ISSN: 0128-7702
Pertanika J. Soc. Sci. & Hum. **20 (S)**: 11 - 22 (2012)

Traditional Knowledge Documentation: Preventing or Promoting Biopiracy

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ABSTRACT

One of the issues currently being addressed concerning the management of biological resources is the protection of indigenous peoples' resources and traditional knowledge. The reason is the existing legal frameworks especially with regards to intellectual property (IPR) system do not provide adequate protection for the indigenous peoples' resources and knowledge. While the Convention on Biological Diversity (CBD) has introduced an obligation to seek prior informed consent for the use of any traditional knowledge and ensure benefit-sharing, the existing IPR system does not have the requirement for benefit-sharing. The IPR system was also not designed for the protection of traditional knowledge in its original form (i.e. in its oral and non-documentation existence). Such features make the knowledge inaccessible for inspection by the patent officers and therefore "facilitate" biopiracy when patents were granted on innovations that were based on existing knowledge. As a consequence, traditional knowledge documentation (TKD) project has been accepted as an interim tool to overcome the shortcomings of the existing legal framework. This paper evaluates the objectives, form and required framework for TKD. As a case study, this paper specifically looks at the TKD projects in India and identifies the issues and lessons that can be learnt from the Indian experience. As a comparison, similar efforts by Malaysia's Sarawak Biodiversity Centre are also studied. This paper will demonstrate the weaknesses of the existing TKD projects that could eventually lead to "promotion" instead of "prevention" of biopiracy.

Keywords: Traditional knowledge, indigenous peoples, biological resources, biopiracy, intellectual property

INTRODUCTION TO THE LEGAL FRAMEWORK

Although traditional knowledge plays, a vital role in the daily lives of the vast majority of people, the international community has only recently sought to recognise and protect traditional knowledge. Such protections were established under the United Nations Convention on Biological Diversity 1992 (CBD). The CBD sets out principles governing access to genetic resources and the knowledge associated with them, and the sharing of benefits arising from such access (ABS). In addition to ensure the ABS, Article 1 also establishes the two further objectives of the CBD, namely, the conservation of biological diversity and the sustainable use of its components.

Article 8(j) of the CBD is an important provision in the context of protecting traditional knowledge. The provision is specifically concerned with the traditional knowledge and recognises indigenous peoples' status as both

Received: 21 June 2011
Accepted: 5 December 2011
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providers of knowledge and as conservers of biodiversity. Due to indigenous peoples' contributions in both the knowledge and conservation of biodiversity, Article 8(j) states that their contributions must be "respected" and consent must be sought before such knowledge can be disseminated or used, as well as 'encouraging' the equitable sharing of the benefits. The provision calls upon states to include such communities in negotiation for benefit-sharing and prior, informed consent (PIC) mechanism. Even though a state is not obligated to unilaterally dictate how benefits should be shared in private transactions, the state has an obligation to facilitate the equitable sharing of benefits. Article 8(j) seeks to protect traditional knowledge, by establishing obligations for the recognition of traditional knowledge and requirements concerning PIC, as well as attempting to ensure equitable ABS.

The relationship between the intellectual property rights' (IPR) system under the Trade-Related Aspects of Intellectual Property Rights Agreement (TRIPS Agreement) and the ABS principles of CBD, in the context of traditional knowledge, are of particular importance. While many scholars argue that IPR is theoretically an important method of protection for traditional knowledge (Combe, 1998; Brush & Stabinsky, 1996; Anuradha, 1997; Bengwayan, 2003; Tobin, 1997), the existing IPR system was not designed for the protection of traditional knowledge in its original form, often consisting of undocumented and oral knowledge.

