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**PROTECTION OF TRADITIONAL KNOWLEDGE UNDER INTELLECTUAL PROPERTY  
RIGHTS REGIME**

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**ABSTRACT**

*As much of the world's biodiversity has been conserved and maintained by indigenous people, the preservation of traditional knowledge is vital for the conservation and sustainable development of the environment. For the preservation and conservation of genetic resources and other bio-resources, their awareness is essential. In many other nations, traditional knowledge of Indian products is a more significant commodity than any other commodities. This is because India is a place where lots and lots of valuable resources are found and most of the items are the result of conventional historical knowledge. Traditional knowledge of various products in India should be protected from misuse by different countries and India needs to further update in the field of patenting Indian traditional knowledge in order to be safeguarded against this reality. In this article various techniques for securing TK by constructive and protective defence which have been implemented are discussed. The Council for Scientific and Industrial Research (Government of India) has made an initiative to record TK in the TKDL (Traditional Information Digital Library) to secure TK which has now proved to be a boon in protection of traditional knowledge. Intellectual property rights (IPR) are used by bio pirates as a weapon to steal conventional information and misuse biological resources and this occurs because of certain inadequacies in current IPR system. This paper concludes with the points, where some sui-generis mechanism needs to be incorporated into the current IPR system.*

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## **I. INTRODUCTION**

India is one of the world's 12 super Biodiversity<sup>1</sup> Countries. India is a recognized crop diversity centre and keeper of several wild varieties, relative of crops. India is rich in traditional knowledge of the properties and uses of these biological assets because of its distinctive bio-diversity and natural bounty. In the majority of biologically rich and diverse regions, indigenous and local populations are positioned. This natural environment is a way of life for them and an aspect of their cultural nature. Indigenous populations are a repository of conventional environmental information and sustainable usage. TK is an essential ingredient for achieving sustainable growth. It has always been a treasure readily accessible and has thus been vulnerable to misappropriation. It is most often passed down as oral perception from generation to generation.

*“Traditional knowledge refers to knowledge acquired over time by people in an indigenous society, in one or more cultures, based on experience and adjustment to a local culture and climate, and continuously predisposed by each generation's developments and practises”.*

TK is quite enormous and includes information related to different groups, such as knowledge of plants and animals and their properties; minerals and soils and their properties; organic and inorganic combinations; medicinal knowledge; and folklore expressions in the form of music, dance, poem, crafts, storey, and art work. In the fields of science, technology, ecology, medicine, agriculture, biodiversity, all intellectual creations that were created by ancestors, gradually enhanced by subsequent generations of a traditional society are also protected by traditional knowledge. TK is used to preserve the population and its culture and to retain the requisite genetic capital for the community's continued survival.

The demand for the effective defence of traditional information has gained thrust, either through the introduction of the traditional IPR system or through a modern sui generis system, such as the traditional rights of the group or the rights of group land.<sup>2</sup> There is also a need to encourage societies to leverage traditional perception for their progression and improvement.

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<sup>1</sup> <http://www.nbaindia.org/faq.htm>.

<sup>2</sup>T Cottier and M. Panizzon, “Legal Perspectives on Traditional Knowledge,” Journal of International Economic Law, Vol. 7, 2004, p. 387.

Some of the examples of traditional knowledge includes: -

- a) Use of plao- noi by the Thai traditional healers to treat ulcer.
- b) Use of hoodia cactus by San people to stave off hunger while out hunting.
- c) Sustainable irrigation through water systems such as the aflaj in Oman and Yamen and the qanat in Iran.

## **II. CRITERIA TO QUALIFY AS TRADITIONAL KNOWLEDGE**

Traditional knowledge basically encompasses knowledge has been gathered over centuries because of the customs. In addition, it often takes account of the enlargement / adaptation of production from point to point, depending on society's evolving requirements. These innovations serve as an extension to current awareness as well as shape element of the information transmitted to the subsequent age group, thus defining the essence of conventional knowledge for the subsequent age group collectively. From the above points it can be noted that the fundamental basics of Traditional Knowledge consist of:

- a) Construction of a new practice / process for fulfilling a need.
- b) Transmission of the process/ method through generations by the virtue of customs.
- c) Restricted to the group / community within a particular group / community by virtue of its values.

