Protection to Indigenous Knowledge: A Study of Flawed Scenario at National and International Level

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Indigenous knowledge is not only the foundation of modern science; it is also what could be described as the reference and referral centre.

SUMAN SAHAI

It is matter of the fact that this world needs a dissemination of intellectual knowledge owned by the indigenous communities. However, the rights of the indigenous communities shall not be outrightly taken away at the cost of the development of the world. Hence, a cost is needed to be paid to them for their knowledge. This paper is an attempt to throw the light on the same. Part I of the paper tries to provide the meaning of the key terms which is constantly used in this paper. In the next Part, a sketch of the problem is portrayed. Part III of the paper provides a bird eye view of the international legislation. Finally, Part IV of the paper comes up with view on the local or national perspective. Part V explains various preventive methods in practice all over the world. This paper tries to think globally but act locally. With this pious objective, Part V of the paper finally tries to sum up the paper with positive suggestions.

1. Introduction to the Key Terms

1.1 Concept of indigenous people

The notions of Traditional Knowledge (TK), Indigenous Knowledge (IK) and indigenous peoples have acquired wide usage in international debates on sustainable development as well as those

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1 Dr. Suman Sahai was honored with the 2004 Borlaug Award for her outstanding contribution to agriculture and the environment. Dr. Sahai has served as a faculty member at the Universities of Alberta and Chicago as also the University of Heidelberg. She returned to India and organized Gene Campaign, an organization dedicated to protecting farmers’ rights and food and livelihood security. Dr Sahai chaired the Planning Commission Task Force on ‘Agro biodiversity and Genetically Engineered Organisms’, for the Eleventh Plan. She has received several national awards and was appointed Knight of the Golden Ark (Netherlands) in 2001, Padma Shri awarded by the President of India (2011).
on intellectual property protection. In the 30-year history of indigenous issues at the United Nations, and the longer history in the ILO on this question, considerable thinking and debate have been devoted to the question of definition of “indigenous peoples”, but no such definition has ever been adopted by any UN-system body. Given the complexity of human history and social organisation, there can be no single definition for being indigenous. Some of the popular definitions of Indigenous people are given hereby:

**Definition given by Jose R. Martinez Cobo**

It is one of the most cited descriptions of the concept of the indigenous which is given by Jose R. Martinez Cobo in his famous Study on the Problem of Discrimination against Indigenous Populations. His working definition is as follows:

Indigenous communities, peoples and nations are those which, having a historical continuity with pre-invasion and pre-colonial societies that developed on their territories, consider themselves distinct from other sectors of the societies now prevailing on those territories, or parts of them. They form at present non-dominant sectors of society and are determined to preserve, develop and transmit to future generations their ancestral territories, and their ethnic identity, as the basis of their continued existence as peoples, in accordance with their own cultural patterns, social institutions and legal system.

This historical continuity may consist of the continuation, for an extended period reaching into the present of one or more of the following factors:

(a) Occupation of ancestral lands, or at least of part of them;
(b) Common ancestry with the original occupants of these lands;
(c) Culture in general, or in specific manifestations (such as religion, living under a tribal system, membership of an indigenous community, dress, means of livelihood, lifestyle, etc.);
(d) Language (whether used as the only language, as mother-tongue, as the habitual means of communication at home or in the family, or as the main, preferred, habitual, general or normal language);
(e) Residence on certain parts of the country, or in certain regions of the world;
(f) Other relevant factors.

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4 Francesco Mauro & Preston D. Hardison, Traditional Knowledge of Indigenous and Local Communities: International Debate and Policy Initiatives, 10(5) Ecological Applications 1263, 1265 (1996). (hereinafter referred as Mauro & Hardison)
5 UN Doc. E/CN.4/Sub.2/1986/7 and Add. 1-4. The conclusions and recommendations of the study, in Addendum 4, are also available as a United Nations sales publication (U.N. Sales No. E.86.XIV.3). The study was launched in 1972 and was completed in 1986, thus making it the most voluminous study of its kind, based on 37 monographs.
6 Id., p. 389-392.
8 Ibid.
On an individual basis, an indigenous person is one who belongs to these indigenous populations through self-identification as indigenous (group consciousness) and is recognised and accepted by these populations as one of its members (acceptance by the group). International Labor Organisation’s definition

International Labor Organisation (hereinafter referred as ILO) started its activity on indigenous peoples with the coordination of the Andean Indian Programme in the 1950s. ILO attempted to define this term in its Convention No. 107 of 1957. It defines the term as follows:

...regarded as indigenous on account of their descent from the populations which inhabited the country, or a geographical region to which the country belongs, at the time of conquest or colonisation...

ILO came up with totally a new definition in Convention No. 169 of 1989. The definition has just added certain new points in the previous definition. The ILO’s definition is inclusive in nature and it does not define the term “Indigenous People”.

