

# ECOSOC Annual Ministerial Review 2013

High Level Panel on Africa and the LDCs on the theme

“International cooperation in the development,  
adoption, transfer and diffusion of technology”

DRAFT Talking points for Mr. Carlos Lopes, Executive Secretary of  
UNECA

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## **I. Introduction**

The Guidance Notes prepared for panelists provides that the Executive Secretary will be asked two questions as below:

***QUESTION 1: 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 capacity in science, technology and innovations and entrepreneurship?

***QUESTION 2: 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?

These Talking Points suggest answers that the questions that the Executive Secretary may wish to consider. It begins with "Greetings and welcoming remarks" (since ECA is a co-organizing the event with the ECOSOC Branch), some introductory remarks, and then possible answers to the questions.

## **II GREETINGS**

ES: greets participants, thanks the Moderator for the question and makes a few remarks since the HLP is co-organized by ECA and the ECOSOC Branch.

He could say:

Permit me to use this opportunity to welcome all of you to this HLP co-organized by ECA and the ECOSOC Branch. STI are critical for the success of the African transformation agenda. International cooperation can facilitate an enhanced role for STI in the transformation process. I am happy that you have found time to come to explore with us the very pertinent and relevant issue of the role of international cooperation in the development, adoption, transfer and diffusion of technologies in Africa and LDCs.

The moderator has asked me to provide some thoughts on the role that international cooperation can play in helping African countries and LDCs to build the capacity in science, technology and innovations and entrepreneurship

## **III. REMARKS BEFORE ANSWERING THE QUESTION**

I will respond to the question shortly but let me make a few comments about the current state of Africa in order to provide context for my response.

- First, African economies are growing and the continent is experiencing a commodity boom. As a consequence government revenues are growing both through increased collection of taxes and through increased revenues from commodity exports. How Africa can use its commodities boom to industrialize is the theme of the 2013 ECA/AUC “Economic Report on Africa” entitled “*Making the Most of Africa’s Commodities: Industrializing for Growth, Jobs and Economic Transformation.*”
- The increase in revenues from commodity exports means that African governments can allocate significantly more money to science, technology and innovation, including building critical capacities in this area. A growing economy not only depends on technologies and innovation but also produces new technologies and innovation in response to its realities.
- Success invites partners. Africa’s strong growth performance creates conducive circumstances for international cooperation to address critical capacity gaps as a prerequisite for ensuring that the current good performance is sustained way into the future. Some of the early sprouts of much of contemporary STI activity in Africa were seeds sown through international cooperation.
- International agencies under CGIAR, ILRI have played an active role. UN agencies such as WIPO, UNCTAD have supported countries to set up STI institutions and the UN and its agencies and funds have been fervent advocates for the transfer of technology to Africa and LDCs.
- The scope for international cooperation in the development, adoption, transfer and diffusion of technologies is wider now – the stock of STI human resources and research infrastructure has increased as the economies have expanded. In a sense, international cooperation in STI is an increasing function of the complexity of an economy.

***The ES then moves to answer the question directly:***

The question that must be addressed is what kind of capacity building does Africa want? My view is that it must be the kind that Africa wants, one that puts “Africa first!”

There are many ways that international cooperation in the development, adoption, transfer and diffusion of technologies can play a helpful role in building capacity in science, technology and innovations and entrepreneurship in Africa and LDCs. I will focus on those that I consider most important:

- Education:** Education underpins all subsequent progress. The historical / empirical evidence is indisputable<sup>1</sup>. African higher education and specialized research institutions are in disrepair. Perhaps only one African university is in the world’s top 200. Since in most African countries and LDCs, the state is the largest provider of

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<sup>1</sup>The ES may wish to illustrate with the example of South Korea where illiteracy dropped from 78% 1945 and to virtually zero in 1980; University enrolment rose from 40,000 in 1953 to 1.5 million in 1994. Today, results Korea’s massive investment in education, especially tertiary education, are evident in the STI intensity of its exports. (WHO. Public health innovations and property rights: Report of the Commission on intellectual property rights, innovation and public health, 2006).

education, the starting point for capacity building is therefore public investment in education, especially tertiary education.

- **Key areas of emphasis in the area of education**
  - International cooperation in curricula development to emphasize the importance of STI and entrepreneurship as a means of building capacity;
  - International cooperation can help build a critical mass of STI capacities. In countries where a critical mass does not exist, even international cooperation will be a non-starter. Critical mass of scientists, researchers, technologists will result in an increasing number of innovators and entrepreneurs (opportunity entrepreneurs instead of necessity entrepreneurs that dominate the entrepreneurial eco-system in Africa and the LDCs.);
  - Attenuating the impact of the brain drain: While brain drain represents an immediate threat to countries reaping the reward of their investments in higher education, that has to be juxtaposed to the emerging benefits of return migration as happened in Korea and is now happening in Thailand, China and India.