The '*neem*' example where the *neem* tree was considered to have a broad range of applications in India is an ideal illustration of what amounts to TK. The same was mentioned in Indian texts written over 2000 years ago and used for centuries in agriculture, human and veterinary medicine, toiletries and cosmetics and also as an insect and pest repellent.

## **III. REASON FOR PROTECTION OF TRADITIONAL KNOWLEDGE**

The numerous definitions have been given to the word protection, which provide one rationalization for a lack of clarification about the justification for protection. Some understand this term in the sense

of IPRs, where security generally means excluding third parties from unauthorized use. Others distinguishes protection as an instrument for protecting traditional information from exercise that may erode it or have a detrimental effect on the lives or cultures of the societies that have created and implemented it. However, the key reasons for granting TK security incorporates:

- a) Consideration of equity.
- b) Conservation questions.
- c) The maintenance of traditional customs and community.
- d) Prevention of appropriation of components of TK by unauthorized persons.
- e) Fostering its uses and its significance in development.

**Equity:** In several instrument for the security of TK, the fundamental opinion is based upon equity contemplation. TK creates value which is not sufficiently acknowledged and remunerated due to the scheme of requisition and reparation currently in place. Therefore, it would be important to protect TK to add justice to primarily undeserved and unequal ties. An instance for this reasoning is found in plant inherited assets. Orthodox farmers both preserve inherited assets from plants and use them.<sup>3</sup> The importance of plant inherited assets is retained and enhanced by their use for planting, processing of seeds and continuous selection of the well-matched farmer's varieties. These farmers typically communicate with each other on the basis of barter or trade across the fence, thereby facilitating the dispersion and further production of their varieties. The central point of this appraisal is that, because breeders and seed companies are not charged a price for the samples they receive, traditional / local farmers are not paid for the value they deliver, nor is there any later repayment or sharing of profit with farmers.

**Conservation:** The second element explaining the TK security argument is focused on the value of such information for the purposes of preservation. Therefore, maintaining biological assortment in agricultural systems creates value for the universal region. IPR's may be used to raise revenue to continue operations that would otherwise be discontinued. For example, if traditional farmers deserted the use and breeding of farmers' varieties attracted by the higher income obtainable by planting modern varieties with higher yields, a severe loss of biodiversity may occur. Under this

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<sup>3</sup>Carlos Correa, *“Traditional Knowledge and Intellectual Property: Issues and options surrounding the protection of traditional knowledge”*, 35 (3<sup>rd</sup> Ed., November 2001).

strategy, TK safety helps to fulfil society's wider environmental conservation, sustainable agriculture and food security purposes.

**Preservation of Traditional Lifestyles:** Others see TK security as a mechanism for encouraging the preservation of traditions and proficiency that represent traditional styles of life. The notion of "security" is very different in this context from the notion applied under IPR's. The core component of the right to self-identification and a prerequisite for the continued survival of local and traditional cultures, the protection of TK is also an elementary aspect of humanity's cultural legacy.<sup>4</sup> According to some statistics, the tragedy affecting the world's diverse cultures and languages is much larger than the biodiversity tragedy.

**Avoiding Bio Piracy:** The security of TK aims, in some cases, to avoid the unauthorised appropriation ('bio-piracy') of conventional information and to ensure the sharing of benefits. For example, as a way of harmonizing the TRIPS Agreement with the CBD, the Government of India has suggested that a clause be inserted into the Agreement establishing that patents inconsistent with Article 15 of the CBD should not be issued. Improving the information available to patent offices for review of novelty and innovative measures can prevent the granting of patents unduly covering TK.

**Promoting use and development:** The encouragement for the use of traditional knowledge is a significant aim in itself. The security of TK demands that the "wider appliance" of TK must be endorsed. Protecting TK from loss and embezzlement, or offering reimbursement to TK holders, can be considered as the significant basics to excite the wider use of such information. A fundamental reason for protecting TK from destruction and loss may be to promote growth. In the establishment procedure, TK is an underutilized source. Legal security can help to exploit the possibilities of products and services based on TK. Traditional Knowledge can also be a vital resource for strengthening local innovation, and innovation is necessary for local cultures to rebuild.

