Technology Transfer under the Convention on Biological Diversity and the Role of Intellectual Property Rights

WIPO LIFE SCIENCES SYMPOSIUM: PATENT LANDSCAPING AND TRANSFER OF TECHNOLOGY UNDER MULTILATERAL ENVIRONMENTAL AGREEMENTS
26 August 2008, Geneva

Dr. Markus Lehmann
Secretariat of the Convention on Biological Diversity
Montreal, Canada

CBD

- **One of the tree «Rio Conventions», signed in 1992**
- **Entered into force 29 December 1993**
- **191 Parties**
- **Governing Body: Conference of the Parties**
- **Cartagena Protocol on Biosafety entered into force 11 September 2003; 147 Parties**

Three main objectives (Art. 1)

- **Conservation of biological diversity**
- **Sustainable use of its components**
- **Fair and equitable sharing of benefits arising out of the utilization of genetic resources**

"…including […] by appropriate transfer of relevant technologies, taking into account all rights […] to technologies…"

CBD Technology Transfer

Access to and transfer of technology among Contracting Parties are essential elements for the attainment of the objectives of the Convention (Article 16(1))

The extent to which developing country Parties will effectively implement their commitments under the Convention will depend on the effective implementation of developed country Parties of their commitments under the Convention related to financial resources and transfer of technology… (Article 20(4))

CBD Technology Transfer

Definition

Article 16(1): Parties to provide and/or facilitate access to and transfer of technologies that are relevant to

- the conservation and
- sustainable use of biological diversity or
- make use of genetic resources

and do not cause significant harm to the environment.

- technology includes biotechnology
- Biotechnology: *"any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use."* (Article 2)

CBD Technology Transfer

Examples of technologies for conservation and sustainable use of biodiversity

- techniques for ***in-situ*** **conservation** (e.g., integrated pest management, technologies related to the sustainable management of biodiversity resources such as sustainable forest management or integrated water management);
- technologies for ***ex-situ*** **conservation** (e.g., preservation and storage technologies used in gene banks);
- **monitoring technologies** to generate updated and accurate biodiversity information as a basis for policy-making (e.g., remote sensing).

Technologies that make use of genetic resources

- Many **biotechnologies**

➢ CBD-relevant technologies reach beyond ESTs or 'environmental technologies'!

CBD Technology Transfer

- The access to and transfer of technology to developing countries to be **especially encouraged** and be **provided and/or facilitated under fair and most favourable terms, including on concessional and preferential terms where mutually agreed** (Article 16(2));
- Contracting Parties to take legislative, administrative or policy measures with the aim that **Contracting Parties, in particular those that are developing countries, which provide genetic resources are provided access to and transfer of technology which makes use of those resources** (Article 16(3));
- Contracting Parties to take similar measures with the aim that the **private sector facilitates access to, joint development and transfer of technology** for the benefit of governmental institutions and the private sector of developing countries (Article 16(4));

Technology Transfer and IPR

- In the case of technology subject to patents and other IPR, such access and transfer shall be provided **on terms which recognize and are consistent with the adequate and effective protection of IPR** (Article 16(2));
- Access and transfer of technology under Article 16(3) shall **include technologies protected by patents and other IPR**;
- Access and transfer of technology under Article 16(3) shall be in **accordance with international law** and consistent with Article 16(4) and 16(5);
- Article 16(5): Recognizing that patents and other IPR may have an influence on the implementation of the Convention, Contracting Parties shall **cooperate** subject to national legislation and international law in order **to ensure that such rights are supportive of and do not run counter to its objectives**.

Technology Transfer and IPR

Articles 19 (1) and (2) also relevant:

- Contracting Parties to take legislative, administrative or policy measures to provide **for the effective participation in biotechnological research** by Contracting Parties which provide the genetic resources for such research (Article 19(1))
- Contracting Parties to take all practical measures to **provide priority access on a fair and equitable basis by Contracting Parties to the results and benefits of biotechnologies based upon genetic resources** provided by those Contracting Parties Article 19(2)

➢ The linkages to the third objectives of the Convention, on the fair and equitable sharing of benefits arising out of the utilization of genetic resources, is an important 'peculiarity' of the CBD, when compared with other MEAs

➢ This has also implications for comprehensively analyzing the role of IPR for technology transfer under CBD

Technology Transfer and IPR

Further work under the Convention

- Programme of work on technology transfer adopted by COP-7, in 2004
- Programme of work spells out activities to be undertaken by Parties, stakeholders and international organizations in four programme areas: technology assessments, information systems, enabling environments, and capacity building;
- Strategy for implementation of the programme of work developed by group of technical experts in 2007 and annexed to the pertinent decision by COP-9 (decision IX/14)

Technology Transfer and IPR

Further work under the Convention (cont.)