The definition given in Article 1 of this Convention is as follows:

(b) peoples in independent countries who are regarded as indigenous on account of their descent from the populations which inhabited the country, or a geographical region to which the country.

This definition does not essay the universal phenomenon of being indigenous. The definition is criticised for giving priority to America, New Zealand, Australia, etc. over solving the confusion of indigenousness in Asia and Africa. Definition by working groups on indigenous people

At its 15th Session, the Working Group concluded that a definition of indigenous peoples at the global level was not possible at that time, and certainly not necessary for the adoption of the Draft Declaration on the Rights of Indigenous Peoples. However, the Article 8 of the Draft Declaration gives following definition:

Indigenous peoples have a collective and individual right to maintain and develop their distinct identities and characteristics, including the right to identify themselves as indigenous and to be recognised as such.

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9 The ILO published a book, Indigenous Peoples: Living and Working Conditions of Aboriginal Populations in Independent Countries, Geneva, 1953, which commented on the definitional problems. Noting different levels of “integration, absorption and assimilation” it commented at page 5 that it was “increasingly difficult to find a reliable and generally applicable test to distinguish between the aborigines and the rest of the population”. This was written in the context of work which promoted assimilation.


13 Id., p. 389-392.

14 The Draft Declaration is contained in UN Doc. E/CN.4/Sub.2/1994/2/Add.1 and is currently under consideration by a Working Group of the Commission on Human Rights.
Framing an acceptable definition of indigenous people

The concept of indigenous people is relevant from several aspects. The concept of indigenous people comes into limelight whenever there is a discussion regarding genocide, ethnocide, environmental protection, biodiversity, intellectual property, etc. The multiplicities of aspect of indigenous people also results in the complexity of this definition. Hence, the definition of indigenous people has become a circumstantial substance. Sometimes there is a clear history of colonisation, conquest, genocide, and ethnocide to trace Indigenous people, as happened in the Americas, New Zealand, and Australia. However, sometimes it is not feasible to recognise them as in Africa, Asia, and Europe. The histories often involve conquest or marginalisation from within by other indigenous societies. The India is also belongs to one of the similar country where to trace the indigenous tribe is next to impossible.

The current definition of indigenous peoples most accepted in the international framework includes parts or all of the following elements: self-identification as indigenous; descent from the occupants of a territory prior to an act of conquest; possession of a common history, language, and culture regulated by customary laws that are distinct from national cultures; possession of a common land; exclusion or marginalisation from political decision-making; and claims for collective and sovereign rights that are unrecognised by the dominating and governing group(s) of the state. Among all these elements, the Self-identification is the central frame of attraction.

Indian Perspective

The term “indigenous tribe” has not been defined in any Indian statute. So, does it mean that there is no indigenous tribe in India? Legally speaking the concept of indigenous tribe does not exist in India. However, the answer may be different if we see the social context of India. Considering the same, the largest constitution of the world i.e. Indian Constitution has provided under Article 342 regarding the inclusion of the Scheduled Tribes. However, it left the door without laying down any criteria under this provision.

Now, the question arises whether Scheduled Tribes is Indigenous Tribe of India. As discussed earlier, the indigenous people are repositories of the distinct cultural traits, customs and ethnicity. As discussed above, there are several definitions for “indigenous people,” but it essentially refers to people existing under relatively disadvantageous conditions. As such, there is no criterion laid down for their inclusion of tribes under Scheduled Tribe. Hence, it cannot be straight way concluded that scheduled tribe is Indian format of Indigenous Tribe. However, while seeing the list of scheduled tribe, it can be easily found that most of them are adivasi. The term “adi” refers to old and “vasi” refers to resident and hence, the term refers to person living in forest as the people used to live in ancient time.

15 Supra note 4, p. 1264.
16 Ibid.
This discretionary clause of the grand norm is these days referred as an illusion being used for vote bank. However, the basic intent of the grand norm drafters is same and visible through the Constituent Assembly debates. It is disheartening to say that the intent of constituent assembly is not properly served and even misused for vote bank politics.

Moreover, the list includes the name of tribes which was in relatively disadvantageous position but presently enjoys a royal treatment by continuous benefits of this provision. The previous statement can be further substantiated by the example of Meena Tribe in Rajasthan.

1.2 Meaning of Indigenous Knowledge

There is no one definition of this term IK. The term is tried to be defined at several times. The brief record of such attempts is enlisted as follows.

1.2.1 International Instrument’s Definition

World Bank - The World Bank has put up following views on the IK as:

Indigenous Knowledge - Knowledge possessed by indigenous and other local peoples which is transmitted orally and often shows a sophisticated understanding of natural and other processes, typical examples are traditional medicinal plant, agricultural, ethno-veterinary, and other forms of knowledge. May also include such knowledge as usually related to broader cultural values and beliefs of indigenous and other traditional peoples.

