

Biodiversity and Traditional Knowledge: How can they be protected?

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This conference, co-organised by IDDRI and the Fondation d'Entreprise Hermès (FEH), in collaboration with the Bibliothèque Nationale de France, was held in Paris on Friday 7 June 2013. Taking a multidisciplinary approach, the aim of the conference was to examine efforts to protect biocultural heritage and traditional knowledge (TK) associated with biodiversity. Its objective was to provide a critical assessment of the legal and economic tools that can be used to improve the potential contribution of biocultural diversity and TK to the livelihoods of local communities and to biodiversity conservation.

After a welcome speech by **Bruno Racine**, President of the Bibliothèque Nationale de France, and by **Catherine Tsekenis**, Director of the Fondation d'Entreprise Hermès, **Claudio Chiarolla**, Research Fellow, IDDRI, introduced the themes of the conference. In the context of an increasing specialisation of production systems, biocultural diversity is under threat. Since 1992, with the adoption of the Convention on Biological Diversity (CBD), significant progress has nevertheless been made in international law in terms of the tools to protect biocultural heritage. Further to the adoption in 2007 of the United Nations Declaration on the Rights of Indigenous Peoples, in 2010 the Nagoya Protocol to the CBD established the need for States to recognise the rights of indigenous and local communities (ILCs) to their genetic resources and associated TK. Despite being relatively weak, this Protocol nevertheless gave new impetus to negotiations on the protection of genetic resources, TK and folklore within other bodies, notably at the World Intellectual Property Organization (WIPO). But will this regulatory progress have a positive impact on governance at the local level?

The keynote speaker, **Pierre du Plessis**, Centre for Research Information Action in Africa – Southern African Development and Consulting (CRIA SA-DC, Namibia), stressed the critical importance of protecting TK for biodiversity conservation. Although TK has been widely documented and numerous gene banks are available, biodiversity and TK are dynamic processes that must be continuously protected. Biodiversity cannot be reduced to biomass alone, since it encompasses the diversity of genes, organisms, populations of species and ecosystems, which are capable of reacting to external stimuli. Similarly, TK has evolved and adapted to socio-economic changes, such as increasing urbanisation. But the major industrial groups have failed to replicate this variability and adaptability demonstrated by biocultural heritage. In order to guarantee the preservation of biological diversity, it is therefore essential to ensure the transmission of TK. An integrated approach must be adopted: recognising the land rights of indigenous peoples, providing them with scientific and technical support for sustainable resource management,

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and maintaining the pride of the holders of this TK, which is the key to their motivation to protect biodiversity.

LEGAL TOOLS FOR PROTECTING BIOCULTURAL HERITAGE AND TRADITIONAL KNOWLEDGE

During the first session chaired by **Sébastien Treyer**, Director of Programmes, IDDRI, the legal tools available for protecting TK and biocultural heritage were discussed, along with their capacity, in the face of current challenges, to contribute to biodiversity conservation. **Graham Dutfield**, Professor of International Governance, University of Leeds (United Kingdom), presented some intellectual property-related tools that have the potential to protect the rights of ILCs. First, trademarks may protect any sign that distinguishes the goods and services of an individual, a company or a group from others. Held by a company (individual mark), a group (collective mark) or a separate entity (certification), this right, which is exclusive and alienable, makes it possible to protect the interests of producers and to provide essential information for consumers. Geographical indications are another legal intellectual property tool linking an area, a location or a region to a product that bears its name and possesses specific qualities because of its geographical origin. Recently, a new legal proposal has emerged to protect biocultural heritage: a “Biocultural Heritage Indication” system for innovations associated with biocultural heritage, promoting the cultural and spiritual values and the customary laws of indigenous peoples.¹

Hélène Ilbert, agro-economist at the Institut Agronomique Méditerranéen de Montpellier (CIHEAM-IAMM, France), presented the challenges and findings of the MicroMegas project, selected within the framework of the 2012 FEH-IDDRI call for project. Through action research and training for women, but also storytelling, the aim of the project is to restore trajectories that contribute to the protection and enhancement of TK, for example, in Morocco. Hélène Ilbert showed that property rights are the product of long-standing, dynamic social arrangements. More than just a legal instrument to market products, a geographical indication is a collective action at the local level to protect a connection with the territory and ways of living. At the international level, geographical indications are problematic, however. Whereas the

megadiverse countries² are attempting, within the framework of the CBD, to defend geographical indications as an instrument for protecting their TK, the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) situates these legal tools within the realm of trade, fuelling economic rivalry between the United States and the European Union. Many locally registered designations of origin cannot be legally protected: Moroccan argan trees are a good example of this.

