

Traditional Knowledge and Intellectual Property: Selected Issues in Protecting and Promoting Traditional Knowledge

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Foreword

The briefing paper, “Traditional Knowledge and Intellectual Property: Selected Issues in Protecting and Promoting Traditional Knowledge” has been prepared by Dr. Chandra Kant Patel, Geneva representative of the International Ayurveda Foundation (IAF). The main objective of the paper is to make available to the IAF’s constituency as well as the wider public the main policy questions that arise in the protection and promotion of traditional knowledge. Accordingly, the paper discusses the scope and meaning of traditional knowledge, risks and challenges facing TK and its relationship with intellectual property rights. The paper then goes on to review the consideration of TK in various international fora and suggests areas in which policies at the national and international level can contribute to strengthen this vital sector.

This study is part of a wider on-going effort by the Foundation to bring together in the public domain issues that affect Ayurveda and its development as the primary source of health care and well being of millions of people in India and throughout the world. This effort is an important part of civil society’s involvement and contribution to the design of better health-care policies in India and elsewhere. In this regard, various papers, memoranda and submissions prepared by the IAF are annexed to the present study.

While it is heartening to observe the rapid rise in the awareness and acceptance of Ayurveda globally, it is important not to lose sight of the many (and growing) challenges that face fuller recognition of Ayurveda. As Ayurveda’s global presence expands, many questions are being raised about the efficacy of its services and products. Questions have been raised about its safety, consistency of its standards, quality of its education and related institutions and adequacy of the legal, technical and supervisory framework underpinning the sector. These concerns must be addressed fully, particularly by the public authorities in India and elsewhere as well as by producers and distributors of Ayurveda products and services.

Another set of challenges confronting Ayurveda stem from protectionist measures invoked by importing countries, often in the name of sanitary and phytosanitary measures. The recent European Union directive (2004/27/EC) on traditional herbal medicinal products is a case in point: its full implementation is likely to have far-reaching adverse consequences on future growth of Ayurveda

in the EU market. IAF, in collaboration with scientists and other scholars and civil society organizations, continues to devote considerable effort to revoke several of the negative features of the EU directive.

An altogether different threat confronting producers and consumers of traditional medicines worldwide is the phenomenon of bio-piracy namely, the illegal appropriation and patenting of knowledge and practices associated with traditional medicine. Patenting of traditional knowledge based biological resources of the South by western scientific and corporate bodies without prior consent or compensation is on the rise and requires both national and global solutions. The paper rightly argues that while efforts must continue at the global level to reform TRIPs Agreement and strengthen UNs Convention on Biodiversity, national efforts must necessarily take the lead in preventing bio-piracy.

The International Ayurveda Foundation would like to express its appreciation to many friends and supporters in India, the United Kingdom and elsewhere for their continuing support in pursuing the cause of strengthening Ayurveda.

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The following briefing paper on traditional knowledge (TK) has been prepared by the Geneva Office of the International Ayurveda Foundation (IAF) with a view to make available to the IAF's constituency as well as the wider public the main policy questions that arise in the protection and promotion of TK. Accordingly, the paper discusses:

- *The scope and meaning of TK
- *The risks and challenges facing TK
- *TK's relationship with intellectual property rights
- *Consideration and treatment of TK in various international fora and
- * India's approach and policies regarding TK

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Executive Summary

The emergence of traditional knowledge (TK) on the international negotiating agenda is a relatively recent phenomenon. UNs Convention on Biodiversity has been among the major influences in the mainstreaming of TK in national and international policy discourse; but arguably of even greater importance in this respect has been the coming into force of TRIPS Agreement and, ironically, its failure to even acknowledge the value of TK in the economic and social life of the South.

The concept and notion of traditional knowledge is now generally understood as a cumulative body of knowledge, innovations and practices of indigenous and local communities handed down through generations; it is therefore about the relationship of living things (including humans) with one another and with their environment.

An important part of the TK debate revolves around access to and sharing of the benefits arising out of commercial use of genetic material, such as pharmaceutical products. It has been observed that 90 percent of the world's genetic resources and TK are located in the South; at the same time, 90 percent of the world's research takes place in the North. The co-existence of gene-rich, technology poor South with gene-deficient and technology rich North has been argued to provide the basis for mutual cooperation. In reality, however, there has been a systematic and largely one-way transfer of such knowledge and resources from the South to the North.

As has been evident for sometime now, many plant based genetic resources of India including Ayurveda-based herbs and oils are facing bio-piracy with growing frequency. However, India is considered to be behind many other countries in the quality and scale of safeguards and public protection it extends to the TK sector, including in areas where it has competitive advantage. For example, the number of herbal patents granted worldwide between 1995 and 1998 was 1889, of which China's share was nearly half whereas India's was negligible.

India's initiative to establish a digital library-cum-database as an instrument of protection against biopiracy has been welcomed; but questions have been raised whether it will merely help western companies scout more easily commercial uses of medicinal and therapeutic properties from the database. The other approach, adopted by China, was to revise its patents laws twice (between 1992 and 2000) to ensure that it could draw intellectual property control over its unique system of medicine. China has drawn a total of 12,000 patents on its medicine system and therefore does not have to worry about constructing a digital library.

It is important to develop a national framework and consensus to discuss issues related to TK, identify the challenges and problem areas and develop solutions. The debate and its content must be generated indigenously. In particular, a strong case exists to frame national legislation specifically to protect TK. This can be undertaken in tandem with negotiations at the international level for an international agreement to protect TK and the rights of local communities. The real challenge is to develop a *sui generis* (one of a kind) system to protect the intellectual property of communities in the field of TK related to biological resources. This requires that existing IPR (like trademarks and certification) should be used to protect TK to the maximum extent possible. Disclosure, informed consent and equitable benefit sharing should be mandatory for any commercial use of TK and genetic resources. Concrete and specific methods of sharing benefits should be worked out in the event of commercialization.

Introduction

The relationship between TK¹, intellectual property rights and use and ownership of genetic resources is one of the more contentious issues on the trade and development agenda. Among the issues that have arisen include the questions of illegal access to and use of genetic resources and traditional knowledge of the South and the absence of adequate international rules that safeguard TK. Indeed, in many cases of illegal access (also referred to as bio-piracy, see Box 1), intellectual property rights are used to circumvent obligations derived from the UNs Convention on Biological Diversity (CBD). Moreover, overbroad patents continue to be granted that adversely affect the sovereign rights of nations and indigenous and other local communities (Box 2).

At the center of this debate is the World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). TRIPS Agreement, despite widespread protests from the public, ignores these concerns and fails to offer balanced solutions to the problem. In the absence of a permanent international solution, there is a strong need for the initiation and/or implementation of stronger national measures to prevent illegal appropriation of knowledge and resources of the South.

