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Access to Knowledge and Traditional Knowledge Protection

The Indian experience

Sudhir Krishnaswamy

A key objective of the access to knowledge (hereafter ‘A2K’) movement is to liberate knowledge and culture goods from restrictive legal rules or market structures that result in inequitable distribution. Two types of arguments are advanced in support of this objective: first, philosophical arguments about the requirements of distributive justice and, second, aesthetic arguments about the nature of creativity and freedom that sustains knowledge and culture. Movements to protect and preserve traditional knowledge are often at odds with this central objective of the A2K movement as they push for restrictions on transfer and use of traditional knowledge and culture. They argue that categories like the ‘public domain’ and ‘access to knowledge’ are not adequately sensitive to the cultural and ethical settings in which traditional knowledge is created, preserved and regenerated as well as the political economy of knowledge transfers. These arguments may be described as the ‘culture’ and the ‘politics’ arguments, respectively. If these arguments are right, then the likelihood that traditional knowledge movements may participate in, and be inspired by, the A2K movement is limited or remote. In this chapter, I analytically review the development of traditional knowledge law and policy in India over the past two decades to show that these debates must critically inform and inflect the evolution of the A2K movement. While the goals of protecting traditional knowledge and enhancing access may seem irretrievably at odds, it is possible to align the culture and politics arguments for protecting traditional knowledge with a revised account of distributive justice and aesthetic freedoms that support the A2K movement.

In the academic literature on the protection of traditional knowledge, there are three types of arguments about the creation of new property regimes to protect traditional knowledge. Some argue that a new property right to protect traditional knowledge or culture is normatively or practically unsustainable.¹ Others argue that new property rights in traditional knowledge, even if possible, may be undesirable in the light of our commitments to promote

greater access to knowledge and culture. Two versions of this argument are made: first, by those who seek to advance ‘the development of pragmatic, cost effective solutions to the problem of cultural appropriation’² and, second, by those who are unable to reconcile their precommitment to expanding the commons or the public domain with the institution of new property regimes in the field of knowledge and culture.³ A third strand argues that property rights in traditional knowledge are imperative to remedy past wrongs and set right present-day inequitable distributions. Early contributors to this strand argued for *sui generis* property rights analogous to intellectual property rights,⁴ while more recent contributions recommend a modified bundle of property-type entitlements by which to protect cultural heritage.⁵

The tension between the public domain and the protection of traditional knowledge has been explored in various writings.⁶ More recently, Amy Kapczynski’s analysis of the framing of the A2K movement recognizes that the A2K discourse revolves around a common opposition to Intellectual Property Law’s excesses and hence to ‘the extent that groups concerned with farmers’ rights and traditional knowledge draw upon anti-technological discourses, this creates obvious possibilities for conflict with those advocates of free and open source software who see in new digital technologies a revolution in the making’.⁷ While some tensions arise from the differential role that technology plays in these varied fields, the core concern is with the normative foundations of political mobilization and the proper place of property and the public domain in these fields.⁸ Correa proposes that a reconciliation between the two movements is possible if ‘the majority of the actors in the A2K movement do not seek the abolition of all forms of intellectual property rights, but the proper balance between public and private interests’.⁹

In this chapter, I explore the tension between the push for traditional knowledge protection and the A2K movement against the background of debates on traditional knowledge policy in India. A careful survey of the past three decades of Indian domestic policy debates and legal reform gives us significant evidence with which to assess the various legal strategies and political motivations that animate the traditional knowledge arena. I argue that the most successful policy strategy for the protection of traditional knowledge that is sensitive to both political and cultural arguments is one that fundamentally challenges the intellectual property framework. The key distinction between A2K advocacy and traditional knowledge advocacy is that while the former is pushing back against the expansion of existing property rights, the latter is carving out zones where conventional property rights regimes will not operate. To that extent, both groups seek to build a robust public domain; however, the legal character of the public domain is being reconfigured by the new traditional knowledge regimes.

This review of the defensive and offensive strategies in traditional knowledge protection in India suggests that the critics of the A2K movement misunderstand

the interaction between the culture and politics arguments as it applies to the traditional knowledge context. The defensive strategies of patent opposition and archiving have largely failed to prevent the misappropriation of traditional knowledge. However, the introduction of a new Section 3(p) in the Patents Act, 1970, which adopts a public domain strategy, despite its restricted operation in the Indian domestic jurisdiction, may well have the most significant impact on misappropriation of traditional knowledge and may well provide the format in which international treaty making may proceed. The introduction of geographical indication (GI) and plant varieties legislation has not yet yielded tangible socioeconomic benefits to identified beneficiaries. This is not merely because of faulty design of specific laws and policies but is a result of the institutional arrangements that develop around new property entitlements. While adopting a national perspective to the creation of new property rights may suggest a benefit to developing countries, any evaluation of the distributive impacts at a sub-national level indicates that the most significant beneficiaries are the economically well-off sections, including traders, manufacturers and state agencies. Hence, I conclude that institutionalizing new property entitlements in the field of traditional knowledge will not yield the intended results. Traditional knowledge protection advocacy should then shift attention to the contours of the public domain that best satisfies the political and cultural arguments that provide the strongest justification for such protection.