1.2.2 Municipal Statutory Definitions

South Africa - An attempt to define IK is there in Section XV under the Protection and Promotion of South African Indigenous Knowledge’s Draft Bill which defines it as follows:

“Indigenous Knowledge” refers to social capital in the form living skills and means productions consisting of characteristic elements of the traditional artistic heritage developed and maintained by a community of South Africa or individuals reflecting the traditional artistic expectations of such a community, in particular.

Rules and Regulations Implementing Republic Act No. 8371 - The Indigenous Peoples’ Rights Act of 1997 (Philippines). As per this statute, IK is defined as follows:

“Indigenous Knowledge Systems and Practices” refer to systems, institutions, mechanisms and technologies comprising an unique body of knowledge evolved through time that embody patterns of relationships between and among peoples and between peoples, their lands and resource environment, including such spheres of relationships which may include social, political, cultural, economic, religious spheres and which are the direct outcome of the indigenous

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18 Constituent Assembly Debates 3826 (Parliamentary Secretariat Press, 1999).
19 Meena Community is given the status of Scheduled tribes in Rajasthan. However, other states believe them to be wealthy enough to maintain themselves. For further details see SCs, STs protest against reservation policy in Rajasthan, available at http://truthdive.com/2011/03/28/SCs-STs-protest-against-reservation-policy-in-Rajasthan.html (20th April, 2011).
22 Referred in Traditional WIPO, Knowledge – Operational Terms and Definitions, WIPO/GRTKF/IC/3/9, third session, (13th to 21st June, 2002).
peoples responses to certain needs consisting of adaptive mechanisms which have allowed indigenous peoples to survive and thrive within their given socio-cultural and biophysical conditions.23

1.2.3 Indigenous Knowledge according to different Jurist’s

According to Tirfe Mammo, “Indigenous knowledge means a stock of local knowledge prevailing in a certain area and derived from that specific milieu”.24

Nuffic Ciran25 has defined Indigenous People as “The term “Indigenous Knowledge (IK)” is used synonymously with “traditional” and “local” knowledge to differentiate the knowledge developed by a given community from knowledge systems generated through universities, government research centers and private industry. Moreover, he believes that IK is not static as the word traditional implies.

Dutfield defined it as “Traditional ecological knowledge” (sometimes referred to as “traditional environmental knowledge” or “Indigenous Knowledge”) is defined by Johnson as a “body of knowledge built by a group of people through generations living in close contact with nature. It includes a system of classification, a set of empirical observations about the local environment and a system of self-management that governs resource use.26

1.2.4 Framing an acceptable definition

These are some of the definitions of IK put forwarded by several jurists, statutes and international organisation. All the definitions might use different terminology but they have same intent. While going through all the definitions, it is concluded in the simplest possible terms that it is a knowledge owned, developed or evolved by any specific indigenous tribe. The other question is whether IK is static. In response to it, A. Gupta states as follows:

Local and IK systems are not static. They evolve, adapt and transform dynamically with time. New materials are incorporated, new processes are developed and sometimes new uses or purposes are evolved for existing knowledge besides the acquisition of knowledge... the contemporary knowledge could build upon TK but may also be developed autonomously.27

1.3 Distinction between Traditional Knowledge and Indigenous Knowledge

It is also evident from the above definitions that most of time scholars use the term TK and IK synonymously. This raises a serious doubt in the mind of a

23 The President of the National Commission of Indigenous Peoples of Philippines presented a report to WIPO on 1st–2nd November, 1999 which stated:“(…) “In the Philippines, traditional knowledge touches on almost all facets of the economic and social development of a community from agriculture to literature and from customary law to arts and crafts and so on (…).”


normal person. Whichever sense of “Indigenous Knowledge” is used, however, the general usage seems to suggest that all IK is TK, although it is likely that some TK may not have the specific characteristic of being “indigenous.” Indigenous knowledge is knowledge that 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, on the other hand, that which is held by members of a distinct culture and/or sometimes acquired “by means of inquiry peculiar to that culture, and concerning the culture itself or the local environment in which it exists.”

It is concluded that there is a subset relationship between these two concepts wherein IK is subset of TK.

28 Supra note 3.
30 Ibid.

Source: John Mugabe, Intellectual Property Protection and Traditional Knowledge: An Exploration in International Policy Discourse, WIPO.

