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INTERFACE BETWEEN INTELLECTUAL PROPERTY RIGHTS, TRADITIONAL KNOWLEDGE & HUMAN RIGHTS

Mr. RAJIB BHATTACHARYYA B.A, LL.B; LL.M, CCL, DEM, DHR, PGDBO
Assistant Professor, University Law College, Gauhati University,

ABSTRACT

It has been estimated that there are more than 400 million indigenous people spread across the countries worldwide. Because of their unique traditions, they retain social, cultural, economic and political characteristics that are distinct from those of the dominant societies in which they used to live in. In the recent past, globalization, liberalization and in advancement in the creation of new information technology (IT) and biotechnology have resulted in new forms of Intellectual Property (IP) laws and because of the various IP Laws and regulations, Indigenous peoples have become victims of biopiracy when they are subjected to unauthorized use of their natural resources, of their traditional knowledge on these biological resources, of unequal share of benefits between them and a patent holder. Biopiracy can be said that it is the appropriation of the knowledge and genetic resources of farming and indigenous communities by individuals or institutions seeking exclusive monopoly control over these resources and knowledge. Thus the need arise to protect the traditional knowledge of these indigenous people which can be done by Protecting traditional knowledge as a trade Secret, Creating a worldwide extensive database of existing Traditional knowledge, evolving a *Sui Generis* System for traditional knowledge and nevertheless by an active role of Judiciary, various NGO's and the civil society.

1. Introduction

The notions of traditional knowledge, indigenous knowledge and indigenous peoples have acquired wide usage in international debates on sustainable development as well as those on intellectual property protection. However, their usage is often subject to confusion. There have been various efforts to define the concepts of traditional knowledge, indigenous knowledge, and indigenous peoples, but there are so far no universally adopted definitions. Different persons define them differently depending on their intellectual persuasion and professional interest. And many often use the concept of traditional knowledge interchangeably with that of indigenous knowledge.

Stephen Brush has defined indigenous knowledge as "the systematic information that remains in the informal sector, usually unwritten and preserved in oral tradition rather than texts...It is culture specific, whereas formal knowledge is decultured."

The International Labor Organization (ILO) Convention Concerning Indigenous and Tribal Peoples in Independent Countries defines indigenous peoples as:

"Peoples in independent countries who are regarded as indigenous on account of their descent from populations which inhabited the country, or a geographical region to which the country belongs, at the time of conquest or colonization or the establishment of present state boundaries and who irrespective of their legal status, retain some or all of their own social, economic, cultural and political institutions."

The ILO Convention definition carries four vital factors of time, geographical space, resilience, and territorial occupation by outside populations to be considered in any discussion of indigenous peoples and knowledge.

Indigenous knowledge, so far we understand, is that knowledge which is held and used by a people who identify themselves as indigenous of a place based on a "combination of cultural distinctiveness and *prior territorial occupancy* relative to a more recently-arrived population with its own distinct and subsequently dominant culture".

Traditional knowledge is thus the totality of all knowledge and practices, whether explicit or implicit, used in the management of socio-economic and ecological facets of life. This knowledge is established on past experiences and observation. It is usually a collective property of a society. Many members of the particular society contribute to it over time, and it is modified and enlarged as it is used over time. This knowledge is transmitted from generation to generation. According to the United Nations Environment Program (UNEP), this knowledge "can be contrasted with cosmopolitan knowledge, which is drawn from global experience and combines 'western' scientific discoveries, economic preferences and philosophies with those of other widespread cultures." It is generally an attribute of a particular people, who are intimately linked to a particular socio-ecological context through various economic, cultural and religious activities.

2. Intellectual Property Rights in Traditional Knowledge

Intellectual property law has recently received attention as a motor for technological innovation and industrial change. It has also been seen as a tool for promoting the conservation of biological diversity, sustainable use of its components, and for ensuring that benefits arising from the utilization of genetic resources are shared in a fair and equitable manner among the relevant stakeholders. Critics argue that intellectual property protection increases the costs of products, promotes genetic monoculture by concentrating industrial and agricultural activities on a few cultivated varieties or species, and, when extended to plants and animals, is in conflict with the morals of many societies.

