CHAPTER 4

PROTECTION OF TRADITIONAL KNOWLEDGE UNDER THE EXISTING MODES OF INTELLECTUAL PROPERTY RIGHTS AND THE SURROUNDING ISSUES

The international debate on the protection of TK mainly centers on whether adequate and appropriate protection is best provided through either the conventional IPRs system or through an alternative *sui generis* system.  

Traditional knowledge, being ‘knowledge,’ feasibility of its protection needs to be sought first under the principles and rules of intellectual property. The moralistic arguments that advocate for the protection of TK mainly focus on the western impression that every person has a moral right to control the product of his or her labor or creativity. The developing countries argue that their traditional knowledge has been the basis for the research leading to high-priced inventions, the benefit of which is reaped by developed nations. Intellectual property rights for traditional knowledge have been justified from a natural right based perspective on the basis of a system of entitlement theory, and theories of self-development as value of individual autonomy. Based on natural rights justifications, several systems of

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148 WIPO/GRTKF/IC/7/6.
149 See Hanns Ullrich, *Traditional Knowledge, Biodiversity, Benefit Sharing and the Patent System - Romantic v. Economics*, European University Institute, (EUI Working Paper Law No. 2005/07), Badia Fiesolana, Italy, 2005, p. 4, wherein he argues that being knowledge, the promise of protection for traditional knowledge can be sought under the rules of intellectual property.
153 Ibid.
protection have been proposed for traditional knowledge which includes a system of traditional resource rights, a system of discoverer’s rights, a system of identification of source materials, and a system that advocates separation of ownership of genetic resources from the ownership of the knowledge itself. However, these justifications do not provide any guiding parameters for either demarcating the resource that sought to be protected or for making a transaction worthy agreement wherein the benefits automatically flows to the beneficiaries.

Several arguments on the pros and cons of protecting traditional knowledge within the prevailing regime of intellectual property laws have been raised by authors. The issue of using conventional forms of IPRs for protecting TK has been the emergence of three sets of views. The first of these views supports the use of forms of IPRs for protecting traditional knowledge. The second advances the view that specific forms of IPRs may be more appropriate for the purpose. The third view is that conventional forms of IPRs are inappropriate for protecting TK.

However, before analyzing question of extending intellectual property protection to traditional knowledge under the existing IPR regime, it will be prudent to analyze the scope and nature of both IP and TK with reference to the issues surrounding (i) identification of original inventor, (ii) identification of beneficiaries, (iii) question of ownership and (iv) economic analysis, etc. which are crucial factors in the determination of ownership. It will

help one to determine to what extent IPR regime can accommodate traditional knowledge protection and to what extent traditional knowledge is commensurate with intellectual property.

4. 1. TRADITIONAL KNOWLEDGE VIS-À-VIS INTELLECTUAL PROPERTY RIGHTS

The term traditional knowledge per se does not refer to any product eligible for intellectual property protection.\(^{157}\) However, various terms such as ‘traditional intellectual property rights’,\(^{158}\) ‘community intellectual property rights’,\(^{159}\) ‘traditional group knowledge and practice’,\(^{160}\) ‘community rights’,\(^{161}\) etc. have been proposed in order to recognize the rights which could be derived from traditional knowledge.\(^{162}\)

In practical terms, as a global common good in public domain, TK is deemed ineligible for intellectual property protection whereas the modern and sophisticated

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\(^{162}\) Annex I of WIPO/GRTKF/IC/3/9 provides list of various terms given to traditional knowledge in the international community. The list covers expressions such as indigenous knowledge, community knowledge, traditional ecological knowledge, local knowledge, traditional environmental knowledge, aboriginal tradition, cultural patrimony, folklore, expressions of folklore, cultural heritage, traditional medicine, cultural property, indigenous heritage (rights), indigenous cultural and intellectual property (rights), indigenous intellectual property, customary heritage rights, traditional knowledge, innovations and practices, popular culture and intangible component.
scientific knowledge is deemed fit for intellectual property protection being novel and non-obvious with the capability of industrial utility. To put it differently, traditional knowledge is considered as a discovery while a product resulting from scientific knowledge is an invention. For instance, naturally occurring plants and its medicinal use are considered global common goods, but identifying the genetic sequences coding for the particular proteins that provide the desired benefit is considered to be an intellectual endeavour eligible for intellectual property protection. The techniques and procedures of modern biotechnology are thus often applied to traditional knowledge in order to isolate and extract the beneficial characteristics useful in the development of plant-based pharmaceutical products that are then eligible for intellectual property protection and the monopoly rents that accrue.

Traditional knowledge and intellectual property differ in many more angles. As a result, the protection of TK owned and possessed by the traditional and indigenous communities faces many quandaries under the present IPR regime. The following discussion demonstrates this point.

4.1.1. Identification of Original Inventor

In the case of TK, the primary/original innovators are the indigenous societies that accumulated the knowledge through several generations. Hence, assigning ownership/proprietary right to the original innovator is not an easy task. On the other hand, the identification of the ‘secondary innovator’, i.e., who is refining the traditional knowledge through the use of sophisticated scientific techniques and procedures and developing new product/result, is comparatively much easy. For example, since natural plants are considered to be global common goods, by bioprospecting, the scientists can extract plant
genetic resources from the primary innovators/traditional users and subsequently, by using modern science, extend and refine the traditional knowledge, and claim an invention which is eligible for intellectual property protection. Moreover, supporters of secondary innovators argue that all genetic material to which the incentive step of scientific knowledge has been added should be eligible for protection. Internationally, intellectual property rights for plant genetic resources have typically been given for Western science inventions by a secondary innovator rather than for traditional discoveries by the primary/original innovator. The identification of original inventor is hence an intricate task in case of TK while in relation to IPR it is a quite effortless task.

4. 1. 2. Identification of Beneficiaries

The most complex issue in TK protection is the identification of beneficiaries. The principle of benefit sharing which is an important element in the bargain theory rests upon the precondition that it is possible to demarcate the community that will be beneficiary of such a bargain. But in regard to TK, identification of beneficiary is an intricate task and in most cases, when the community holds TK collectively, it is practically not possible to identify the set of beneficiaries who would be entitled to share benefits by way of the right. This drawback hinders meaningful exchange of the intellectual property right, which is the fundamental precondition for benefit sharing to occur.163

This does not mean that moral justifications cannot be a basis for the grant of an intellectual property right over TK, but that it cannot be the sole basis on which the right is based and defended.