2.1 Threat to indigenous knowledge, culture and society

There are two fold threats to the IK, culture and society. The first one is by the extinguishment of the tribe or knowledge. The second one is from unauthorised use of their knowledge. The threat which is important from the perspective of Intellectual Property Right is latter one. Greave being a western countryman still accepted threat to IK from the western society stating that:

Indigenous cultural knowledge has always been an open treasure box for the unfettered appropriation of items of value to Western civilisation. While we assiduously protect rights to valuable knowledge among ourselves, indigenous people have never been accorded similar rights over their cultural knowledge. Existing Western intellectual property laws support, promote, and excuse the wholesale, uninvited appropriation of whatever indigenous item strikes our fancy or promises profit, with no obligation or expectation to allow the originators of the knowledge a say or a share in the proceeds.

These lines showcase the reality that the westernized countries are giving incentives to scientists for their research works. However, the product of research work is sometimes a plagiarised version of IK of other country or a research laid down on the foundation of knowledge of indigenous tribes. This has been already witnessed in the recent past.
2.2 Instances of unauthorised use of Indigenous Knowledge

Passing off of IK and highlighting it as own invention has become trend in this globalised world. It is indeed a pitiful situation that this has been exploited for wrong reason and is being put forward as a scientific innovation. The biggest example for that is the Ayahuasca Patent. The plant *Banisteriopsis caapi* was used by the indigenous people since a long time and was also used to make the ceremonial drink of *Ayahuasca*. The patent was granted on the basis that “Da Vine”, a dubbed version of *ayahuasca*, represents a new and unique variety of *B.caapi*, which was distinct from *ayahuasca* because of the colour of its flower petals. This was an unauthorised use of the IK and hence many tribal people revolted against this patent. As a result, the patent got rejected at a later state.

Another example is that of the Hoodia cactus which was used by the indigenous tribe *Sans* at the time of hunting. This plant prevents a person from feeling hungry. South Africa’s Council for Scientific and Industrial Research, a government-funded body and a pharmaceutical company Phytopharm, which in turn sold the licensing rights to the pharmaceutical company, Pfizer, for $21 million. This led to a legal battle as the *Sans* starts their revolt against the patent as it would amount to foul play.

3. International Perspective

Intellectual Property regime has very solid global functioning through the instrument of TRIPS and WIPO. In the same manner, the IK is also an issue of global concern. Due to continuing cases of biopiracy, United Nations Convention on Biological Diversity (hereinafter referred as CBD) affirmed the rights of indigenous tribes over biological sources. However, the TRIPS is silent on the whole issue and hence, leading to chaos. The instant chapter discusses this chaos and demands of the countries to revise TRIPS.

3.1 Convention on biological diversity: a trend setter

The CBD reaffirmed the rights of the Sovereign states over their biological resources. The matter under consideration gets its due place under preamble of this convention which states “close and traditional dependence of indigenous and local communities...on biological resources and the desirability of sharing in the benefits derived from the use of TK, innovations and practices.” The most important provision which can be referred as trend setter is Article 8(j). It reads as follows:

> Each Party shall...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 biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilisation of such knowledge, innovations and practices.

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34 Biopiracy is the theft or usurpation of genetic materials especially plants and other biological materials by the patent process.
The basic intention behind this provision seems to use IK with prior informed consent. In this whole discussion, the two important concepts to be discussed are firstly, prior informed consent and secondly, equitable benefit sharing. The first concept presupposes active authorisation prior to the use or even custody of the resources/knowledge. However, the concept itself leads to the question that who will give consent in certain cases. Moreover, the meaning of the term is also not clear. The second concept refers to payment of remuneration for any use of TK to the holders of the knowledge. The actual nature and character of this remuneration must also be carefully defined, should it be included as a substantive requirement for the granting of IPR.

As a whole, Article 8(j) could be considered as a drastic change in the concept of IK. Central Business District (CBD) shifted the whole paradigm by providing the concept of prior informed consent and equitable benefit consent.

The treaty’s governing bodies, i.e. Conference of the Parties (hereinafter, referred as COP) and the secretariat, have been active in the development of a TK sui generis system of protection. The Seventh COP developed the Akwé: Kon Guidelines for ensuring the participation and involvement of indigenous peoples in development processes which may have a cultural, environmental or social impact on indigenous and local communities. Till September 1999, indigenous peoples have been almost entirely absent in the development of national clearinghouse mechanisms, excepting Canada and the Secretariat to the CBD. Hence, it looks hard to attain the object through CBD. Moreover, it would be better if the international intellectual property will come up with solution.

3.2 TRIPS: An indirect or meaningless Reference

On 15th April, 1994, 124 states signed the Final Act embodying the results of the Uruguay Round of Multilateral Trade Negotiations under the GATT. The Final Act incorporates, inter alia, an agreement establishing WTO and an Agreement on Trade Related Aspects of Intellectual Property Rights, Including Trade in Counterfeit Goods (hereinafter, referred as TRIPs Agreement). The TRIPs Agreement used to contain Article 27(3)(b) which defines which inventions governments are obliged to make eligible for patenting, and what they can exclude from patenting. Inventions that can be patented under Article 27 include both product and process, generated using any field of technology. The provisions of TRIPS were silent on the issue of TK and hence, it is right to mention it as toothless tiger with respect to the subject matter under consideration.

