

Executive Summary

Progress Report of the Global Pilot Programme on STI for SDGs Roadmaps

July 2020

Background

The 2030 Agenda, adopted at the United Nations Sustainable Development Summit in September 2015, positioned Science, Technology and Innovation (STI) as key means of implementation of the SDGs, and launched the UN Technology Facilitation Mechanism (TFM). The Annual Multi-stakeholder Forum for Science, Technology and Innovation (STI Forum), supported by the Inter-Agency Task Team on Science, Technology and Innovation for the SDGs (IATT), has been the main fora for TFM to discuss topics of common interests of Member States and STI stakeholders in the context of the 2030 Agenda. As STI roadmaps and action plans to help realise the SDGs have been among the central topics through the first three STI Forum¹, IATT established a sub-working group on Roadmaps² for taking forward the discussions and initiatives on STI Roadmaps.³ Consequently, the IATT sub-working group together with 10-Member Group⁴ have launched the Guidebook for the preparation of STI for SDGs Roadmaps. As a mean to engage countries in piloting the approach and methodology elaborated in the Guidebook, the IATT sub-working group has also launched a Global Pilot Programme on STI for SDGs roadmaps. Since the last High-Level Political Forum (HLFP) in July 2019, five pilot countries, Ethiopia, Ghana, India, Kenya and Serbia, together with two international partners, Japan and the European Union, have been participating in the first phase of the Programme. As more countries are interested in joining the Pilot Programme⁵, new efforts are also underway to initiate a support mechanism for the second wave of countries to join the Pilot Programme through a new joint initiative called “Partnership in Action,” concept in which is described in a draft outreach note. Meanwhile, IATT has developed two background papers, one on International Cooperation and another on methodologies, which, together with the Guidebook, inform IATT’s continuous dialogues with national authorities leading roadmap pilots, and prepared grounds for solidifying respective pilot design as well as peer learning.

This Progress report of the Global Pilot Programme is designed to take stock of the state of country pilots, to draw out lessons and implications from the current implementation and to suggest ideas for the way forward. The longer, full version of the progress report will also be available on TFM website.

Current State of Country Pilots

This progress report uses SDG index and Global Innovation Index to provide comparative information on where pilot countries have started with respect to STI and SDGs⁶ (Figures 1 and 2). The two indexes show a positive co-relation but with large variance. A key observation is that more effort needs to be dedicated to improving STI capability, particularly in developing countries, as Goal 9 (which has been structured primarily around STI) appears to be one of the weakest. Another

¹ In the Addis Ababa Action Agenda, Member States had committed to “adopt science, technology and innovation strategies as integral elements of our national sustainable development strategies” (para 119). In the 2017 STI Forum, participants highlighted that the STI roadmaps and action plans are needed at the subnational, national and global levels, and should include measures for tracking progress. These roadmaps incorporate processes that require feedback loops, evaluate what is working and not working, and produce continual revisions that create a real learning environment.

² IATT is coordinated by DESA and UNCTAD, and the co-leads for its sub working group on STI for SDGs Roadmaps, which also include the World Bank and UNESCO; Outside of the UN, EU-JRC and OECD actively participate and contribute to the activities.

³ The objective of the sub-working group is to devise and implement, with the help IATT partners and other stakeholders, an inter-essional work program that will enrich STI Forum discussions on STI Roadmaps, through delivering tangible impact to be achieved over 2018-2019.

⁴ 10 Member Group is a group of 10 high-level representatives from civil society, the private sector and the scientific community.

⁵ In total (including the countries in the first phase of the pilot programme), more than 20 countries, including a number of Asian and African countries, including Cambodia, China, Indonesia (Oman and Republic of Korea), Botswana, Chad, Rwanda, South Africa, and Tunisia, have expressed interest in joining the programme to implement the roadmaps along the guidelines of the Guidebook.

⁶ Note: We are fully aware that data for indicators is missing and indicators for some important dimensions are lacking, particularly in developing countries. Our intention is to contextualize where the countries started their pilot projects to help monitoring and evaluation processes to follow.

important point to note is that there is a large room for improvement in harnessing STI for SDGs, as some of the pilot countries do worse on the SDG index than on the Innovation Index.