International cooperation in education and research can help build STI and entrepreneurship capacity in Africa and LDCs by providing space for:

- sharing research data;
- joint experimentation;
- conferences and other meetings;
- building of data bases; and
- standards setting

- b. **Capacity building through cooperation in research infrastructure:** Research infrastructure is that which in addition to skilled human resources make the creation of new knowledge, adoption and diffusion of existing knowledge and technologies possible. In contemporary society, it consists of the laboratories where research is undertaken, the data and the models that are built, large-scale computers, analyses. Deficiencies and/or inadequacies in research infrastructure capacity in any country, firm or organization make cutting edge research almost impossible, if not impossible.

Many African countries have weak research infrastructure capacity. This is a very limiting constraint which international cooperation is helping and can continue to help attenuate.

- c. **Capacity building through promotion of networks** (national, regional, continental, etc) between institutions: STI capacity building occurs in many ways, including absorbing and domesticating knowledge and skill from elsewhere. Domestic and international networks are critical in the sharing of knowledge and new information and thus to capacity building. This should include North-South partnerships and networks as well as South-south networks.

### **Capacity building through markets**

- Imports of technology embodied in machinery, equipment and other capital goods;
- Removing barriers to African and LDC exports (especially NTB such as tariff escalation) as this will help integrate Africa and LDCs into global value chains. It is thus critically important that the stalled Doha Round of Trade Negotiations should be re-started and that efforts be scaled up to conclude and implement the General Agreement on Trade in Services (GATS).
- Foreign direct investment;
- Reducing stringent conditions/requirements for technology licensing

Regarding **entrepreneurship**, I also see an important role for international cooperation in entrepreneurial capacity building in Africa and LDCs.

- Entrepreneurs drive innovations. They are the ones who develop new products, services and processes. They are also the ones who find innovative ways to use existing products, services and services.
- In many African countries, capacity to develop and nurture an entrepreneurial ecosystem is deficient. The fact that most businesses where innovation does occur in Africa are family-owned businesses which in many cases cease to exist upon the death of the founder makes it very difficult to harness the innovations.
- The regulatory environment also matters. Government regulations can stifle or promote innovation and entrepreneurship.

### ***International cooperation can play a helpful role by assisting:***

- African countries to build capacity to develop a framework to create and grow the market for family-owned businesses. Such a framework will make it possible to value and trade in family-owned businesses, thus enabling the survival and growth of the innovations that sprang from those businesses;
- African countries and LDCs to build capacity in entrepreneurship. They can do this by supporting the many African universities that have established Business Schools where innovation and entrepreneurship are taught. International cooperation can contribute in this regard through assistance to African business schools to develop and teach appropriate entrepreneurship and innovation curricula;
- African countries and LDCs to build the capacity of innovators to become entrepreneurs by making available the array of tools that result in the successful commercialization of innovations;
- countries to build regulatory and monitoring capacity to ensure that regulations do not stifle but promote innovation and entrepreneurship. In many cases, laws and regulations are enacted without consideration for their effect on innovation and entrepreneurship because the skills for the required analyses are lacking or are inadequate.

**Conclusion:** international cooperation in the development, adoption, transfer and diffusion of technologies can play a helpful role in building capacity in science, technology and innovations and entrepreneurship in Africa and LDCs. However, for this succeed African countries and LDCs should:

- develop a mission and be clear about what they seek to achieve through international cooperation for capacity building;
- develop a set of metrics for measuring the contribution of international cooperation in the development, adoption, transfer and diffusion of technologies can play a helpful role in building capacity;
- undertake a detailed audit to identify areas where capacity building through international cooperation can add the most value and not create redundancies;
- be aware that the “constraints of sovereignty” mean that they should not expect assistance in capacity building in all areas where deficits are found to exist;
- be discriminatory, recognizing that all countries do not have the same needs. For example, the capacity building needs of Nigeria and South Africa are different

**QUESTION 2: 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?

ES: Thank you very much for the question.

- IPR is a matter central to the African transformation agenda.
- In the past, relatively weak intellectual property regimes facilitated technological learning and capacity building (especially through imitation and reverse engineering.) The policy environment has changed since the introduction of TRIPS.

The Patent Cooperation Treaty (PCT) - a treaty that makes it possible for citizens of countries that are members of the Treaty to simultaneously seek protection for their invention in each of the countries that are signatories of the Treaty by filing a single “international” patent application. The applicant’s national patent Office grants the patent after an exhaustive international search of patent databases as an “international” patent does not exist. All but 6 African countries (Western Sahara, Ethiopia, Eritrea, Democratic Republic of Congo, Somalia and Burundi) have signed the PCT. There are 147 countries<sup>2</sup> – including all the major industrialized economies – signatory to the Treaty.