### 4.1.3. Concept of Ownership

Intellectual properties are considered to be the products of one's intellectual labour and thus recognized as the property of its creator who has bestowed labour on it. Since the creations of intellectual labour are given the recognition and status of property, they involve the concept of ownership. In other words, intellectual property rights are exclusive rights: the owners of the intellectual property have the right to exclude others from making or using the products for commercial gains without their permission. All forms of IP are given the same status of property, eligible for commercial exploitation, to the exclusion of all others irrespective of whether the knowledge was produced in a laboratory or in an informal system. The modern IPR regime on the one hand recognizes the IP generated by scientists in the formal system but on the other hand disallows property status for the knowledge generated by local communities in the equally valid informal system. Just like knowledge generated in the laboratory is considered the intellectual property of the innovator, the knowledge generated in fields and forests must be considered the property of the innovator or creator. But this does not happen in case of TK. This constitutes the central and highly unjust discrimination between traditional knowledge and intellectual property.

As stated earlier, traditional knowledge systems, traditional knowledge and innovations cannot be credited to a single inventor. They are community-based and they

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164 As in the case of copyrights where moral justifications, especially those based on the Lockean theory of creating value, dominate the grant of the right.
accumulate over time and generation. Traditional knowledge systems, traditional knowledge and innovations are part and parcel of the community life of the people. The motivation of innovations derived from traditional knowledge systems and traditional knowledge is not profit or individual gain but the welfare and common good of the entire community and future generations. This essentially renders intellectual property rights alien to traditional, indigenous and local communities.

Since TK is generally considered as common property the question of private ownership would never arise in the contemporary realm of IP laws. Traditionally the custodians of TK hold and use the knowledge collectively whereas intellectual property is a private property to the exclusion of all others. The indigenous communities consider traditional knowledge base as gift of God and not as a private property to be claimed as monopoly. The perception of intellectual property is, however, totally a different one, which has more capitalist orientation and believes in the preservation of intellectual property with the idea that it will benefit the public later. On the contrary, the indigenous and traditional societies that hold TK strongly believe in sharing knowledge and consider it a part of the public domain.\textsuperscript{165} Therefore, the concept of monopoly is a strange concept to the indigenous and local communities who traditionally hold TK.

The question of ownership in connection with IPR became a contentious issue only when the ‘secondary innovators’ started the practice of converting the traditional knowledge into modern inventions under the relevant IPR statutes. In addition to this, regarding innovations, IPR recognizes property rights only in respect of inventions and not

for discoveries.\textsuperscript{166} Therefore, in the existing mechanism of IPR, there is no room for the custodians of TK or the suppliers of vital information on TK.

\textbf{4. 1. 4. Economics Analysis}

Another aspect is that of information economics. Since traditional knowledge is knowledge that has already been produced, it can be argued that there is no need to protect this right through intellectual property protection. This is because knowledge or information once produced is a public good. The diffusion of the information among the members of the society can be achieved at negligible marginal cost and thus the optimal equilibrium price for such information should be close to zero. The already produced traditional knowledge is such an information pool, which could and should be made available freely to potential users like researchers or firms. This economic analysis would prevail if the knowledge could be provided at negligible costs.\textsuperscript{167} Thus TK fails the set criteria of information economics.

The contrasting characteristics of IP and TK can thus be summarized as under in the words of Daniel Gervais.

Intellectual property protection, in the form of copyrights, trademarks, designs and patents usually applies to (a) an identifiable author, inventor or other originator who will be individually rewarded, (b) an identifiable work, invention or other object; and (c) defined restricted acts. Traditional knowledge does not fit well within these three characteristics of intellectual property rights. There are rarely well-identified authors or inventors of

\textsuperscript{166} See, \textit{Diamond v. Chakrabarty}, 447 U.S. 303 (1908) wherein it was held that Patent can be granted only if there is human intervention.

\textsuperscript{167} See, Hirschleifer and Riley, \textit{The Economics of Uncertainty and Information}, Cambridge University Press, 1995.
creations, inventions and knowledge passed on and improved from one
generation to the next. The knowledge is sometimes amorphous and hard to
circumscribe for the purposes of a patent application or to identify as one or
more copyrighted works. Finally, the types of acts that indigenous
communities want to prevent are not necessarily those that propertization
provides. For instance, benefit-sharing obligations, which can be based on
ethical standards, or national or international legal norms, or a combination
thereof, resemble more a liability-type regime, or perhaps a compulsory
license, than a full intellectual property right, in large part because they do
not include a right to exclude/prohibit. 168

4.2. PROTECTION OF TRADITIONAL KNOWLEDGE UNDER THE EXISTING
MODES OF INTELLECTUAL PROPERTY

Though TRIPS does not specifically mention traditional knowledge as a protectable
subject matter under its ambit, it does not expressly debar or prohibit protection to TK as a
form of IPR. Hence the possible interpretation would be if traditional knowledge, practice
and innovations fulfil the criteria for protection under existing categories of intellectual
property rights they are not excluded from the purview of the TRIPS agreement. If, any
kind of TK, by nature is compatible with the specifications of IPR, it can be protected
under the IPR regime. To determine the eligibility of traditional knowledge to be
recognized as an intellectual property under the existing regime of IPRs, it has to be tested
against the universally accepted pre-requisites or conditions which determine the eligibly

for IPRs protection. It other words, TK must meet the statutory criteria stipulated for various forms of IPRs under the relevant statutes.

4. 2. 1. PATENTS

The patentability of any invention lies in the triple test of (a) novelty, (b) inventive step and (c) industrial utility. These are the globally accepted pre-requisites for patents. TRIPS agreement states that patents shall be available 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. Correspondingly, the Indian Patent Act, 1977 defines ‘invention’ as a new product or process involving an inventive step and capable of industrial application.