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<sup>4</sup>*ibid.*

#### **IV. ROLE OF INTELLECTUAL PROPERTY RIGHTS IN PROTECTION OF TRADITIONAL KNOWLEDGE**

Intellectual property rights are intended to protect research and development (R&D) investment and to promote creativity by providing discoverer with motivation. But the way IPR are being interpreted and created, placed emphasis on changing the willingness of others to participate. Through the intellectual property rights, private corporations exploit conventional knowledge and reap income from our natural wealth. Rural farmers and tribal people are made deprived of their natural resources and related skills due to bio piracy. As bio-pirating businesses placed high prices on these goods, conventional knowledge-based goods are too expensive for them. Bio-piracy leads to numerous disputes concerning the security of indigenous people's rights, sustainability of local flora and fauna and the global climate, and even the ability of the country to provide food security.

TRIPS agreement of the World Trade Organization (WTO) stresses patent rights, but the rights of traditional information holders are ignored. If it is possible to interpret and improve IPRs in an authentic and justified way, they can be used as a tool for TK security. There are still some fundamental points that can be used in either way, i.e. as a constructive security and/or defensive measure to preserve conventional information, despite many shortcomings in the new IPR regime. In order to protect the rights of indigenous peoples, their biological resources and related information, national IPR legislation and international conventions should be taken forward.

##### **A. Biological Diversity Act, 2002**

Being a signatory to the Convention on Biological Diversity (CBD), India considered it appropriate to give outcome to that convention. The Biological Diversity Act of 2002 was then approved by India to encourage the protection of biological diversity, the sustainable use of its elements, and the equal distribution of profits resulting from the use of natural assets.<sup>5</sup> The regulation deals with the fundamental issues of;

- Right to use to natural assets.
- Gathering and consumption of natural assets.

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<sup>5</sup> Biological Diversity Act, Section 2(c).

- Dividing the profits occurring out of such entrance.
- Safeguarding from bio piracy.

At the local community level, the law provides for the development of the National Biodiversity Authority (NBA) under section 8, the State Biodiversity Board (SBB) under section 22 of the Act, and Biodiversity Management Committees (BMCs). No person might apply for any intellectual property rights in or outside India for any discovery based on study or knowledge on an Indian natural reserve without obtaining former consent from the NBA.<sup>6</sup> The act provides a structure for property rights which seeks to be very firm on the issue of access to biological resources outside India. The legislation also provides for the structure of profit to be shared with the people responsible for developing, improving and using this technology from the commercial use of TK.<sup>7</sup>

### **B. The Patent Act, 1970**

For the security of technological solutions which are scientifically relevant and uniformly new and require a creative stage, the patent act comes into play. For example, patents may be removed for genetic resources and TK for goods which are inaccessible, synthesised or produced from genetic structures, micro-organisms and plants or animals or organisms subsisting in environment. Patent protection is granted for processes associated with the exercise and utilization of those assets, and moreover for processes known to indigenous areas which meet the same requirements.

### **C. The Copyright Act, 1957**

Copyright preserves the method of speech and expression and not the ideas themselves. The holder of the copyright is sanctioned to carry out any of the actions laid down under section 14 of the Copyright Act, 1957. Copyright can be used to shield TK holders' imaginative demonstration, especially artists belonging to indigenous and indigenous groups, from illegal reproduction and misuse of such demonstrations. The relationship between the creators / artists / authors and their work are being dealt under moral rights.<sup>8</sup>

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<sup>6</sup> Biological Diversity Act, Section 3, 4 & 6; Biological Diversity Rules, Rule 18 (2004).

<sup>7</sup> Biological Diversity Act, Section 21.

<sup>8</sup>The Copyright Act, Section 57.