The importance of promoting and protecting knowledge, innovations and practices of indigenous and local communities is increasingly recognized in international forums. However, the UNs Convention on Biological Diversity (CBD) remains the only international binding instrument that explicitly refers to the protection of TK. Article 8(j) of the CBD states that: “(Each contracting

¹ TK has been variously (and broadly) defined as a cumulative body of knowledge and beliefs handed down through generations by cultural transmission, about the relationship of living things (including humans) with one another and with their environment. TK is an attribute of societies with historical continuity in resource use practices. (See Box2).

Party shall, as far as possible and as appropriate,) Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biodiversity and promote the wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of benefits arising from the utilization of such knowledge, innovations and practices”.

Box 1: What is Bio-piracy?

Bio-piracy can be described as:

a) **The granting of ‘wrong’ patents.** These are patents granted for inventions that are either not novel or are not inventive having regard to traditional knowledge already in the public domain. Such patents may be granted due either to oversights during the examination of the patent or simply because the patent examiner did not have access to the knowledge. This may be because it is written down but not accessible using the tools available to the examiner, or because it is unwritten knowledge. A WIPO led initiative to document and classify traditional knowledge seeks to address some of these problems.

b) **The granting of ‘right’ patents.** Patents may be correctly granted according to national law on inventions derived from a community’s traditional knowledge or genetic resources. It could be argued this constitutes “biopiracy” on the following grounds:

- Patenting standards are too low. Patents are allowed, for instance, for inventions, which amount to little more than discoveries. Alternatively, the national patent regime (for example, as in the US) may not recognize some forms of public disclosure of traditional knowledge as prior art.
- Even if the patent represents a genuine invention, however defined, no arrangements may have been made to obtain the prior informed consent of the communities providing the knowledge or resource, and for sharing the benefits of commercialization to reward them appropriately in accordance with the principles of the CBD. (Also see Box 3)

Most of the world's biodiversity is found in developing countries, which considers it as a resource for fueling their economic and social development. Historically, plant genetic resources were collected for commercial use outside their region of origin or as inputs in plant breeding. Foreign bioprospectors have searched for natural substances to develop new commercial products, such as drugs. Often, the products would be sold and protected by patents or other intellectual property rights, without fair benefits to the source countries.

CBD recognizes national sovereignty over all genetic resources, and provides that access to valuable biological resources are carried out on "mutually agreed terms" and subject to the "prior informed consent" of the country of origin. Despite this provision, countries are unable to enforce the provision due to the absence of a binding legal obligation by Parties to CBD. When a

microorganism, plant, or animal is used for a commercial application, the country from which it came has the right to benefit. Such benefits can include cash, samples of what is collected, the participation or training of national researchers, the transfer of biotechnology equipment and know-how, and shares of any profit from the use of resources.

Unlike CBD, TRIPS fails to recognize the value of traditional knowledge as a source of innovation or indeed even acknowledges its economic and social value. TRIPS and similar instruments are designed mostly to protect "western" forms of innovation and do not provide adequate mechanisms that address the special nature of traditional knowledge.

Against this background, many NGOs and Governments of the South are attempting in various international fora such as World Intellectual Property Organization, FAO, WHO and WTO to ensure that the benefits of cumulative innovation associated with TK accrue to its holders while enhancing their socio-economic development. They also aim at preventing the improper appropriation of TK, with little or no compensation for the custodians of TK and without their prior informed consent. The latter aspect has been widely reported in the Indian media, particularly in regard to the efforts to patent neem, turmeric and basmati rice. But these challenges have raised many deeper issues for consideration by Indian policy-makers; this note also addresses this aspect of TK.

Box 2: The Hoodia patent

For years, the Xhmani San (Bushman) people of the Kalahari Desert have eaten parts of a local plant called hoodia to stave off hunger and thirst. Yet when South African scientists working at South Africa's Council for Scientific and Industrial Research (CSIR) learned about the Xhmani people's use of the plant and did some experiments, they claimed this use of the plant as their own invention. In fact, the CSIR has filed patent applications in numerous countries claiming ownership of the process of obtaining the active ingredient of this plant and its analogues and derivatives, as well as their use 'for the manufacture of medicaments having appetite suppressant activity'. Nowhere in the patent documents are the Xhmani people mentioned.

CSIR has high hopes that its 'invention' will become Africa's first blockbuster drug, helping to reduce obesity in the developed world while generating millions of dollars a year in sales. A British company called Phytopharm, which is carrying out the development work, and Pfizer, which has an exclusive license to sell the drug, also stand to benefit should the drug be commercialized. The Xhmani was excluded from each of these deals and stood to gain nothing. This was especially unfortunate given that the San people are facing the total destruction of their culture and a way of life that has enabled them to survive in a difficult environment for centuries. But in 2002, the CSIR responded to widespread criticism by agreeing to share future profits with the Xhmani.

Source: Dutfield, op cit. 2002.

II: Role and Importance of TK in Developing Countries

TK has been receiving increasing attention on the international agenda in recent years due to several factors. First, it has been recognized that TK plays a key role in the preservation and sustainable use of biodiversity. This is highlighted in both the CBD and the International Undertaking on Plant Genetic Resources (IU) of the Food and Agriculture Organization (FAO). Serious concerns have been raised about the catastrophic consequences of the accelerating losses of biodiversity: for example, the bio-diversity rich forests of the South are being cleared at the rate of close to 2 percent per annum, which is equivalent of the loss of an area the size of Florida each year.

Second, many activities and products based on TK are important sources of income, food, and healthcare for large parts of the populations in many developing countries. However, TK is being rapidly lost as local ecosystems are degraded and traditional communities are integrated into the wider society.

Third, concerns have been raised about how the benefits derived from the use of biodiversity and associated TK are appropriated and shared. It has been observed that 90 percent of the world's genetic resources and TK are located in the South. At the same time, 90 percent of the world's research takes place in the North. The co-existence of gene-rich, technology poor South with gene-deficient and technology rich North has been argued to provide the basis for mutual cooperation. In reality, however, there has been a systematic and largely one-way transfer of such knowledge and resources from the South to the North. Aspects of this trade, now widely known as bio-piracy, a phenomenon that has become almost impossible to contain or control, given the weaknesses global institutions to deal with it (Boxes 3 and 4).

Box 3: India's Digital Library and TK: An Answer to Bio piracy?

India's proposal of setting up a `Traditional Knowledge Digital Library (TKDL) is being hailed as the answer to the ever-growing threat of biopiracy of traditional knowledge and folklore.