Observations/lessons-learned in pilots (following steps specified in the Guidebook)

All five pilot countries have taken the first step of STI for SDGs Roadmapping exercise, *objective setting of pilot projects*; they have done so within the context of their national development plans and their economic and social conditions. All of them have chosen a narrow set of SDGs because of the difficulty of tackling all the SDGs simultaneously. As most countries are low income or lower middle-income countries with high poverty rates and the largest share of employment in agriculture, it is not surprising that SDGs 2 and 8 are the most commonly chosen goals. As the second step, *assessment of the current situation* of both SDG gaps and STI supply/capability, requires a lot of data and expertise, the depth of the assessment has varied across the pilot countries. In the third step of *developing a vision, goals and targets*, what seems to matter is institutional set-ups through which they have engaged in the pilot exercise, especially in involving the highest level of government in the process. The fourth step of *assessing alternative pathways* is perhaps the most complex and expensive one, requiring the engagement of representatives from different groups in the innovation chain, including not just the technology, but the agents involved in the value chain to diffusion and use as well as the provision of complementary inputs including finance and infrastructure. None of the pilot countries have yet fully *developed detailed roadmaps* or have reached the *execution or implementation phase*. But during these steps, monitoring and evaluation is a critical element as it will enable countries to learn from the implementation experience and to make adjustments as well as to take into account the impact of changes in the context, i.e. the current COVID-19 crisis. The *use of data and expertise* has varied widely across pilot countries, depending in large part on what information is readily available as well as how much effort they have put into developing and collecting relevant data. There has also been a lot of variation in the extent to which domestic and international expertise has been tapped to help develop the roadmap, as well as the nature and depth of stakeholder consultations.

The most common challenge, experienced by all countries, has been getting stakeholder involvement and active participation. Pilot countries doing relatively well are have succeeded in involving several ministries and agencies, creating platforms for getting effective coordination and collaboration among government and between government and other stakeholders. A related challenge has been getting a focus on SDGs into the development of national plans and the STI for SDGs roadmap. The second major challenge has been the availability of updated data and relevant expertise to do the assessment to develop priorities. Besides the COVID-19, another common problem which has slowed the preparation of the roadmaps is the lack of specific budget to develop and more importantly to implement the STI for SDG roadmap.

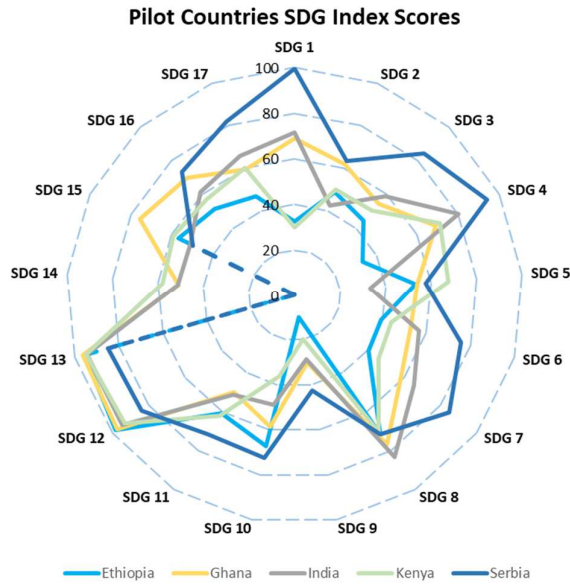
Table 1 presents a review of progress on the development of the STI for SDG roadmaps by each of the pilot countries.

Moving forward

Building on the progress and success made thus far, collective actions are needed to expand and strengthen the Global Pilot Programme on STI for SDGs roadmaps. Setting up a community of practice of countries developing and implementing roadmaps would be an enormous help, for example. The UN IATT and its Member countries with relevant stakeholders need to draw more on existing national and international information, technical as well as financial resources and take a full advantage of the opportunities offered by new and existing technologies⁷ through the aforementioned “Partnership in Action.”

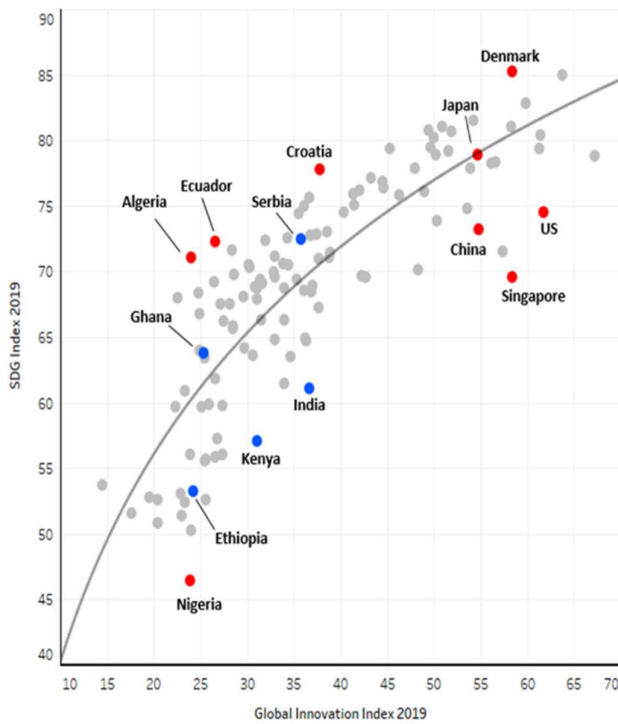
⁷ There is a great opportunity to harness new digital technologies and take advantage of the convergence between digital, physical and biological technologies, while addressing the potential negative effects of these disruptive technologies such as tendency for increasing inequality, risk that as more personal data becomes digitized there are serious issues of privacy, security, and autonomy.