Before proceeding further, it is worth mentioning here that the relevant IPR protection issue is patent under Article 27 of the TRIPS Agreement. Article 27(1) mandates patent protection for all new products and processes generated using any fields of technology, including biotechnology. Pursuant to Article 27 TRIPS, an invention is patentable upon fulfilment of three conditions, namely if it is new; involves an inventive step; and is industrially applicable. The three aforementioned conditions are currently applied to any invention under section 11 of the Malaysian Patents Act 1983 (MPA). An invention is only considered to be new if it is not anticipated by prior art. The term 'prior art' applies to any worldwide disclosure of a work to the public through written publication, oral disclosure, by use or in any other way, before the priority date of the application for patent. The contents of a domestic patent application having an earlier priority date are also considered to be prior art (MPA, S14(2). The MPA also provides a list of inventions that are not patentable, despite meeting the above mentioned prerequisites (Azmi, 2000, 2002).

The existing IPR law does not explicitly protect traditional knowledge, but it seeks to prevent acts of misappropriation of traditional knowledge by inventors. Any inventions created based upon the existing knowledge, including traditional knowledge, are not patentable because it is said to be anticipated by prior art. However, the nature of traditional knowledge in its original form, often undocumented and oral knowledge, makes the determination of its existence as prior art by patent officers difficult, if not impossible. As a result, patents have been granted on inventions that were based upon existing knowledge, rather than new knowledge (Prakash, 2005; Devraj, 2000). Arguably, the existing patent application legal framework can be viewed as 'facilitating' biopiracy.

The "turmeric" and "basmati" cases in India reflect the weaknesses of the existing IPR system when patent protections are granted to 'new' products of biotechnology that are based upon existing knowledge, rather than new knowledge. A lthough contemporary provisions in the patent system provide possible revocation of such patents (Article 32 TRIPS & Section 33C MPA), the patenting of products arising from the existing knowledge, particularly indigenous knowledge, is almost impossible to prevent (Commission on Intellectual Property Rights, 2002). In the absence of any accessible written record, a patent examiner is often unable to access any information that would challenge the inherent novelty or inventiveness of an application based on traditional knowledge.

Furthermore, the existing IPR system does not have requirements for benefit-sharing as provided in the CBD. As a result, an ongoing debate exists regarding the amendment of the TRIPS Agreement in order to impose PIC and benefit-sharing; and strengthen the link between the TRIPS Agreement and the CBD (Nordin, 2010a, 2010b). During the review of Article 27(3)(b) at the TRIPS Council Meetings in 1999 and 2000, many developing states recognised the conflict and demanded that explicit provisions should be included in the TRIPS Agreement to: (i) prevent the grant of patents to existing traditional knowledge; and (ii) ensure the sharing of benefits derived from the patents granted to new inventions based on traditional knowledge. In response, the developed states argued that the existing provisions on patenting are adequate and the problem arises from the absence of properly documented traditional knowledge are readily available to patent officers in order to perform searches regarding the existence of such knowledge as prior art (Gopalakrishnan, 2005).

The debate continued during the WTO Ministerial Meeting in Doha, resulting the WTO requested the TRIPS Council to consider the potential conflicts between Article 27(3)(b) and the CBD; and to provide express provisions in the TRIPS Agreement stipulating the disclosure of the information in the patent specification, including the origin of the genetic resources and the traditional knowledge associated with them, and the benefit-sharing requirement. Developed states opposed this proposal, on the basis that it would require new conditions for the grant of patent and the identification of the source; and geographical origin of genetic resources was not always practical. Even though the European Union agreed to the need for disclosure of information, it joined the USA in arguing that it should not be made a condition precedent for the grant of a valid patent (Gopalakrishnan, 2005). Although the debate is still on-going amongst the states and the international organisations, many states view documenting traditional knowledge (TKD) as a crucial interim tool to overcome the shortcomings of the existing legal standards domestically. India is among the states which have engaged in extensive domestic efforts to combat biopiracy and engage in TKD projects.

This article will consider whether TKD is a crucial interim tool to overcome the shortcomings of the existing legal framework and can ultimately be utilised to prevent biopiracy. This article will conduct the analysis by first looking at the objectives and form of TKD. The legal framework to support TKD is then discussed, with a focus upon the status of collective knowledge. The analysis later examines various TKD projects to identify potential lessons learned from the various experiences. Finally, this article considers the TKD effort undertaken by the Sarawak Authority in Malaysia.