Intellectual property laws vary in nature and scope from one country to another. Intellectual property protected in one country may not be recognized in another country. Despite the existence of various international agreements that attempt to harmonize intellectual property protection, there are still differences among national laws, especially those regarding patents. For example, while the U.S.A. and countries in the European Union allow patent protection over genetically engineered organisms which meet the normal requirements for patentability, many other countries are opposed to extending patents to such subject matter.

There are also differences in the duration of patent protection. The period for which an inventor is granted a patent varies from one country to another. In addition, different countries have different conditions for the disclosure of information concerning the invention. While some (for example, the U.S.A. and the European Union countries) have strict conditions and mechanisms for enforcing patent application requirements, others (particularly those of the developing world) have weak institutional arrangements for ensuring compliance with disclosure requirements.

These differences in national application of intellectual property law are at the center of much of the debate on the intellectual property rights of indigenous and local peoples. The case of traditional knowledge of indigenous and local peoples has opened debate on the adequacy and ethics of intellectual property protection. The debate (particularly the absence of consensus on whether and how to extend intellectual property protection to traditional knowledge) has so far shown these issues are complex and controversial. This is partly because of differences in conceptual treatment and often lack of clarity on the two concepts of traditional knowledge and

intellectual property. It is also because a scant body of information is available to those responsible for policy and law making, at both national and international levels. In addition, these issues are often debated in isolated United Nations, business sector and non-governmental organizations' conferences---each with its distinct sectoral interest and focus in the subject. For example, dialogue (within the ILO and the United Nations Working Group on Indigenous Populations, amongst others) on the human rights of indigenous peoples has seldom addressed, at least consistently, issues of intellectual property rights in traditional knowledge. The World Trade Organization (WTO) regime has not confronted the implications of its Agreement on Trade-Related Aspects of Intellectual Property Rights (the TRIPS Agreement) for the protection and use of traditional knowledge. On the whole, international debate on issues of intellectual property protection in general and rights in traditional knowledge in particular, is characterized by tension and inconsistency.

However, environmental non-governmental organizations (NGO's), anthropologists and the Convention on Biological Diversity (the CBD) have begun to create a strong political foundation for addressing these issues in a holistic manner. The CBD's holistic nature and its large and diverse constituency open to NGO's has provided, at least in the recent past, an intergovernmental forum where these issues are being debated with a certain measure of coherency.

The debate in the CBD and other forums now oscillates between two extremes: one position that advocates the extension of intellectual property protection to cover traditional knowledge, even including patenting of that knowledge, and another position that promotes the *status quo* where such knowledge is treated as a public good. Those who subscribe to or promote the first position often advance the following arguments. First, they argue that extending intellectual property protection to traditional knowledge will in fact promote technological innovation as it would facilitate the dissemination and development of that knowledge in the modern economic space. Second, recognition of intellectual property rights in traditional knowledge could generate incentives for local and indigenous peoples to conserve the environment and manage biodiversity. Third, the industrialized countries have a moral obligation to ensure that indigenous and local peoples receive a fair and equitable share of benefits arising from the use of their traditional knowledge and commercialization of genetic resources. Proponents of this view further suggest that traditional knowledge should be validated.

Those who oppose the extension of intellectual property protection to traditional knowledge have argued that such a move would in fact destroy the social basis for generating and managing the knowledge. Traditional knowledge, as we have observed, is communal property, passed on from one generation to the next. If it is protected under intellectual property law it would be privatized, and this may deny future generations and industry access to such knowledge. As has been stated:

"It is crucial to remember that the underlying purpose of IPR is to turn knowledge into a marketable commodity, not to conserve such knowledge in its most fitting cultural context. This goal necessarily translates into a focus on segregating and isolating information into identifiable and manageable pieces that can be protected by law as intellectual property. In contrast, ethnobotanical knowledge by its very nature is integrative, holistic, and synergistic. It is most meaningful *in situ* where plants are understood in relation to the ecological and cultural environments in which they have been grown, managed, and used by local residents. IPR departs from such traditions by valuing the discrete properties of plants that can most easily be taken out of their natural and cultural context and replicated through artificial selection in a laboratory or greenhouse. Given the legal premises upon which IPR are based, it is unlikely that IPR will ever be a useful model for protecting ethnobotanical knowledge."

The two groups—proponents and opponents of intellectual property rights in traditional knowledge—express legitimate concerns. The problem is in the nature of intellectual property law as established and enforced on the basis of Western capitalistic models. Now we need to examine various intellectual property law regimes to establish their adequacy in protecting traditional knowledge.