Brendan Tobin, Research Fellow at the Griffith Law School (Australia), explained that it is essential to recognise TK and customary laws of indigenous peoples within the framework of discussions on innovation and intellectual property, especially patents and geographical indications. On the one hand, intellectual property rights, sometimes associated with knowledge in the public domain, are exclusive and may be opposed to indigenous peoples; the latter may lose control of their TK. On the other hand, indigenous peoples have their procedures for sharing rights and knowledge. Yet, joint licences between companies and indigenous peoples are sometimes signed, but the technical and financial relations and capacities are often unbalanced. The Nagoya Protocol reasserts the binding obligations to recognise customary laws and to obtain prior informed consent from ILCs. But such recognition faces difficulties: the European Commission has, for example, prepared a text for the application of the Nagoya Protocol in the countries of the Union that recognises only TK defined in contracts and legally regulated by a law in the country of origin; yet because both conditions are rarely met, this text remains unfavourable to them.

THE ROLE OF VALUE CHAINS IN PROMOTING AND PROTECTING TK AND BIODIVERSITY

During the second session, chaired by **Renaud Lapeyre**, Research Fellow, IDDRI, the role of value chains in preserving and protecting biodiversity and associated TK was discussed.

Ilse Köhler-Rollefson, League for Pastoral Peoples and Endogenous Livestock Development (Germany), presented action research on biocultural community protocols and pastoral peoples (selected project within the framework of the 2012 FEH-IDDRI call for project). The latter depend on common resources and pastures for their grazing animals and many camel forage plants are well known for containing phytochemical properties.

1. This proposal emerged from the SIFOR Workshop on Biocultural Innovation, organised in May 2013 (see: <http://pubs.iied.org/pdfs/G03618.pdf>).

2. Megadiverse countries harbour the majority of the Earth's biodiversity. The group, created in 1998, counts 17 countries as of 2013, including Brazil, South Africa, Australia, India and China.

Pastoralists' livestock can walk for miles in harsh terrain to seek out scattered plants, and are part of ecosystems where they provide a host of environmental services, while producing healthy food as well as a range of other organic products. Further, the higher nutritional quality of pastoral products, e.g. Jaisalmeri ghee, is stressed as well as the importance of biocultural protocols for empowering pastoralist communities—in particular, by serving as a platform for asserting rights and affirming responsibilities under customary, national, and international law in response to opportunities and challenges posed by external actors. However, the potential for combining biodiversity conservation with rural income opportunities is confronted with difficulties, since the volume of pastoralists' products is often insufficient to attract companies' investment. This could be overcome by grouping homogeneous categories of products from different producers (e.g. fibers). In this context, it would be useful to develop an internationally recognized label, such as the "Arc of Livestock Biodiversity", to improve access to foreign markets and capture the higher value of pastoralists' products marketed worldwide.

Paolo Meoni, Founder and Manager of Atunis Development Services (Tunisia), discussed the contribution of traditional knowledge to biodiversity-based drug development in African countries. Importantly, when discussing 'medicine' and 'drugs' in different cultures, concepts can be very different. While Western medicine focuses on molecules that have a well characterized effect on our organism, traditional medical knowledge often uses complex mixtures (plants, minerals, biological) and is often transmitted orally (with a few exceptions including Chinese and Indian medicine). While traditional medical knowledge can be based within certain cultural systems on dreams, visions or "revelations", Western medicine relies on scientific evidence and on directives emanated from regulatory systems developed to define all necessary steps from discovery to commercialization of a new product. Under this light, it is a major challenge when a traditional medicine needs to be validated before entering highly regulated markets that hold the potential to generate additional revenues for TK holders. In traditional African medicine for instance, plants are just one component of an approach that jointly makes use of minerals, microorganisms, specific foods as well as magical aspects which are not considered by bioprospecting companies. In this context, there is a dichotomy between holistic *versus* regulated approaches focused on chemicals extracted from plants. In the EU and US, alternative medicine is a growing market, which is not focused on molecules but uses entire plants. In the case of food supplements and complements, the

fragmentation of the regulatory framework that is due to the lack of harmonization between countries is thus a major problem for market access.

Plants can also be used as a source of pure chemical compounds used as medicines, and it is estimated that 60% of available drugs are derived from plants. In this context, it is recognized that TK plays an important role as a lead in drug discovery. However, from the discovery of a new chemical to the commercialization of a drug, at least 10 years and an investment of 500 to 800 million USD can be necessary. The very significant amount of investment needed for drug discovery and development, as well as for the development of molecules derived from plants used in traditional medicines raises important questions concerning the value addition of TK for the development of a health product.

Discussing both cases presented, Krystyna Swiderska, Senior researcher Agriculture and Biodiversity at the International Institute for Environment and Development (IIED, United Kingdom), emphasized that the two must be differentiated: while in the case of livestock keepers' products the main difficulty appears to be the connection to consumers' markets, in the case of pharmaceuticals, value chains are relatively long, with many intermediaries, long time frames and uncertain benefits for indigenous peoples. Therefore, communities should proactively seek to market their biocultural products ("benefit-capture"), rather than relying only on possible benefit-sharing from bioprospecting. In both cases one must recognize the importance of collective trademarks, customary laws and biocultural protocols. Community protocols are important not only for promoting indigenous peoples' rights and preventing conflicts over benefits amongst communities, but also for strengthening local governance of biocultural heritage and strengthening the cultural identity of ILCs. Cultural values and customary laws have conservation values at their core, but can be undermined by focusing on markets alone. Participatory action research processes are also important to re-ignite a sense of pride over traditional knowledge, which has been systematically undervalued by external actors and is being rapidly lost alongside biodiversity.

