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INTELLECTUAL PROPERTY, TRADITIONAL KNOWLEDGE AND
GENETIC RESOURCES
ACCESS TO GENETIC RESOURCES: WILL TRADITIONAL KNOWLEDGE
SURVIVE THIS MILLENNIUM?

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*Where is the thicket? Gone. Where is the eagle? Gone.
The end of the living and the beginning of survival (Chief Seattle, 1854).*

Will traditional knowledge follow the same trend in that one day the answer to the question “Where is the knowledge of the elders and the ancestors” will be: Gone! ” Or will the beginning of survival be the renewal, promotion, use and protection of traditional knowledge?

This paper takes a critical look at the issues surrounding traditional knowledge, access to genetic resources and intellectual property rights protection as it relates to traditional and/or indigenous knowledge systems, from an African perspective. Over the past decade there has been a surging interest in traditional knowledge, especially by pharmaceutical companies, as the value of traditional knowledge for bio-prospecting has been more widely recognized. However, traditional knowledge is often held by rural community members and entire communities, who often do not benefit from any of the uses of their knowledge, if commercialized. A great number of questions arise as to how to protect knowledge that is communally held, how benefits could be shared and how access to knowledge and resources could be regulated. This paper aims to give a short survey of some of the most important issues that center on those questions.

INTRODUCTION

1. Indigenous knowledge and/or the traditional knowledge of many local and indigenous communities in the world are declining. This is often as a result of formal schooling and of the emigration of men and women from rural to urban areas. Here certain elements and aspects of the traditional body of knowledge are not needed and, therefore, often forgotten. This sadly means that much knowledge about the daily life of local and indigenous people is lost in our quest for so-called civilization. Important knowledge such as on natural resource management, ecology, agriculture, traditional medicine, traditional land use practices and traditional philosophical knowledge are being lost and often replaced by less appropriate modern knowledge and technologies.
2. One of the major international instruments for acknowledging traditional knowledge and its value is the United Nations (UN) Convention on Biological Diversity (CBD), one of the major environmental conventions resulting from the UN Conference on the Environment and Development, held in Rio de Janeiro in 1992. The CBD recognizes the importance of indigenous and local communities to the conservation and sustainable use of biological diversity through the use and application in several ways of the traditional knowledge that they possess. In this context, traditional knowledge is defined as a body of knowledge that has been built by a group of people through generations of living in close contact with nature. This knowledge would include systems of classification, sets of empirical observations about the local environment and systems of self-management governing resources use.
3. In terms of biodiversity, traditional knowledge can be seen as the “knowledge, innovations, and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity.”
4. It is essential and imperative that we recognize the importance of traditional knowledge across the globe. For us to do this, the CBD is right in saying that we need to:

- respect, preserve and maintain the traditional knowledge of the world's indigenous and local communities who happen to be the most marginalized wherever they occur even in their native lands;
- recognize that the use of such knowledge should be promoted for wider application with the approval, involvement and prior informed consent of its holders;
- recognize that the creators, owners and holders of such bodies of knowledge should equitably share in all the benefits that arise from the use of their knowledge.

5. Indigenous people recognize that their influence over decisions concerning natural resources management and the quality of the environment in which they live determines their social, cultural and economic future.

6. Without the land and its resources, the knowledge of indigenous people about the land and the respect in which they hold the land, their communities and their way of life would not exist, because the land and the people are one.

7. Given this very intricate link between people and the land and its resources, it can be argued that any intervention, whether to harvest, protect or preserve, could have serious economic, biodiversity and health implications for local and indigenous communities.

8. Such intervention will also impact on the cohesiveness of the community unless it is designed to maintain or improve the supply, use and access to the land and its resources, including the community rights and intellectual property of the communities, within the framework of regulation, monitoring, cooperation and appropriate benefit-sharing with the affected communities.

9. This paper will discuss key issues regarding traditional knowledge and intellectual property. A case study from Namibia is presented to illustrate some of the key issues as well as to pass on some lessons learned.

10. The following aspects of traditional knowledge are examined:

- the need to create incentives to enhance the role of traditional knowledge systems;
- the need to generate awareness of the continued importance of traditional knowledge;
- land and resources tenure;
- can existing intellectual property rights regimes be used to protect traditional knowledge?
- the need to develop access and benefit-sharing regimes coupled with the protection of indigenous knowledge.