4. 2. 1. 1. Concept of invention vis-à-vis Traditional Knowledge

To entitle for a patent the invention must fall under the category of patent eligible subject matter. Section 2 (1) (j) treats as inventions any new product or process involving an inventive step and capable of industrial application. All inventions are not patentable though they may otherwise satisfy all the conditions of patentability. A patent will be

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169 Section 5: Article 27. 1 of TRIPS runs as follows: Subject to the provisions of paragraphs 2 and 3, patents shall be available 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. Subject to paragraph 4 of Article 65, paragraph 8 of Article 70 and paragraph 3 of this Article, patents shall be available and patent rights enjoyable without discrimination as to the place of invention, the field of technology and whether products are imported or locally produced.

2. 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 their law.

3. Members may also exclude from patentability:
   (a) diagnostic, therapeutic and surgical methods for the treatment of humans or animals;
   (b) plants and animals other than micro-organisms, 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 any combination thereof. The provisions of this subparagraph shall be reviewed four years after the date of entry into force of the WTO Agreement.

granted for an invention if the subject matter is open for patenting, or to put it in other words, if the invention does not fall under an excluded category. Therefore, the question whether there is an invention is a question of fact in each case.\footnote{171}{J. K. Das, \textit{Intellectual Property Rights}, Kamala Law House, Kolkata, 2008, p. 258.}

Chapter 2 of the Patent Act exclusively deals with inventions that are not patentable. Section 3\footnote{172}{Section 3: What are not inventions: The following are not inventions within the meaning of this Act, - a) an invention which is frivolous or which claims anything obvious contrary to well established natural laws; b) an invention the primary or intended use of which would be contrary to law or morality or injurious to public health; c) the mere discovery of a scientific principle or the formulation of an abstract theory; d) the mere discovery of a new form of a known substance which does not result in the enhancement of the known efficacy of that substance or the mere discovery of any new property or new use for a known substance or of the mere use of a known process, machine or apparatus unless such known process results in a new product or employs at least one new reactant. Explanation.—For the purposes of this clause, salts, esters, ethers, polymorphs, metabolites, pure form, particle size, isomers, mixtures of isomers, complexes, combinations and other derivatives of known substance shall be considered to be the same substance, unless they differ significantly in properties with regard to efficacy;": e) a substance obtained by a mere admixture resulting only in the aggregation of the properties of the components thereof or a process for producing such substance; f) the mere arrangement or re-arrangement or duplication of known devices each functioning independently of one another in a known way; g) * * * * h) a method of agriculture or horticulture; i) any process for the medicinal, surgical, curative, prophylactic or other treatment of human beings or any process for a similar treatment of animals or plants to render them free of disease or to increase their economic value or that of their products. j) plants and animals in whole or any part thereof other than micro-organisms but including seeds, varieties and species and essentially biological processes for production or propagation of plants and animals; k) a mathematical or business method or a computer programme per se or algorithms; (l) a literary, dramatic, musical or artistic work or any other aesthetic creation whatsoever including cinematographic works and television productions; (m) a mere scheme or rule or method of performing mental act or method of playing game; (n) a presentation of information; (o) topography of integrated circuits; (p) an invention which, in effect, is traditional knowledge or which is an aggregation or duplication of known properties or traditionally known component or components.\footnote{173}{Section 4: Inventions relating to atomic energy not patentable: No patent shall be granted in respect of an invention relating to atomic energy falling within sub-section (1) of Section 20 of the Atomic Energy Act, 1962.}
Besides to this, sections 25 (1) (d) and 25 (2) (d) state that if the subject of any claim of the complete specification is not an invention within the meaning of the Act, or is not patentable under the Act, then it can be opposed on that ground. Correspondingly, sections 64 (1) (d) permits revocation of a patent if the subject of any claim of the complete specification is not an invention within the meaning of the Act.

A combined reading of these sections reiterates that there can be no patent protection in the country on traditional knowledge *per se* or which involves traditionally known component or components.

### 4.2.1.2. Criterion of Novelty vis-à-vis Traditional Knowledge

Novelty is the *sine quo non* of patents. Though the Indian Patent Act, 1970 does not define the term ‘novelty’, the Patents (Amendment) Act, 2005\(^{174}\) delineates the concept of novelty when it defines the term ‘new invention’ under section 2 (l) as under:

New invention means any invention or technology which has not been anticipated by publication in any document or used in the country or elsewhere in the world before the date of filing of patent application with complete specification, i.e. the subject matter has not fallen in public domain or that it does not form part of the state of the art.

Novelty lies in the non-disclosure of the invention to the public. It presupposes that there should be no prior knowledge of the invention with the public. It requires the secrecy of the information for the purpose of claiming novelty. An invention may be anticipated

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\(^{174}\) No. 15 of 2005.
either by (a) prior publication or by (b) prior use. Section 13 of the Act requires the patent examiners to conduct search for anticipation.175

The prior publication includes (i) the publication of the information through the patent claims already filed before the authorities anywhere in the world or (ii) the existence of the information in any publication or document available for public examination irrespective of whether any member of the public including the person claiming the invention has read it or not.176

The prior use is the use of the information in the course of the trade by a person or is within the common knowledge of the public or those involved in the trade.177 That is to say that if the product based on the invention is already in the market or in case of process, it is in use for the manufacture of a product.178

175 Section 13 reads as under: Search for Anticipation by previous publication and by prior claim. The Examiner to whom an application for a patent is referred under section 12 shall make investigation for the purpose of ascertaining whether the invention so far as claimed in any claim of the complete specification – (1) has been anticipated by publication before the date of filing of the applicant’s complete specification in any specification filed in pursuance of an application for a patent made in India and dated on or after the 1st day of January, 1912;
(2) is claimed in any claim of any other complete specification published on or after the date of filing of the applicant’s complete specification, being a specification filed in pursuance of an application for a patent made in India and dated before or claiming the priority date earlier than that date.
(2) The Examiner shall, in addition, make such investigation as the Controller may direct for the purpose of ascertaining whether the invention, so far as claimed in any claim of the complete specification, has been anticipated by publication in India or elsewhere in any document other than those mentioned in sub-section (1) before the date of filing of the applicant’s complete specification.
(3) Where a complete specification is amended under the provisions of this Act before it has been accepted, the amended specification shall be examined and investigated in like manner as the original specification.
(4) The examination and investigations required under section 12 and this section shall not be deemed in any way to warrant the validity of any patent, and no liability shall be incurred by the Central Government or any officer thereof by reason of, or in connection with, any such examination or investigation or any report or other proceedings consequent thereon.