In 'The Emergence of Traditional Knowledge Policy' section, I briefly outline the emergence of traditional knowledge protection concerns in Indian domestic policy and identify the key defensive and offensive strategies for the protection of traditional knowledge. I then examine in 'Proposals for a Traditional Knowledge Legislation' section the proposals for an omnibus traditional knowledge legal instrument at national and international levels. While India abandoned the omnibus approach, the World Intellectual Property Organization (WIPO) has persisted with the creation of an international instrument on traditional knowledge and culture. In the 'Defensive Approaches to Traditional Knowledge Protection' section, I examine the impact of defensive strategies adopted against the misappropriation of traditional knowledge. These include patent oppositions against patents on traditional knowledge, the development of archives to be used as prior art in patent examination and the recent amendments to the patent law to treat traditional knowledge as a non-patentable subject matter. I examine offensive strategies to benefit from intellectual property in the 'Offensive Approaches to Traditional Knowledge Protection' section. These include the efforts of bodies such as the Council of Scientific and Industrial Research (CSIR), National Innovation Foundation (NIF) and others to transform traditional knowledge into patentable inventions, the use of the Geographical Indications Act, 2005, and the Protection of Plant Variety and Farmers' Rights Act, 2001, to protect traditional knowledge and deliver commercial benefits to traditional knowledge holders.

The emergence of traditional knowledge policy

The current concern with traditional knowledge policy in India may be traced back to the early 1980s, when activists and intellectuals alleged that India's biodiversity and cultural heritage was being misappropriated by multinational pharmaceutical businesses. Patents granted on products derivative of the neem, turmeric and basmati plants were the visible targets of the misappropriation charge. As these protests gained momentum and various antiglobalization groups joined in, the government was compelled to come up with a strategy to combat 'biopiracy'.¹⁰

The Indian biopiracy debates brought patents in particular, and intellectual property more generally, to the forefront of everyday public concern. Both the English and Indian-language press relentlessly covered the emerging stories and personalities, thereby framing the terms of national policy debates in this area of law. The intellectual property debate came to be framed around three problems. First, at the level of the nation state, biopiracy was seen to be a form of neocolonialism that rode on the back of the Trade-Related Aspects of Intellectual Property (TRIPs) Agreement, which India as a post-colonial country should reject. Second, it was perceived to be a property problem – where the failure to recognize the entitlements over traditional knowledge and culture had to be remedied by the creation of a new property regime over this field of knowledge. Third, it was understood to be an ecological and developmental problem that required renewed efforts at conservation and revitalization of this knowledge and the community of practitioners by granting public recognition and conferring economic rewards. Invariably, the participants sought to resolve one or more of these problems by their public policy prescriptions. Often the inherent conflicts or inconsistencies in any policy initiative that sought to achieve a combination of these objectives were ignored in the rapid push forward to advance solutions to the growing public disquiet on these issues. Further, there was no extensive empirical investigation into the likely economic, social or cultural benefits of a traditional knowledge policy that responded to any of these problems. Participants in these debates advanced creative solutions that drew on their analysis of the problem of traditional knowledge protection and urged the state to back their favoured solution. Two proposals secured significant support: first, to file patent oppositions in the EU and US patent offices and to have these patents declared invalid and, second, to enact a domestic law protecting traditional knowledge.¹¹

The use of patent opposition procedures to protect the public domain was first initiated in the field of traditional knowledge protection. The Centre for Scientific and Industrial Research, a research institution of the Ministry of Science and Technology, Government of India, successfully challenged the turmeric and basmati patents. These were revoked and partially modified, respectively, by the United States Patent and Trademark Office (USPTO). Similarly, the patent granted on some characteristics of the neem plant was

revoked by the European Patent office after opposition on the grounds that these properties were known in India. This opposition was filed by non-governmental actors, namely, Dr Vandana Shiva, Director of the Delhi-based Research Foundation for Science, Technology and Ecology, Ms Magda Aelvoet of the Green Group in European Parliament and Ms Linda Bullard of the International Federation of Organic Agriculture Movements. They were assisted by Dr Fritz Dolder of the Faculty of Law in the University of Basel. The successful opposition proceedings against neem, basmati and turmeric patents did not have significant direct economic impact either by securing an export market or by ensuring freedom of operation for Indian companies or farmers in these countries. Hence, it is safe to conclude that the impact of these opposition proceedings was primarily symbolic as they conveyed the seriousness with which misappropriation of traditional knowledge was viewed in India.

Despite this initial success, opposition proceedings did not emerge as a significant strategy in the protection of traditional knowledge against misappropriation. The filing and granting of patents on what may be considered traditional knowledge continues unabated. A preliminary patent search carried out on an important anti-diabetic formulation in classical Ayurveda texts reveals that not less than forty recent patents have been granted by the USPTO.¹² If the 'misappropriation' of traditional knowledge continues unabated, then why have patent oppositions not been filed? While filing patent oppositions has developed into an important strategy in resisting drug, and more recently software, patents in India, the same is not true for traditional knowledge patents. The primary reason is that the patents on traditional knowledge are granted in the European Union, United States and Japan. An opposition strategy in these jurisdictions is too expensive to be pursued by the Government of India or non-governmental agencies. Second, some of the recent patents granted on traditional knowledge-based patents may be significant improvements or technological modifications of the existing knowledge, thereby avoiding the rules of anticipation in patent law. Third, it may be that the government was no longer concerned with opposing patents on traditional knowledge per se but only with who owned these patents. Therefore, by promoting a domestic patenting strategy where Indian researchers filed patents using traditional knowledge the government's primary concern was addressed. Fourth, the government was keen to develop archives and databases of traditional knowledge that could be used by patent offices worldwide to deny patents misappropriating traditional knowledge *carte blanche* rather than opposing them on a case-by-case basis.