TKD: OBJECTIVE AND FORM

The purpose of providing TKD is to provide information regarding traditional knowledge as prior art. The assumption is that patent examiners will consider the information provided by such documentation and prevent *mala fide* patent application or infringement after the completion of the patent process. TKD also assists in the identification of the indigenous communities with whom the benefits of the commercialisation of such knowledge is to be shared.

In India, TKD is typically compiled in electronic databases and digital libraries such as the Community Biodiversity Registers initiated by the Foundation for Revitalisation of Local Health Traditions and Centre for Ecological Sciences at the Indian Institute of Science and the People's Biodiversity Registers of the non-governmental organisations (NGO). An effort was also initiated by the Science and Technology Department to set up the Traditional Knowledge Digital Library (TKDL) to establish a national database containing the details of medicinal plants that allows the inventors to search the database to determine whether they can patent their product (Stanton, 2004). Establishing such databases within the registers necessitates taking into account the international classification

standards such as the World Intellectual Property Organisation (WIPO) International Patent Classification (IPC) system which requires the proof of prior art and a system easily accessed by patent examiners. The potential use of traditional knowledge databases is being examined by a specialised task force of WIPO with the aim of determining how traditional knowledge databases can be integrated into the existing search tools by patent officers (Commission on Intellectual Property Rights, 2002).

A further initiative of the Indian government is known as the National Innovations Foundation, led by the NGO SRISTI that seeks to recognise and reward the folk healers, farmers and artisans for grassroots innovations and outstanding contributions to traditional knowledge (National Innovation Foundation, 2005). The Indian government has also joined the NGO Kalpavriksh to establish the National Biodiversity Strategy and Action Plan, whose aim is to develop participatory plans for sustainable use and equitable sharing of public domain biodiversity resources at the district and national levels.

At the grassroots level, the registration effort takes place in the form of a peoples' biodiversity register (PBR). PBRs contain documents periodically updated by local school teachers, students and NGO researchers concerning peoples' knowledge; practices of use; and conservation of bioresources, both wild and domesticated (Gadgil, 2006). The PBR is not undertaken purely for IPR, but also serves as a social process and a historical record of knowledge and knowledge holders. Consensus has been reached concerning the documentation process of PBRs, which includes: (i) clarifying project rationale and obtaining peoples' approval; (ii) identification of knowledgeable individuals and potential users; (iii) interviews, field visit and mapping of project area; and (iv) public discussion. Furthermore, it is agreed that the documentation should remain within the control of the community at the local level. Aside from functioning as a preventive tool for biopiracy, the registration also assists in the identification of the knowledge holder by the *bona fide* potential user of the knowledge (bioprospector/researcher) to facilitate the benefit-sharing. The registration of traditional knowledge therefore becomes guidance for bioprospecting or research in traditional knowledge.

However, research in traditional knowledge also raises questions on the benefits to local and indigenous communities. Some of the research projects are seen to encourage or facilitate biopiracy, since they typically seek to further corporate interest. Among the examples of governmental entities and/or private collaborators attempting to procure IPR on traditional knowledge for their own gain can be demonstrated by events in Thailand and Nepal. In Thailand, a collaborative effort between the Thai government and Portsmouth University to collect marine fungi from mangrove and coastal areas in southern Thailand for study resulted in a legal battle when the sample was kept in the UK and requests by the Thai government for its return were refused. In Nepal, samples of the life-saving fungi, *asco mycetes* collected from the Gurung Community of Chhamdila were taken to the US by a professor without any arrangement for benefit-sharing in case of commercialisation (Kalpavriksh, 2002).

LEGAL FRAMEWORK TO SUPPORT TKD

Although the IPR requirements concerning prior art are met by having TKD, the documentation is not sufficient to guarantee benefit-sharing with regards to profits. Statutory regulation is still necessary to establish benefit-sharing mechanisms at the national level. PBRs have been recognised by the Indian Biodiversity Act 2002 (IBA, S19-21) as prior art documentation to be scrutinised for patent applications, as well as the basis for equitable benefit-sharing. The relevant provision in the act requires consent to be sought from the National Biodiversity Authority (NBA) for any access to biological resources and knowledge, and to ensure benefit-sharing. The provision also mandates the NBA to oppose any infringement of Indian biodiversity and knowledge and prevent biopiracy. The Indian Patent Act (IPA)

reinforces such provisions of the IBA, requiring applicants to disclose information on the source of origin of biological resources and knowledge (Utkarsh, 2002). Patenting of any innovation resembling traditional knowledge is prohibited and biodiversity registers, such as PBRs, can serve as evidence of such prior knowledge.

