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Discussion Paper

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SCIENCE, TECHNOLOGY AND INNOVATION AAA COMMITMENTS AND IMPLICATIONS FOR IMPLEMENTATION AND MONITORING

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Contents

SCIENCE, TECHNOLOGY AND INNOVATION_AAAA COMMITMENTS AND IMPLICATIONS FOR IMPLEMENTATION AND MONITORING	1
I. INTRODUCTION	1
II. AAAA STI COMMITMENTS	1
III. MUCH WORK NEEDS TO BE DONE TO ESTABLISH BEST PRACTICES AND MONITORING OF COMMITMENTS	3
IV. THE ROLE OF ESCAP	3

I. INTRODUCTION

In a major expansion of the Monterrey agenda, the AAAA stresses the importance of science, technology and innovation (STI) for economic growth and sustainable development. The AAAA notes with concern the uneven innovative capacity, connectivity and access to technology within and between countries. Commitments contained in Action Area II.G of the Agenda aim to address these inequities, incentivize research and innovation for sustainable development and promote greater access to technologies through domestic policy and international cooperation. The STI capabilities of a country depend not only on access to a growing stock of science and technology, but also on the quality of interactions between agents in the “innovation system”. The AAAA seeks to strengthen these interactions so as to improve the contribution STI makes to the achievement of sustainable development.

The Inter-Agency Task Force for FfD has sought advice from TIID on how these commitments could be baselined and monitored. The majority of these commitments are qualitative in nature and many do not naturally overlap with indicators related to STI in the SDGs. Thus, some additional quantification will be necessary.

II. AAAA STI COMMITMENTS

The AAAA commits to six broad areas of action:

- Promoting information and communication technology (ICT), access to technology for all and social innovation
- Developing national policy frameworks for science, technology and innovation
- Creating a more enabling environment for STI
- Institutions and mechanisms to strengthen science, technology and innovation (national / international level)
- Technology transfer
- Actions within the UN or by the UN system

Promoting ICT, access to technology for all and social innovation

Advances towards fulfilling the commitments on development and use of ICT can be measured with respect, on the one hand, to development and use of ICT infrastructure, and on the other hand, expanding the level of skills so as to increase the capacity for effective use of ICT. Four SDG indicators on ICT infrastructure provide a basis for follow-up.¹

¹ These are (1) The number of science and/or technology cooperation agreements and programmes between countries, by type of cooperation; (2) Fixed Internet broadband subscriptions per 100 inhabitants, by speed; (3) Total amount of approved funding for developing countries to promote the development, transfer, dissemination and diffusion of environmentally sound technologies; and (4) Proportion of individuals using the Internet.

Governments also committed to promote social innovation as a way to support social well-being and sustainable livelihoods. Monitoring this commitment will require a shared definition of “social innovation” and the development of indicators of how social innovation contributes to social well-being and sustainable livelihoods. Additional data will be needed to more directly assess progress in this area, such as on social innovation strategies or social entrepreneurship policies adopted by countries. Currently, as this is an emerging field, no source reports such data.

Developing national policy frameworks for science, technology and innovation

There is, at this point, no source reporting the number of countries that have adopted legislative, administrative and policy frameworks for national STI strategies. Neither is there information on the number of countries covered by independent reviews of national STI policy frameworks or the degree to which such strategies are integral elements of national sustainable development strategies.

Creating a more enabling environment for STI

While science, technology and innovation are inextricably connected, on an individual level they are profoundly different concepts with sometimes overlapping but often very different ecosystems and drivers. In addition to this, countries in the Asia-Pacific region are at different levels of socio-economic and STI development. As such, there is no template for what a “blueprint” enabling environment looks like. The enabling environment will need to be tailored to each countries’ specific context and area of focus (e.g. scientific advancement versus catalyzing entrepreneurship).

Institutions and mechanisms to strengthen science, technology and innovation

Enabling environments hinge on institutions. The term “institutions” can be defined as the organizations, rules and principles, and infrastructure that guide behaviour and structure patterns of interactions. These three dimensions of institutions govern the collaboration, coordination and linkages among actors and have a strong influence on innovation, science and technology activities for sustainable development.

Data to monitor are not readily available in many countries and comparability remains a concern, which complicates interpretation. Quantitative data in these areas need to be complemented by qualitative appraisals to assess progress.

Technology transfer

Technology transfer is a broad and complex process which represents more than just the moving of equipment and other so-called “hard” technologies, but also includes know-how, goods and services, and institutional procedures. Data on the movement of “hard” technologies is patchy whilst measurement of “absorptive capacity” or “know-how” is incredibly difficult to measure. Academic studies to date have reached neither consensus on the best mechanism for technology transfer nor what the critical level of absorptive capacity is.²

Actions within the UN or by the UN system

The Addis Agenda commits to a range of actions within or by the UN system in order to strengthen overall cooperation and support on science, technology and innovation.