The move away from patent opposition did not diminish policy initiatives in the field of traditional knowledge protection. Instead the Indian approach multiplied along diverse strategies that sought to achieve varied policy objectives¹³: equity considerations, conservation concerns, the preservation of traditional practices and culture, the prevention of appropriation by unauthorized parties of components of traditional knowledge and promotion

of its use and its importance in development. Given the diversity of these policy objectives, the ‘protection’ of traditional knowledge often requires the offensive use of Intellectual Property Law to secure the full scope of property rights protection; at other times, protection requires the defensive use of Intellectual Property Law to ensure that others may not misappropriate traditional knowledge. Where neither of these approaches is successful, advocates protecting traditional knowledge have proposed *sui generis* forms of protection. The Indian policy approach to traditional knowledge has developed along these trajectories. In the following section, I first explore the push for *sui generis* protection and in the subsequent sections turn to the defensive and offensive approach to traditional knowledge protection

Proposals for a traditional knowledge legislation

In this section, I will briefly consider the initiative to develop a *sui generis* traditional knowledge law in India and more recently at WIPO. In the mid 1990s, there was a rush to develop a new omnibus legal and policy framework to protect traditional knowledge.¹⁴ The efforts of different nodal ministries resulted in several drafts of domestic legislation. Two domestic proposals received considerable attention. Mr Pravin Anand, a leading Intellectual Property Law advocate in India, proposed a model where perpetual but limited rights could be granted for community-based traditional knowledge. Licences to use this knowledge could be granted on the payment of a small fee to a collective rights management society that would administer the right to reproduce the knowledge and prevent distortion and harmful use. The second model mooted by Prof. N. S. Gopalakrishnan¹⁵ involved an exclusive group right to manage all forms of traditional knowledge, folk science and technology. While this proposal does not elaborate the scope and content of the right, it does suggest that traditional knowledge holders shall have the right to restrain the commercial misappropriation of traditional knowledge through collective management trusts. The proposals present a striking contrast: while the former seeks to create a new property right with the right to exclude, the latter seeks to confer a limited right to restrain certain forms of commercial exploitation.

As neither of these legislative proposals is publicly available, these brief summaries are all I have to work with. Both proposals received critical attention at the ministerial level, but there has been no public process of deliberation or consultation and no progress on the legislative effort at the ministerial or parliamentary level. As several years have passed since these early debates, it now seems that this path of legislative development in domestic law is closed. The tepid conclusion of the domestic debate has now been eclipsed by the rapid developments in international forums.

Traditional knowledge protection has been on the agenda of several international institutions for over five decades. Various international forums have engaged with this agenda and generated legal instruments with differing legal status. The World Intellectual Property Organization–United Nations Educational, Scientific and Cultural Organization Model Law on Folklore (1989) is the first instrument to set out general principles to prevent the illicit exploitation of folklore in the context of intellectual property protection and culture. The International Labour Organization’s Indigenous and Tribal People’s Convention 169 (1989), while recognizing the unique claims of indigenous people within independent countries to their land and culture, identifies the need to incorporate their knowledge, technologies and value systems into the educational system.¹⁶ The focus of international concern then shifted from culture to genetic resources (GRs) with the introduction of the concept of ‘farmers’ rights’ in the Food and Agricultural Organization’s International Undertaking on Plant Genetic Resources (1992) and the requirement of approval of traditional knowledge holders with equitable sharing of benefits before their wider application in Article 8(j) in the Convention on Biological Diversity (1992). The United Nations Declaration on the Right of Indigenous People (2007) goes further and mandates that states must provide redress through effective mechanisms for cultural, intellectual, religious and spiritual property taken without free, prior and informed consent. The varied levels of protection to diverse groups of people under different international legal instruments prompted the establishment of an Inter-governmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (hereafter IGC) by WIPO to work towards an international legal instrument to ensure effective protection of traditional knowledge, traditional cultural expressions (TCEs) and genetic resources.

In the past decade, there has been an intense international effort to engage and transform existing institutions and to develop new policy frameworks that respond to A2K concerns. The relationship between A2K advocacy and the development of traditional knowledge treaty instruments at WIPO presents us with some insights into the influence of these discourses on each other. The Geneva Declaration on the Future of WIPO, 2004, was the product of an intense diplomatic effort by several NGOs over several months. The declaration observes that ‘humanity faces a global crisis in the governance of knowledge, technology and culture’¹⁷ and directs ‘WIPO ... to enable its members to understand the real economic and social consequences of excessive intellectual property protections, and the importance of striking a balance between the public domain and competition on the one hand, and the realm of property rights on the other’.¹⁸ The declaration makes no mention of the traditional knowledge issue and does not prescribe any institutional or normative approach to this problem. The WIPO Development Agenda adopted by the WIPO General Assembly in 2007 after several rounds of negotiations

does respond to traditional knowledge by stressing an institutional response to these concerns. Item 16 of the 45 Adopted Recommendations under the WIPO Development Agenda stresses the need to ‘consider the preservation of the public domain within WIPO’s normative processes and deepen the analysis of the implications and benefits of a rich and accessible public domain’¹⁹ in the norm-setting processes at WIPO. Item 18 goes further and urges the Inter-Governmental Committee on Traditional Knowledge at WIPO to ‘to accelerate the process on the protection of genetic resources, traditional knowledge and folklore, without prejudice to any outcome, including the possible development of an international instrument or instruments’.²⁰ There is no acknowledgement of the possible tension between sustaining a rich public domain and creating a new traditional knowledge treaty regime. The draft A2K treaty²¹ proposed by civil society groups recognizes ‘the need to overcome disparities in wealth, development, and access to knowledge resources’ and expresses a concern ‘about private misappropriation of social and public knowledge resources’.²² However, these concerns do not translate into substantive provisions that protect traditional knowledge. For example, the concern with misappropriation of traditional knowledge does not translate into an exclusion of traditional knowledge-derived patents in Article 4(1), which sets out an otherwise long list of exclusions of patentable subject matter. This cursory survey of the A2K discourse suggests that there is little appreciation of the conceptual and political linkages between the demand for a robust public domain and the urge to protect traditional knowledge.