178 See, Indian vacuum Brake Co. Ltd. v. E. S. Laurd, AIR 1926 Cal. 152.
Sections 26 to 34 of Chapter VI of the Patent Act enlist the situations in which the invention is not deemed to be anticipated. Therefore, if exceptions are not applicable, then only those set of information which are in the form of a product or process not available in the public domain are qualified for patent protection.

Further, even after the examination of the application, a patent can be opposed (i) under section 25 (1) (d) after the publication of the application but before granting the patent and (ii) under section 25 (2) (d) after grant of patent but before the expiry of one year after the publication of grant of patent on the ground that the invention or any claim of the complete specification was publicly known or publicly used in India before the priority date of that claim.

Section 64 (e) indicates that a patent can be revoked after it is granted, if any claim in the complete specification is not new, having regard to what was publicly known or publicly used in India before the priority date of the claim or what was published in India or elsewhere in any of the document referred in section 13.

While examining traditional knowledge in the light of patent requirements, it is evident that almost all categories of TK are in the public domain. The requirement of novelty is defeated in as much as the common public is aware of the information. With reference to TK, at least a particular segment of the local or indigenous community is aware of the information and in most cases the knowledge is in the continuous use of the community. On the basis of the statutory requirement of novelty one can categorically argue that majority of the existing products and processes based on traditional knowledge will not satisfy the test of novelty. The lack of novelty will disqualify the products based on the knowledge to be treated as invention for the purpose of patent protection.
4.2.2.3. *Criterion of Inventive Step vis-à-vis Traditional Knowledge*

The second requirement for obtaining a patent is ‘inventive step’. This is a new term substituted for the old term of non-obviousness. The inventive step is defined “as a feature of an invention that involves technical advance as compared to the existing knowledge or having economic significance or both and that makes the invention not obvious to a person skilled in the art.”\(^{179}\)

Sections 25(1)(e) and 25(2)(e) state that a patent can be opposed on the ground of lack of inventiveness. It says that any person may represent to the Controller of Patents against the grant of patent on the ground that the invention claimed in any claim of the complete specification is obvious and clearly does not involve any inventive step, having regard to the matter published or having regard to what was used in India before the priority date of the applicant’s claim. Section 64 (f) further makes it a ground for revocation.\(^{180}\)

The question of obviousness involves asking the question whether the invention would have been obvious to a non-inventive worker in the field equipped with the common general knowledge as at the priority date.\(^{181}\) The requirement of inventive step is to demonstrate that the invention is the creation of the individual or individuals claiming monopoly. This is to ensure that substantial intellectual labour of the inventor is involved in the creation of the new invention. It is a question of law based on underlying facts.\(^{182}\) So

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\(^{180}\) Section 64 (f) of the Patent Act, 1970 provides that a patent can be revoked on the ground that that the invention so far as claimed in any claim of the complete specification is obvious or does not involve any inventive step, having regard to what was publicly known or publicly used in India or what was published in India or elsewhere before the priority date of the claim.


\(^{182}\) *In re Frank S. Glaug*, 283. F. 3d 1335 (Fed. Cir. 2002).
the test applied by the courts is to examine whether there is any application of inventive faculty of the inventor.  The quantum of application of independent thought, ingenuity and skill of the inventor are the matter of inquiry in this regard. This is achieved by asking whether the invention is obvious to persons skilled in the same field. The standard applied is that of a normally skilled but unimaginative person in the art at the relevant time. This presupposes the demonstration of the individual contribution of the inventor for claiming patent for the new invention. Correct assessment of inventiveness requires assessment not by reference to specific single items of prior art but by reference to the entire knowledge resulting from the entire prior art for the ordinary expert in the art.

It is possible to have more than one individual as inventor in case of joint inventions. Thus, it is not the availability of novelty but the existence of individual contribution that holds the key factor for claiming patent protection. This requirement thus distinguishes the prior art from the new art and also recognizes the intellectual labour of the individual.

One of the significant features of the traditional knowledge is the fact of it being passed on to the present generation by the previous one. This gives a prima facie impression that the present custodians of this knowledge are not the creators but only the successors in interest of the earlier creators. It neither involves technical advance as compared to the existing knowledge or any economic significance. It is, thus, obvious that the present claimants have not contributed any independent thought, ingenuity or skill to

establish a valid patent claim. In this context the existing traditional knowledge will remain as a prior art rather than a new art for patent protection. It is obvious to a person skilled in the art. This also negates the second condition for claiming patent for TK.

4.2.1.4. Criterion of Industrial Applicability vis-à-vis Traditional Knowledge

An invention, to be patented, must be capable of industrial application. The concept of ‘capable of industrial application’ is defined in section 2 (1) (a) (c) of the Patent Act. Capable of industrial application in relation to an invention means that the invention is capable of being made or used in an industry. Additionally, section 64 (1) (g) provides for the revocation of an invention if the claim in the complete specification is not useful.

The origin and development of patent system from the very inception is linked to the industrial growth and economic development of a nation. So it has always been the underlying principle of patent system that only inventions that are useful to the society are recognized for patent protection. The concept of utility of the invention is limited to the examination of its capability of being put into practice by following the steps described in the patent claim. The standard for patent examination is not commercial success of the invention. It is sufficient if the invention can be worked in the laboratory by following the steps described by the inventor. It is the industrial application rather than the industrial success of the invention that is needed for patent protection. Only inventions that are frivolous or injurious to the society are considered as not useful to the society.

One of the positive aspects of the traditional knowledge is its use to the society. It is

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186 Substituted by Act 38 of 2002.
188 See Bedford v. Hunt, 3 F. Cas. 37 and Reliance Novelty Corp. v. Dworzek, 80 F. 902 (N.D. Cal. 1897).
only those knowledge that are found to be of social use that have been passed on to the next generation. It is the proven success of the information that qualifies for its long existence and use in the society as traditional knowledge. So it may always be possible to demonstrate use of TK.