(a) The Paris Convention for the Protection of Industrial Property

The Paris Convention for the Protection of Industrial Property, 1883 is an international legally binding agreement concerning property rights in patents, utility models, industrial designs, service marks, indications of source or appellations of origin and trademarks. The Convention had, as at December 1998, 151 Member States. Article 1 of the Convention defines the scope of industrial property. It states in Article 1(3) that "industrial property shall be understood in the broadest sense and shall apply not only to industry and commerce proper, but likewise to agricultural and extractive industries and to all manufactured or natural products, for example, wines,

grain, tobacco leaf, fruit, cattle, minerals, mineral waters, beer, flowers, and flour."

Article 2 sets conditions for national treatment—each Contracting Party to the Convention must grant the same intellectual property protection to nationals of other Parties that it gives to its own nationals. Article 5(a) of the Convention allows Parties to pass legislation that would grant compulsory licenses in order to prevent abuses resulting from the exercise of exclusive rights.

It is possible for innovations of indigenous and local peoples to be protected under the trademark, utility models, industrial designs, service marks, and indications of source or appellations of origin provisions of the Paris Convention. In this respect, Article 7 of the Convention is worth noting. It allows member countries to "accept for filing and to protect collective marks belonging to associations the existence of which is not contrary to the law of the country of origin, even if such associations do not possess an industrial or commercial establishment." If indigenous and local peoples form associations that are legally legitimate in their countries, it is possible for them, as a collectivity, to acquire collective marks.

This Convention does not, however, contain provisions for granting patents to traditional knowledge *per se*, or any other kind of knowledge for that matter, although it recognizes and would protect modern industrial products and services generated from that knowledge.

(b) Plant Breeders' Rights

Plant breeders' rights are used to cover plant varieties. They vest exclusive exploitation rights in the developers of new varieties of plants as an incentive to pursue innovative activity and to enable breeders to recover their investment in breeding. Like most intellectual property rights, plant breeders' rights are limited in time, at the end of which the varieties pass into the public domain.

The 1978 and 1991 Acts of the International Convention for the Protection of New Varieties of Plants ("the UPOV Convention") establish minimum international standards for the protection of plant breeders' rights. Both Acts are administrated by an intergovernmental organization, the International Union for the Protection of New Varieties in Plants (UPOV).

Plant breeders' rights under the UPOV Convention provide intellectual property protection to plant varieties that are distinct, novel, uniform and stable. These conditions or requirements are similar to those for patenting although the requirements of "novelty" and "distinctiveness" for purposes of plant breeders' rights are interpreted more leniently than for patent protection. Plant breeders' rights are useful regimes for countries that do not wish to extend patents to plant varieties and other living organisms. However, in 1991 several amendments that tilt plant breeders' rights more towards patents were introduced in the UPOV Convention. First, there was an expansion of subject matter for protection under the regime of plant breeders' rights. The 1978 Act of the UPOV Convention provided protection only to plant varieties of nationally defined species. The 1991 Act extends protection to varieties of all genera and species. In addition, the revised UPOV Convention has extended protection to commercial use of all material of the protected variety while the 1978 regime restricted the commercial use of only the reproductive material of the variety. Secondly, the "farmer's privilege" in the 1978 Act is more limited in the 1991 Act, under which it is left to Member States of UPOV to determine on a discretionary basis whether or not to exempt from the breeder's rights any traditional form of saving seed. Under the 1991 UPOV Convention, a farmer who produces a protected variety from farm-saved seeds is guilty of infringement unless the national law provides otherwise. This weakens the economic position of rural farmers and stifles local and traditional innovations. In addition, the UPOV Convention does not contain any provisions for recognizing the knowledge and other contributions that indigenous and local peoples make to plant breeding programs. In our view, therefore, plant breeders' rights as embodied in the 1991 Act of the UPOV Convention are inadequate in protecting traditional knowledge of indigenous and local peoples.

(c) Protection of traditional knowledge under TRIPS

The negotiation and adoption of the TRIPS Agreement as part of the Uruguay Round in 1994 have added new dimensions to the debate on intellectual property rights in traditional knowledge. The TRIPS Agreement sets minimum standards for countries to follow in protecting intellectual property. Its objective is stated in the preamble as "to reduce distortions and impediments to international trade, and taking into account the need to promote effective and adequate protection of intellectual property rights, and to ensure that measures and procedures to enforce intellectual property rights do not themselves become barriers to legitimate trade." Countries that ratify the Agreement are expected to establish comprehensive intellectual property

protection systems covering patents, copyright, geographical indications, industrial designs, trademarks, and trade secrets.