Simultaneously, over the past decade, there has been an effort to develop a new international framework on traditional knowledge through the IGC process at WIPO.²³ The General Assembly has invested the Inter-Governmental Committee at WIPO with the responsibility to develop an international framework on traditional knowledge and TCEs. The early work of the IGC is best captured by the introduction of the Second Draft of the Policy Issues and Options paper which notes that

Actual experience with TCEs/EoF protection has shown that it is unlikely that any single ‘one-size-fits-all’ or ‘universal’ international template will be found to protect TCEs comprehensively in a manner that suits the national priorities, legal and cultural environment, and needs of traditional communities in all countries. Forms of traditional creative expression and customary means of regulating their use, transmission, protection and preservation are diverse. Concerns have been expressed that attempts to codify and institutionalize protection of ‘cultural identity’ are undesirable and that a flexible and inclusive approach is preferable.²⁴

However, the adoption of the Development Agenda at WIPO led to a renewed mandate to the IGC to ‘submit to the 2011 General Assembly the text (or texts) of an international legal instrument (or instruments) which will ensure the effective protection of GRs, TK and TCEs. The General Assembly in 2011 will decide on convening a Diplomatic Conference’.²⁵ This renewed focus on

creating new international norms to protect traditional knowledge has yielded significant progress. At the conclusion of the 17th session, the secretariat has published three documents that present in advanced form legal protection for TCEs,²⁶ traditional knowledge²⁷ and genetic resources.²⁸ Though I cannot review these documents in detail in this chapter, they anticipate significant problems in reconciling traditional knowledge protection with existing intellectual property protection and sustaining a robust public domain. In this debate, the participants have switched hats: Japan and the United States warn against denuding the public domain, while India and Brazil push for stronger protections. There is no doubt that the IGC process has worked with renewed vigour due to the effort of the A2K movement to approve the Development Agenda at the WIPO General Assembly. However, there are strains between the proposals at the IGC and the core commitments of the A2K movement to promote unhindered access to culture and knowledge.

As discussed in this section, WIPO has persisted with an omnibus approach to traditional knowledge protection in order to develop an international convention to address all policy concerns in this area. In India, this omnibus approach has now fragmented in an attempt to achieve similar policy objectives through amendments to several existing laws and by developing new legislation in some fields. I will now turn to these initiatives in the next section.

Defensive approaches to traditional knowledge protection

A defensive approach to traditional knowledge protection seeks to ensure that the use and exploitation of traditional knowledge does not take place without the consent of the holders of this knowledge. A further objective would be to ensure that no intellectual property rights are created over traditional knowledge as this facilitates its misappropriation. The main focus of the defensive approach has been the problem of biopiracy of genetic resources and associated knowledge. As a result, the legal strategy has evolved around patent law reform and the creation of registers, databases and archives to prevent misappropriation and formulation of rules of access and benefit sharing. I will look to each of these in turn and assess their efficacy as a defensive strategy.

Patent law reform

The Patents Act, 1970, was amended in 2002 to introduce provisions that secured a defensive protection of traditional knowledge. Section 3 of the Patents Act, 1970, defines the scope of patentable subject matter. Section 3(p) was introduced, which provided that an invention that is ‘in effect, traditional knowledge, or which is an aggregation or duplication of known properties of

traditionally known component or components²⁹ is not an invention within the meaning of the Act. This exclusion of patentable subject matter is broad and relatively indeterminate in its scope. There is no definition of traditional knowledge in the Act or in any other domestic legislation. The courts will have to decide whether this phrase refers only to published materials or to knowledge that may be preserved in oral or pictorial traditions. Further, the courts will need to determine the number of years that knowledge must exist in order for it to be described as 'traditional'. Even if these preliminary interpretive problems were resolved, the court would have to go further to determine whether the bar in Section 3(p) is absolute, thereby rendering any invention that relies on traditional knowledge to be non-patentable, or relative, so that inventions that use traditional knowledge but nevertheless display a level of creativity and inventiveness would escape the bar. A third concern for the court to resolve is to effectively determine the level of inventiveness while comparing the different epistemological foundations of traditional knowledge and the knowledge format in which the patent application is made. In some ways, the court will have to mould the scope and effect of Section 3(p) in the manner in which Section 3(d) is presently being shaped by the courts.³⁰

Sections 25(1)(k) and 25(2)(k) provide for any party to file oppositions to a patent application prior to grant of the patent on the grounds that 'the invention ... is anticipated having regard to the knowledge oral or otherwise, available within any local or indigenous community in India or elsewhere.'³¹ Section 64(1)(q) provides that any person interested or the Central Government may file an application to revoke a patent that has already been granted on the same grounds. On a plain reading of these sections, it is unclear whether they seek to prevent the misappropriation of the 'traditional knowledge' sought to be excluded by Section 3(p) from patentability or deals with a different body of knowledge. This is particularly confusing as the definition of traditional knowledge adopted in academic literature more closely resembles that used in Sections 25 and 64.