4. 2. 1. 5. Inventions involving local indigenous knowledge

Sections 25 (1) (k) and 25 (2) (k) indicate that a patent can be opposed if the invention or any claim in the complete specification is anticipated having regard to the knowledge, oral or otherwise, available within any local or any indigenous community in India or elsewhere. Section 64 (q) provides that a patent can be revoked if the invention or any claim in the complete specification is anticipated having regard to the knowledge, oral or otherwise, available within any local or any indigenous community in India or elsewhere. Therefore, the involvement of indigenous knowledge of the local or indigenous community disentitles an invention from patentability.

It is apparent from the above analysis that traditional knowledge does not fulfill the conditions of patentability and more over it is expressly excluded under section 3 of the Patent Act from patentability. Therefore, traditional knowledge, traditional innovations and traditional practices are not patentable subject matters in the scheme of the Patent Act, 1970.

Issues of patentability mostly arise with respect to traditional or folk medicines. Folk medicines include not only medicinal practices of indigenous people but their knowledge of traditional cures, the curing properties of herbs, leaves, and other treatments unknown to the rest of the world also. It also includes the genetic makeup of people who
are immune from diseases thus far considered incurable.\textsuperscript{189} Unfortunately, most traditional medicines in their natural form often do not qualify for patent protection. Although traditional medicines have many uses, they often fail to meet the novelty and inventiveness requirements of patent applications. However, there are some instances wherein traditional medicinal knowledge was given patent protection. WIPO refers to such a system of protection in the document titled \textit{the Protection of Traditional Knowledge: Outline of Policy Options and Legal Elements}.\textsuperscript{190} It refers to the granting of patents for Chinese traditional medicine as an example of the fact that traditional knowledge can also be eligible for patent protection.

Carlos M Correa describes how patent can be wisely used for genetic resources and associated TK.\textsuperscript{191} It can be used for the protection of technical solutions that are industrially applicable and universally novel and involve an inventive step. For genetic resources and TK, patent may be taken out for products isolated, synthesized or developed from genetic resources, micro organisms and plants and animals or organisms existing in nature. Patent protection may also be obtained for processes associated with the use and exploitation of those resources, and also processes known to the native communities that meet the same conditions. All the results of biotechnology applied to genetic and biological resources, and also undisclosed techniques for obtaining practical results, could in principle be protected with patents.


\textsuperscript{190} WIPO Doc. WIPO/GRTKF/IC/7/6, Annex 1, paragraph 17.

It shows that if India can also devise some system akin to utility patents for protecting medicinal knowledge and practices embodied in traditional Ayurveda, Unani etc. and other traditional medicinal or treatment systems developed by the Indian communities and individuals, our rich traditional medicinal knowledge will be protected from misappropriation.

4.2.2. Copyright and Neighbouring Rights

Under copyright regime, creators and authors are entitled to both economic and moral rights though TRIPS agreement focuses mainly on economic rights. However, the Universal Declaration of Human Rights (UDHR), 1948 recognizes these set of rights. Moral rights cover special inalienable rights of the author such as paternity rights, privacy rights and integrity rights.

Section 57 of the Indian Copyright Act, 1957 deals with authors’ special rights and recognizes authors’ right to claim authorship of the work and their right to restrain distortion, mutilation, modification, etc. prejudicial to his honour and reputation of the work.

Copyright, in general vests the right of authorship in the creator of a work and enables him to avert the misuse of his work. The issue of copyright arises in relation to folk materials which consist of traditional knowledge in art form. Folk materials include folklore, folk music, drama, and other folk-related artistic endeavors, all of which appeal to a wide market today. There have been several cases of misuse, exploitation, mutilation or

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192 Article 27 of UDHR which recognizes the material interests resulting from any scientific, literary or artistic production.
193 Inserted by the Amendment Act 38 of 1994.
dilution of these materials, threatening the concept of originality of expression. Exploitation ranges from copying songs or mixing songs with other forms of popular music, to displaying and collecting sacred items.195

Traditional or aboriginal art including paintings and artistic customs of the aboriginal people are under threat of exploitation and infringement. Srividhya Ragavan provides a revealing instance for the same.196 Marlo Morgan’s book titled Mutant Message Down Under197 contains an account of her alleged travel among cannibalistic western Australian aboriginal tribes. It was first published in 1994 and is an account of the author’s four months of experience crossing the outback with a group of aborigines, or real people, as they are referred to in the text.198 The book remained on the United States’ best sellers’ list for 25 weeks. The author merchandised CDs and videos to promote the book. However, a detailed investigation revealed that the author had never visited Australia or the aboriginal community. The inadequacy of copyright law is highlighted by the fact that such works, though are examples of blatant misuse and violation of the integrity of indigenous people, can still be protected by copyrights, simply because the copyright protects originality of expression of the author and not the idea. It may also violate the sacredness of their art and community since the number of people trained in folk art may be limited, again reflecting its sacred nature.199

Copyright can be used to protect the artistic manifestations of TK holders, especially artists who belong to indigenous and native communities, against unauthorized

195 Supra note 3.
196 Ibid.
199 As in the case Kathakali of Kerala and Yakshagana of Karnataka etc.
reproduction and exploitation.\textsuperscript{200} It may include literary works such as tales, legends, myths, traditions, poems; theoretical works; pictorial works; textile works such as fabrics, garments, textile compositions, tapestries and carpets; musical works; three dimensional works such as pottery and ceramics, sculptures, wood and stone carvings, and artifacts of various kinds. Performing rights can be used for the protection of the performance of singers and dancers and presentations of stage plays, puppet shows and other comparable performances.\textsuperscript{201} Moreover, WIPO recognizes the performances of indigenous and local community as traditional knowledge.\textsuperscript{202} Copyright law affords protection to performances by way of neighbouring rights or performer’s rights.\textsuperscript{203} Hence, generally within the ambit of copyright and more particularly under the category of performer’s rights, the performances of the traditional, indigenous and local communities can be protected.