3.2.1 Discussions at Doha Round

The Doha round has finally taken note of the needs of review of TRIPS with regard to TK. As expected by various jurists, the matter was given for review to TRIPS council which is not appreciable move. Doha Declaration made it clear that work in the TRIPS Council under the reviews (Article 27.3(b) or the whole of the TRIPS Agreement under Article 71.1) and on outstanding

35 Karl Mutter, Traditional knowledge related to genetic resources and its intellectual property protection in Colombia, 27 (9) E.I.P.R. 327, 327 (2005).
36 Id, 328.
37 Supra note 4, at 1265.
38 Ibid.
implementation issues should cover the relationship between the TRIPS Agreement and CBD; the protection of TK and folklore; and other relevant new developments that member governments raise in the review of the TRIPS Agreement. TRIPS Council’s work on these topics is to be guided by the TRIPS Agreement’s objectives and principles, and must take development issues fully into account. It will be interesting to see the new structure of Article 27.3(b) if it comes soon.

Post Doha Declaration works were mainly focused on the procedural aspect and future organisation. Post Doha Declaration works were mainly focused on the procedural aspect and future organisation. While implementation lots of countries, specifically developing countries proposed to the WTO General Council that protections for TK should be included in the millennium round of trade negotiations under the aegis of the WTO. Kenya, in particular, has proposed that a footnote should be added to Article 27(3)(b) of TRIPs-a provision which requires that all WTO members, at the very least, provide “effective sui generis” intellectual property protection for plant varieties-stating that national plant variety protection laws could include provisions for the protection of TK. There was a huge demand to include the following:

- (1) the source of origin;
- (2) evidence of prior informed consent and
- (3) evidence of equitable benefit-sharing.

Also, the African Group submitted a proposal for TK to be considered an independent IP category to which owner communities have exclusive perpetual rights. However, some of the members including those of the European Community did not consider an amendment necessary, given that the agreement allows enough “flexibility to modulate patent protection as a function of their ... ethical standards”. Some of the proposals are as follows:

Disclosure as a TRIPS obligation

A group of developing countries represented by Brazil and India wants to amend the TRIPS Agreement so that it will be obligation of patent applicant to:

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39 TRIPS Reviews, Article 27.3(b) and related issues: Background and the current situation, retrieved from http://www.wto.org/english/tratop_e/trips_e/art27_3b_background_e.htm (17th April, 2011).
40 Article 7 of the TRIPS Agreement.
41 Article 8 of the TRIPS Agreement.
42 Supra note 37.
45 Ibid.
46 Supra note 33.
(i) disclose the country of origin of genetic resources and TK used in the inventions,
(ii) evidence that they received “prior informed consent” (a term used in the Biological Diversity Convention) and
(iii) evidence of “fair and equitable” benefit sharing. As also earlier discussed above, the demand includes all those three points.

Disclosure through WIPO
Switzerland, on other hand, wants municipal law to be part of change. It has proposed to amend the regulations of WIPO’s Patent Cooperation Treaty so that domestic laws may ask inventors to disclose the source of genetic resources and TK when they apply for patents. The failure to meet the requirement could hold up a patent being granted or when done with fraudulent intent, could entail a granted patent being invalidated.

Disclosure, but outside patent law
We had also discussed EU’s proposal to examine a requirement that all patent applicants disclose the source or origin of genetic material, with legal consequences of not meeting this requirement lying outside the scope of patent law. However, EU members do not want to make it an obligation under TRIPS or WIPO. This also can be inferred as their mala fide intend to use these works.

3.3 Indigenous Knowledge as Intellectual Property in light of International Human Right Treaties
It is a forgotten fact that Intellectual property and Human Rights are treated as two isolated field. However, ever since the time of Universal Declaration of Human Rights, they are co-existing. In this whole chain, the rights of indigenous people has played very important role. It is broadly accepted fact that the indigenous tribes put a claim for recognisation and protection of their cultural rights which sometimes include IK. Adding insult to the injury, the financial and technological benefits are also denied to these communities. Both injury and insult makes a permanent scar when TRIPS facilitate them by making a place for such exploitation.