The only material difference between the phrasing of the two sections is that Section 3(p) bars those inventions that are *in effect* traditional knowledge, while Sections 25 and 64 refer to inventions that are *anticipated* by traditional knowledge. Hence, it may be useful to reconcile the two provisions by concluding that Section 3(p) only bars such inventions that make no creative or transformative use of traditional knowledge. Sections 25 and 64 go further and modify the non-obviousness limb of patent examination by requiring that the rules of anticipation accommodate these forms of knowledge that were previously neglected in patent law analysis.

It is too early to assess the effect of the amendments to the patent law on the misappropriation of traditional knowledge. There has been no empirical research conducted on the number of applications refused on the grounds of

Section 3(p) or the number of opposition or revocation proceedings on the new anticipation rules regarding traditional knowledge. There have been too few reported cases where these issues have been agitated before the Intellectual Property Appellate Board or the High Courts and Supreme Court. Hence, this section concludes by noting that these strong defensive provisions in the amended Patents Act have the potential significantly to prevent misappropriation if there is sufficient awareness in the Patent Office and a body of interested business and civil society actors who will challenge such patents using the opposition and revocation proceedings.

Creating traditional knowledge archives

The creation of archives for the preservation of cultural artefacts and other cultural products has a history dating back to the days of colonial exploration and discovery. Independent India persisted with similar policies of maintaining archives and museums all over the country to showcase its historical and cultural inheritance.³² The 1980s brought a new policy impetus to the task of creating archives. The preservation and conservation of traditional knowledge and its associated biodiversity came to be recognized as an ecological and economic imperative in the face of rapid deterioration of the habitats and livelihoods of the affected communities and the knowledge base sustained in these environments. For example, the breakdown in the social systems of patronage and the inter-generational transfer of knowledge has led to irreversible loss of un-codified folk medicinal knowledge.³³ The ecological concern for preserving biodiversity has driven the conservation agenda to the forefront of environmental movements all over the world. With increased attention to the beneficial use of biodiversity resources by local communities and new evidence of its misappropriation, the conservation agenda was extended to serve as a policy instrument against the appropriation of traditional knowledge.

There have been several initiatives to document traditional knowledge in India. The National Mission on Manuscripts under the Ministry of Culture has developed a bibliographic database of manuscripts over seventy-five years of age with aesthetic, intellectual or medical features that merit preservation. Further, they seek to digitize select manuscript collections to aid their preservation. While the National Mission on Manuscripts did not initially set out to act against misappropriation of traditional knowledge, it eventually had to contend with this possibility arising out of the database it developed. The Traditional Knowledge Digital Library (TKDL) supported by the Ministry of Science and Technology and the Ministry for Indian Systems of Medicine developed a database in which codified texts of Indian systems of medicine were translated into Western pharmacological categories so that these databases act as a prior art in the patent search process. These databases were set up primarily to conserve knowledge and to prevent

misappropriation of traditional knowledge. In addition such databases may catalyze research into traditional knowledge by domestic research scientists. The NIF database developed by the Honey Bee Network and the Farmers Rights Information System developed by the M. S. Swaminathan Research Foundation (MSSRF) are prominent examples of informal civil society-led centralized databases of traditional knowledge innovation and agricultural practices. The Navadanya initiative of the Research Foundation for Science Technology and Ecology invites farmers to assert their sovereignty over seeds and voluntarily pledge them to a centralized repository that will maintain these seeds in trust. These databases were set up to incubate and record local innovation that may be developed into products or commodities capable of formal intellectual property protection. A third form of database is the local community-controlled traditional knowledge database. The development of biodiversity databases at the village level by the National Biodiversity Authority acting under the Biological Diversity Act, 2002, is an example of a statutory mechanism for the creation of local storehouses of biodiversity and archives of local practices. The Foundation for the Revitalization of Local Health Traditions (hereafter FRLHT) has created Community Knowledge Registers (CKR) to document local health practices in order to revitalize these traditions by promoting their vigorous practice. A secondary objective for these registers is that they may serve as prior art in patent examinations. Third, the register may serve as the foundation for research and development in the field of traditional medicine and advance the frontiers of human knowledge in these fields.

As is obvious from the above account, the databases of traditional knowledge are varied in their objectives, their approach to conservation and the institutional arrangements. While some databases store physical embodiments of traditional knowledge, such as seeds and manuscripts, others maintain digital copies or digital stores of translated and enhanced traditional knowledge. Second, while some databases are designed as centralized repositories at the regional or national level, a large number of databases are local community controlled. Third, statutory backing is available for biodiversity-related databases, but the vast majority of databases are accumulated through private law mechanisms of voluntary pledges and gifts. Finally, while some databases are established and maintained by state agencies – at the central, state or local government levels – a majority of databases are maintained by private non-governmental civil society organizations or local collectives that may not have any particular legal form and identity.

With this diversity of features, it is difficult to characterize accurately the impact of this activity on the ownership and control of traditional knowledge in India. While an in-depth empirical study of all these various initiatives is beyond the scope of this chapter, I have carried out empirical work at two of these institutions, namely, the National Mission on Manuscripts and the

Foundation for Revitalization of Local Health Traditions. My analysis of the legal and policy concerns regarding A2K in these two initiatives is organized in two parts³⁴: first, I will examine the issues relating to the access to traditional knowledge. Then I will assess the legal status of the database and its legal impact on intellectual property rights.