Copyright protection can very well be extended to folklores. There are many countries which protect folklore as intellectual property under the copyright law.\textsuperscript{204} For example Angola protects as folklore, all literary, artistic and scientific works created by authors presumed to originate in certain regions or ethnic communities, passed from

\textsuperscript{200} However, Michael Blankley argues that copyright may not be a sufficiently inadequate or perfect mechanism to protect arts of the indigenous people. For example, copyright laws cannot protect designs that have been around for several hundreds of years and can therefore be considered as a part of the prior art. (Michael Blankley, “Milpurruru & Ors v. Indofarm & Ors: Protecting Expressions of Aboriginal Folklore Under Copyright Law,” \textit{E LAW}, Vol. 2, No. 1, April 1995) Similarly, where the dance of indigenous community is removed from the main theme and song and incorporated into western music, there is no protection if the dance was copied without permission, as the dance will be deemed to be in the public domain. Where a tribal painting is copied with minor modifications, the indigenous tribes will have no rights under copyright law. The copy can depict a subject in a different manner, thereby conveying a meaning different from what was intended. In the long run, such activity will dilute the tribal customs. Also see, \textit{Milpurruru v. Indofarm Pty. Ltd.,} 30 I.P.R. 209 (1994) and \textit{Yumbulu} v. \textit{Reserve Bank of Australia} 21 I.P.R. 481 (1991) to see the inadequacy of copyright law to protect manifestations of TK from exploitation.
\textsuperscript{201} \textit{Supra} note 44.
\textsuperscript{203} Section 38 of the Indian Copyright Act, 1957, as substituted by Act 38 of 1994.
\textsuperscript{204} See, Annex II of WIPO/GRTKF/IC/3/9. also See, \textit{BalantrapurVenkataraov. Valluri Padmanabha Raju and Ors}, (1927)53 MLJ 529 wherein the High Court of Madras considered a book on folklore stories in Telugu containing in all 64 tales as original compilation prima facie possessing copyrightability
generation to generation, anonymously or collectively or by other means, and constituting one of the basic elements of the traditional cultural heritage. Malawi Copyright Act, 1989, protects as folklore all literary, dramatic, musical and artistic works belonging to the cultural heritage of Malawi created, preserved and developed by ethnic communities of Malawi or by unidentified Malawi authors. Section 2 of Lesotho Copyright Order, 1989 extends protection to expression of folklore which includes production consisting of characteristic elements of the traditional artistic heritage developed and maintained over generations by a community or by individuals reflecting the traditional artistic expectations of their community. Burundian Law Decree No. 1/9 Regulating the Rights of Authors and Intellectual Property in Burundi, and Panama Law on Copyright and Neighboring Rights, 1994 provide identical provisions to safeguard folklore.

Law on Literary and Artistic Property, 1994 of Tunisia covers a still wide range of subject matters within the expression of folklore. Article 7 states, “folklore forms part of the national heritage. Folklore within the meaning of this law shall be any artistic heritage bequeathed by preceding generations and bound up with customs and traditions and any aspect of folk creation such as folk stories, writings, music and dance.” Bolivian law also treats folklore as traditional cultural heritage of the nation. In Algeria ‘work inspired by folklore’ is understood to mean any work composed with the aid of elements borrowed from the traditional cultural heritage of Algeria.

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205 Article 4(f): Law on Authors’ Rights No. 4/90 of March 10, 1990 (Angola).
206 Section 2.
207 Article 4.
208 Article 2.11.
210 Article 14 of Copyright Ordinance No. 73-14 of April 3, 1973.
Benin Law on the Protection of Copyright, 1984 further extends the scope of folklore and protects all literary, artistic, religious, scientific, technological and other traditions and productions created by the national communities, passed on from generation to generation and thus constituting the basic elements of the national cultural heritage. Under Article 10 of the Benin copyright law, folklore belongs to *ab origine* to the national heritage.\(^{211}\) Copyright Law, 1990 of Cameroon covers and protects folk tales, folk poetry, popular songs and instrumental music, folk dances and shows, as well as artistic expressions, rituals and productions of popular art within the expression folklore.\(^{212}\)


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\(^{211}\) Article 9 of Central African Republic Ordinance No. 85 002 on Copyright of January 5, 1985 shares an identical provision.

\(^{212}\) Section 10.

\(^{213}\) Article 15.

\(^{214}\) Section 53.

\(^{215}\) Article 9.

\(^{216}\) Article 15.

\(^{217}\) Article 2.1.

\(^{218}\) Article 10.

\(^{219}\) Article 3.

\(^{220}\) Article 9.

\(^{221}\) Article 6.

\(^{222}\) Section 6.
the Protection of Copyright, Folklore and Neighboring Rights (Togo) 1991;\textsuperscript{224} Ordinance affording Protection to Copyright (No. 84-12 CNR. PRES), 1984 of Burkina Faso\textsuperscript{225} and Ordinance Concerning Literary and Artistic Property, 1977 of Mali recognize folklore as a part of their national cultural heritage and afford legal protection.

It is evident from the above discussion that the literary, artistic, religious, scientific, technological and other traditions and productions created by the national or ethnic communities or unknown or unidentified authors, but passed on from generation to generation can fabulously be given legal recognition and protection under the copyright law as intellectual property. A wide range of traditions which form part of cultural heritage can be protected under this option. It can be argued that this kind of protection would provide traditional and indigenous communities with legal means to prevent any acts that distort the paternity rights of the community or affect their integrity as TK holders. However, in this aspect, identification of the author and duration of protection will be concerns in the copyright law. Though copyright accommodates the concept of joint authorship, copyright cannot be vested over the entire tribe or community since copyright does not recognize community ownership. Copyright does not recognize perpetual protection also. In such a situation until we develop a sui generis system or the concept of community ownership in the Indian copyright law, the customary law must prevail.\textsuperscript{226}

\textsuperscript{223} Section 13.
\textsuperscript{224} Article 66.
\textsuperscript{225} Article 10.
\textsuperscript{226} The Maori society in New Zealand provides example for a society that managed their resources and TK through customary rights. See, Lucy M. Moran, “Intellectual Property Law Protection for Traditional and Sacred "Folklife Expressions"—Will Remedies Become Available to Cultural Authors and Communities?”, \textit{U. BAL\textsc{t}L. INTELL. PROP. L.J.}, Vol. 6, 1998, p. 99.
4.2.3. Trademark

Trademarks are a way of protecting the use of marks, words, phrases, symbols, designs, or any combination of these associated with goods or service. Once a trademark is established, it can be used to identify and differentiate similar goods and services.