However, Article 1 of the TRIPS Agreement (on the nature and scope of the obligations) provides some flexibility in the implementation of the provisions of the Agreement. It states in paragraph 1 of that Article that "members may, but shall not be obliged to, implement in their domestic law more extensive protection than is required by the Agreement, provided that such protection does not contravene the provisions of the Agreement." According to Dutfield, parties to the TRIPS Agreement can invoke this provision to enact legislation for protecting traditional knowledge. He asserts "The absence of any mention of traditional ... knowledge in the Agreement, does not prevent any Member from enacting legislation to protect such a category of knowledge."

After reviewing the TRIPS Agreement, we consider that it is not possible to protect traditional knowledge under current patent law. The TRIPS Agreement requires Member States to provide patent protection for "any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application." The "inventive step" and "capable of industrial application" requirements are deemed "to be synonymous with the terms 'non-obvious' and 'useful' respectively." Traditional knowledge products fail the test for patenting on one, or all, of the "new", "inventive step" and "industrial application" standards. On the "new" standard they will probably fail because by its very nature traditional knowledge has been known for some length of time. One could try and argue that traditional knowledge is new to the world outside of the community from which it came but this is unlikely to succeed.

Article 29.1 of the TRIPS Agreement requires that a patent applicant disclose sufficient and clear information regarding the invention so that another person "skilled in the art" would be able to reproduce the product or complete the process. This is a standard patent law condition. Opponents of patenting have been quick to point out that this condition of information disclosure could erode the rights of indigenous and local people because it would make traditional knowledge easily available to commercial entities. Given the absence of financial and organizational competencies of indigenous and local peoples to monitor and enforce patents in modern economic space, their knowledge could easily be used without due compensation.

On the whole, in our view, the conditions set under the TRIPS Agreement do not enable the patenting of traditional knowledge and/or traditional innovations.

Article 27.2 of TRIPS states that "members may exclude from patentability inventions, the prevention within their territory of the commercial exploitation of which is necessary to protect *ordre public* or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to the environment, provided that such exclusion is not made merely because the exploitation is prohibited by domestic law." The notions of *ordre public* (public order) and morality are not defined in the Agreement. However, it is clear that those inventions that cause injury to human, animal and plant life as well as the environment may be excluded. States are given flexibility to adjudicate. Some may still provide patent protection for inventions that cause damage to the environment. Patenting of genetically-engineered organisms and life forms is generally possible under these provisions. Further, it is also possible for a State to provide patent protection to a modified gene or a whole organism which meets the normal requirements for patentability.

Article 27.3(b) of the TRIPS Agreement has generated controversy and opportunity. It states that "members may also exclude from patentability... plants and animals other than microorganisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, Members shall provide for the protection of plant varieties either by patents or by an effective *sui generis* system or by a combination thereof. The provisions of this sub-paragraph shall be reviewed four years after the entry into force of the WTO Agreement."

First, there is controversy as to what "an effective *sui generis*" regime is. "Effectiveness" of the *sui generis* system is not defined. The nature of a *sui generis* system is also left to individual members to determine. According to the Crucible Group report of 1994, [t]he term *sui generis*, ..., may offer a wider range of policy choices because it could presumably include any arrangement for plant varieties that offers recognition to innovators—with or without monetary benefit or monopoly control." If there is any dispute on the nature and minimum standards of "an effective *sui generis*" system, the WTO is itself the mechanism for adjudication.

Second, it has also been noted that multinational companies and developed countries are likely to promote plant breeders' rights as the effective *sui generis* system. "[Plant breeders' rights] may be used as a measure of effectiveness under the TRIPS Agreement thereby limiting the ability of developing countries to develop a system to properly reflect their own social and economic needs." They will require or encourage developing countries to establish the UPOV arrangement. This, as Johnston and Yamin have rightly observed, could potentially remove plant varieties from the scope of the CBD and may significantly undermine the rights of local farmers. It could also erode prospects of ensuring that benefits from the use of plant genetic resources are shared in a fair and equitable manner.