Accessing traditional knowledge

The traditional knowledge sought to be incorporated into an archive or database may be of three types. First, the knowledge may be in the public domain and readily accessible through written texts or commonly available information. Second, the knowledge may be available in existing public libraries and archives and access to this knowledge may be secured through inter-departmental communication. Third, the knowledge may be owned or possessed by private parties individually or collectively. It is access to the third type of knowledge that gives rise to serious policy concerns.

Statutes such as the Biological Diversity Act, 2002, police the access to genetic materials and put in place a regulatory framework to ensure that ethical considerations are incorporated into access protocols. In the absence of a general legal framework for access to other forms of traditional knowledge, this is regulated by the general law of contract and by the law of bailment, where materials are transferred in the absence of written contracts. Several statutes do not restrict access to traditional knowledge but provide for consequences arising out of such access. The Protection of Plant Varieties and Farmers Rights Act, 2001, does not regulate access to traditional knowledge but puts in process a method by which concerned individuals and groups may claim the right to benefit sharing from such registrations. The Patents Act, 1970, similarly provides that the source and origin of biological material used in an invention must be mentioned in the specification.

From the discussion above, it is clear that database creation in India has not adopted a nuanced legal position attentive to the legal and ethical principles that should apply in such cases. While the ordinary legal rules relating to pledges, bailment or gift will apply to the tangible property transferred in such cases, it is difficult to ascertain the legal status of the intangible property transferred to create these databases without a careful assessment of the facts and circumstances of the particular transfers. In any event, there has been concerted policy development to identify and respond to these key concerns at a national level.

Legal status of the archive/database

I may begin by paying some attention to the use of the term ‘registers’ to describe the databases created by FRLHT. Most often registers are documents maintained by the state that confer legal rights on the persons whose names

are included in the register. For example, we have an elaborate system of land registrations that operates as a primary evidence of a person's claim over land. The Plant Variety Register is another example of a register that confers rights to persons whose claims over a variety have been recognized. Databases, however, are a mere collection of data whereby information from diverse sources is collated and organized in a systematic fashion. They confer no legal interest on the persons whose names are entered and may be protected to some extent by Indian copyright laws.³⁵

Presently, the creation of 'registers' and databases of traditional medicinal knowledge is not covered under any specific legislation. The Plant Biodiversity Registers made under the Rules 12(13) and 22(8) of the Biological Diversity Rules, 2004, are registers that record 'local biological resources, their medicinal or any other use and any other traditional knowledge associated with them'. While the rules provide for the method and manner of collection of such information and its custodianship, they are silent on the intangible property rights that may arise from such a register. To that extent the CKR, which contains information that forms a subset of the information contained in a People's Biodiversity Register (PBR), enjoys a similar legal status to that of the PBR as far as the protection of intangible knowledge is concerned. While it is argued that both these registers in effect transfer traditional knowledge from the private domain into the public domain, this legal consequence is expressly denied by institutional actors in the field.

While the CKR is termed a 'register', it is for all legal purposes a database of folk medicinal knowledge and practices. The primary objective of the CKR database is to contribute to the conservation and revitalization of the local health traditions and traditional medicinal knowledge. This objective is well served by the elaborate database format and validation process developed by FRLHT and implemented with the assistance of civil society organizations on the ground. The secondary objective of the CKR database is to operate as prior art in the patent examination process. For this objective to be met, the database must be accessible and intelligible to a person 'skilled in the arts' who is responsible for examining patent applications. In its present form, the CKR database does not adequately achieve this objective.

In the case of CKRs, the database is in the local language and preserved in the handwritten form in the custody of the local authority. These measures are designed to hinder the circulation of the database and avoid the threat that the database facilitates misappropriation of the traditional folk medicinal knowledge. However, these features of the CKR database prevent it from being treated as prior art in the patent examination sense. Hence, the CKR database may adopt only one defensive intellectual property strategy: either it may be prior art in the patent examination process for which it will need to be published in the appropriate form and made available to the patent examiners or it has limited circulation and does not facilitate exploitation. It seems that

the CKR initiative has opted for the latter position. This may well be the appropriate choice given that the TKDL database and other databases that were meant to serve as prior art have yet effectively to achieve that objective. In these circumstances, it is appropriate for the CKR database to perform its primary function of conservation and revitalization of traditional medicine and secure protection against misappropriation by getting suitable changes to the legislative framework in India.

In order to appreciate the need to clarify the status of traditional knowledge databases in India, it is useful to examine the approach adopted in Peru.³⁶ The collective knowledge of indigenous peoples may be entered in three types of registers. First, the Public National Register, which documents knowledge in the public domain and is open to all third parties. Second, the Confidential National Register, which contains knowledge in the private domain that may not be consulted by third parties. Any person may apply to get his or her knowledge registered in either of these two registers, and a federal agency called National Institute for the Defense of Competition and the Protection of Intellectual Property (INDECOPI) maintains them and regulates access. Third, local registers, which are organized by indigenous groups in accordance with their practice and customs. These registers are under the custodianship of the local community and governed by the customary laws and traditions of the community. Peruvian law clearly distinguishes between the database and the register, thereby granting legal certainty to this area of practice.

