

BACKGROUND NOTE

“International cooperation in the development, transfer and diffusion of technologies in Africa and least developed countries”

3 July 2013

Jointly organized by UNDESA and the United Nations Economic Commission for Africa

I. Background

Science, technology and innovation are the game changers in economic development transformation. New technologies such as mobile telephony, social media, and the internet are changing the ways governments and societies organize themselves. These new technologies and innovations also present new possibilities for addressing and overcoming the enormous development challenges faced by African countries and Least Developed Countries (LDCs). However, because much of the new technologies are developed in the industrialized North and in some newly industrialized countries such as South Korea and China, they are not easily available in countries and regions where they are most needed. The need to take collective action to promote the transfer of technology to poor countries for the structural transformation of their economies has always been recognized and promoted by the international community.

Target 8.F of the Millennium Development Goals (MDGs) calls on the international community, in cooperation with the private sector, to make the benefits of new technologies available to developing countries. At the UN General Assembly mid-term review of the MDGs in 2005, world leaders in General Assembly resolution 65/1 committed themselves “to... *promoting the strategic role of science and technology, including information technology and innovation in areas relevant for the achievement of the MDGs.*” The Istanbul Programme of Action for the Least Developed Countries also highlighted the role of science, technology and innovation and called for the establishment of a Technology Bank and Science, Technology and Information supporting mechanism.

Today, both developed and developing economies are focused on innovation because all understand the transformative role of new technologies and innovation and the first-mover competitive advantages that they can confer on successful firms and countries. There is, as a consequence, a raging international competition for talent, resources and market shares (both by firms and nations)¹. Social and economic transactions are becoming shaped and driven by mobile telephony. Information flows and new technologies, including social media and networks are increasingly rendering national boundaries meaningless in a way that could not have been envisaged a decade ago. And evidence is beginning to show that these new technologies and innovations, in spite of their general purpose nature, are making a demonstrable impact on people’s lives and welfare. But not all countries, especially those in Africa and the least developed countries, are participating fully and equally in the harvest of this new technology and innovations age. International cooperation to use STI to address the enormous policy and development challenges can bring enormous rewards, not just to these countries but to the international community as a whole.

II. The current context of international cooperation

International cooperation is essential for advancing the development and transformation of Africa and the LDCs and to set them on the path of sustained growth. The gap between Africa and the LDCs on one hand and developed countries on the other, in technology and innovation capacity is

¹ The US H-1 visa has become an important policy variable in that country’s on-going immigration reform debate. The US continues to use its diversity immigrant lottery programme to attract talent from the rest of the world. Germany, Canada to name a few are also in the hunt for talent using special visa programmes.

enormous. Without bridging this gap, this group of countries is unlikely to make their full contribution to global welfare. International cooperation in the development, transfer and diffusion of technologies can help bridge this gap. While there are equity, commercial and geo-strategic arguments for this view, equally important is the self-interest of countries. Many of the development challenges of Africa and LDCs such as communicable diseases, environmental sustainability, adverse effects of climate change, crime and terrorism have spillover effects which can be controlled with technology. Hence, cooperation in the development, transfer and diffusion of technologies in Africa is in the self-interest of the international community.

However, the conditions for international cooperation for development in the early 21st century are markedly different from those of the late 20th century. First, science, technology and innovation have become a “new” factor of production determining in large measure the competitiveness of countries and the well-being of their citizens. Second, the world is becoming more multi-polar. New powers are emerging in the global South² while some countries in Europe are stagnating. The rise of the global South (or shift in power relations) presents new opportunities, albeit still largely unexplored and understood, for international cooperation for development. Third, the discovery of fossil fuel deposits in many African countries and LDCs presents new financing for development possibilities that were previously absent.

Unlike in the past, most new technologies and innovations that African and least developed countries need to transform their economies are increasingly privately owned by firms and citizens of the more advanced economies³. The private ownership of these technologies and innovations limits the scope for government action, and by implication international cooperation, in their development, transfer and diffusion in these countries. Other factors defining the 21st century context of international cooperation with implication for technology development, transfer and diffusion, include the growing trend toward regionalism⁴, demand for greater participation and voice in global governance institutions by African countries, an active role of global non-governmental organizations in favour of inclusive development and an understanding that the production of global public goods such as expanded market opportunities; communicable diseases control; crime and terrorism control are to the advantage of all countries.