The TRIPS Agreement has, on the other hand, generated new opportunities to develop alternative property rights regimes which are ethically, socially and environmentally appropriate to the needs and conditions of indigenous and local people in developing countries. As stated earlier, under Article 27.3(b) of the TRIPS Agreement Members may establish effective *sui generis* regimes. This is an opportunity which developing countries should quickly tap by devising and promoting non-patent measures. They could easily lose out if Article 27.3(b) were to be removed from the Agreement during its review in 1999. Some developed countries, particularly the U.S.A., are already campaigning for its removal so that no restrictions are imposed on the patenting of life forms.

The TRIPS Agreement itself does not provide any protection for the traditional knowledge and innovations of indigenous and local people but it creates flexibility for establishing alternative non-conventional intellectual property protection measures.

On the whole, conventional intellectual property law does not cover inventions and innovations of indigenous and local peoples. Their contributions to plant breeding, genetic enhancement, biodiversity conservation and global drug development are not recognized, compensated and even protected. Similarly, the traditional knowledge of indigenous and local peoples is not treated as intellectual property worth protection, while the knowledge of modern scientists and companies is granted protection. As such, the patentability of products and/or processes derived from traditional knowledge of indigenous and local peoples poses a number of critical questions associated with compensation for the knowledge, and protection against future uncompensated exchange of the knowledge.

The imbalances in the intellectual property system have been created and are sustained by established mechanisms of accessing the modern economic space and power. Indigenous and local people often experience insecure resource tenure, are financially weak, and lack institutional arrangements to safeguard their property rights. Thus, the issues extend to fundamental and more complex questions of human rights of these peoples.

(d) The Declaration on the Rights of Indigenous Peoples[9]

The Declaration on the Rights of Indigenous Peoples goes further than ILO Convention 169 by clearly acknowledging a right of control by Indigenous Peoples over their cultural resources. The Declaration was adopted by the United Nations General Assembly on 13 September 2007. As such it a non binding international law.

Article 31 of the Declaration states that Indigenous peoples have the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of their sciences, technologies and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games and visual and performing arts. They also have the right to maintain, control, protect and develop their intellectual property over such cultural heritage, traditional knowledge, and traditional cultural expressions'.

There are a number of other rights supportive of this right of control (articles 3, 8, 11, 12, 18, 26). For example, the Declaration explicitly recognizes the right of Indigenous Peoples to self-determination (article 3). The right to self-determination is important in this context as an underlying rationale for the right to control cultural resources. Somewhat relevant to cultural resources is the collective and individual right not to be subjected to 'forced assimilation or destruction of culture' (article 8). The expansion of the intellectual property rights system, a system emerging out of western philosophical traditions, to cover indigenous traditional knowledge, without the full and effective participation of Indigenous Peoples in that decision, may sit uneasily with this right. The declaration also emphasizes the right of 'autonomy or self-government in matters relating to internal and local affairs' (article 4), and the right of Indigenous Peoples to participate in decision-making in matters which would affect their rights (article 18).

3. Traditional Knowledge, Indigenous People and the Human Rights

The debate on the protection of traditional knowledge by intellectual property law has recently moved to the human rights forums. There are a number of reasons for this. First, the appropriation of the knowledge by industrialized country firms and scientists without fair compensation or reward to indigenous and local peoples is now seen as contravening fundamental moral, ethical and legal norms that protect people from any form of economic, ecological, political and social abuse. Second, knowledge of indigenous and local peoples is their property and there is no reason why international law should discriminate against them and create barriers to their enjoyment of the rights in that property. The concern in the human rights forums is therefore whether and how to apply international human rights standards and laws to protect traditional knowledge of indigenous and local peoples as their intellectual property.

Existing international and national laws and programs do not *explicitly* recognize rights in traditional knowledge as part of the bundle of human rights. The Universal Declaration of Human Rights, 1948 (the UDHR) and the International Covenant on Economic, Social and Cultural Rights, 1966 (the ICESCR) contain provisions that could be interpreted to cover rights of indigenous and local peoples. For example, Article 1 of the ICESCR "establishes the right of self-determination, including the right to dispose of natural wealth and resources. This implies the right to protect and conserve resources, including intellectual property." Posey goes on to argue that Article 7 of the UDHR can be used to extend intellectual property to the traditional knowledge of indigenous peoples. Article 7 states that "All are equal before the law and are entitled without any discrimination to equal protection of the law. All are entitled to equal protection against any discrimination in violation of this Declaration and against any incitement to such discrimination."