This scar also creates a black spot on the name of human rights. The first effort to vanish the black spot was taken by United Nations in 1993. United Nation Human Right bodies tried to close the hole in fabric of Intellectual Property Law by commissioning a working group and a special rapporteur to create draft declaration on rights of indigenous people and Principle and

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47 Supra note 21.
48 Ibid.
50 Id. at 49.
51 See Draft Declaration on Right of Indigenous People was formulated by Working group on Indigenous Person in 1993.
Guideline for protection of heritage of indigenous people.\textsuperscript{53}

The most notable is Principle and Guideline for protection of heritage of indigenous people. Article 23 of the revised text of the draft Principle and Guideline for protection of heritage of indigenous people creates a dubious situation regarding the IK in IPR regime. The said provision urges state to protect IK from unauthorised use.\textsuperscript{54} However, the document itself portrays existing Intellectual problem regime as an obstacle by giving a broader ambit to the “protectable interest” than existing Intellectual Property regime.\textsuperscript{55} It denies providing any person or corporation the right to obtain patent, copyright or other legal protection for “any element of indigenous peoples’ heritage”. This interpretation is broader than instant intellectual property regime.\textsuperscript{56}

3.4 Other Soft International Law

The term soft law refers to the law which does not have any binding obligations on the state parties. All international legal documents discussed above except CBD and TRIPS are soft international law. It is disheartening to note that these documents do not make any legal difference at international and national laws. Some of such documents are listed below:

(i) The Rio Declaration
(ii) Agenda 21
(iii) International Treaty on Plant Genetic Resources for Food and Agriculture.
(iv) Arctic Environmental Protection Strategy
(v) Kari-Oka Declaration
(vi) Mataatua Declaration on Cultural and Intellectual Property Rights of Indigenous Peoples.

The international community has to understand that neither soft international law nor unfurnished International Intellectual Property regime can stop the exploitation of the rights of Indigenous Communities. Hence, there is an immediate need to amend TRIPS to stop these exploitations in the near future.

4. National Perspective

The protection for Indigenous tribes is not specifically provided in India. However, Indian statutes do cover it as TK. It is disheartening to see these provisions of the country which is arguing before WTO for TK to be included within Article 27.

4.1 Patent Act

To prevent patenting of TK in India, it is expressly stated in Section 3 of the Act that TK is not an invention.\textsuperscript{57} The TK is non-patentable in Patent Act. As discussed earlier, the term TK encompasses IK.

As noted earlier from CBD and India’s demand before WTO, there are two


\textsuperscript{54} Revised Draft Guidelines people, Art. 23(b).

\textsuperscript{55} Revised Draft Guidelines, Art. 23(c).

\textsuperscript{56} Supra note 4, at 1267.

\textsuperscript{57} Section 3(p) of the Patents Act, 1970 reads: “...an invention which, in effect, is traditional knowledge or which is an aggregation or duplication of known properties of traditionally known component or components”. 
important concepts, i.e. disclosure of source of TK and prior informed consent of Indigenous Tribes. Indian Patents Act requires the disclosure the source of the source and geographical origin of the biological material in the specification.\textsuperscript{58} This provision shall be extended to every kind of TK. It is a wonder that Indian Patent Act does not comply with India’s own demand.

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\textbf{In India, the patent act excludes plants and seeds from the subject of patent}
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\textbf{4.1.1 The Protection of Plant varieties and Farmer’s Rights Act, 2001}

In India, the patent act excludes plants and seeds from the subject of patent. Hence, there was a need of giving certain rights with regard to it. The desire to give right was fulfilled by legislating this statute. The Protection of Plant varieties and Farmer’s Rights Act, 2001 (hereinafter referred as PPVFR Act). The PPVFR Act primarily deals with protection and plant breeders’ rights over new varieties developed and entitlement of the farmers to register new varieties and also to save, breed, use, exchange, share or sell the plant varieties which the latter have developed, improved and maintained over several generations. The statute is an attempt to protect both new varieties on the basis of individual private ownership and TK based on collective ownership.\textsuperscript{59} The statute is relevant to the instant subject matter because of its benefit sharing provision, Farmer’s right over Farmer’s variety etc. The Statue talks about benefit sharing and lays down the criteria for it under Sections 26 and 27.

The Protection of Plant Varieties and Farmers’ Rights Act (PPVFR Act) also takes care of rights of farmers while keeping an eye on the breeder’s rights. The word farmer’s Rights here include his traditional right to save, use, sow, resow, exchange, share or sell his farm produce.\textsuperscript{60} Section 39 of the PPVFR Act makes place for farmer’s right regarding to his crop. In addition to it, Section 40 specifically comes ahead for the tribal families and makes non-disclosure of use of genetic material as a ground of rejection of application. Section 41 further broadens the ambit by giving rights of communities over the evolution of any variety. The Provision enables any person, group of persons (irrespective of whether actively engaged in farming), governmental organisations or non-governmental organisations (hereinafter referred as NGOs) with the previous approval of centre may file claim for the evolution of variety on behalf of the village or such local community. After this the centre will enter into the matter and submit a report to the authority. The authority after being satisfied of report may ask the breeder to pay a sum as compensation.