The digital library of traditional knowledge will have some 35,000 *slokas* or verses drawn from the available literature on one the Indian systems of medicine, Ayurveda. It will in addition have 1,40,000 pages of information, which will be easy to retrieve. These CD-ROMS will be made available to each of the patent offices world wide with the hope and expectations that the patent applications will be matched with the details provided so as to ensure that a patent is not granted on something that was traditionally known.

On the face of it, the digital library seems to be a wonderful weapon against biopiracy. After all, public outcry and outrage against some of the better known cases of biopiracy or thefts of traditional knowledge - *neem*, *turmeric*, *brinjal*, *ayahuasca* and *quinoa* - could have been avoided if those who granted these patents knew that the medicinal or insecticidal properties of these plants were widely known among the traditional communities in the developing countries. In technical parlance, these patents were based on 'prior art'. It is however not as simple as that. In a world where profit and greed has become the new economic mantra, private companies will go to any extent to manipulate what is already known to project it as an invention or a novelty.

Any tinkering of the original medicinal remedy with a little cosmetic covering can be easily presented as a novel product that was not previously known. It has happened in the past. For every successful revocation of a patent, whether it is neem, turmeric or ayahuasca, there are at least a thousand others that simply go unnoticed.

The TKDL Task Force itself was astounded to learn that of the 4,896 references on 90 medicinal plants in the United States Patent and Trademark Office (USPTO) database, 80 per cent of the references pertained to just seven medicinal plants of Indian origin. In other words, nearly 4,000 patents or patent applications are based on the medicinal properties of plants that were already known. The Task Force studied the patents and interestingly found that 360 of the 762 patents on medicinal plants that were granted by USPTO could be easily categorized as traditional.

The proposed digital library will therefore be only helping the companies to easily scout for the commercial uses of the medicinal and therapeutic properties from the database. A minor tinkering or value-addition will qualify it for the grant of a patent. And then, how will the infringement be checked, is something that has been very easily left to interpretation. Even in a country where patent and theft of intellectual property rights has become an emotive issue, it has been rather difficult to fight the piracy of traditionally known products like basmati rice. The Ministry of Commerce has, in fact, issued a circular saying that it has no money to take the basmati battle any further.

If the government has no money and the political will to challenge and fight the patent on basmati rice, which is a culturally and politically sensitive issue, it is futile to expect any meaningful challenges to any more cases of biopiracy. To challenge and fight the patent infringements is simply prohibitive. In the case of basmati rice, the challenge came only from India while the scented rice is also grown in neighboring Pakistan. Despite first making claims that it too will join the battle against basmati rice, Pakistan chickened out when the cost of the legal battle was worked out to something around US \$ 3, 00,000. Other provisions include anticipation of invention by available local knowledge, including oral knowledge, as one of the grounds for opposition as also for revocation of patents, if granted. In the absence of any global safeguards, the digital library will become a much-wanted source of information on bio prospecting for the private companies. If such digital libraries are constructed all over the world, the private companies will surely laugh their way to the banks. And if you are wondering as to why the World Intellectual Property Organization (WIPO) and the UNCTAD is showing so much of interest in creating the database for traditional knowledge, the answer is obvious. Both these organizations are desperately pushing in for a system that legalizes the monopoly control over what was traditionally known. The only other plausible approach is to do what the Chinese have done. Between 1992 and 2000, China revised its patents laws twice to ensure that it could draw intellectual property control over its unique system of medicine. China has drawn a total of 12,000 patents on its medicine system and therefore does not have to worry about constructing a digital library.

Source: Devinder Sharma: TK and Digital Library: Another tool for biopiracy? in South Bulletin 39,2006.

Access to these resources and the associated TK can provide substantial benefits to companies and scientific research centres in both developed and developing countries. However, as noted in Boxes 2 and 3, TK is at times appropriated, adapted and patented by scientists and industry, for the most part from developed countries, with little or no compensation to the custodians of this knowledge and without their prior informed consent.

Fourth, while the need to protect TK and to secure fair and equitable sharing derived from the use of biodiversity and associated TK has been fully recognized, there is no agreement on what would be the most appropriate and effective way to achieve these objectives. There have been calls for a better understanding of the needs of TK holders and exchanges of information on the effectiveness of existing systems of protection such as customary law, intellectual property rights (IPRs), *sui generis* systems, access and benefit-sharing mechanisms, voluntary measures and documentation.

Fifth, the long-term sustainable economic development of many indigenous and local communities may depend on their ability to harness their TK for commercial benefit. Traditional technologies and innovations, which are by their very nature adapted to local needs, can contribute to a viable and environmentally sustainable path to economic development. It is therefore important to encourage TK-based innovations and, if desired by the communities concerned, explore the commercialization of TK-derived products.

From a trade and development perspective, systems for the protection of TK should seek to preserve TK to ensure that the benefits of cumulative innovation accrue to TK holders, while at the same time allowing developing countries to utilize their TK to promote development and trade. This raises the question of responsibilities of both TK holders and users in ensuring equitable sharing of benefits deriving from the use of biodiversity resources and associated TK. It is also important to ensure that the commercialization of TK-based products contributes to the long-term socio-economic viability of indigenous and local communities, as well as the creation of new trading opportunities for developing countries. This could be done, for example, through partnerships or other benefit sharing arrangements aimed at promoting innovation and the production of value-added products, or by seeking to ensure that TK-based products are traded as distinct products, based on their long-term uses and traditional know how.

Some characteristics of traditional knowledge

For the purposes of this brief, the term “traditional knowledge” has been considered as “the knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles” as well as “indigenous and traditional technologies”. (See Box 4). Thus understood, traditional knowledge has certain unique features and characteristics. First of all is in the nature of a

‘public good’: i.e. it is held collectively, although certain types of TK may be under the purview and control of specific individuals or subgroups within the community. It tends to be transmitted orally from generation to generation; accordingly, it is usually undocumented. TK is not static, but dynamic, evolving over time as communities respond to new challenges and needs. Indeed, what makes TK ‘traditional’ is not its antiquity, but the way it is acquired and used. In other words, the social process of learning and sharing knowledge, which is unique to each. Access to and use of TK within and outside communities is generally governed by a wide variety of unwritten customary laws. This seems to be true whether or not notions of ownership and property would be strictly applicable to traditional societies. Indeed many traditional communities express preference for words like stewardship and custodianship, which imply responsibilities as well as rights. Proprietary systems exist in many traditional societies. But any assumption that there is a generic form of customary regulations governing TK use and dissemination ignores the intricacies and diversity of traditional systems. According to the Canadian indigenous peoples organization, the Four Directions Council: “Indigenous peoples possess their own locally-specific systems of jurisprudence with respect to the classification of different types of knowledge, proper procedures for acquiring and sharing knowledge, and the rights and responsibilities which attach to possessing knowledge, all of which are embedded uniquely in each culture and its language.” TK is valuable not only to those who depend upon it for their survival but also to modern industry and agriculture, and to sustainable development more generally. According to the World Health Organization up to 80 per cent of the world’s population depends on traditional medicine for its primary health needs. In India, for example, there are 600,000 licensed medical practitioners of classical traditional health systems and over one million traditional community-based health workers. It has been argued that possibly two thirds of the world’s people could not survive without the foods provided through indigenous knowledge of plants, animals, insects, microbes and farming systems. (Rural Advancement Foundation International, 1994). Over 90 per cent of food in sub-Saharan Africa is produced using customary farming practices. For those comprising the poorest segments of societies, particularly women, indigenous people and rural inhabitants of developing countries, traditional knowledge is indispensable for survival.