Hence, there is an urgent need to modify the database initiatives in India to assess seriously whether some traditional knowledge is private knowledge that is presently not available in the public domain. Hence, the register must distinguish between public and private domain knowledge and further distinguish between secret knowledge in the hands of communities. It is not enough to ensure that accessing this knowledge requires full prior informed consent. All exchanges of information from the collection to the publication stage should be bound by confidentiality obligations borne by the person recording the information and subsequently the custodian of the database. By maintaining the legal confidentiality of this information, the database agency will not prejudice future claims of the holder/owners of traditional knowledge to commercially benefit from their knowledge. It is necessary to go beyond the present framework adopted in the Biological Diversity Act, 2002, where Sections 19 and 20 seek to protect the transfer of knowledge and any biological resource outside the country but leave unregulated the commercial utilization of a resource within the country. The compulsory public domain strategy adopted under this legislation is seen to be necessary to achieve this objective. Instead India may choose to introduce new legislation, and amend existing legislation, in line with the Peruvian model where three databases with varied legal regimes are created that reflect the varied concerns of different stakeholders.

Second, it is necessary to bring about policy and legislative reform that accord to databases the legal status of ‘registers’ of traditional knowledge. By conferring on the database this legal protection, the register may become *prima facie* evidence of a person’s claim over the knowledge and thereby assist challenges to patents and other misappropriations of traditional knowledge. The Biological Diversity Act, 2002, has provided for the creation of biodiversity registers but does not provide for a legal status for the entries recorded in such registers. The enactment of a Traditional Knowledge Registers Act provides for a legal status for the registers in one of two ways: first, the register may be given the status of a declarative register that recognizes that rights over traditional medicinal knowledge derive from ancestral rights rather than any acts of government. Such a register recognizes the rights that belong to traditional knowledge holders by inclusion in the register. Second, the register may be given the status of a constitutive register that puts the public on notice of the property rights over traditional medicinal knowledge enjoyed by its present holders.³⁷ The creation of such a registration framework would require the adoption of due process rules that allow applicants to be given a full opportunity to register their claims and further apply rules of priority and innovation to allow the settlement of disputes between the applicants. A legislative framework that puts in place such a registration regime would mirror the Geographical Indications Registry to a certain extent. The registration process should adopt the classification methodology used in Indian Systems of Medicine as developed by FRLHT in its documentation process for the CKR.

In this section, I have reviewed two defensive strategies adopted in India for the protection of traditional knowledge. I am unable to ascertain the impact of Section 3(p)’s exclusion of traditional knowledge from patentable subject matter as inadequate data is available at this point in time. I also argue that the failure to develop a legal framework to govern the various database initiatives has resulted in serious legal and ethical problems related to the process of creation as well as their ability to operate as prior art in the patent examination process.

Offensive approaches to traditional knowledge protection

In the previous section, I reviewed defensive approaches to traditional knowledge protection. In this section, I turn to policy initiatives that seek to develop property rights in traditional knowledge by facilitating individuals and communities acting in their own interest to secure conventional intellectual property protection or a suitably designed *sui generis* property regime. Such policies attempt to accommodate traditional knowledge within existing legal formats or, if that proves too difficult, to modify the knowledge suitably to ensure that property protection is possible. In India, two offensive strategies have developed in the

past decade: first, the emphasis on state-led patenting of traditional knowledge and, second, the state-led registration of GRs. I will look to each of these in turn.

By focusing on communities and individuals who operate out of the spotlight of urban intellectual property lawyers, organizations such as Sristi and the National Innovation Foundation (NIF) attempt to secure to innovators the fruits of intellectual property protection and venture capital funding and nurture enterprises to scale. Further the intensive patenting efforts of the Central Scientific and Industrial Research Labs use traditional knowledge as the base for further research and innovation, and this has led to the grant of several patents to scientists from these institutions.

Such an approach supposes the problem not to be with a property regime *per se* but only with who the beneficiaries of such a regime are and the terms and conditions under which one secures legal protection. Therefore, it is assumed that if the Indian state or other civil society actors were to develop facilitating structures that allow previously excluded peoples to access these property regimes, the market would take care of the rest. Ironically, the role of intermediaries, like the Traditional Knowledge Digital Library (TKDL) and the Foundation for Revitalization of Local Health Traditions, in generating databases of traditional knowledge or *ex situ* and *in situ* conservation sites for biodiversity, whether motivated by developmental or ecological concerns, may have inadvertently obviated the possibility of protection under existing patent rules.

The Trade-Related Intellectual Property Rights Agreement, 1994, recognized the right of members to protect 'indications which identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin'.³⁸ Though the protection of GIs has no necessary link to the protection of traditional knowledge, the Geographical Indications Act, 2002, was enacted in India to prevent the misappropriation and use of well-known product names such as Darjeeling tea and basmati rice and as a means to protect products that had developed in regional niches nurtured by local communities over the years.³⁹ However, recent developments in GI registration suggest that the creation of a new property right has unleashed varied interests that are not necessarily aligned with the objectives behind the Act.