Trademarks can be used as a mechanism for the protection of some forms of indigenous art. The trademark can be used to refer to a tribe, an artist, or a combination of both. It has the flexibility to be used for all forms of folk art, including folk medicines. All goods manufactured and services offered by manufacturers, craftsmen, professionals and traders in native and indigenous communities, or by the bodies that represent them or in which they are grouped (co-operatives, guilds, etc), may be differentiated from each other with trademarks and service marks. Similarly, any manufacturer, craftsman, professional person or trader in a native or indigenous community, including the bodies that represent such persons or in which they are grouped may identify themselves with trade names. The trade name is also used to promote the activities of the person or entity that it identifies, both within and beyond the borders of the country of origin.

There are countries which provide collective trademarks and certification trademarks, the use of which allows for control of the quality of goods sold by members of the collective community. Such use is frequently recommended and actually followed in practice. Indigenous groups can get registration of trademarks and sell their products using this symbol to distinguish their brand and ensure its unique quality. Thus reputation

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227 Supra note 3.
228 Supra note 44.
230 Supra note 2 at 11.
of traditional knowledge can be safeguarded to a certain extent by trademark system though it will not protect the substance of such knowledge.\textsuperscript{231} It will assure defensive protection against acts of passing off non-genuine products or services.

Such use of mark can certainly establish product fidelity and protect against loss of reputation resulting from the use of the designation of traditional knowledge for derivatives products. It is very much like the use of trademarks even after the expiration of patents, particularly in case of pharmaceutical patents, to prolong product fidelity.

In the event, if a patent prohibits the indigenous community from selling the product, they could register the trademark and subsequently license out the use of the trademark in order to allow companies to ensure authenticity. Existing procedures could be performed on products and approved by a community as a method of adding value to a product with the potential to collect royalties on the products sold.

\textbf{4. 2. 4. Geographical Indication}

A geographical indication identifies goods as originating in a territory or region, or locality in a territory, where a given quality, reputation, or other characteristic of the goods are attributable to its geographical origin. Like trademarks, when associated with a product, it positively attributes a known quality to the product that is associated with a specific geographical location. The use of geographical indication is not permitted in respect of goods produced in region other than that specific geographical area.

A geographical indication does not require any element of novelty, originality or inventiveness since it specifically addresses goods produced or manufactured in a specific

\textsuperscript{231} Ibid.
region or locality. Like trademarks, geographical indications can also be used by a particular tribe or indigenous group to identify the tribe or group to the consumers. It can echo the communal sense as it is mainly judged by its location and method of production. It can be registered in the name of any association or group of people. It will thus indicate the place of origin and assure its unique characteristic and quality. A number of products that come from various regions are the result of traditional processes and knowledge implemented by one or more communities or group in a given region. Geographical indications and appellations of origin can be used to enhance the commercial value of natural, traditional and craft products of all kinds if their particular characteristics are attributed to their geographical origin. The special characteristics of those products may be symbolized by the indication of source used to identify the products. Better exploitation and promotion of traditional geographical indications would make it possible to afford better protection to the economic interests of the communities and regions of origin of the products.

Hence, the producers in the relevant region, indigenous or local community, can associate together to develop, maintain, register and protect their products bearing the geographical indication.

4.2.5. **Plant Varieties**

To be protected, a variety has to be different from known varieties and uniform and stable in its essential characteristics, even after a number of reproduction cycles. New plant products, cultivars and varieties of all species of plants may be protected under plant

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232 As in the case of *Aranmula Mirror of Kerala.*

233 Supra note 44.
breeders’ rights (PBR). Varieties developed by the possessors of TK could also be legally protected in this way. Improvements to varieties representing the natural state of plant diversity could also constitute new varieties eligible for protection.\footnote{Ibid.}

4.2.6. Undisclosed Information or Trade Secrets

Undisclosed information is a subject matter of IPR under the TRIPS agreement.\footnote{Under Article 39 of the TRIPS.} This branch of law protects undisclosed knowledge through secrecy and access agreements, which may also involve paying royalties to knowledge holders for access to and the use of their knowledge. Three elements are required for knowledge to be classified as a trade secret: the knowledge must have commercial value, the knowledge must not be in the public domain, and the knowledge is subject to reasonable efforts to maintain secrecy. A trade secret is only enforceable as long as it remains a secret. The object is to lawfully prevent information within the control of a person from being disclosed to, acquired by, or used by others without consent, in a manner contrary to honest commercial practices. But once the knowledge is released to the public, this option no longer exists.

This area of law is concerned with secrets of all kinds.\footnote{David Bainbridge, \textit{Intellectual Property}, 4th ed., Pitman Publishing, London, 1999, p. 285.} They may be of personal, technical, commercial or industrial nature. It covers any pattern, device, compilation, method, technique, recipes for food and beverages or process that gives a competitive advantage. It can be extended to protect potential ideas too. Since it covers a wide range of information, traditional knowledge that is maintained within a community by individuals or
groups can be considered a trade secret. Moreover, undisclosed information is considered as a subset of traditional knowledge by WIPO.\footnote{WIPO Report on Fact-finding Missions on Intellectual Property and Traditional Knowledge (1998-1999) published in April 2001.}

Trade secrets have no legal protection except in cases of “breach of confidence and other acts contrary to honest commercial practices.”\footnote{Trading Into the Future: The Introduction to the WTO, Intellectual Property Protection and Enforcement, World Trade Organization, August 2002 at <www.wto.org> and <http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm6_e.htm>, visited on October 16, 2008.} This means that one must be able to prove some form of malicious intent on the part of a contracting party as the cause for a trade secret’s diffusion to the public in order to be compensated for the loss of secrecy. As per Megarry J., the doctrine of confidence requires three elements:\footnote{Coco v. A N Clark (Engineers) Ltd., (1969) RPC 41.}

\begin{itemize}
\item[i.] The information must have necessary element of confidence about it
\item[ii.] The information must have been in circumstances importing an obligation of confidence, and
\item[iii.] There must be an unauthorized use of that information to the detriment of the party communicating it.
\end{itemize}

This branch of law has advantages over other kinds of intellectual property. For instance, while obtaining a patent destroys the secrecy of the information, trade secret protection does not. So, if the information is particularly difficult for others to reverse-engineer, trade secret protection can be more valuable than patent protection. Thus this area of law would help the indigenous and local communities to protect their confidential and undisclosed information as long as they can maintain the secrecy. Medicinal properties of plants, wound healing techniques, their inventions which may not satisfy the patent criteria etc. can be protected under this category of IPR.