A growing number of TK-derived products are now traded internationally. These include handicrafts, medicinal plants, traditional agricultural products, and non-wood forest products. TK also provides significant inputs into other markets including pharmaceuticals, cosmetics, agriculture, food additives, industrial enzymes, biopesticides, and personal care.

However, the future of bioprospecting is difficult to predict. While enhanced abilities to screen huge quantities of natural products and analyze and manipulate their DNA structures might suggest that bioprospecting will become more popular, it is also possible that advances in biotechnology and new drug

discovery approaches based, for example, on combinatorial chemistry and human genomics will in the long term reduce industrial interest in natural product research for food, agriculture and health, as well as associated TK. Concerns about food safety and other unknown side effects of DNA-modified products may promote interest in natural product research, especially in organic agricultural products. The recent interest in biodynamic agriculture that is based on TK is one such example of agricultural uses of TK.

There have been some attempts to estimate the contribution of TK, particularly biodiversity related TK, to modern industry and agriculture. For pharmaceuticals, the estimated market value of plant-based medicines sold in OECD countries in 1985 was US \$ 43 billion. That many of these would have used TK-leads in their product development is borne out by an estimate that of the 119 plant-based compounds used in medicine worldwide, 74 per cent had the same or related uses as the medicinal plants from which they were derived. It is particularly difficult to estimate the contribution of traditional crop varieties (landraces) to the global economy. However, a study on the use and value of landraces for rice breeding in India estimated that rice landraces acquired from India and overseas contributed 5.6 per cent, or US\$ 75 million, to India's rice yields. Assuming that landraces contribute equally to other countries where rice is cultivated, the global value added to rice yields by use of landraces can be estimated at US \$400 million per year.

After decades of grudging acknowledgement, TK has now become, at least in certain circles, "fashionable". The resulting bandwagon effect has led to an increasingly common abuse of terms. In the development and resource management milieu, one now encounters the terms 'traditional or indigenous knowledge' loosely applied to a wide array of activities, many of which do not give any serious consideration to the knowledge possessed by local community members. Nevertheless, by applying the buzzword of the moment, these actions benefit from the aura currently surrounding the concept of 'traditional/indigenous knowledge'.

It is also now acknowledged that 'modern science' is but one system of knowledge amongst many. Other knowledge systems, embedded in a wide array of cultures and sustaining a broad spectrum of ways of life, constitute a rich and diverse intellectual heritage that is attracting increasing attention worldwide. Often referred to as *traditional ecological knowledge* or alternatively *indigenous or local knowledge*, these "other systems" are the sophisticated sets of information, understandings and interpretations that guide human societies around the globe in their innumerable interactions with the natural milieu: agriculture and animal husbandry; hunting, fishing and gathering; struggles against disease and injury; naming and explanation of natural phenomena; and strategies to cope with fluctuating environments. This fine-grained interplay between societies and environments provides traditional knowledge systems

with their diverse structures and content, their complexity, versatility and pragmatism, and their distinct, internal logic anchored in specific worldviews.

From the viewpoint of science and technology, these systems of traditional knowledge hold considerable promise. For the pharmaceutical industry, traditional health practitioners facilitate the search for new bioactive ingredients by providing privileged information about their selective use of biodiversity. Similarly, the numerous crop varieties developed and sustained by generations of small-scale farmers offer a genetic pool of considerable interest to biotechnologists, including those of the agro-chemical industry. In the environmental domain, resource users have constructed sophisticated understandings of local ecosystem function and their direct involvement in the management process is now seen as the *sine qua non* of successful biodiversity conservation.

But it is no simple matter to shift from the mere use (or abuse) of the term to the actual articulation of scientific and traditional knowledge. To appreciate some of the major hurdles ahead, it is important to keep in mind the history of the dialogue between Western scientists and traditional knowledge holders. In the colonial period, when Europe was 'discovering' the world, the disciplines of ethno botany and ethno zoology were established to grapple with the sudden influx of biological information from 'exotic' corners of the world. These disciplines grew by leaps and bounds, bolstered by substantial inputs of traditional knowledge. Their primary mission, however, was not to understand these other knowledge systems *per se*, but rather to glean from them useful information for the further development of colonial science. Efforts focused on compiling lists of novel plants and animals that were 'useful' to local populations and consequently, thought to be of potential utility 'back home'. But colonial scientists did not limit their reliance on local experts to the simple identification of species of interest. They actually adopted from their traditional knowledge counterparts entire classification schemes that order and interpret these ecological systems according to an indigenous logic. In this manner, Western taxonomic knowledge and practice were significantly transformed by their encounter with traditional systems of knowledge and meaning. European understandings of Asian botany, for example, "ironically, depended upon a set of diagnostic and classificatory practices, which though represented as Western science, had been derived from earlier codifications of indigenous knowledge" (Ellen and Harris 1999)².

The situation has hardly changed today as the colonial attitudes continue the surreptitious appropriation of traditional knowledge for commercial ends. At the same time, efforts are being made to move towards new relationships between science and traditional knowledge, based upon partnership, exchange and mutual benefit. While the goals may be laudable, they remain difficult to

² Presentation by UNESCO at the UNCTAD Expert meeting on TK, Geneva, 2000.

achieve and the way forward, even when accompanied by the best of intentions, is fraught with pitfalls.