THE NEED TO CREATE INCENTIVES TO ENHANCE THE ROLE OF TRADITIONAL KNOWLEDGE SYSTEMS

11. There is a need for the immediate development of incentives for the protection and promotion of traditional knowledge. The rate of erosion of the traditional knowledge of

biodiversity held by local and indigenous communities has never been so high as in the current generation. Incentives should secure the survival of traditional knowledge within and beyond this generation. Young people must feel that it is rewarding to pursue careers based on the traditional knowledge of their forebears or ancestors. This awareness creation effort should address the following:

- it is important to value and have respect for traditional systems of living, culture, knowledge, practices and technologies;
- it is not necessarily old-fashioned to continue to adhere to traditional approaches to ensuring sustainable livelihoods;
- the challenge is not to preserve tradition, but to identify those elements in traditional systems that are worth keeping and to look for ways of integrating these elements with new knowledge, insights and ways of living based on modern scientific methods and market-based commercial approaches to sustainable resource use and management, and related benefit creation and sharing; and
- models need to be developed for ethical codes of conduct for research, access to use, exchange and management of information concerning traditional knowledge, innovations and practices. It is important to always consider the following questions: Do the members of local and indigenous communities want to have their knowledge formally documented? How should it be documented, and by whom? Who will have access to such databases?

NEED TO GENERATE AWARENESS OF THE CONTINUED IMPORTANCE OF TRADITIONAL KNOWLEDGE

12. Generally there is a huge need to promote awareness of the importance of traditional knowledge for sustainable resource management, food security, primary healthcare and national development. This process needs to take place at both the policymaking level and within the general public.

LAND AND RESOURCES TENURE

13. The land and the people are one. The history of Africa (as elsewhere) is a story of the eviction and displacement of indigenous communities from land and resources that they once enjoyed. This was mostly done to promote the interest of a white minority and foreign investors. Evicted groups were settled in agriculturally poorer regions and were denied access to the essential natural resources that they needed for their survival. The dilemma is how to write access to these resources into legislation. In some countries the following issues still have to be addressed with regard to land tenure:

- no security of tenure on communal land;
- no exclusivity of user rights;
- a lack of community rights to the utilization of natural resources other than game on communal land.

14. There is thus a need for countries, where relevant at the national level, to initiate the process of clearly defining ownership of resources (domesticated and wild) as well as land ownership on communal land, commercial land and State land, including protected areas.

15. As long as the issue of land ownership or land tenure is not adequately addressed, benefit sharing, access and sustainable use of the components of biodiversity will be problematic.

CAN EXISTING INTELLECTUAL PROPERTY RIGHTS REGIMES BE USED TO PROTECT TRADITIONAL KNOWLEDGE?

16. Generally, existing intellectual property rights (IPR) regimes - notably patent systems - are inappropriate for the protection of traditional knowledge. Current IPR regimes are not sufficient to ensure that benefits flow back to indigenous and local communities.

17. Most probably the biggest shortcoming of existing IPRs is that they were originally designed and developed for industrial inventions, whereby innovations are viewed as individual activities composed of separate identifiable components and ideas, each of which can be described and owned, and therefore patented.

18. In contrast, most traditional innovations of local and indigenous communities are a result of a collective process of freely sharing ideas, knowledge and practices, which cannot be owned by an individual or even a group. This applies, in particular, to local-level management and use of biodiversity.

THE NEED TO DEVELOP ACCESS AND BENEFIT-SHARING REGIMES COUPLED WITH THE PROTECTION OF INDIGENOUS KNOWLEDGE

19. It is encouraging that some countries have taken the option of venturing into the unknown and have started to pave the way for the development and establishment of policies and legislation with which to regulate access and benefit-sharing. Those countries are Costa Rica, Western Australia, India, Fiji, the Philippines and the Andean Pact countries.

20. Africa as a continent has also made progress in the development and adoption of the "African Model Law" for the protection of the rights of local communities, farmers and breeders, and for the regulation of access to biological resources. This Model Law will serve as a framework and guideline for African countries in the process of formulating and developing national access and benefit sharing legislation. The Model Law was adopted by the Organization of African Unity (OAU). It provides Africa with an opportunity to protect its rich cultural wealth and thereby its biological wealth.

ACCESS TO GENETIC RESOURCES

21. In the absence of appropriate policy and watertight legislation, local and indigenous communities across the continents may stand to lose millions of dollars in revenue from renewable plant, animal, fungal and microbial resources exploited by international pharmaceutical, medical and agro-chemical interest groups. In addition rural communities, individuals and institutions stand to lose considerably from the uncontrolled exploitation of the intellectual property related to these resources.

22. Access to genetic resources and benefit-sharing arising out of the use of genetic resources cannot be separated from the traditional knowledge of indigenous and local communities, as it can be valuable in identifying sources of new products, such as pharmaceuticals and crop varieties.

23. Given this connection between genetic resources and local and indigenous knowledge, innovations and practices, it should be clear that access seekers must obtain the informed consent and approval of local and indigenous communities in order to make use of their knowledge.

24. The following example will be used to illustrate the complexities and issues that should be considered when traditional knowledge, intellectual property and access to genetic resources are discussed.

A. Case study from Namibia – The Devil’s Claw

25. Many resources in Africa, and also in Namibia as much as elsewhere, are transboundary resources. Such resources would include, for instance, indigenous fruit trees, wild animals, water and medicinal plants. The same scenario applies to the traditional knowledge, innovations and practices of indigenous and local communities, which are often not tied to one small community or one person. This makes the determination of who should benefit from a benefit-sharing mechanism or access agreement very difficult.