#### **D. The Protection of Plant Varieties and Farmer's Rights Act, 2001**

This act came into effect from September 2001. This is the sui generis law drafted to comply with the requirement of the TRIPS agreement of WTO. The criteria under the plant varieties which are entitled for safeguarding are novel variety, current variety, chiefly derived variety and cultivator's variety. Farmers and tribal groups use conventional farming methods to cultivate and preserve different traditional range of crops. The idea of efficient profit-sharing agreement between the supplier and the recipient of plant genetic resources outlines the fundamental component of the act. A plant breeder's right (PBR) on a new variety can be attained by the plant breeder if it fulfils the decisive factors of distinct, stable, uniform and novel. PBR can also be obtained on traditional plant diversity.<sup>9</sup>

#### **E. Geographical Indications of Goods (Registration and Protection) Act, 1999**

TK is jointly held by local people, and GI is the most suitable form for safeguarding of Traditional Knowledge. A community in an exact locality is waged by the Geographical Indications of Products (Regulations and protection) Act. GI security is valid for 10 years, but it can be extended any number of times in order to safeguard GI for an infinite period of time. The methods of manufacturing products are evolving with time in order to give a better quality to the product. GIs can be used to shield traditional therapeutic products as well.

#### **F. The Patents Act, 1970**

There are about 100 million forest dwellers in India, most of whom belong to tribal groups, a little publicised reality about India. The forests provide sustenance for them, producing both timber and non-timber forest products. In essence, forest dwellers have accumulated knowledge of the natural world around their culture over the years. In one sense, this culture was thankfully separated from the ways of modern man and carried on the practises of its ancestors. The forests and their inhabitants, as a whole, offer India an abundance of information about the traditional value of various forest products. Traditional information will not be secured in the way intellectual property rights have been designed in modern trade. Traditional knowledge, for example, cannot be patented because, because of the intrinsic lack of creativity, such knowledge lacks imaginative character. Traditional expertise,

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<sup>9</sup>PPV& FR Act, Section 2(j).

rather than individual owners, is most retained collectively by communities. This traditional knowledge is information that is conveyed traditionally within the community or within families within the community in an oral form without proper documentation from generation to generation. This has caused the undervaluation and marginalisation of conventional expertise. In fact, one of the issues in these communities is that it would have been lost to the community through expropriation if the information were to be registered.

## **V. INTERNATIONAL REGIME FOR PROTECTION OF TRADITIONAL KNOWLEDGE**

The value of conserving information, originality and traditions of indigenous and local communities is gradually more recognised worldwide. A joint initiative by WIPO and the United Nations Educational, Scientific and Cultural Organization (UNESCO) was the first attempt in 1978, under the IP regime to shield traditional knowledge which led to the further fortification of expressions of folklore against unlawful exploitations and other detrimental conducts in 1982. With the adoption of the Convention on Biological Diversity (CBD) in 1992, the protection of conventional information has added growing concentration.

### **I. World Health Organization (WHO)**

On 7<sup>th</sup> April, 1948, United Nations specialized agency for health called World Health Organization was set up. The contribution of the WHO in Traditional Knowledge narrates to its traditional medicine work. The objective of the WHO, as set out in its constitution, is to achieve the highest standard of health for all citizens, as the economic and commercial value of traditional knowledge, especially the knowledge of traditional medicine and medicinal plants, that has become increasingly recognized, with more and more WHO member states concerned about the need to protect it and ensure that any benefit gained from its usage is spread equitably.

WHO Traditional Medicine Strategy 2002- 2005 has four key components namely:

- Policy: Integration of traditional and corresponding or alternative medications into the national health system.

- Safety, competence and excellence: Provide estimation, supervision and support for successful regulation.
- Access: Ensure accessibility and affordability of TM/ CAM, together with vital herbal medications.
- Rational use: Encourage therapeutically- sound use to TM/CAM by suppliers and customers.

## **B. Convention on Biological Diversity (CBD)**

On 5<sup>th</sup> June 1992, the Convention on Biological Diversity (CBD) got completed. It was the result of negotiations under the United Nations Environment Programme (UNEP) in Rio de Janeiro in 1992. The CBD, governed by the United Nations Environment Programme (UNEP), develops standards for the conservation of the environment while ensuring continuing economic growth, stressing biodiversity conservation, sustainable use and unbiased allocation of the profits of the use of hereditary assets.