Box 4: Categories and embodiments of TK and folklore

Dutfield has summarized a range of categories and embodiments of TK and folklore. It is noteworthy that most of these are related to the environment:

1. Knowledge of current use, previous use, or potential use of plant and animal species, as well as soils and minerals;
2. Knowledge of preparation, processing, or storage of useful species;
3. Knowledge of formulations involving more than one ingredient;
4. Knowledge of individual species (planting methods, care, selection criteria, etc.);
5. Knowledge of ecosystem conservation (methods of protecting or preserving a resource that may be found to have commercial value, although not specifically used for that purpose or other practical purposes by the local community or the culture); and
6. Classification systems of knowledge, such as traditional plant taxonomies.
7. Renewable biological resources (e.g., plants, animals, and other organisms) that originate (or originated) in indigenous lands and territories;
8. Cultural landscapes, including sacred sites;
9. Nonrenewable resources (e.g., rocks and minerals);
10. Handicrafts, works of art, and performances;
11. Traces of past cultures (e.g., ancient ruins, manufactured objects, human remains);
12. Images perceived as “exotic”, such as the appearance of indigenous people, their homes and villages, and the landscape; 13. Cultural property (i.e., culturally or spiritually significant material culture, such as important cultural artifacts, that may be deemed sacred and, therefore, not commodifiable by the local people).

Source: Graham Dutfield: Protecting TK and Folklore, *UNCTAD/ICTSD Capacity Building Project on IPRs*

Provisions guiding the protection of TK at the a national level

At the national level, a variety of instruments exist for the protection of TK, including traditional/customary law, modern intellectual property rights instruments, sui generis systems, and documentation of TK and instruments directly linked to benefit sharing. In addition to national systems, the protection of TK and equitable sharing of the benefits derived from the use of biodiversity resources and associated TK may also require measures by user countries or

cooperation at the multilateral level. As has been argued by United Nations, protection of TK is a necessary but not sufficient requirement for its preservation and further development. To harness TK for development and trade, developing countries need stronger international instruments including legal enforceability of provisions enshrined in the UNs CBD and the International Undertaking on Plant Genetic Resources (IU) of the Food and Agriculture Organization (FAO).

V. International consideration of traditional knowledge

The emergence of TK on the global and national agenda is a relatively recent phenomenon. The CBD on its part has made a major contribution in mainstreaming the issue of TK; but arguably, of greater importance in this respect has been the coming into force of TRIPS and its failure to acknowledge the importance of TK in the economic and social life of the South. The following paragraphs discuss this and other issues affecting TK and its consideration in various international forums.

TK, TRIPS and the WTO

The unsatisfactory situation in which **CBD, a UN convention** that has been ratified by the requisite number of Parties, is yet to find any status in **WTO** has been at least acknowledged and some steps have been initiated to deal with it. At the fourth meeting of the WTO Ministerial Conference, which took place in Doha in November 2001, a Ministerial Declaration was adopted according to which the WTO member states instructed the Council for TRIPS, in pursuing its work programme including under the review of the implementation of the TRIPS to examine, *inter alia*, the relationship between the TRIPS Agreement and the Convention on Biological Diversity, the protection of traditional knowledge and folklore.

Similarly, WIPO's Intergovernmental Committee on Genetic Resources, Traditional Knowledge and Folklore is discussing models for provisions in access contracts on intellectual property rights, the possibility of a requirement for the disclosure of origin of biological resources in the draft of the Substantive Patent Law Treaty; and methods for defensive and positive *sui generis* protection of traditional knowledge. Notwithstanding such commitments, little or no progress has been made either in WTO or WIPO to meaningfully address the ways and means of aligning the provisions of CBD with those of TRIPS.

As already noted, TRIPS is silent on TK, and make no reference to the CBD. But this has not prevented developing countries from drawing attention to the relationship between TRIPS and CBD. In October 1999, twelve developing countries from Asia, Africa and Latin America submitted two joint papers to the WTO's General Council detailing the implementation issues they were seeking solutions to. The two papers put forward several TRIPS-related proposals. One

of these argued that TRIPS is incompatible with the CBD and sought a clear understanding that patents inconsistent with Article 15 of the CBD, which vests the authority to determine access to genetic resources in national governments, should not be granted. Several other proposals were directed to Article 27.3(b) of TRIPS Agreement and the review of its substantive provisions. It will be recalled that Article 27(3)(b), amongst other things, allows for the patentability of plants, plant varieties and animals. Therefore, its terms directly affect the economic, social and cultural aspects of developing countries, which are the primary custodians of biological stock and associated traditional knowledge. One of the proposals was that the subparagraph should be amended in light of the provisions of the CBD taking fully into account the conservation and sustainable use of biological diversity, and the protection of the rights and knowledge of indigenous and local communities. Traditional knowledge has become an especially important element of the debate. In 1999, African Group of countries proposed to the WTO General Council that in the sentence on plant variety protection in Article 27.3(b) a footnote should be inserted stating that any sui generis law for plant variety protection can provide for [inter alia]: (i) the protection of the innovations of indigenous farming communities in developing countries, consistent with the Convention on Biological Diversity and the International Undertaking on Plant Genetic Resources.

As a contribution to this examination, several developing countries including India jointly submitted a paper to the Council for TRIPS in June 2002; the paper, proposed that TRIPS be amended to provide that WTO member states must require that an applicant for a patent relating to biological materials or to traditional knowledge shall provide, as a condition to acquiring patent rights: (i) disclosure of the source and country of origin of the biological resource and of the traditional knowledge used in the invention; (ii) evidence of prior informed consent through approval of authorities under the relevant national regimes; and (iii) evidence of fair and equitable benefit sharing under the national regime of the country of origin.

There has been no progress so far in this respect and increasingly the safeguarding TK will have to depend on stronger national legislation and implementation.

In the **FAO**, the Commission on Genetic Resources for Food and Agriculture is the forum for negotiations among Governments on the revision of the International Undertaking on Plant Genetic Resources (IU) in harmony with the CBD. The IU is expected to become a legally binding agreement, closely linked both to FAO and the CBD, regulating access and benefit sharing for plant genetic resources for food and agriculture. Its objectives are the conservation and sustainable use of plant genetic resources for food and agriculture, and the fair and equitable sharing of benefits that arise therefrom. The IU also covers farmers' rights in recognition of the contribution of farmers and their communities to the preservation and sustainable use of plant genetic resources

that are the basis of agriculture and food security. Because of the high level of interdependency between countries with regard to these resources a Multilateral System for Access and Benefit Sharing is being developed. Benefit sharing arrangements would be multilateral, and include the transfer of technology, capacity building, exchange of information and funding.

The **World Health Assembly** has adopted a number of resolutions drawing attention to the important role-played by traditional medicine in the primary health care of individuals and communities in many developing countries. Similarly, international trade in herbal medicines is rapidly increasing.

