The Conservation of Biodiversity: Implications of the IP System on Equitable Benefit Sharing

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Overview

• Technology Transfer under the CBD
• Overview of Mechanisms relevant to the CBD
• Costs and Benefits of IPRs with respect to Technology Transfer
• Options to promote Technology Transfer
Technology Transfer under the CBD

Three objectives of the CBD:

1) The conservation of Biological Diversity
2) The sustainable use of its components
3) The fair and equitable sharing of the benefits arising out of the utilization of genetic resources,
   • by appropriate access to genetic resources and
   • by appropriate transfer of relevant technologies,
   and
   • by appropriate funding.
CBD Terminology

• **Technology:**
  • not only technical machinery and equipment
  • but also “soft” technology, i.e., technological information, or know-how.

• **Intellectual property mechanisms:**
  • broader than IPRs
  • covers IP laws and systems that do not involve the grant or exercise of distinct ‘rights’, but are typically used in practical tech transfer process.
    • Examples: nondisclosure agreements, measures against unfair competition and the use of public domain patent information.
Overview of IP Mechanisms relevant to the CBD

- **Patents**
  - Genetic resources may be patented in diverse ways in different countries

- **Licensing**
  - Access and benefit sharing (ABS) of genetic resources requires choices as to obtaining, assigning, licensing and exercising of patents on relevant technologies.

- **Trade Secrets**
  - Providers of genetic resources may require certain information to be kept confidential, such as the exact location of a potentially endangered species in situ.

- **Traditional Knowledge**
  - Technology partnerships may need to take into account national laws on TK, protecting bio-diversity knowledge, traditional medical knowledge, etc.

- **Copyright and Databases**
  - Conservation of biodiversity, earth observation data, and satellite images
The Four Phases of Technology Transfer

1) Technology Development
2) Identification of Transfer Opportunities
3) Actual Transfer
4) Technology Adaptation
Technology Development: The Impact of IPRs

• Patent system provides incentives, clarity, predictability and access to information regarding technologies dealing with conservation and the sustainable use of biological diversity.

• However, effective access and use of the information requires a range of resources and uncertainty in the system may cause additional difficulties.

• Developing research partnerships incurs various IPR-related costs and benefits.

• Patent thickets may create transaction costs and are not only a concern of developed countries, but also may be a concern of developing countries where patent activity is intensifying in technologies relevant to use of genetic resources or producing products for developed economies.
Identification of Transfer Opportunities: The Impact of IPRs

- Transparency in the patent system may lead to identification of transfer opportunities.
- Actual accessibility, cost and quality of the patent information and capacity to make use of the information are necessary.
- CBD emphasizes international technical and scientific cooperation in the field of conservation and sustainable use of biological diversity.
- Strong collaborative research and development efforts between developing and developed countries is needed.
Actual Transfer of Technology: Forms of Transfer Agreements

- Licensing Agreement
- Partnership Agreements
  - May be sought in knowledge intensive fields such as biotechnology to spread the cost, risks and uncertainty
- Material Transfer Agreements
  - Regulate the transfer of tangible research materials, especially biological and genetic resources
- Bioprospecting Agreements
  - Often used to meet CBD requirements of prior informed consent and mutually agreed terms for ABS to gain access to genetic resources
- Patent Pools
Actual Transfer of Technology: The Impact of IPRs

- IPRs as “currency” used to secure funding
- Costs of acquisition may depend on stage of development of the technology
- Negotiation for key patents needed for sustainable use of genetic resources and development of value added products may be a better approach for developing countries than forcing the formation of patent pools.
- With respect to technologies which make use of genetic resources, IPRs may be an important avenue of diffusion; including joint patents or research programs with countries of origin of the genetic resource
Technology Adaptation: The Impact of IPRs

- IPRs may affect the manner of dissemination of the technology.
- Overly broad patent rights may inhibit technology absorption through reverse engineering, or as in the case of genetic research, by blocking access to essential medical information.
- Strengthened IP laws will likely shift firms’ activity away from exports towards licensing.
- But appropriate measures should be taken to prevent or control restrictive practices in licensing agreements which impede the adequate adaptation of the technology contrary to the objectives of the CBD.
- National patent protection should be adjusted to the level of the county’s technological development.
Options to Overcome Barriers to Technology Transfer and Cooperation

- A well-designed broader regulatory framework
- Adequate institutional capacity so as to minimize the number of erroneously granted patents
- Capacity building and training on legal-technical skills, including granting of patents and design of domestic patent laws
- Need for IP-related technical assistance to improve developing countries’ capacity to use IP licensing for technology transfer
- Enhance developing countries’ skills for the negotiation of technology transfer agreements/provisions/clauses
- Encouragement of development and implementation of sui generis IP systems to protect traditional knowledge
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