26. A good example illustrating this challenge is the Devil’s Claw plant (*Harpagophytum procumbens*), which occurs in Namibia, Botswana, South Africa without respect for boundaries and Angola. This plant is commonly used to treat arthritis, gastrointestinal problems, arteriosclerosis, diabetes and hepatitis; there is also evidence that it may reduce spasmodic blood pressure. Healers in these countries use it for medicinal purposes, and that implies that it is used in their communities. Although Devil’s Claw is so important as a medicinal plant, the countries in which it occurs *in situ* have received few of the financial benefits from its use. The lion’s share of these benefits has gone to Northern countries, especially Germany, France and Switzerland. Some patents on the extraction process have been granted to commercial companies in Germany and the U.K. Very little value addition takes place at present within the source countries, and the high-value-added products are now bought in local pharmacies at inflated prices following “manufacture” in the North! This means the traditional knowledge of the medicinal properties and applications, as well as the related intellectual property rights, have already been lost (note that this example is of a genetic resource with an already established market where the related intellectual property rights (IPRs) have been lost by the source countries).

27. A project was conducted in Namibia with a view to ensuring local-level sustainable resource management, and the development of appropriate incentives and assistance in order to maximize benefit retention at community level. The primary beneficiaries of the project were the 10,000 very poor Namibians who earned a cash income from harvesting Devil’s Claw.

28. The project demonstrated that, by ensuring good prices, making information available, creating options, strengthening communities’ bargaining positions and providing general support, one can encourage harvesters to take responsibility for managing the resources. It also empowered them to participate effectively in processes that are crucial to the protection of their knowledge and to the security of their livelihood.

29. The questions that arose throughout the project include:

- Which of the communities in the source countries should share in the benefits? What about outsiders from other communities in the source countries?
- How are the issues of transboundary knowledge and resources to be dealt with?
- How is one to identify and determine the beneficiaries of an innovation or of knowledge that has been with many communities over generations, and in particular if that knowledge is also transboundary?
- Given that holders of traditional knowledge are often not homogenous and may live in transboundary areas, will it be easy to represent them under a single title or rubric?
- How is access and benefit-sharing legislation to be harmonized between the source countries if the resource is transboundary?
- How are consumer countries to be persuaded to return benefits to the source countries? Can benefits be returned?
- Will the companies in the North be willing to share some of their know-how in the form of technology transfer and capacity building with the source countries, especially with the marginalized communities in the range states?
- Do the communities in the range states have adequate capacity, negotiation skills and know-how with which to participate effectively in the debate on access and benefit-sharing at an equal footing with Northern corporate entities? If not, how can that capacity be developed?
- Are the communities in the source countries able to place sufficient added value on their products?
- Do the communities have the financial resources necessary for applying for maintaining and if necessary defending the patent?
- Is it feasible to develop a Devil's Claw extraction plant in Namibia?
- How can the source countries improve collaboration and cooperation between communities, healers and other stakeholders within countries and within the region? Should this be addressed within the regional framework?

LESSONS LEARNED

When benefits accrue only to some members of a given community, the following problems arise:

- a) the risk of community cohesiveness, harmony and unity being disrupted;
 - b) identification of those who have contributed and those who have not, when much of the thinking is done communally, and in meetings and informal discussions.
- Cultivation of genetic resources should not be regarded as an alternative source of supply without considering the impact on the livelihood of extremely poor people. If cultivation is seen as the only option, it should be ensured that it is practical for traditional harvesters, not just for rich farmers.
 - Good policy and/or legislation are not enough support for marginalized peoples. Relevant and useful information is also needed.

- Communities should have an improved understanding of what the product is used for in the export market.
- Communities and their concerns should be well represented in negotiations with national and international stakeholders and interest groups.
- Measures need to be identified to ensure that communities share in the benefits deriving from the use of their knowledge.
- Identification and implementation of ways in which to generate income from natural resources will help empower communities to manage those resources and make them sustainable.
- It is crucial to identify ways and means of encouraging, monitoring and controlling access to genetic resources and the associated traditional knowledge.
- There is a need to help communities in the process of market and product development, processing and commercialization.
- There is a need for a regional harmonization of access and benefit-sharing mechanisms and legislation in regions, where resources and traditional knowledge occur transboundary.
- It is important to note that the benefits deriving from the use of traditional knowledge could take various forms, such as payment for access to specimens, royalties, data, technology, capacity building, training and joint research. In the process of negotiating benefits it is essential for the negotiators (especially the communities) to enter into benefit-sharing agreements that take into account their local circumstances and needs.

30. These questions and issues apply not only to the issue of Devil's Claw, but also to other genetic resources that have pharmaceutical or other industrial potential, and where the use of traditional knowledge was instrumental in providing lead information.

31. Finally it is imperative and crucial that all those who are engaged in this issue and other related issues should work towards increased networking, cooperation and collaboration in all sectors and at all levels.

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