However, according to the **World Health Organization**, in most countries the herbal medicines market is inadequately regulated. Through its Traditional Medicine Programme, the WHO supports member States inter alia in their efforts to formulate national policies on traditional medicine and to study the potential usefulness of traditional medicine, including evaluation of practices and examination of the safety and efficacy of remedies. One of the limitations of WHO's approach to traditional medicines is its preoccupation with Chinese medicine to the near-exclusion of other systems such as Ayurveda or Unani: this is nowhere more evident than in a presentation by WHO in which it is claimed that "The most widely-used traditional medicine and complementary and alternative medicine therapies are herbal medicines and acupuncture."³

In **UNESCO**, discussions on the protection of TK initially centered around "expressions of folklore". The United Nations Educational, Scientific and Cultural Organization (UNESCO) and WIPO jointly held three expert meetings that led, in 1982, to the adoption of the "Model Provisions for National Laws on the Protection of Expressions of Folklore Against Illicit Exploitation and Other Prejudicial Actions". These provisions have not yet been adopted in full by any country.

World Intellectual Property Organization has been mandated to undertake exploratory groundwork in order to provide an informed analysis of the intellectual property (IP) aspects of TK. In this context, it has been examining the intellectual property needs of holders of TK and genetic resources and the feasibility of TK databases. WIPO held a Roundtable on Intellectual Property and Traditional Knowledge in Geneva in November 1999 and undertook nine fact-finding missions. WIPO and UNEP jointly prepared and submitted to COP V selected case studies on the role of intellectual property rights (IPRs) in the sharing of benefits arising from the use of biological resources and associated TK (UNEP/WIPO, 2000). Elements of the 2000-2001 programme include: case studies on the use of IPR systems to protect TK; a study on customary law

³ Traditional Medicine and its Knowledge by Dr. Xiaorui Zhang (Acting Coordinator, Traditional Medicine World Health Organization) at an UNCTAD Expert Group Seminar, October 2000, page 3.

governing TK in relation to formal IPR systems; information exchange on IP implications of TK documentation and increased training; and awareness-raising worldwide for TK stakeholders.

With regard to **UNCTAD**, apart from the above-mentioned reference to the protection of TK, the Plan of Action, in paragraph 147, includes several other points of relevance to work in this area. These include transfer of technology issues (second bullet), promotion of trade in environmentally preferable products (fifth bullet), the BIOTRADE Initiative (sixth bullet), and biotechnologies (ninth bullet). Such work is being implemented through UNCTAD's main functions, i.e. intergovernmental work, policy research and technical cooperation for capacity building, and, in accordance with UNCTAD's mission, should focus on strengthening the development.

The **Global Knowledge Conference** in 1997 emphasized the urgent need to learn, preserve and exchange TK and encourage its role in local and national development. In the context of the Partnership for Information and Communication Technology for Africa (PICTA), the World Bank agreed to lead an Indigenous Knowledge Initiative to stimulate recognition, utilization and exchange of indigenous knowledge in the development process (www.worldbank.org/afr/). Since the beginning of the 1990s, the **World Bank** also has a revised policy directive on the rights of indigenous peoples to choose the manner and level of participation in development projects. In this context, special procedures are outlined for incorporating indigenous peoples' concern into Bank-funded investment projects through the design of Indigenous Peoples Development Plans.

In 1994, **United Nations Development Programme** collaborated with the Indigenous Peoples Biodiversity Network to create the Indigenous Knowledge Programme, which aims at the conservation and promotion of indigenous knowledge. The overall objective of UNDP's work with indigenous peoples is to integrate indigenous perspectives and concepts of development in future programmes and projects, and to make indigenous peoples' concerns a cross-cutting issue within UNDP. To do so, UNDP has prioritized the design of policy and operational guidelines for engagement with indigenous peoples for use of its country office.

IV Intellectual Property and Traditional Knowledge

The need for appropriate systems of protection for traditional knowledge is now widely recognized. Existing arrangements for protecting intellectual property rights (IPR) seemed in the first instance to offer a logical solution. Patent and copyright laws, however, have evolved within very particular socio-economic and political contexts. They are designed to protect individuals whose specific 'inventions' require safeguarding in view of their perceived market value. Can such arrangements accommodate traditional knowledge, which is collectively

owned, whose 'invention' extends across several generations, and whose intent is to provide ecological understanding and social meaning, and not commercial profitability alone?

Given these inherent incompatibilities, the application of conventional IPRs may have consequences quite other than those intended. By protecting select elements in isolation from the larger cultural context, IPRs encourage fragmentation and atomization of the cultural system. By designating knowledge 'owners', they may trigger social dissension between those recognized as proprietors and other community members that are excluded. And finally, as conventional IPRs serve to protect knowledge by setting the rules for their commercial exploitation, they in fact deliver up local knowledge to the global market place.

In short, existing IPR arrangements are culturally inappropriate for protecting traditional knowledge systems. Today efforts are turning towards the considerably more challenging task of defining completely new or *sui generis* systems for protection. There is much difficult groundwork required before we can begin to speculate as to what such systems might encompass, how they might operate and whether or not they might provide culturally appropriate solutions.

Just as existing IPR systems jeopardize rather than facilitate traditional knowledge preservation, the integration of traditional knowledge into scientific frameworks may pose similar problems. Unlike for IPRs, however, the potential negative impacts of science on traditional knowledge systems are as yet little appreciated. From the scientific viewpoint, traditional knowledge is first and foremost a resource.

During past decades, many scientists have expressed their appreciation of the wealth of useful information embedded in traditional knowledge and recognized the utility of integrating scientific and traditional knowledge. Integration into science, however, requires the extraction of relevant knowledge through a process of scientific validation, in order to separate the 'useful' from the 'useless', the objective from the subjective, the indigenous science from indigenous belief. One cannot help but see the parallels between this contemporary 'mining' of traditional knowledge for information 'useful' to Science, and similar activities during the colonial period.

While this process may be profitable to science, for traditional knowledge systems the end result is once more dismemberment and fragmentation. Even scientists with the best of intentions may end up accelerating the demise of these other systems of knowledge, by valorising those components that most resemble scientific information and implicitly casting dispersions on other elements that scientists consider to be of the realm of superstition and belief. The end result is the accelerated replacement of the traditional systems with the scientific system.

Strengthening customary law

Securing the protection of TK according to the existing regulations requires, above all, respecting and, where necessary, strengthening the relevant customary law. This is easiest to achieve in countries where customary law systems can operate with relative freedom. In such cases, the possibility arises for traditional rules and norms to be asserted with as much legal effect within that country as patent rights, trademarks and copyrights. But whether customary laws regulating cultural and intellectual property are fully incorporated into national legal systems, are enforceable in local courts alone, or are just given some minimal recognition at the state level, the common assumption that traditional knowledge is by definition part of the public domain becomes much more open to challenge than if customary law has no recognition at all. All too often TK is misappropriated because it is conveniently assumed that since it has been publicly disclosed, communities have given up all claims over it. In fact, it is possible that the acts of disclosure and subsequent commercial use contravened customary law. Before considering the applicability of conventional IPRs or sui generis systems, consideration should be given to enhancing the status of the established laws of the TK-holding communities.