The significance of the conventional use of genetic assets in the sustainable protection of biological diversity is also acknowledged by the CBD. It ascertains right to use the biological transfer from developing countries and emphasizes that the conservation and sustainable use of biodiversity must not hinder with IPRs.<sup>10</sup> Similarly, provisions related to promotion, creation of trade and use of indigenous and traditional information and machinery in the will of the CBD are also integrated.<sup>11</sup>

## **C. World Intellectual Property Organization (WIPO)**

WIPO's work on TK and folklore began in 1978 when, WIPO created the Sui generic model for national folklore protection in cooperation with UNESCO. In 1998, WIPO commenced a new proposal, including a fact-finding contact mission to 28 countries in IP and TK, which formed a global study on the needs of IP and objectives of TK holders. At its 26th meeting, the WIPO General Assembly set up the IGC. It has also done an admirable job for producing a remarkable variety of documents, including the model clauses for contracts on genetic resources, the Conventional

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<sup>10</sup>Daniel Gervais, *The Trips Agreement: Drafting History and Analysis*, 4th Ed. (Sweet & Maxwell), 2012.

<sup>11</sup> G Chin Khan Muan, *Traditional Knowledge and Convention of Biological Diversity*, available at <http://www.aippfoundation.org/R+ID/TK%20&%20cbd.pdf>.

Information Security documentation toolkit, and effort on fundamentals of a potential sui generis scheme for the security of traditional knowledge.

## **VI. INADEQUACY OF THE LEGAL SYSTEM THAT ADDRESSES TRADITIONAL KNOWLEDGE**

### **A. GENERAL ISSUES RELATING TO THE PROTECTION OF TRADITIONAL KNOWLEDGE**

Devolution, encroachment, bio prospecting rush, the absence of adequate legal structure and a clash of systems all make conventional information highly vulnerable to bio piracy. In general, conventional information is related to natural assets and is invariably an indescribable aspect of such natural reserve. With the offering of procedure / indication for budding useful methods and processes for the advantages of humans, TK has the potential of being converted into commercial benefits. The developers or holders of such TK should receive a share of reward gained from it. Some countries have detailed acts which protect this form of knowledge, whereas some other countries believe that such knowledge are shielded by their current IPR regime. At present, India does not have an exact sui generis statute to protect such TK and folklore; but is in the process of constructing such statute.

**Neem:** Over century, a tree that is renowned in India has been for the purpose of bio pesticide and medicine. The Neem tree and its medicinal healing properties have been mentioned in ancient Indian Ayurveda texts. The European patent office (EPO) withdrew its patent number 436257 issued to the United States of America and to the cosmopolitan business W.R. Grace for the Neem tree insecticide extracted from the seed. Despite Neem's ancient tradition, over 12 US patents were recently taken out Neem based emulsions and solutions .

**Turmeric:** In 1993, the U.S. PTO issued patent rights to the University of Mississippi Medical Centre, to cure a wound by applying turmeric to a wound-afflicted patient. An application intended for re-examination of the issued patent was filed, along with nearly 2 dozen mentions, which upshot in early success.

**Rice:** A patent granted by the USPTO to an American company called Rice Tec for 'Basmati rice grains' was another case that created a lot of chaos. In India and Pakistan, Basmati rice is a sweet-smelling variety of rice that is usually grown. The grant of this patent created multitude IP issues besides that under the patent law i.e., under trademarks and geographical indications. With proclamations from two scientists, along with numerous periodicals on Basmati rice and the research carried out on rice in India, a re-examination request was filed, one of which made the USPTO understand that Rice Tec's core claims were not evident.

## **B. CONSENT AND BENEFIT SHARING**

Traditional information is used without the permission of the indigenous peoples or societies that have originated it and lawfully manage it, and without appropriate contribution of the profits from such use. Usage of the current IPR system: -The starting point ought to explore the opportunity of using the exciting IPR system more resourcefully so as to safeguard the traditional knowledge of local public and communities.

## **VII. APPROACHES FOR THE PROTECTION OF TRADITIONAL KNOWLEDGE**

In current scenario of Intellectual Property Rights (IPR) regime, conventional information can be protected by two means: constructive Protection and protective Protection. Distinctions between defensive and positive intellectual property protections are not watertight.<sup>12</sup> So both methods should be inefficient way to preserve conventional information.

