

UNCTAD contribution to the
Report of the Secretary General for the 2013 Annual Ministerial Review of the
UN ECOSOC

Chapter III

A. Integrating STI to support Sustainable Development Goals

Technology and innovation are central issues in any discourse on how to promote sustainable development goals through access to critical technological improvements. They also remain inherent to promoting overall industrial development of countries in a sustainable manner that takes on board concerns of cleaner, climate change friendly world. Yet, the past two decades have seen enormous gaps in technological development, not only between the industrialized countries and the developing world, but within the developing countries as well.

Owing to this, discourse on sustainable development has begun to pay particular attention to how technological change and access to technologies can be promoted. Promoting STI in the context of sustainable development can be articulated in the form of two essential sets of issues that need to be tackled simultaneously. Firstly, while the world has seen rapid technological advances in almost all areas of relevance to sustainable development, products and processes embodying these advances are not evenly available across countries. People all around the world want much the same basic conditions: a decent job, access to electricity,¹ a safe environment,² access to lifesaving medicines,³ nutrition⁴ and a better future for their children. Many of these goods are also essential not only to promote the overall wellbeing of people, but also to ensure that nations embark on sustainable development pathways. In particular, how and through what means countries tackle the issue of providing energy, what decisions are made to promote agricultural productivity and how countries choose to promote industrial development all have ramifications for sustainable development. A lack of capabilities to engage in technological change increases the roadblocks to national and international efforts to provide these goods.

A second set of issues relates to the key role that science, technology and innovation, play in overall development: they are important prerequisites to ensure an ongoing process of structural change that leads to economic diversification, catch-up growth and rising living standards. Ultimately, such development alone holds the key to poverty reduction, employment creation and prosperity for all.

B. Focus on new and/ priority challenges

¹ In most of the developing world, access to energy services is far below what is needed to achieve human development goals; an estimated 2 billion people are without access to modern energy services most of whom live in Africa and South Asia (UNCTAD, 2011).

² Stats to be inserted.

³ Despite serious efforts to increase the coverage of anti-retroviral drugs, as of December 2010, only 38% of those affected with HIV/AIDS worldwide had access to therapy (first line) (UNAIDS, 2012).

⁴ Stats to be inserted.

A range of challenges exist within developing countries that need to be dealt as part of the thematic on integrating STI into sustainable development priorities. Several of these challenges persist despite efforts being made at the international and regional levels to promote new solutions. Ensuring that people across the world have sufficient access to food and nutrition or access to medicines remain fundamental issues for a large number of countries worldwide. There are newer challenges that abound – particularly those related to promoting access to cleaner energy technologies and technologies that can help countries mitigate climate change and embark on sustainable development pathways.⁵

A fundamental lesson from these experiences in implementing the achievement of goals is that despite the fact that a large amount of technology in all these essential sectors – energy, health, agriculture and climate - is already available in the public domain, accessing these technologies to promote sustainable development in countries is an arduous task. Experience gathered over the years through various initiatives in the agriculture, health and energy sectors attests the fact that a range of STI issues need to be addressed.⁶ A first of these is the promotion of technology absorption capabilities in countries: a term that denotes the ability of national counterparts to uptake and absorb existing technological improvements so as to engage in provision of these goods and services. This calls for not only promotion to access to technologies, but sharing of tacit know-how and enabling the absorption of these technological improvements within countries.

Second, trade rules, intellectual property rights and investment can offer opportunities but also be hindrances in promoting technological change. A right mix of policies, particularly all the policies that broadly fall under the overall umbrella of science, technology and innovation frameworks are therefore particularly important to create an enabling environment. These policies not only include those aimed at science education, technology policy, but also investment, intellectual property, SME promotion, and other ancillary policies and incentives that promote collaboration, stakeholder participation and interactive learning in countries. Experience shows that initiatives that functioned in countries⁷ that have such an enabling framework were more successful in integrating science, technology and innovation into sustainable development than others.

This brings us to a third and critical issue – in many ways, technological learning and innovation capacity for the provision of critical public goods, such as climate change, energy access, health and food security, cannot be easily separated from promoting technological capabilities for overall sustainable development. Simply put, a country develops capabilities across the board, and the absence of these results in

⁵ Developing countries face the dual challenge of alleviating energy poverty while mitigating climate change, and technology and innovation capacity is critical to address these parallelly. See United Nations Conference on Trade and Development, Technology and Innovation Report 2011: Powering Development with Renewable Energy Technologies, United Nations.

⁶ Capacity building, for instance, under the International AIDS Vaccine Initiative (IAVI) or other public-private partnerships in health show that some level of technological capacity in countries is a decisive factor in the level of participation of national agencies.

⁷ See also the thematic think piece on “Science, Technology and Innovation for Sustainable Development in the Global Partnership for a Post-2015 Agenda, UN System Task Team on the Post-2015 MDGs Agenda, United Nations, New York, 2013.

limitations to apply existing technologies in all sectors, including those of public importance, such as health, agriculture and climate change. While there are a range of sectoral initiatives that are priorities for international action in a variety of forums, such as the UNFCCC, WHO and FAO, building technology and innovation capacity within countries as a whole should also be considered as a priority.