Existing intellectual property rights instruments

The following discusses to what extent some IPR instruments could be used or adapted to meet certain TK protection needs. This subject is controversial. The TRIPS Agreement covers protecting and promoting TK in several areas of IPRs that could be relevant to this issue, including the protection of inventions through patents and plant variety protection, copyright, trademarks, geographical indications, and trade secrets. Before going further, it is worth bearing in mind two important points. First, these IPRs were never designed with the intent of protecting TK, and thus do not easily accommodate the (usually) collective nature of TK generation and ownership. Second, discussion of this matter is difficult to separate from related issues such as the extent to which expanded IPRs can encroach on the public domain, provide incentives the privatization of public goods, and encourage misappropriation of knowledge belonging to people who are in a weak position both to avail themselves of IPR protection and to contest the illegitimate IPR claims of others.

Patents: Patents are the subject of considerable debate in connection with TK. Patents protect inventions, which, through an examination, are considered to be new, to involve an inventive step, and be capable of industrial application. Currently, some 97 per cent of patents in the world are held in industrial countries. While individual TK holders could in theory acquire a patent, it is generally the case that TK is passed on orally from generation to generation and evolves incrementally. Thus, it would be difficult to meet the criteria of novelty and inventive step. Second, TK tends to be generated collectively to the extent

that no inventors are identifiable. Indeed, the source of much TK cannot be traced to a specific community or even to a geographical region. Even if these obstacles were somehow overcome, most traditional communities do not have the resources to file patent applications or to take legal action to prevent patent infringement.

It has been suggested that TK holders could take advantage of utility model (petty patent) systems that are less expensive to use and have less exacting inventive step requirements. Kenya's Industrial Property Act 1989 allows utility models for traditional medicinal knowledge in the form of "herbal as well as nutritional formulations, which give new effects". Another possibility is to adapt IPR systems to include new forms of ownership such as communitarian titles.

In many traditional communities, patents are viewed primarily as a source of concern rather than an opportunity. There are several cases where TK has been used by others to develop a product that is then patented, with neither prior informed consent of the TK holders nor benefit sharing. In this context, concerns have been raised that some national patent laws define novelty in a territorially limited sense so that an 'invention' can be 'novel' even if it exists in an undocumented form in another country. A possible means to help ameliorate this concern is through certificates of origin, according to which patent applications for inventions based on genetic resources would include a certificate of origin of the genetic resources and associated TK used and evidence that PIC had been obtained from the country and/or indigenous or local community concerned. Putting this in place at the national level should be fairly straightforward. Some have suggested an international certification system, where countries providing genetic resources and/or TK would issue standard certificates indicating that all obligations had been fulfilled in accordance with their national laws. This has been proposed by several countries at the CTE.

In the negotiations leading to the recent adoption of the Patent Law Treaty, some developing countries suggested the inclusion of provisions in the treaty aimed at preventing the granting of patents involving unauthorized use of TK, for example through compulsory disclosure of the source of TK and/or PIC.¹² Another, complementary approach to address the concern about patents being granted improperly (e.g. an invention that is not new being awarded a patent due to inadequate information) is to develop a database of TK that can be used in national patent offices during the patent examination process. Indeed, in the WIPO Standing Committee on Information Technologies, such a proposal was made by India and accepted by that Committee. This is also relevant to the issue of documentation of TK

Geographical Indications: Under Article 22.1 of the TRIPS Agreement, geographical indications "identify a good as originating in the territory of a

[WTO] member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographic origin.” Like trademarks, they allow producers to differentiate themselves and segment the market, thus achieving higher returns, if consumers are willing to pay a price premium for their distinct product.

Geographical indications have certain characteristics that are more in line with the ways in which traditional communities use their knowledge. In many if not most cases, geographical indications have unique characteristics such as being based on collective traditions and a collective decision-making process; protecting and rewarding traditions while allowing evolution; emphasize the relationships between culture, land, resources and environment; are not freely transferable from one owner to another; are not subject to unconditional control by a private owner; and can be maintained as long as the collective tradition is maintained.

Some developing countries are interested in exploring the use of geographical indications for TK-based products such as kava from the South Pacific, Basmati rice from India or Kilimanjaro tea from Tanzania and Kenya.

Trademarks: Like geographical indications, trademarks are marketing tools based on claims to distinctive or authentic products, and are indefinitely renewable. Collective marks or certification marks, which are usually owned by associations of producers, could be used to protect goods based on TK. Certification marks indicate that certain claimed characteristics of the goods (e.g. origin, quality, production method) have been authenticated by the producer organization owning the mark. In the United States, the Intertribal Agriculture Council licenses use of its annually-renewable ‘Made by American Indians’ mark for the promotion of agricultural or other Indian-made products that have been produced and/or processed by enrolled members of recognized Tribes.” The “Ayurveda” trademark has been used extensively by India for marketing Ayurveda products, especially medicines and foods.

Trade secrets: The protection of undisclosed information (trade secrets) is covered by TRIPS Art. 39. Trade secrets could potentially be used to protect a fair amount of TK with commercial value. To do so, the community would have to comply with the condition that the information “has been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret” (TRIPS Art. 39 (c)). If an individual such as a shaman or a small group of individuals (e.g. a family) has exclusive access to information, that individual, group, or the whole community would probably have a trade secret. This system is widely used in Chinese traditional medicine.

Copyright: Although folklore is not dealt with explicitly in this paper, it should be mentioned that copyrights seem to have some potential for its protection. The usual problems of attributing ownership and protecting information already in

the public domain exist here as well. The 1976 Tunis Model Law on Copyright in Developing Countries, adopted by a committee of governmental experts with the support of UNESCO and WIPO, specifically addressed these difficulties and may be worth reconsidering.

Sui generis systems:

A sui generis system (for IP type of protection) can be considered as one constituting a class of its own (*sui generis*) or unique in the sense that it is designed to reflect specific national and domestic needs and requirements. Many interested parties, particularly in developing countries, are calling for the development of sui generis systems to protect TK (note that this is not to be confused with the sui generis system for the protection of plant varieties referred to in Article 27.3(b) of the TRIPS Agreement¹⁴). CBD recognized the potential importance of such systems and called for an exchange of experiences. Most discussions of sui generis systems for the protection of TK focus on the national level and on IPRs. Sui generis legislation to protect TK can comprise or be developed in conjunction with regulations governing access to genetic resources and benefit-sharing, as well as institutional and regulatory mechanisms and other measures such as registries of TK. To accommodate such a system, it is likely that other laws and policies governing natural resources, protected areas, environmental protection, intellectual property and land tenure would need to be reviewed. It is of paramount importance that traditional communities participate in the development of any such system, and that their customary laws and priorities are respected and taken into account. To oversee implementation and ensure enforcement of provisions, institutional measures such as setting up a multi-stakeholder coordinating body might be considered.