It is important to note that Article 27 of the UDHR could be invoked, albeit implicitly, to argue for protection of traditional knowledge of indigenous and local peoples as well as demand for the sharing (with the peoples) of benefits arising from the use of that knowledge. Article 27.1 reads: "Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits." This provision provides a 'soft legal basis' for indigenous and local peoples to be entitled to benefits arising from the use of their knowledge and resources. Denying them access to the benefits would be

construed as an abuse of their human rights. Article 27.2 states that: "everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author." Indigenous and local peoples have moral, cultural and material interests in their traditional knowledge and thus (invoking the UDHR) these interests should be protected by protecting that knowledge and its products.

On the whole, the UDHR contains provisions on a wide range of civil, political, economic, social and intellectual rights. As already observed, it is Article 27 of the Declaration that is particularly relevant to the issue of intellectual property protection of traditional knowledge. There are, however, a number of limitations to using it as a legal instrument to protect traditional knowledge of indigenous and local peoples. First, while traditional knowledge is a collective property and generates collective rights, the UDHR largely provides for individual rights.

"Generally, the rights of indigenous peoples are said to include rights to land, natural resources, self-determination, and culture. Inherent in each of these rights is the concept of collective rights. Indigenous groups often do not have a concept of individual private ownership of property. ... Traditional knowledge may also be collectively owned. Traditional western legal concepts, however, do not generally include the notion of collective rights. The emphasis has been on individual rights *vis-a-vis* the state. This emphasis may limit the utility of Western concepts in helping indigenous peoples maintain their identity and rights in the face of pressure to assimilate and yield to the "modern" world."

The problem is not just with the Western legal concepts but with many of the human rights theorists. They assert that collective rights are not human rights. For example, Jack Donnelly has stated that "any rights that might arise from solidarity would not be human rights."

The second limitation of the UDHR is that responsibility for enforcing its provisions is vested in the state. However, as Audrey Chapman has observed many "states have been reluctant to grant sub national minorities the rights of peoples."

The ILO was the first United Nations agency to address issues of indigenous peoples' rights. In 1926, the ILO established an expert committee to develop international standards for the protection of native workers. This committee generated the basis for the adoption, in 1957, of the Convention

Concerning the Protection and Integration of Indigenous and Other Tribal and Semi-Tribal Populations in Independent Countries. This Convention, commonly referred to as Convention 107, essentially dealt with measures to integrate indigenous peoples into modern production systems. This Convention was revised in June 1989 as Convention 169 Concerning Indigenous and Tribal Peoples in Independent Countries. The revised Convention eschews the approach of promoting the assimilation of indigenous and tribal peoples. It promotes the protection of indigenous peoples as distinct and separate peoples. Article 2.2(b) provides that governments shall have the responsibility of developing measures for "promoting the full realization of the social, economic and cultural rights of these peoples with respect for their social and cultural identity, their customs and traditions and their institutions." Article 5(a) provides that "the social, cultural, religious and spiritual values and practices of these peoples shall be recognized and protected, and due account shall be taken of the nature of the problems which face them as groups and individuals." These provisions should be broadly read to include recognition and protection of traditional knowledge of the peoples.

Convention 169 also contains provisions that explicitly recognize collective rights of indigenous peoples. For example, Article 13.1 states that "governments shall respect the special importance of the cultures and spiritual values of the peoples concerned of their relationship with the lands or territories, or both as applicable, which they occupy or otherwise use, and *in particular the collective aspects of this relationship*." This provision provides a basis for arguing for the enlargement of intellectual property regimes to accommodate collective rights of indigenous peoples. However, the Convention has not been adequately invoked to create the legal basis for creating intellectual property rights in traditional knowledge of indigenous peoples. It has not been ratified by many States.

The adequacy of Convention 169 is a concern of some indigenous groups and NGO's. These groups have been concerned with a number of the provisions of the Convention. First, the Convention only requires that indigenous peoples be consulted on matters affecting them. It does not require that the consent of these peoples be sought before measures affecting them are instituted. Second, the groups are of the view that provisions dealing with land and natural resources are inadequate.