N.S. Gopalakrishnan believes that Sections 26 and 41 have an overlapping provision resulting into an economical burden on breeder and states\textsuperscript{61}:

\begin{quote}
It is clear that there is overlap between benefit-sharing and compensation to the community, and there is no provision to avoid this. The breeder is also made to pay more than once for using the TK. The attempt to protect both new varieties on the basis of individual private ownership and TK based on collective ownership together in one law, and the lack of clarity on the issues, created this mess.
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\textsuperscript{58} The Patents Act, 1970, §10(4)
\textsuperscript{59} The Patents Act, 1970, Statement of object and reasons.
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Given the social and educational conditions of the local and indigenous communities in India, it can safely be concluded that the provisions to protect the TK of the farming community are not going to work to the advantage of these communities. Hence, there is a need to take a note of this issue and fortify the legal framework.

4.1.2 The Biodiversity Act, 2002

The Biodiversity Act was on hold from very long and finally passed by the Parliament in February, 2003. The Act is an effort to fulfill India’s obligation as state party to CBD. The Biodiversity Act tries to get equitable sharing of benefits arising out of the use of accessed biological resources, their by-products, innovations and practices associated with their use and applications and knowledge relating thereto in accordance with mutually agreed terms and conditions between the person applying for such approval, local bodies concerned and the benefit claimers. The Act defines “benefit claimers” as the conservers of biological resources, their byproducts, creators and holders of knowledge and information relating to the use of such biological resources, innovations and practices associated with such use and application. Hence, it specifically does not talk about the TK or IK resulting into failure to implement Article 8(j) of CBD. The Act talks about the establishment of National Biodiversity Authority (hereinafter, referred as NBA) from which the consent is necessary for a transfer of biological resources, their by-products, innovations and practices associated with their use and applications and knowledge. However, the act has not defined the relationship between NBA, State Biodiversity Boards (hereinafter, referred as SBBs) and Biodiversity Management Committees (hereinafter, referred as BMCs). The approval of the NBA has been made compulsory to protect the interest of the benefit claimers. However, a discretionary power has been given to NBA within this statute. This can also bring local community to weaker side sometime. Moreover, it is not explained within the statute that how NBA will effectively monitor intellectual property applications outside India. The relationships between the NBA and the SBBs and BMCs, as well as between discretionary NBA decisions and benefit-sharing agreements between knowledge holders and applicants, remain unexplained.

The agro-plants will lie in both PPFV Act and BDA. In that case, both the statutes has overlapping provisions and hence will lead to more problems. Lastly, in view of the lenience with which local individuals and corporations are treated, one commentator concluded that the relevant BDA provisions “even seem to encourage commercial exploitation of resources rather than giving impetus to the conservation of biodiversity or to benefit-sharing with the local communities.”

Leaving apart the positives and negatives of the statutes, it can be stated that both statutes are good to establish an alternative of sui generis system in India.

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62 The Biodiversity Act, 2002.
63 Id. § 20(1).
64 Id. § 2(1).
65 Id. § 8.
67 Ibid.
4.2 Kani Tribe Jeevani Instance: A perfect instance of unauthorised use of an India Indigenous Knowledge

This is best example within India to show compliance with CBD and rights of indigenous tribe. The Tropical Botanic Garden and Research Institute (hereinafter referred as TBGRI) in consultation with the Kani tribe has worked out an arrangement for benefit sharing relating to the anti-fatigue properties of the wild plant Trichopus zeylanicus. As per the agreement, TBGRI is ready to share 50 per cent of the licence fee and royalty with tribe. Such move and practices is appreciable from the point of indigenous and shall be encouraged in future.68

5. Prevalent Methods for Protection of the Indigenous Knowledge

The word protection refers to save the unauthorised use of the IK. It also includes the practice of biopiracy.

5.1 Kinds of Protection

The protection of intellectual property can be categorised into defensive protection and aggressive protection.69

5.1.1 Defensive Protection

In defensive protection, there is a check on the side of infringer rather than providing right to knowledge holder. It goes with the spirit of the term “defence”. It is defensive protection which is applied with respect to this arena. The provision for Prior informed consent and equitable sharing of benefit enlisted under Article 8(j) of the CBD are the example of defensive protection. As discussed earlier, the developing countries even wanted to introduce such protection measure with regard to IK in the TRIPS Agreement.

Traditional Knowledge Digitl Library (hereinafter, referred as TKDL) is also a defensive protection.