The IPA has undergone various amendments to provide protection on traditional knowledge associated with genetic resources. Section 3(p) of the IPA expressly states that traditional knowledge is not an invention in an effort to prevent patenting of traditional knowledge in India. A further provision was added, providing that the knowledge available within local and indigenous communities, oral or otherwise, and within India or elsewhere, will be treated as prior art (IPA, S25&64). By expressly noting that oral knowledge within communities is recognised as prior art, the government seeks to ensure that the largely undocumented knowledge of Indian local and indigenous communities cannot be patented.

A further amendment to the IPA concerns disclosure. The provision obligates the applicant to disclose details of the source and geographical origin of the biological material in the specification in order to determine whether traditional knowledge was used in inventions related to generic resources. The requirement in S10 for technical details to be included in the specifications of the patent application arguably necessitates the inclusion of the person or institution from whom the material is obtained and the details of the information regarding the material, including the details of the traditional knowledge associated with the material and its holder. Furthermore, the IPA explicitly states that the patent application can be opposed or revoked if the information provided is erroneous or omits certain details.

However, there is no obligation on the patent applicant (for inventions based on traditional knowledge) to obtain PIC to use the traditional knowledge or share the benefits derived out of such use before filing a patent application. Section 6 of the IBA makes it obligatory for the patent applicant to obtain PIC from the NBA for an invention based on genetic materials of Indian origin. Failure to obtain PIC or satisfy the conditions stipulated in the PIC is actionable under the act. Although the obligation exists to obtain PIC, failure to obtain PIC has no impact on the grant of patent or enjoyment of the patent rights. While the obligation for a patent applicant to obtain PIC exists in legislation, there are no obligations under IBA or IPA to produce evidence that PIC has been obtained prior to the grant of patent, nor are there provisions to oppose or revoke the patent once issued for failure to obtain or satisfy the conditions of PIC. The failure to include enforcement mechanisms in the legislation renders the provision meaningless (Gopalakrishnan, 2005) in preventing an applicant from utilising traditional knowledge in a patented invention without due recognition of the holder of the traditional knowledge.

However, unlike India, Malaysia does not have a provision in the MPA obligating the applicant to disclose details of the source and geographical origin of the biological material or traditional knowledge used in the patent specification. Furthermore, the MPA does not contain provisions explicitly recognising TKD as evidence of prior art or that traditional knowledge does not qualify as a patentable invention. Malaysia has no other law that regulates the use and promotes protection of traditional knowledge. Although Malaysia is legally bound to incorporate into the national policy the set of commitments under the convention following its ratification of the CBD in 1994, Malaysia has not yet enacted national access and benefit-sharing (ABS) legislation regulating access to biological resources.

Limited legislation exists in the states of Sabah and Sarawak, that have enacted the Sabah Biodiversity Enactment 2000 and Sarawak Biodiversity Centre Ordinance 1997 (Kate & Wells, 1998; Osman, 2001) respectively, but broader reaching national measures have not yet been implemented. The process to develop national ABS legislation began in 1994 and culminated in the adoption of the final text of the first draft Access to Genetic Resources Bill (AGR Bill) by the Task Force on Access to Genetic Resources in October 1999 (Carrizosa

et al., 2004). However, there has been no further progress regarding the ABS legislation since the adoption of the draft bill over a decade ago. If PBRs were established in Malaysia, such databases would prove ineffective since the existing legislation fails to recognise traditional knowledge as prior art and no mechanism exists to guarantee benefit-sharing on the basis of the use of traditional knowledge. Due to significant distinctions between relevant Indian and Malaysian legislative acts, the use of TKD as an interim tool to protect traditional knowledge in Malaysia would lack effective legal effect in practice in Malaysia.