As of 8 February 2011, 149 GIs have been registered, of which only four applications are from foreign countries. There are two key ingredients in a GI application: the applicant and the authorized user. The applicant is usually a collective of producers or any organization representing its interests. An authorized user is a producer or marketing company who registers themselves at the GI registry on the satisfaction of the standards set down by the authority. In a majority of applications before the GI registry, the applicant is a state department or a state agency.⁴⁰ Hence, it appears that the state stands in for the community, and one may claim that traditional knowledge is protected under the GI Law only if we conflate the community's interests with those of the state. The capacity

of the state to act as a neutral guide to local producers enabling them move up the value chain in other spheres of economic activity in India is seriously doubted. Further, the state's capacity to act as a custodian of natural or cultural resources has been modest. In this context, the grant of several GIs to the state as an attempt to protect traditional knowledge is symptomatic of the neo-colonialist state-centric discourse that traditional knowledge debates in India are trapped in.

In order for a GI Law to have significant welfare effects, one needs to ensure significant levels of collective action across the supply chain maintaining high levels of trust, which requires a fine balance between competition and cooperation.⁴¹ The presence of the state as the applicant and proprietor of the GI will create a more complex set of incentives in this sector. In any event, the formation of a club of producers who determine the production standards to be set out in the specification of the GI inevitably includes or excludes certain parties. In the case of the Feni GI, the debate is between cashew feni distillers, who are included, and coconut feni distillers, who are excluded.⁴² Similar issues arise with the inclusion of power loom weavers, together with handloom weavers in the case of the Pochampalli Silks GI.

In this section, I have examined whether offensive strategies for traditional knowledge protection have yielded significant economic or developmental benefits in India. The aggressive patent strategy may have assuaged national pride by enhancing CSIR's patent ranking internationally, but this initiative has not yielded any significant rewards. The NIF has made incremental progress as an incubator of some traditional knowledge-based innovations, but they are yet to produce a high-impact, national-scale innovation product. The GI Law has been monopolized by state or quasi-state agencies, which have secured the overwhelming majority of registrations under the law. Moreover, the process of formulating specifications in these applications may well end up excluding the most marginalized producers in the production chain, thereby denying them any potential benefits. Even among authorized users, significant efforts are necessary to ensure that the self-governance structures evolved by users, whether trusts, associations or societies, which manage the GI, function in a democratic and accountable fashion and with a great deal of legal ingenuity and insight into the political economy of communal creations.⁴³

Conclusion

The debate on traditional knowledge protection in India broadly mirrors the multi-dimensional character of the debate on the regulation of information, knowledge and cultural resources.⁴⁴ However, the Indian policy debate on the protection of traditional knowledge has excessively characterized the problem to be an extension of colonialism, where wealthy Western nations

and multinational companies are seen to be expropriating 'our' indigenous knowledge for immense profit. The moral panic around neem, basmati and turmeric, among others, bears testimony to this view. The biopiracy agitators fail to interrogate the nationalist premise on which this argument stands. Is the threat of biopiracy merely one that comes from without? Would we be content if it were established that Indian pharmaceutical companies exploited this knowledge? The strong nationalist posture adopted obscures the effect of policies, which ostensibly protect national cultural resources but effectively transfer control over such resources to an elite state bureaucracy.

The creation of new property interests in traditional knowledge coupled with the aggressive patenting strategy adopted by CSIR and other government labs have to a certain extent conveyed the ownership over traditional knowledge to these state entities or to employees of these institutions. The number of filings of GIs by state agencies such as Handloom Promotion Corporations and Agricultural Export Promotion Agencies will result in quasi-governmental agencies claiming intangible property rights over a wide range of traditional knowledge products, ranging from seeds to handicrafts. Thus the effective nationalization of traditional knowledge would rival the nineteenth and twentieth century transfers of natural resources, such as forests to the hands of the colonial forest department. Gadgil and Guha have explored the scale and perversion of this expropriation whereby state bureaucrats developed into a breed of rent-seekers over forest lands, to the exclusion of tribal communities.⁴⁵ The enactment of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, is a belated recognition of the failure of state regulation of forests to the exclusion of its original inhabitants and an attempt to correct this historical wrong. There is little evidence to suggest that the state bureaucracies constituted by the recently enacted Biological Diversity Act of 2002 will conduct themselves any differently. Second, art historians remind us of the role of active borrowing (read copying!) in the creation of weaving and art traditions such as ikat, as well as the influence of political movements such as Vinoba Bhave's Bhoodan movement on the aesthetic practices of the Pochampalli silk weavers. By freezing this tradition within an intellectual property format, we hinder this rich process of creativity enabled by a culture of sharing and borrowing. Hence, a property strategy threatens to ossify cultural creativity and starve the commons on which such knowledge is built.

The defensive strategies adopted, so far as they have relied on the aggressive protection of the public domain by refusing to grant property rights over traditional knowledge, may well ensure that no further misappropriation of traditional knowledge takes place while its continued use and revitalization may proceed unhindered. The use of effectively designed databases and archives as prior art may contribute to this defensive strategy and provide the knowledge foundations for the sustenance and renewal of these traditions.

This assessment of the historical evolution of traditional knowledge policy in India suggests that it is unnecessary to assume that access to knowledge and

traditional knowledge policy are irreconcilable. A careful review of the policy experience in India suggests that this opposition is neither necessary nor evident in the Indian experience. The review, in the sections above, of an intellectual property-based strategy for the protection of traditional knowledge has not effectively redistributed the benefits to the holders and practitioners of traditional knowledge. Further, it does not directly revitalize or resurrect the cultural practices that create traditional knowledge and may even hinder them. This chapter explains the nature and circumstances of this failure in Indian traditional knowledge policy. These conclusions invite a critical enquiry into the normative basis for the claim that the solution to traditional knowledge protection is more intellectual property, and I hope to focus on this issue in my future work.

Notes

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