According to Srividhya Ragavan, trade secret law is possibly the best form of protection for the traditional knowledge amongst the prevailing regimes of intellectual property. For example, trade secrets can vest an implied duty on a photographer not to sell or exhibit copies of a photograph without the consent of the photographed. It is the best form of intellectual property for protecting any kind of undisclosed information. The first step towards trade secret protection of the knowledge of the indigenous people is the realization of its value by the holders: they must be aware of their rights and long term benefits that will be gained if protected as a trade secret. It is necessary to publicize, within the sectors and communities concerned, the opportunities that the secrecy regime offers for controlling the dissemination and exploitation of TK. The holders of TK can also retain the right to decide whether or not to disclose the information. The protection of TK

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242 Supra note 3.
244 As done by the tribal group in Peru to protect its property from the California based Shaman Pharmaceuticals Inc. (See Donald E. Bierer, Thomas J. Carlson, and Steven R. King, “Shaman Pharmaceuticals: Integrating Indigenous Knowledge, Tropical Medicinal Plants, Medicine, Modern Science and Reciprocity into a Novel Drug Discovery,” <http://www.netsci.org/science/special/ feature11.html>, visited on September 15, 2008.
and its various manifestations through trade secrets has many advantages over other forms of IPRs. It is cheaper, quicker, and easier to implement. The legal requirements for proving a trade secret are flexible. Information not susceptible to patent or copyright protection can be protected under trade secrets. The cases of unauthorized use of information without permission of the community can be effectively prevented by suing for misappropriation of trade secrets.

However, there is no statutory framework in India to regulate protection of undisclosed information. It works within the framework of law of confidence. Hence, it is important to remember that knowledge that is considered a trade secret can be used by anyone if the knowledge leaks into the public domain, is independently discovered by another individual, or reverse engineered. Due to lack of legal entitlement, it is difficult to protect undisclosed information against misappropriation or breach of confidence by the bearer of the secret.

4. 2. 6. Combination of Intellectual Property Rights

Many authors share the view that if a single form of IPR is not suitable for protecting TK, forms of collective IPR can be developed and used. For instance, neighbouring rights provide moral and remunerative rights to performing artists to authorize copies of an artwork or a musical performance. A similar system that guarantees rights of the community over the traditional knowledge and establishes a mechanism for controlling access to and use by parties outside the community would help to develop an optimal policy for protection and use of traditional knowledge.

245 Supra note at 96.
Experts and critics who advocate for comprehensive protection of TK have propounded several theories. One such model is through moral right theory as suggested by Doris Estelle Long. It envisages recognition of moral rights of TK holders by acknowledging the source of a work and in protecting the integrity of TK holders in their work.\(^{246}\) Downes suggests that moral rights will enable recognition of the works of traditional people.\(^{247}\) N. S. Gopalakrishnan puts forward obligation theory casting obligation on the subsequent inventor or the IPR claimant to disclose the source of information.\(^{248}\) According to him, the owner of a new product based on traditional knowledge while claiming intellectual property protection must have the obligation to disclose to the public from where the knowledge was taken or information was obtained. The person who appropriates TK has an obligation to give evidence of the prior informed consent also.

Srividhya Ragavan argues that for the short-term, till the global community develop an adequate legal mechanism, a combination of moral rights and copyrights, coupled with trademarks and geographical indication can provide overlapping rights. For instance, a folklore can have a geographic indication indicating the region of origin. It may also have a trademark as a mark of the tribe, group, or sometimes as a mark owned by the artist. The songs, lyrics and tunes can also be protected under moral rights. Attempts to remix a song

\(^{248}\) Dr. N. S. Gopalakrishnan, “Protection Of Traditional Knowledge — The Challenges,” paper presented at the WIPO Conference held at Peking University, Beijing, June 15, 1999.
and other forms of tampering can be brought as violations under moral rights theories or under trade secret law.\textsuperscript{249}

Although the limitations of existing IP laws in the protection of TK cannot be undermined, conventional IP mechanisms can be used to protect TK and related resources. Existing intellectual property rights regime can be harnessed for the benefit of traditional knowledge holders in two ways: by positive as well as defensive protection. Positive protection of TK requires legal recognition of the rights of the TK holders over their TK. The positive protection entails the active assertion of IPRs or granting of exclusive property rights for TK with a view to exclude others from making specific forms of use of the protected TK or associated materials. As discussed above, the legal recognition of TK can be given and various forms of TK can be protected in existing or slightly modified and adapted existing IPR system. Alternatively, traditional knowledge which is in the public domain can be protected defensively also. Defensive protection does not entail the assertion of IP rights, but rather aims at preventing third parties from claiming rights in misappropriated subject matter.\textsuperscript{250} As WIPO suggested such protection would essentially provide legal means to restrain third parties from undertaking certain unauthorized acts that involve the use of the protected material.\textsuperscript{251} In other words, traditional knowledge holders can ensure that their open access knowledge is not appropriated by other people. Defensive protection can be ensured by making use of the existing legislation.

\textsuperscript{249} Supra note 3.


\textsuperscript{251} WIPO/GRTKF/IC/7/6.
Though positive protection can imply the adoption of new laws, the existing categories of intellectual property or a combination of various forms of intellectual property can be used to protect traditional knowledge, till we develop a comprehensive \textit{sui generis} legislative regime.