STATUS OF COLLECTIVE KNOWLEDGE

Another relevant issue related to TKD is the claim to rights over knowledge *vis a vis* collective rights of the traditional knowledge. The issue is important since most traditional knowledge is considered to be held by the whole community or a group of individuals. Thus, all members of such community or group are considered the owners or holders of the knowledge, retaining collective rights, rather than individual rights, over such knowledge. In order to adequately protect collective rights, distinct models from those already presented may have to be utilised. Although legal propositions have been made, no legal norm has been implemented. The most debated proposition is the creation of a national register of either traditional knowledge or plants belonging to everyone involved in the use and conservation of traditional knowledge or plants, registered or not, and could be conceded to the local community, or tribe, in a generic manner. The community would then be the owner of a modality of IPR. All community members would have the right to exploit such knowledge according to their traditions.

Costa Rican law establishes community rights, providing protections regarding inventoried existing knowledge of each community. The existing IPR system also does not apply to community rights as it is not possible to identify an individual inventor due to the collective nature of indigenous knowledge. Though idealistic (the cost of such a complete inventory makes it unrealistic), the legal system has demonstrated flexibility and an openness to adapt to difficult issues. A problem that is left unresolved, however, is the situation where two distinct groups hold identical knowledge, as dual ownership is not permitted. From an anthropological point of view, it is completely possible that two different communities utilize a plant in the same way or use the same methods to conserve a natural space. In the context of multiple indigenous peoples with credible claim to traditional knowledge, the issue arises on which party should be entitled to give consent. According to Vandana Shiva, a moratorium on access to traditional knowledge should be declared until this issue is resolved (Tobin, 1997).

In Malaysia, the draft AGR Bill (Carrizosa *et al*., 2004) provides the exclusion of three contentious issues. One of the issue concerns the collective rights of the indigenous peoples. The establishment of a system of community intellectual rights for the purpose of the recognition of ownership rights of communities over their knowledge and innovations, the protection of the communities' knowledge and innovations, and for ensuring the equitable benefit-sharing is channelled back to the communities (Carrizosa *et al*., 2004). As a result, the indigenous communities in Malaysia are responsible for the setting up of a collection system and registration of traditional knowledge and innovations, establishing technical institutions, and registering indigenous and local communities' organisations themselves. It will not be the responsibility of the national competent authority that shall be established under the proposed law. Unlike the position in Sarawak, for Peninsula Malaysia, the Federal government has rejected any responsibilities towards management of communities' traditional knowledge. This position will leave the communities with insufficient skills and the appropriate financial resources in managing their knowledge.

TKD: CRITIQUE AND LESSON

Contemporarily, debates exist as to whether TKD should be published or maintained in a state of secrecy. A prominent argument is that traditional knowledge can best be protected, both from erosion and biopiracy, i.e. through publicity but not secrecy. Unique knowledge may best be fully registered through refereed databases, while PBRs make claims to such knowledge, alongside public domain knowledge and resources (Utkarsh, 2002).

On the other hand, unlimited and unrestricted accessibility to this documentation leads critics to question whether TKD would effectively prevent biopiracy or facilitate biopiracy and the further exploitation of traditional knowledge. While many indigenous people have made their traditional knowledge available to the public in an attempt to protect their traditional knowledge, concerns, based upon both cultural and economic arguments, have been raised that such acts have left the indigenous peoples open to exploitation. A report entitled, "The Role of Registers and Databases in the Protection of Traditional Knowledge" was prepared by the United Nations' expert Brendan Tobin, who argues that "obliging indigenous peoples to offer public documentation of traditional knowledge for intellectual property protection purposes is insensitive to cultural practice in many places and may lead to injustice". Tobin's argument is principally concerned with the refusal of patent offices to accept oral evidence and the scrutiny of evidence of prior art by personnel in the patent offices (Kirby, 2004).