Figure 1: Position of the Five Pilot Countries on the SDG Index Score.



Source: Bertelsmann and Sustainable Development Solutions Network (2018). *SDG Index*

Figure 2: Relative Position of Five Pilot Countries on SDG Index vs the Global innovation Index. (Pilot countries in blue, some outlier comparator countries in red)



Source: Bertelsmann and Sustainable Development Solutions Network 2018. *SDG Index* Cornell University, INSEAD, and WIPO (2018). *World Innovation Index 201*

Table 1: Five Countries Participating in the Global Pilot Program for STI for SDGs Roadmaps

	Kenya	Ghana	Ethiopia	India	Serbia
Lead and other institutions involved	- Treasury, Dept of Planning - NACOSTI, ACTS - Line ministries (Edu S&T, Foreign, ICT, Agri, Industry)	- Min of Env & STI - CSIR-STEPRI	- Ministry of Innovation & Technology - Ministry of Science and Higher Education	- PSA Office - Niti Aayog, Min of ext. affairs, RIS - National Coordination Committee	- Lead: Min of Edu, S&T; coordinating Interministerial Working Group and cooperation with national Agenda 2030 Group. Other actors: Working groups for priority domains led by business and academia, National Statistics office, National Patent Office; National Analytics team (academia-led)
Underlying policy frameworks	- Kenya Vision 2030 - MTP III 2018-22, Big Four - STI Policy, Research Priorities - Digital Economy Blueprint	- Agenda for Jobs 2017-2021 - CPESDP 2017-24 - National STI Policy 2017	- GTP III 2015-20 - STI Policy 2012	- Strategy for New India@75 - STI Policy 2013	- EU Accession Process and Smart Specialization - New STI and industrial policy under Prime Minister Agenda 2030
Scope and objectives of roadmap	- Big Four (agri, health, manufacturing, housing) - Agro-processing and ICT as an initial focus	(tbd)	SDG 8 (Job creation)	- Agri, energy, water, health; align with key initiatives (e.g. Doubling Farmers Income, JAM Trinity) - Strong international focus – Africa and Far East	- defined smart specialization priority domains and horizontal actions - creative industries; food for the future; machines and production processes of the future; ICT
Approach to pilot	- Sectoral deep-dive, target-driven (100% food and nutrition security by 2022) - R&D & adoption/diffusion - Aiming for an East Africa regional model	- Build on technology incubation centers - Aim for investment proposals and institutional strengthening	- Sectoral: build on 24 technology roadmaps	- International national and subnational levels (Lighthouse India, cooperative federalism) - Data/Dashboard to be substantiated through STI-PER inputs	- work at national level, with the subnational and international dimension - mix of deep dives and horizontal activities
Timeframe and key milestones		(tbd)		- First 6 months (in India) - End 1 st year (AfDB AMs?) - End 2 nd year (in NY)	- adoption of Smart Specialisation Strategy (February 2020) and a detailed roadmap: October 2020
Partners (DESA: the Secretariat)	IATT focal	- WB (STI PER) - UNESCO (Saga, Go-SPIN)	- UNESCO - WB	- UNCTAD (STIP Review) - WB, UNESCO	- WB (STI PER) - ESCAP
	UN, Others	- Priv. partnership (Toyota)	- OECD	- UNDP, UNIDO	- OECD - UNDP
Possible EU/ACP, AUC, RECs, Japan-India-Africa cooperation					

* Key abbreviations: [Kenya] National Commission on Science, Technology and Innovation; African Center for Technology Studies; Mid Term Plan III. [Ghana] Council for Scientific and Industrial Research – Science and Technology Policy Research Institute; Coordinated Programme of Economic and Social Development Policies. [Ethiopia] Growth and Transformation Plan III. [India] National Institution for Transforming India; Research and Information System for Developing Countries; eNational Agricultural Marketing; Mission Indradhanush; Swachh Bharat Mission Gramin; National Innovation Foundation. [Serbia] Research and Innovation Strategies for Smart Specialization