Possible elements of sui generis systems

The CBD's Panel of Experts on Access and Benefit-sharing has suggested possible elements for sui generis legislation to protect TK. Regarding rights, the Panel suggested that legislation could include recognition: of ancestral community rights over TK; that these rights exist even when information is already in the public domain; that these rights may be collective in nature; of the distinction between rights over genetic resources (where vested in the State) and rights over knowledge associated with such resources (vested in local and indigenous custodians); and that the use of genetic resources implies use of associated TK. The Panel also suggested that legislation could include the creation of administrative and judicial review processes to resolve disputes; benefit-sharing mechanisms; registers of TK; and programmes and processes for the strengthening of TK systems.

Examples of sui generis systems

Some countries have introduced legislation, which seeks inter alia to protect the rights of TK holders. Examples include the Andean Community member States, Brazil, Costa Rica, Panama and the Philippines (recently Thailand has developed legislation in the area of community rights related to TK in three areas: medicine, forestry and food - plant varieties). The Peruvian Government is drafting legislation specifically on TK protection (“Proposal of Regime of Protection of the Collective Knowledge of Indigenous Peoples”) with the active participation of traditional communities and their representative organizations. According to the draft law, those wishing to access TK for scientific, commercial, or industrial applications are required to secure the PIC of the holders of the knowledge. A register of collective knowledge will be created, with access requiring the written consent of the indigenous peoples who own the specific knowledge. In order to find out whether the register contains knowledge that may be of interest, the competent national authority administering the register will provide interested parties with information on the uses that certain indigenous peoples have for biological resources.

The Organization of African Unity (OAU)

has drafted “African Model Legislation for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources” (see Appendix III). It determines that any written contract shall be entered into by the state and the collector, but with the full participation and approval of the concerned local community or communities. It further suggests an institutional arrangement for developing a system of registration of items protected by community intellectual rights and farmers’ rights according to their customary practices and law. Other provisions pertain to the development of a national information system to compile and document information on local knowledge and innovation practices of the communities and guidelines for collectors of resources (OAU, 1998).

A model Community Intellectual Rights Act proposed by the Third World Network in 1996 aims to protect the innovation and intellectual knowledge of local communities. It declares that “the local community shall at all times and in perpetuity be the lawful and sole custodians and stewards of all innovation”. In view of its definition of innovation¹⁵, the Act basically declares that all innovations derived in any degree from community knowledge are innovations of that community and owned in perpetuity. It is been suggested that the UNESCO/WIPO ‘Model Provisions for National Laws on the Protection of Expressions of Folklore Against Illicit Exploitation and Other Prejudicial Actions’ could be extended beyond folklore to encompass other types of TK. In these Provisions, protection is not limited in time and is subject to authorization

if use of traditional heritage is made both with gainful intent and outside traditional or customary context.

Box 5: India wins landmark neem patent battle in Europe

The recent revocation of the neem patent by the European Patent Office is a victory for India in the battle to protect traditional knowledge, and a positive development in the global fight against biopiracy.

India has won a decade-long battle against the granting of a patent to a neem-based crop fungicide by the European Patent Office (EPO), proving that it has been part of the traditional knowledge of Indian farmers and the scientific community for centuries. The EPO reversed its original decision granting a patent to the United States Department of Agriculture and the multinational W R Grace in 1995, which was revoked in 2000 following an appeal by India. The multinational's appeal against the revocation was rejected by the EPO office on March 8, after several Indian and international groups presented evidence to support the claim that the use of neem in varied forms was part of traditional Indian knowledge and that it was not a novel product.

“It was pure and simple piracy. The oil from neem has been used traditionally by farmers to prevent fungus. It was neither a novel idea nor was it invented,” said Vandana Shiva of the Research Foundation for Science, Technology and Ecology and one of the country's foremost agricultural experts.

“This is a major victory for us as the award of patents could have been damaging as the US company had tried to enlarge the scope to include all neem-end products,” she added. Neem derivatives have been used traditionally to make insect repellents, soaps, cosmetics, tooth cleansers, contraceptives, and as an ingredient in ayurvedic medicines.

The move comes after years of campaigning and legal challenges against the ‘biopiracy’ of neem's properties by the Research Foundation for Science, Technology and Ecology, the European Union's Green Party and the International Federation of Organic Agriculture Movements (IFOAM).

The backbone of the Indian argument, presented before the EPO by Professor U P Singh, an agricultural scientist at the Benaras Hindu University, was that the fungicidal qualities of the neem tree -- a traditional plant known for its medicinal properties -- and its use has been known in India for over 2,000 years.

In 1995, W R Grace patented neem-based bio-pesticides, including Neemix, for use on food crops. Neemix suppresses insect feeding behavior and growth in over 200 species of insects.

Calling the EPO decision an historic one, Shiva said: “Patenting is one of the ways through which traditional users can be threatened. But now such patents will no longer be a threat to traditional users...Denying the patent means upholding the value of the traditional for millions of [people] not only in India but throughout the South. The free tree will stay free,” she added.

Under normal circumstances, a patent application should always be rejected if there is prior existing knowledge about the product. “Definitely, after this decision to uphold the earlier revocation of the patent, the European Patent Office will be much more careful in granting patents to products based on traditional knowledge,” said Shiva.

Stressing the need to protect traditional knowledge, Shiva said the present Indian laws were not stringent enough. “Merely digitalizing ayurvedic knowledge is not sufficient. There is a need to provide patent protection for all traditional knowledge to stop product piracy. Over 70% of our agriculture practices are based on traditional knowledge.”

Source: *Indo-Asian News Service*, March 9, 2005

References:

Arvind Subramanian: Proprietary Protection of Genetic Resources and Traditional Knowledge, Development, Trade and WTO, World Bank

Protecting Biodiversity and Traditional knowledge: Submission by India to WTO, 14 July 2000. (WT/CTE/W/156)

Sophia Twarog and Pramila Kapoor, Issues in the Protection of Traditional Knowledge (TK), UNCTAD, Geneva, 2002.

R.B. Rawat: (National Medicinal Plants Board): Medicinal Plants in India: Presentation at the UNCTAD-GOI Seminar in New Delhi, 2000.

Graham Dutfield: Protecting TK and Folklore, UNCTAD/ICTSD Capacity Building Project on IPRs

Carlos Correa: Update on international developments relating to TK and IPR, Development and Equity, Working Paper 18, 2002.