III. Objectives

The Panel will assess the state of and review the scorecard on international cooperation in the development, transfer and diffusion of technologies against the commitments made by world leaders in various international conferences and summits. More precisely, the Panel will:

² UNDP Human Development Report, 2013 discusses “The Rise of the Global South”.

³ Technologies that are now in the public domain (without patent protection) still require complementary skills and other inputs which may not be present in Africa because of the datedness of the innovations/technologies. Individuals acquire skills to address present and future technology needs.

⁴ Regional integration arrangements (RIA) provide a much larger market and can thus make the development, transfer and diffusion of technology in countries members of the regional integration arrangement economically attractive to foreign investors. Further, the direction of trade of regional blocks may also determine the scope for international cooperation in the development and transfer of technologies to countries members of the RIA.

- a. Identify the leading issues hindering the development, transfer and diffusion of technologies in Africa to identify short term, medium term and long-term actions to address them;
- b. Facilitate dialogue between African policy makers, researchers and leading academics, the private sector and stakeholders working on STI on the pathways and modalities to accelerate the transfer to, and development and diffusion of technologies in Africa;
- c. Make recommendations for the consideration of African and least developed countries as well as stakeholders in African development, including development partners, and the private sector LDCs.

IV. Issues for discussion

The following issues are proposed for discussion by the panel:

- ***IPR and Reform of the international patent system:*** The TRIPS agreement introduced the most stringent restrictions in access to intellectual property. There are reform efforts under way such as WIPO's "Substantive Patent Law Treaty" and the Patent Cooperation Treaty. How can these efforts support the development, transfer and diffusion of technologies?
- ***The Private sector and foreign direct investment:*** As much of on-going research and development efforts in certain key areas such as health and information and communication technologies are privately financed and produced, what types of regulations and incentives can Africa and LDCs put in place to promote the development, transfer and diffusion of technologies and innovation by both domestic and foreign private sector operators in their countries?
- ***South-south cooperation:*** South countries such as China, India, and Brazil have become global users and producers of technology and innovations. What scope is there for south-south cooperation to provide the needed impetus for international cooperation to develop, transfer and diffuse technologies in Africa and LDCs?
- ***Indigenous knowledge and technology:*** Many African and least developed countries and societies are abundantly rich in indigenous knowledge and technologies, which if and when carefully applied can make a significant contribution to development. How can international cooperation contribute to the development and diffusion of Africa's indigenous knowledge while protecting the ownership rights of the communities to their knowledge and technologies?
- ***Institutional innovations:*** Capable institutions, including the legal system, patent offices, are critical for the successful development, transfer and diffusion of technologies. A critical element is a judiciary that is able to adjudicate intellectual property disputes. What role can international cooperation play to create and/or strengthen the institutions for the development, transfer and diffusion of technology in these countries?
- ***Capacity building:*** Successful international cooperation in the development, transfer and diffusion of technologies is critically dependent on the internal capacities of beneficiary countries, especially the stock and composition of their human capital, the structure of domestic production,

and the adequacy of their institutions, including higher education, research, legal and social institutions. What role can international cooperation play in helping African countries and LDCs to build the capacity in science, technology and innovations and entrepreneurship.

- ***Better measurement - Data, statistics:*** To effectively develop, adopt and diffuse it, African and least developed countries need data. However, many countries technology-specific data do not exist. Where they exist they are fragmented, incomplete and outdated. The Panel may wish to explore how international cooperation can assist African countries to build a database which can inform policy on the development, transfer and diffusion of technologies and innovations.

V. Organization of the Panel

The panel will be a moderated dialogue among the speakers and will be followed by an interactive dialogue with the audience. At the end of the discussion, the major policy implications will be distilled into a report and subsequently submitted to ECOSOC for further action