² Savona (ESCAP, *forthcoming*)

Specifically, the Addis Agenda (paragraphs # 119-123):

- *Commits to strengthen coherence and synergies among science and technology initiatives within the UN system (#5)*
- *Established a technology facilitation mechanism to support the SDGs (#123)*
- *Commits to operationalize the Technology Bank for Least Developed Countries by 2017 (#124)*

III. MUCH WORK NEEDS TO BE DONE TO ESTABLISH BEST PRACTICES AND MONITORING OF COMMITMENTS

While the commitments made in the AAAA are ambitious and have the potential to increase the pace and effectiveness of sustainable development efforts, many questions still remain on how best to implement let alone monitor.

However, the Asia-Pacific region is home to some of the most innovative countries in the world. As examples

- The Republic of Korea has been at the forefront of formulating innovation policy on social enterprise where the social economy accounts for 3% of GDP. When compared against R&D expenditure of 4.15% of GDP, this emerging economy is significant.
- China has outlined an ambitious plan to spur mass entrepreneurship through creating an enabling environment for innovation and setting up new institutions and funds to create an entrepreneurial state.
- China, the Republic of Korea and Japan are part of a small group of nations that are driving innovation in frontier technologies. Eight out of the top ten patent applicants in the area of robotics are from Japan and one from the Republic of Korea. Three Japanese companies also appear in the top ten for filing the most 3D printing patents. Chinese applicants account for more than a quarter of patents worldwide in the area of 3D printing and robotics – the highest share among all countries.

But, at the same time, according to the Global Innovation Index, more than a quarter of the countries ranking in the bottom 10% are from the Asia-Pacific region. In this regard there is ample scope for regional collaboration. The challenge is to bridge this gap and enable countries at all levels of development to take advantage of available technologies and develop a robust culture of innovation.

While sub-regional committees for STI cooperation do exist (e.g. ASEAN, APEC, SAARC, Eurasian) they are disparate and unconnected and thus do not fully harness the vast knowledge and potential in the region. They also exclude many of ESCAP's member countries.

IV. THE ROLE OF ESCAP

The recently mandated ESCAP ICT/STI Committee, which will meet for the first time in 2016, presents a unique opportunity to create a truly integrated and inclusive approach to knowledge sharing and networking in the region to surface best practices

which can be tailored to national context, facilitate collaboration and support countries to monitor commitments made in the AAAA. To support member States to implement and monitor AAAA commitments, ESCAP could:

Ensure that the region as a whole is fully informed on the STI agendas of the various sub-regional STI committees by acting as a bridge to facilitate cooperation

ESCAP is well positioned to track and monitor developments among the various ad hoc STI initiatives in the region, act as a platform for information sharing for the region as a whole and, provide capacity building for those countries most in need of “catching up” on policy development.

Organize an Asia-Pacific Innovation Forum as a means to enhance knowledge sharing and facilitate collaboration

While the ICT/STI Committee structure is an effective intergovernmental platform for countries to discuss areas of common interest, issues in STI, by their very nature, move quickly and the two year cycle of committee meetings is therefore inadequate as a forum for up-to-date discussion and collaboration. Therefore, the Forum would provide the opportunity to discuss policy options, share knowledge of successes and failures and provide more up-to-date thinking on STI matters in the region.

Conduct a regional STI survey

In the case of STI, much work is needed by the global community to establish and operationalize a set of indicators which will provide a useful guide for policymakers over the next decades. Developing data series of comparable quality and access remains a big challenge for developing and developed economics alike. Capturing the true nature of innovation and moving beyond proxies such as patenting activity and R&D expenditures which do not represent all facets of the phenomena is a challenge. Data will be critical in identifying and understanding the drivers of “hidden innovation” (defined as innovation occurring outside of proxy indicators) that could equally have the potential for positive impact. There is a risk that government policy focus will be placed on those areas where measures are readily available missing areas where they could be more effective.

An annual regional STI survey would support countries to better capture non-traditional innovation and many of the qualitative commitments made in the AAAA.

Ensure regional needs and knowledge are integrated into UN STI initiatives

The UN Technology Facilitation Mechanism and the UN Technology Bank have been established in recognition of the key role of technology development, dissemination and transfer in the implementation of the 2030 Agenda. While both of these global initiatives are at very early-stages, it will be vital to ensure the national and regional contexts are understood and incorporated into any global agenda. Considering the wide range of expertise required across sectors, regions, sub-regions and technologies along with the wide and diverse regional and national experience, an effective delivery mechanism that bridge these three levels (national, regional and global) is necessary to support the needs of member States.

About Economic and Social Commission for Asia and the Pacific (ESCAP)

ESCAP is the regional development arm of the United Nations and serves as the main economic and social development centre for the United Nations in Asia and the Pacific. Its mandate is to foster cooperation between its 53 members and 9 associate members. ESCAP provides the strategic link between global and country-level programmes and issues. It supports Government of countries in the region in consolidation regional positions and advocates regional approaches to meeting the region's unique socio-economic challenges in a globalizing world. The ESCAP office is located in Bangkok, Thailand.

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