- Activity 3.1.1 of the programme of work calls for the *"preparation of technical studies that further explore and analyse the role of IPR in technology transfer in the context of the CBD and identify potential options to increase synergy and overcome barriers to technology transfer and cooperation, consistent with paragraph 44 of the Johannesburg Plan of Implementation. The benefits and costs of IPR should be fully taken into account."*
- UNCTAD, WIPO, CBD Secretariat identified as main actors to undertake this activity.

Technology Transfer and IPR

Preparation of the technical study

- August 2004: formal invitation by the CBD Executive Secretary to the executive heads of UNCTAD and WIPO
- March 2006: first draft tabled at COP-8 and open for internal and external peer review
- September 2007: intermediate draft considered by AHTEG on technology transfer (tasked to develop the strategy for implementation of the programme of work), recommendations of the study included in the strategy
- May 2008: final draft considered by COP-9
  - **Strategy to serve *"as a preliminary basis for concrete activities by Parties and international organizations"***
  - **Notes with appreciation the cooperation of UNCTAD and WIPO**
  - **Invites research institutions to undertake further research on a number of items identified by the study**

Technology Transfer and IPR

The technical study

- A joint collaborative efforts by staff of the three secretariats; no official view of CBD, UNCTAD and WIPO
- Context matters - no claim for general validity of the analysis and the recommendations
- 'costs' and 'benefits' of IPR interpreted in a broad sense
- Role of IPR in technology transfer is multi-faceted and complex: analysis structured in accordance with ideal 'phases' of technology transfer:
  - **Technology development**
  - **Identification of transfer needs and opportunities**
  - **Arrangements for the actual transfer**
  - **Technology adaptation to local conditions and circumstances**
  - **NB: technology transfer no on-off activity; typically embedded in long-term technological cooperation**

Technology Transfer and IPR

General conclusions

- Specific judgments difficult to establish; benefits/costs of IPR will not depend on binary questions, but the net effects of a series of successive decisions/determinations
- Technology transfer mechanisms will also touch upon non-IP elements, such as capacity development and training to legal remedies against abusive licensing practices
- Adequate institutional capacity an important general precondition to minimize the number of erroneously granted patents
- Benefits of IP systems to be enhanced by precise patent claims; overly broad patents, whenever they occur, will constitute a cost

Technology Transfer and IPR

Conclusions on the identification of transfer opportunities

- Transparency generated by the patent system, both a macro and micro levels
- Practical benefits depend on the actual accessibility, cost and quality of patent information, and the capacity present to use this information
- Highly specialized legal-technical skills may be required to establish a full patent landscape or to draw conclusions from patent information (e.g. on the legal scope of freedom to use patented technologies, or the effective scope and likely validity of specific patent claims)
- Mere access to patent information does not guarantee access to the necessary tools of interpretation and the means to turn information into products or processes
- Capacity building and training needed, as well as more empirical studies on the actual extent of patent data use in research and development in different sectors, both in developed and developing countries

Technology Transfer and IPR

Potential options identified

- identify obstacles of developing countries in fully exploiting existing exemptions and safeguards (against anti-competitive practices, abusive licensing practices)
- Provide adequate institutional capacity for national authorities governing the IP system
- Provide capacity building and training on legal-technical skills; e.g. on patent landscaping, for negotiating technology transfer agreements/provisions/clauses, and on the development of appropriate competition rules, policies, and institutions
- Compile existing technology transfer agreements/provisions/clauses and develop international guidance as reference for good practice
- Review existing frameworks with a view to ensure support of IP mechanisms for benefit sharing, such as the provision of broad access to research tools (through free licenses, joint patents, or joint research programmes, discouragement of reach-through provisions)
- Establishment of research consortia among research institutions in developing countries, including through for instance the establishment and work of patent pools or intellectual property commercialization agents
- Provide incentives to the private sector (tax breaks, deferrals) to undertake measures implementing Article 16
- Review principles and guidelines for the funding of public research institutions with a view to provide incentives to follow the provisions of the Convention

Technology Transfer and IPR

Further research (decision IX/14)

- More in-depth analysis of new open-source-based modes of innovation, as well as other additional options to intellectual property rights
- More empirical studies on the extent of use of patent data information in research and development in different sectors
- Further empirical analysis on the scope and extent of patent clustering on technologies and other associated biological materials that are necessary inputs to desired technology development processes and on how prospective technology users in developing countries cope with patent clustering
- Further examination by relevant international organizations of the overall trends in the application of the flexibilities provided by the Agreement on Trade-related Aspects of Intellectual Property Rights (TRIPs)

Thank you!

For further information:

www.cbd.int

The technical study is available under

http://www.cbd.int/doc/?mtg=cop-09

(UNEP/CBD/COP/9/INF/7)