THE ROLE OF GOVERNANCE IN PRESERVING BIOCULTURAL HERITAGE AND BIODIVERSITY

Chairing the final roundtable on the role of governance to preserve and promote endangered biocultural heritage, **Laurence Tubiana**, IDDRI Director, highlighted that biodiversity and TK should be better understood at the interface between tradition and dynamic evolution, and between nature and human activities. On the contrary, most available

governance tools have been borrowed from other areas, such as conservation policies and intellectual property; thus, these are only partially fit for promoting biocultural heritage and they may conflict with indigenous and local communities' (ILC) lifestyles.

According to **Johnson Cerda**, Indigenous Advisor for Indigenous and Traditional Peoples Program at Conservation International (United States), the principle of free, prior informed consent of indigenous peoples is highly important in decisions that affect biodiversity. There is a need for inclusive participation in decision-making at all stages, for recognition and strengthening of ILCs' projects and plans—rather than imposing external ones—and for respecting local decision-making structures, procedures and timelines.

Serge Letchimy, French Member of Parliament, emphasized that France and Europe have much to contribute in this field. Indeed, overseas maritime areas correspond to 74% of European maritime areas. Hence, stakes are extremely important not only in terms of knowledge, protection and valorization of such biodiversity, but also from a geopolitical standpoint. For instance, 17 plants have been admitted in the French pharmacopeia and about a hundred are in the process of being validated for their use as drugs. In turn, this presents important development opportunities as well as risks. The latter include ensuring the long-term sustainability of value chains and avoiding overexploitation, the disconnection between traditional uses and vertical exploitation by the pharmaceutical industry, biopiracy and unregulated sourcing of natural ingredients and specimen, and the lack of research programmes to promote the sustainable use of resources. *In fine*, this calls for the need to implement an access and benefit sharing (ABS) framework in Martinique as well as to elaborate and apply laws and regulation differently so as to strengthen local capacity to promote a new sustainable development paradigm that does not ignore local cultures and traditions.

Further discussing ABS-related issues, Flavia Noejovich, an Independent Consultant on Environmental Law and Policy and Indigenous Peoples' rights, stressed the importance of local governance and the need to simplify the international legal framework on ABS, while adapting it to the realities in the field. Many supply chains in Peru are for example dynamic but are not necessarily well organised and often not aware of ABS implications, especially small businesses. Imposing an inappropriate regulatory framework jeopardizes the latter as well as local livelihoods these help sustaining; thus the need to build capacity at all levels (e.g. government officials, private sector and communities) and to formally recognize indigenous' initiatives while also strengthening customary laws of ILCs.

Finally, **Barbara Pick**, from the Department of Law, London School of Economics (LSE, United Kingdom), proposed geographical indications as a potentially useful tool to foster local development and biocultural heritage. At the local and national levels, conditions to unleash such potential include well-designed codes of practice, good governance of the value chains to ensure equitable participation in decision-making and fair distribution of benefits, an adequate legal protection, an efficient marketing strategy to develop the product's reputation, and implementation of quality control procedures. At the international level, there is a need to address the current discrepancy between "absolute protection" for wines and spirits and "minimum protection" against consumer deception and unfair competition. In this context, two possible outcomes of international negotiations are possible, namely: either a prescriptive GI system (*sui generis* registration-based model) or a permissive GI system (trademark model).

As key conclusions from the day-long presentations, it was noted that intellectual property instruments barely have a proven positive impact on biodiversity conservation, while the improvement of value chains may have important social and economic impacts. Beyond a purely commercial focus, conceptual models based on multidisciplinary approaches are the most appropriate to understand biodiversity values, particularly from a public good perspective. Overall, there is a need to undertake further work on the factors that contribute to the erosion of biocultural diversity; and focus attention on social movements and indigenous peoples' claims, since in most cases ILCs have developed innovative tools, such as farmers' initiatives based on agro-ecology and dynamic management of biodiversity in the field. ILCs' fight for the recognition of their land rights is thus crucially important, while recognizing that such communities' knowledge is heavily affected by climate change in terms of species' disappearance and by the lack of access to the natural resources. Finally, promoting policies to ensure democratic stability and economic development relies on our capacity to preserve and sustainably use biodiversity.

The recent renewal in September 2013 of a new negotiating mandate for the World intellectual property organization's Intergovernmental Committee on Intellectual Property, Genetic Resources, Traditional Knowledge and Folklore, in conjunction with the WIPO General Assembly's decision to postpone to 2014 whether to convene a diplomatic conference (for the adoption of new treaties for the protection of the above subject matters), signals that international policymakers are still divided on the most appropriate legal and policy responses to stop the erosion of biocultural diversity. ■

The opinions expressed by the speakers during this conference do not represent the official position of the institutions to which they belong. In publishing this document and putting it online, IDDRI's aim is to disseminate works that it believes to be of interest to inform the debate. For further information, please contact the conference's scientific coordinator: claudio.chiarolla@iddri.org