PCT reforms address the following:

- a) duplication;
- b) special needs of Least Developed Countries;
- c) Balancing of applicant and third party interests, including government’s interests;

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<sup>2</sup> As of June 28, 2013

- d) Reduction of costs (especially for developing countries);
- e) Simplification and streamlining of procedures.

- A key reform proposal of the PCT to deal with duplication and cost is the proposal by the US and UK to integrate the bilateral Patent Prosecution Highway (PPH) into the PCT. The PPH is an agreement between two (national) intellectual property offices which offers the possibility of obtaining patents faster in another country other than the country of the patent applicant. It thus allows for faster or accelerated prosecution of patent applications. It does so by allowing each participating patent office to rely on analysis/review done by another patent office. An applicant who receives a favorable determination on patentability of at least one his application in the office in which he first filed an application can request accelerated consideration (prosecution) in a second (another country's) office. This reduces both workload and time. No African countries have signed onto PPH.
- Other cost reduction measures include electronic filing of PCT applications. This has the potential to increase PCT filings by applicants in Africa and LDCs and enable them to seek patent protection in more Treaty countries. This would stimulate local innovation efforts and the development of appropriate technologies for Africa and LDCs.
- If the proposal to integrate PPH into PCT is accepted, it means all states party to PCT will sign it. It also means that applicants from the major patent-owning countries can jump the queue. It also reinforces the restrictive attributes of the current IPR and the asymmetries since patent offices in the major patent owning countries are infinitely more efficient in prosecuting patent applications than the patent offices of African countries and LDCs. This reform of the PCT is unlikely to support the development, transfer and diffusion of technologies to African countries and LDCs.
- Since the number of patent applications is positively correlated with economic expansion, it should be expected that patent applications in African countries will grow. Under these circumstances, PCT is a useful treaty that can support the development, transfer and diffusion of technologies in Africa and LDCs. It will do so by providing African inventors and innovators a cost-effective way of seeking protection for their inventions in a large number of countries.
- PCT enables the applicant to delay filing the application in national offices by up to 30 months. Such a delay enables applicants to make strategic decisions (study the market, know competing patents etc) about whether to go forward and seek patent protection and in which countries to do so. This financial angle plus the possibility of filing a patent in all member states of the PCT will provide the needed incentive for enhanced innovation activity in African countries.
- PCT promotes transfer of technology through FDI since it provides patent protection to investors;
- PCT can make the latest technology available to African countries insofar as it grants patent protection in African countries to the inventors;
- PCT will enable African inventors and innovators to make inroads into other countries. This possibility supports the development, transfer and diffusion of technologies;
- PCT will strengthen international cooperation in the development, adoption, transfer and diffusion of technologies in Africa and LDCs

***The Substantive Patent Law Treaty (SPLT)***: According to WIPO, the purpose of SPLT is to harmonize substantive points of national patent law including novelty, inventive step and non-obviousness, industrial applicability, utility as well as sufficient disclosure, unity of invention or claim.

Industrialized countries are pushing for harmonization, arguing that it has the following benefits:

- a. Increasing patent quality;
- b. Result in timely examination of patent applications;
- c. Contribute to significant reductions of the cost of applying for a patent;
- d. Eliminate duplication of patentability examination

Developing countries are opposed to SPLT because it:

- a. Will reduce policy space;
- b. Will lock in the advantages of the industrialized countries;
- c. Is not consistent with the historical experience as more flexible patent policies allowed Korea, Japan etc to industrialize;
- d. Will erode the flexibilities currently available to developing countries under TRIPS as it will move the patent regime towards higher and stricter standards

These are valid arguments that explain why there has not been much progress on SPLT. But the SPLT has some strengths which the ES may wish to emphasize in his response. These include:

1. There are too many trivial patents especially in the developed countries due to the very low threshold of patentability. These trivial patents fetter innovation. SPLT, to the extent that it raises standards, will minimize if not eliminate trivial patents and thus contribute to efforts to support the development, transfer and diffusion of technologies;
2. Low standards of patentability overload the patent system and result in enormous amounts of litigation. This cannot be in the interest of African countries. The threshold for patenting should be reasonably high.
3. Many multinational companies engage in anti-competitive behavior by using patents (strategic patenting) to deter entry by their competitors into new markets. They patent inventions that they have no immediate interest to commercialize to keep competitors out. This is not conducive to the development, adoption, transfer and diffusion of technologies.
4. Stronger national patent protection leads to economic growth through FDI (although large amounts of royalties have to be paid). SPLT, if it contributes in this regard could support efforts to develop, adopt, transfer and diffuse latest technologies in Africa and LDCs;
5. SPLT is still a proposal. It has not been adopted. (Its parent law, the Patent Law Treaty, has only 33 contracting parties). A version that should support efforts to develop, transfer and diffuse technologies in Africa and LDCs must be one that recognizes flexibility, that countries are at different levels of developments, that addresses effectively patent proliferation and its stifling of innovation and innovation policy particularly in Africa and the LDCs.