**Constructive Protection:** This allows TK holders the right to take action against any abuse of conventional information or pursue remedies. The positive defense scheme for conventional information must provide for:

- Quality approval and endorsement of admiration for traditional systems of information.
- Receptiveness TK holder's real wants.

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<sup>12</sup>Bala Anu, "Traditional Knowledge and Intellectual Property Rights: An Indian Perspective" (November 1, 2011) available at <https://ssrn.com/abstract=1954924>.

- Oppression of misuse of traditional knowledge and other unfair and unfair exercises.
- Justification of tradition-based modernization and ingenuity.
- Support of conventional structures of information and empowerment to holders of traditional knowledge.
- Promoting the allocation of equal profit through the use of conventional information.
- Promotion of a bottom-up approach to expansion by means of conservative proficiency.

**Protective Protection:** This gives fortification from unlawful intellectual property rights attained by third parties over conventional information. Any defensive defence scheme for conventional proficiency must provide for:

- The criteria defining relevant prior art apply to the traditional knowledge.
- A mechanism to ensure that the traditional knowledge constituting prior art is available and accessible to search authorities.

These two methods are suggested to be applied in a complementary manner, as a holistic approach for the security of traditional information.

There are some initiatives taken by the Government to protect traditional knowledge which are as follows: -

**Beej Bachao Movement:** In 1995, in affiliation with the residents of Jardhar in Teri Garhwal district of Uttar Pradesh, the NGO Kalpavriksh commenced a movement to trace the diversity of indigenous seeds and conservation practices by the local community.

**Honey Bee Network:** Honey Bee Network has the world's largest grass-root novelty database. SRISTI (Society for Study and Initiatives for Sustainable Technology & Institutions, Ahmadabad) runs this network. The goal is to promote popular innovation, to protect IPRs for small innovators and to ensure that original innovators and information providers get the profit out of it.

**National Innovation Foundation (NIF):** NIF was established in Ahmadabad on February 2000 by the Department of Science and Technology of the Government of India and acts as a team with the Honey Bee Network. The aim of the NIF is to provide institutional support for the scouting, spawning, safeguarding and scaling-up of grassroots technologies, as well as outstanding TK, and to support

their transition to self-supporting activities. It offers an opportunity to promote innovators who, without or with no government or business assistance, have solved a technical problem through their own intelligence.

**Gujarat Grassroots Innovations Augmentation Network (GIAN):** In order to conduct marketplace scrutiny, GIAN selects discovery from the Honey Bee Network catalog. It establishes ties with institutions for structural design, research and enlargement in order to increase the technical efficiency of originality. It helps to test the products and to establish a market-launch approach. This is an attempt to respect and reward technical innovators and conventional knowledge experts from the grassroots.

## **VIII. SUGGESTIONS TO ENSURE EFFECTIVE PROTECTION OF TRADITIONAL KNOWLEDGE**

- National and international regulatory frameworks should be developed and used in the intellectual property system to ensure lawful right to use to hereditary resources and conventional proficiency.
- It is important to preserve and improve political and legal suppleness in the current international frameworks and conciliation to design and accomplishment of constructive and protective arrangement to safeguard conventional information.
- Wide and successful involvement in all discussions and agreements on genetic resources and cultural information by indigenous and other local communities.

## **IX. CONCLUSION**

After analyzing the various aspects of TK, it is found that, while on one hand TK is the cultural backbone of any country; it is also a valuable resource that needs to be harnessed to bring about economic prosperity. However, it is important that the delicate balance between protecting the rights of the indigenous communities, and the benefits arising out of the commercialization of developments over such TK, not be disturbed in order to make socio- economic harmony.

In India, where enough measures have been taken towards protection of TK; the vast growing needs of the people of India and the limited investment opportunities have turned TK into a dormant gold mine that is just waiting to be harnessed.

Thus, without prejudice to the rights of the indigenous people and with respect to cultural heritage of India, commercial entities should slowly tap into the vast ocean of TK to meet the growing requirements of people of this country. Also, with the current laws providing for promotion of both community rights as well as providing for a patent conducive environment, the benefit sharing agreement should be strategically encouraged to maintain the balance between TK holders and inventors .