5.1.2 Aggressive Protection

An aggressive gives an exclusive right to the knowledge holder as given in the cases of copyright, patents etc. Indigenous tribes and TK holder often complains that the defensive measures did not have large impact. They believe in aggressive protection. Such protection can be created by a legislation specifically focusing on this issue. The other possible aggressive protections other than statute conferring exclusive rights are recognition of customary laws in national legislation, tort of misappropriation and sui generis TK database where putting TK into the database actually constitutes establishing a legal claim over the TK.

5.2 Methods for Protecting Indigenous Knowledge

5.2.1 Documentation of traditional or indigenous knowledge

The documentation of TK holds both sided arguments. The admirers of this believe that proper documentation will help in checking the biopiracy of IK as it will trace knowledge to indigenous tribe or knowledge holder. Moreover, the people will not be able to get it protected on their name as it will be already available in public domain. At other hand, people criticise it by stating that it will itself lead to biopiracy as it will make knowledge easily available for the biopiracy.

In India, the preparation of village-specific Community Biodiversity Registers for documenting all knowledge,
innovations and practices has been undertaken in a few states.\textsuperscript{70} An example of documentation is work of documentation being carried out in Karnataka by Peoples’ Biodiversity Registers.\textsuperscript{71} In addition, there is the work being done by Centre for Ecological Sciences, Indian Institute of Science, and the Foundation for the Revitalisation of Local Health Traditions (FRLHT), Bangalore to prepare Community Biodiversity Registers.\textsuperscript{72}

5.2.2 Traditional Knowledge Digital Library

As discussed earlier, India is suffering from several instances of bio piracy and unauthorised use of Traditional or IK. Considering these problems, a step has been initiated in India to prepare an easily navigable database of documented TK relating to the use of medicinal and other plants that is already in the public domain.\textsuperscript{73} This database is given name of TK Digital Library (hereinafter, referred as TKDL). It will enable everyone in this world to search about the prior act or knowledge of TK so that the instances like patent of neem, etc. cannot be revised in future. This defensive measure cannot protect the right unless it is backed by any aggressive measure with legal repercussions.

5.2.3 Development of a \textit{sui generis} system

The word “\textit{sui generis}” literally means “one of its own kind”, “unique” or “special” leaving the \textit{sui generis} open to interpretation. \textit{sui generis} system offers a unique kind of protection for Intellectual Property Rights. It is different from the classical Intellectual Property Right System. The \textit{sui generis} system is relevant from the perspective of the developing countries as the plant varieties are most essential part of their growth and hence special protection is needed for it. Moreover, the flexibility in the \textit{sui generis} system makes it an attractive offer for the developing countries.

The option of \textit{sui generis} system is given under Article 27(3)(b) of the TRIPs Agreement for the plant varieties. Article 27(3)(b) of the TRIPs lays down the option of patent or \textit{sui generis} or both for the protection of plant varieties. Some experts have suggested that a \textit{sui generis} system separate from the existing IPR system should be designed to protect knowledge, innovations, and practices associated with biological resources.\textsuperscript{74} However, the parameters, elements and modalities of a \textit{sui generis} system are still being worked out. Moreover it restricts itself to the plant varieties and hence cannot be treated as a protection for all kinds of IK.

6. Conclusion and Recommendations

It is recommended at the international level that Article 27(3) of the TRIPS has to be reviewed as soon as possible. The use of IK shall be excluded as subject matter of the patent. The recommendation of the group including India should be accepted that it will be obligation of patent applicant to:

(i) disclose the country of origin of genetic resources and TK used in the inventions,

(ii) evidence that they received “prior informed consent” (a term

\begin{footnotesize}
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\item \textsuperscript{71} FRLHT takes botany course to village, 4(4) MedPlant Network News 16, 16 (2004).
\item \textsuperscript{72} Ibid.
\item \textsuperscript{73} Supra note 70, at 88.
\item \textsuperscript{74} Supra note 70, at 89.
\end{itemize}
\end{footnotesize}
used in the Biological Diversity Convention), and
(iii) evidence of “fair and equitable” benefit sharing.
At the National Level, it is necessary to have defensive measurement backed by aggressive measurement. In the light of this earlier line, it is recommended that TKDL which is defensive measure shall be backed by legislation like PPFV Act ensuring special rights to Indigenous people. Indigenous knowledge as stated earlier is very important for these indigenous people. It is an accepted fact that the IK belongs to the indigenous tribes and they shall be given a part of benefit for their long heritage property economically if not morally. Hence, the indigenous people shall be given their due for it. As highlighted earlier, there have been several instances of biopiracies and unauthorised use of IK. It is also seen through whole research work that International regime of Intellectual Property Right is insufficient to stop these instances. CBD had certain provision for this purpose under Section 8(j) where sharing of equitable benefit and Previously Informed Consent are made necessary for the transfer or use of such knowledge. However, TRIPs under Article 27 is silent on it and leaves IK as a subject matter of patent.