to the achievement of the SDGs and national priorities, considering that the UN-system has the advantage of being the repository of some international funds.

In general, the STI Forum could consider how to develop and convene on a systemic mechanism for the combination of innovation policies and a multidisciplinary approach, particularly in countries with medium and low technological capacities. This could facilitate countries responding to: What is the risk of not innovating and simply accepting or imitating external innovations? What is the risk of innovating?

Format

This thematic session will aim to showcase various local, national mission-oriented innovation approaches by governments and start-ups and specific good practices and proposals, in particular to support innovation and technology adaptation and furthering the SDGs. The challenges of structuring an effective organization at the national and local levels, prioritizing the tasks, empowering people to engage in mission innovation and securing sustainable funding will be addressed.

It will discuss specific policy proposals. The session would also report on what has been learned from the STI4SDG Roadmap Pilot Programme and the emerging Partnership in Action. Speakers will highlight good practices in policy and governance at global regional and national levels, including a range of equity and gender equality issues.

Guiding questions

The discussion will be guided by the following questions:

- Proactive STI policy measures are needed to stimulate research efforts, focus investments, and inspire coordination. How can your national STI roadmaps or action plans or missions be aligned regionally -and globally- towards a more cost-effective SDGs-focused STI development?
- How are your STI roadmaps contributing to the mitigation of global risks, including future outbreaks?
- How to better support innovation ecosystem (e.g., in universities) to facilitate technology and knowledge transfer, entrepreneurship and problem-solving skills?
- How to establish institutions and effective mechanisms for the generation, legal protection, management and financing of best ideas and innovation projects - from ideation and research, to prototyping, proof of concept and commercialization - in accordance with best international examples and practices, and framed by the SDGs?
- How can the UN contribute to foment a more responsive STI4SDG ecosystem in your country?

Supporting documents/publications

- UN Inter-agency Task Team on STI for the SDGs (IATT) work updates on STI for SDG Roadmaps
- Partnership in Action on Science, Technology and Innovation for SDGs Roadmaps
- Background Note: STI Roadmap on Establishment of a Bank of Ideas and a Fund for Innovation to induce Ecosystems for Innovation towards achieving the SDGs
- Background Note: Green technologies, designs and development

The following science-policy briefs have been prepared by TFM stakeholders in support of this session (see also https://sdgs.un.org/tfm/STIForum2022 and IATT report 2022):

- *Building Ecosystems for Innovation towards the SDG*, by José Ramón López-Portillo Romano (Q Element)
- *Enhancing the sustainable development component in the Action Plan of the STI for SDGs Roadmap in Serbia*, by Alessandro Rainoldi, Liliana Pasecinic, Monika Matusiak, Angela Sarcina (EC- Joint Research Centre); Olga Bolibok (expert); Viktor Nedovic, Tijana Knežević, and Lazar Zivkovic (Serbian Smart Specialisation Team).
- *Localised Science, Technology and Innovation (STI) for SDGs Roadmap in Ukraine: defining the governance and policy frameworks*, by Monika Matusiak, Angela Sarcina (EC- Joint Research Centre); Olga Bolibok (expert); Darya Chayka (Ministry of Education and Science of Ukraine); and Lyudmila Musina (Ukrainian Institute of Scientific and Technical Expertise and Information).
- *Technology upgrading in the UN Global Pilot Programme on STI for SDGs Roadmaps countries: Serbia, Ukraine, Ghana, Kenya, Ethiopia, and India*, by Randolph Luca Bruno, Monika Matusiak, Kirill Osaulenko, Slavo Radosevic.