The rights of indigenous peoples have also been articulated in the United Nations Economic and Social Council. In 1972, the Council

established under its Commission on Human Rights a Sub-Commission on the Prevention of Discrimination and Protection of Minorities. The Sub-Commission commissioned a study on discrimination against indigenous populations. The study, completed in 1983, concluded that existing human rights standards are not fully applied to indigenous peoples, and that international legal instruments are not "wholly adequate for the recognition and promotion of the specific rights of indigenous populations as such within the overall societies of the countries in which they now live." It recommended that a declaration leading to a convention be adopted. In addition, the Sub-Commission recommended the establishment of a Working Group on Indigenous Populations to:

a. "review developments pertaining to the promotion and protection of the human rights and fundamental freedoms of indigenous populations, . . . and;
b. give special attention to the evolution of standards concerning the rights of indigenous populations, taking into account both the similarities and differences in the situations and aspirations of indigenous populations throughout the world."

In 1984, the Sub-Commission directed the Working Group to focus its attention on the preparation of standards on the rights of indigenous populations, and accordingly to consider the drafting of a body of principles on indigenous rights based on relevant national legislation, international instruments and other judicial criteria and consider the situation and aspiration of indigenous populations throughout the world.

The Working Group has prepared a Draft Declaration on Indigenous Rights. The Draft Declaration contains provisions on the protection of intellectual property rights in traditional knowledge. Paragraph 12 of the text completed at its eleventh session in 1993, which is the most current draft, provides that:

"indigenous peoples have the right to practice and revitalize their cultural traditions and customs. This includes the right to maintain, protect and develop the past, present and future manifestations of their cultures, such as archaeological and historical sites, artifacts, designs, ceremonies, technologies and visual and performing arts and literature, as well as the right to the restitution of cultural, intellectual, religious and spiritual property taken without their free and informed consent or in violation of their laws, traditions and customs."

Paragraph 29 states that:

"Indigenous peoples are entitled to the recognition of the full ownership, control and protection of their cultural and intellectual property. They have the right to special measures to control, develop and protect their sciences, technologies and cultural manifestations, including human and other genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral tradition, literatures, designs and visual and performing arts."

It recognizes that the traditional knowledge of indigenous peoples is not eligible for protection under conventional intellectual property laws and therefore "special measures" are required. On the whole, the Draft Declaration contains provisions that would provide comprehensive protection of indigenous peoples and their traditional knowledge. However, the Declaration is simply a statement of principles with no legally binding status.

4. Suggestions and Recommendations

It can be seen that conventional international intellectual property law does not, at least adequately, protect the traditional knowledge of indigenous and local peoples. The international community has recognized that there is need to devise new regimes or enlarge existing ones to accommodate the protection of traditional knowledge. However, so far no coherent and inclusive international efforts are being made to address this concern.

There are a number of alternatives that countries could exploit to protect traditional knowledge of indigenous and local peoples. The first is *trade secrets*. While there is excessive attention being placed on patents and their restrictive nature in relation to the protection of traditional knowledge, trade secrets have not been adequately exploited by national institutions and local peoples to protect the knowledge. it is however known that traditional peoples have used—and possibly continue to use—trade secrets to protect their knowledge. However, this form of protection of traditional knowledge is generally not institutionalized: institutions to safeguard trade secrets of indigenous and local peoples are either weak or absent in most countries. It is therefore crucial that national legislation be enlarged to contain specific measures that would enable indigenous and local peoples to apply trade secrets to protect their knowledge and innovations. Such measures may include explicit articulation of traditional knowledge as subject matter for protection through trade secrets. In addition, there are a wide range of

institutional barriers to the commercialization of traditional knowledge and innovations in modern economic space. For example, current economic policies of most countries are inimical to the direct use of traditional innovations and placement of such innovations on modern economic space. They fail the test of rigidly established industrial standards. Such policies should be reviewed with the view of making them more accommodative of traditional knowledge and innovations. There is need for more research to be conducted to explore the potential application of trade secrets. The world intellectual property organization (WIPO) and organizations such as the African center for technology studies (ACTS), the world conservation union (IUCN) and UNEP could invest in such studies. The studies could also cover assessment of how well other forms of non-patent intellectual property protection would be applied to protect traditional knowledge.