C. Improving the application of STI for the post-2015 agenda

The relevance of technology and innovation for both the provision of public goods and development calls for a clearer and bolder articulation of STI issues in the post-2015 agenda. In the present MDGs, issues of technology have been considered predominantly in the context of promoting access to drugs for the treatment of HIV/AIDS and promoting access to internet and communication technologies (ICTs) as part of MDG 8, on promoting overall economic development. Technology and innovation however, remain ubiquitous to the achievement of several other of the current MDGs, although the developmental vision contained currently has not accorded due attention to their crosscutting relevance.

What is needed in the post-2015 context to enable this reality is a genuine partnership between countries bearing in mind the key impediments to the process of building STI capacity. A first of these is financing of innovation. Ensuring science, technology and innovation capabilities in all countries will require greater and more sustained efforts to promote a wide range of technologies, in conjunction with greater means of coordination and more equitable partnerships than ever witnessed before (UNCTAD, 2011). A second problem relates to the diffusion and uptake of existing innovations. Where there is a strong market pull, commercial drivers encourage a diversity of approach. However, in addressing some of the key development challenges, market incentives may not be sufficiently strong to drive the necessary innovation. Where markets are not strong then additional approaches are needed to bridge the gap. We see this clearly in the lack of development of new treatments for Neglected Tropical Diseases⁸. But a similar situation may occur with any key technology where poor populations have unique needs. Partnerships are critical to overcoming such market failures: these are needed not only at the international level, but regional partnerships remain critical in addressing common concerns of countries in the area of STI.

Finally, in a world where the primary incentives for innovation are market-based, the inability-to-pay often translates into an inability-to-access. There is a need for a proactive policy agenda that focuses on making innovations available to those who need it, whether or not they can afford to pay the market price for it. This brings us to the quintessential bottleneck, namely, the financing of innovation. Mobilizing resources to enable these processes calls for financial strengths that all countries do not possess. In a large number of developing countries, the inability to finance thwarts their responses to developmental needs. It remains imperative that the challenge of mobilizing such financial resources form a significant part of the post 2015 agenda.

⁸ Report of the Commission on Intellectual Property Rights, Innovation and Public Health (CIPRH) established by the World Health Assembly in 2003 <http://www.who.int/intellectualproperty/en/>

Chapter V

B.b. South-South Cooperation

Economic growth in an expanding number of developing countries helps to pinpoint to this important role of technological capabilities in overall development. Followed by the successes of several East Asian countries in the 1960s onwards, a newer wave of countries, such as Brazil, India and China are now on a steady path towards industrial catch-up. The rise of an increasing number of developing countries lends the hope that newer growth poles in the South could lead to new dynamics in international relations.

The rise of these developing countries has led to a surge in South-South trade and investment, both of which carry the promise that these relations could be channelled to address specific developmental goals. However, realising the full potential of South-South cooperation may need changes in the way the global economy is governed, to make it more development oriented.

The time is therefore ripe to move beyond analysing current trends in South-South trade and investment (UNCTAD, 2012). Specifically, it is important to consider how and to what extent South-South cooperation could help developing countries overcome certain obstacles to economic expansion and growth in order to achieve specific development goals. One such goal, which continues to elude the global community, is to bridge the technological divide so as to promote industrialization and inclusive growth across the developing world. As analysed in detail by UNCTAD's Technology and Innovation Report of 2012, the South is an extremely important partner in all efforts to promote technology and innovation capacity in the developing world for two reasons.⁹ Firstly, sharing experiences and strengthening collaboration in all ways possible remains very important and relevant for developing countries that are still grappling with ways to create harmonious and coherent local innovation and industrial policy environments. A second and perhaps more important advantage of the South for technological learning is that their technologies may be contextually appropriate for developing countries (UNCTAD, 2012).

In order to ensure that the role of developing countries, particularly emerging countries, who are important partners to promote technological capabilities in the South, is effectively harnessed? UNCTAD's Report suggests the structuring of a guiding international framework on South-South collaboration for technology and innovation and proposes a set of principles around which such a framework could be structured. These principles are derived from some important issues prevailing in the context of technology and innovation exchange globally and among developing countries. The five principles are:

- (i) Prioritize the technological needs of the other developing countries and LDCs;

⁹ United Nations Conference on Trade and Development, Technology and Innovation Report 2012: Innovation, Technology and South-South Collaboration, United Nations, 2012.

- (ii) Aim at sharing and better integrating the lessons learned from the ongoing catch-up experiences of other developing countries in building innovation capabilities through proactive policies;
- (iii) Promote important means of technological learning, particularly through alliances and technology transfer initiatives;
- (iv) Make South-South FDI more technology oriented; and
- (v) Pool developing-country resources to address common technological challenges.