Second, countries should invest in the creation of *sui generis* legislation suitable to their cultural and political conditions. They should explore the development of systems that will first and foremost protect traditional knowledge as intellectual property of indigenous and local peoples. Such systems should also encourage (or even require) the flow of benefits from bioprospecting to indigenous and local peoples. According to Dutfield, "legislation could be drafted in such a way as to allow a community to become the successor in title of . . . discovery and development process. Under this interpretation, indigenous communities would have the right to protect traditional practices utilizing intellectual property rights mechanisms, stopping the usual appropriation by others of the commercial value arising from their knowledge. As a right holder, they would have exclusive rights to withhold from third parties their consent to make, use, an offer for sale, or import the plant variety that they developed."

Third, it is crucial that new research be conducted on traditional forms of intellectual property and how traditional knowledge was/is protected by indigenous and local peoples in different parts of the world. Case studies illuminating how indigenous and local peoples perceive intellect and whether they treat it as property worth protecting would be useful. This work would form the basis for national and international processes to establish property protection regimes suitable for traditional knowledge and innovations.

5. Concluding Remarks

It can be viewed that conventional intellectual property law does not adequately cover or protect traditional knowledge and innovations of indigenous and local peoples. However, non-patent forms of intellectual

property protection could be exploited to protect the knowledge and innovations. For example, trade secrets as well as trademarks offer flexibility for protecting traditional knowledge and innovations. Indigenous and local peoples do not have strong institutional arrangements to safeguard their property and enforce trade secrets and trade marks in the current modern economic space. We propose that countries invest in the establishment of *sui generis* regimes covering traditional knowledge and rights.

The following steps can be considered in regard to the traditional knowledge. First, the government should take further steps to preserve, protect, and promote the traditional cultures and knowledge of the indigenous people. Second, side by side they should also be encouraged to develop, and opportunity be provided for education and scientific study. Third, related departments should coordinate to avoid overlapping as well as for smooth implementation of a particular policy. Fourth, there is further need to involve related non-government organisations as at times it is easy for NGOs to interact and get across to tribal people. Fifth, another important aspect is to sensitise and educate concerned officials at the state and especially at the local levels to understand and respect the culture differences. Sixth, ways have to be worked out so that benefits can be shared from accessing traditional knowledge. There is need for synergy between locals and scientists. Oral presentations complemented by video can bridge the gap between the two. Both are complementary to each other. Modern science can give a broader perspective to local sustainability whereas traditional knowledge can provide in depth experience in the local context. Seventh, though it may be crucial that in the designated areas, customary landowners are prohibited from excessive harvesting of biological resources to protect biological diversity, however their rights to land and resources should be formally approved. Eighth, to promote alternative means of livelihood products and services, including forest and agricultural products, herbal medicines, cultural heritage or traditional health-based tourism, ecotourism, scientific tourism and handicrafts based on traditional knowledge and skills be encouraged. Ninth, indigenous people should be fully involved in every stage of policies and plans related to sustainable development. Finally, young people should be encouraged to learn more about their cultural heritage as well as tolerance and respect for other cultures and traditions.[12]

Hence, we are faced today with the challenge of not only industrialisation, liberalisation and urbanisation but also to make sure that

fresh air and clean water are available to our people. This is possible only by active participation both by the government and the people in resource conservation and management. This requires political will, education, and a change in the mindset of the people at large. Conservation of natural resources and culture can be achieved only through the empowerment of indigenous communities and their development. Finally, it is good to know that our efforts at preservation of natural resources have been recognised the world over with the latest survey by National Geographic magazine calling Indians as the most environment-friendly people. But this puts an additional responsibility on Indians, that is, not only to protect, preserve and promote Indian cultural heritage and traditional knowledge, but also to lead the world in environment conservation through sustainable development through the ages.[13]

Last but not the least, it is pertinent to mention that in our today's present globalised world where all the countries are advocating for preserving the ideology of welfarism, we must remember that the concept of welfare cannot be attained at any cost if there is a huge differences in enjoying the resources of this world and if we cannot preserve the brotherhood among the country man of this globe and above all we must work towards the upgradation of all the persons irrespective of their caste, creed, colour, sex, nationality, poor, rich etc. etc. We are living in a very beautiful world and therefore it is our duty to maintain that beauty of this world by minimizing all the differences among us and then only we actually can attain the concept of Welfare, which is the prime importance to lead the world towards progress and peace.

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