Tobin argues that legal systems should be able to prevent the piracy of traditional knowledge without jeopardizing the cultural integrity and ways of the indigenous peoples. For example, while Inuit communities maintain a very high level of secrecy, the government officials are allowed confidential access to their traditional knowledge. At the same time, international law should be amended to provide oral evidence of traditional knowledge in confidence and access to confidential databases should be restricted. While registers and databases developed and held by the indigenous peoples' groups, museums, botanical gardens and universities are essential for protecting traditional knowledge (Kirby, 2004), as the existing institutions lack a common code of conduct such as an obligation for the explicit acceptance of the rights of the indigenous peoples over their knowledge a pre-condition to the access of such information.

Economically, some view that by putting the information on public domain would actually facilitate biopiracy, since the existing IPR law is inadequate to detect biopiracy; and ensure patents granted are genuine and not based on the existing knowledge (Barsh, 2001). Further arguments suggest academic publications focussed upon indigenous knowledge make indigenous medical knowledge readily accessible in the public domain, in turn posing a greater threat to biopiracy of the indigenous knowledge than the patent system. Using statistical evidence, Barsh (2001) showed that few patents derived directly from indigenous medical or ecological background. On the other hand, most patents with origins in indigenous knowledge were inspired by data or information readily available in the public domain (Barsh, 2001). Therefore, according to Barsh's study, TKD will only facilitate biopiracy, thus should not be encouraged.

Others argue that indigenous peoples should be pragmatic and cautious of the government's real intention in such projects, as the recognition of TKD should not be linked to decision-making processes on benefit-sharing and other issues related to traditional knowledge. Contemporary government initiatives are often viewed as token gestures attempting to accommodate traditional knowledge within biased IPR systems, rather than a means to guarantee collective rights to such communities (Barsh, 2001). The argument closely follows Michael Dove's argument that the politico-economic elites of a state will ultimately be the beneficiaries of such initiatives. Issues concerning the protection of the indigenous knowledge should be resolved by the state, through the creation, modification and implementation of national laws concerning

traditional knowledge and genetic resources. Further arguments have been put forward stating that in order to protect the traditional knowledge, innovations and practices of the indigenous peoples', one has to protect their right to land (Sharom, 2006). The indigenous peoples' resources and knowledge are closely associated to their land, so if the land rights are not protected, than neither are the resource rights. Therefore, the indigenous knowledge associated with resources that are not protected is also not being protected.

The Filipino government has made a sincere effort to empower indigenous communities by recognising their rights over their ancestral land in the Indigenous Peoples Rights Act. Similarly, the Indian Constitution recognises the decision-making power of village bodies (Panchayats) on biological resources. Therefore in India, not only their resources and knowledge are protected, their autonomy and self-determination is also receiving due recognition by the government. Further, national law should recognise indigenous peoples as negotiation partners to be heard in consultations. The ability to negotiate on their own and their possession of lands are pre-conditions for empowerment, which is a crucial element for managing their knowledge and resources efficiently.

Finally, the TKD project requires new technical skills and adequate financial resources. Most communities possessing traditional knowledge are marginalised, living in a state of extreme poverty. Thus, an efficient TKD project requires collaboration between the respective indigenous communities and the initiator (state government). Ultimately the success of this project will require the state government to provide its full commitment in the provision of adequate and continuous resources, required skills and freedom of the indigenous people in deciding; (i) whether to participate in the project; (ii) the rationale of this project; and (iii) the preservation of the document according to the respective lifestyle and tradition of the indigenous communities.

TKD PROGRAMME BY SARAWAK AUTHORITY

Sarawak is the first state in Malaysia that formulated laws regulating ABS, namely the Sarawak Biodiversity Centre Ordinance 1997 and Sarawak Biodiversity Regulation 2004. Despite the criticisms and lack of clarity on the status of TKD at the international level, Sarawak established a local TKD agency, the Sarawak Biodiversity Centre (SBC), in 1998. The SBC maintains a library of extracts of biological resources collected; undertakes studies, research and documentation of traditional knowledge use of biological resources by native communities in the state; and provides the facilities for screening of bioactive compounds. The SBC also facilitates the TKD of communities' use of biodiversity; and the development of biodiversity-biotechnology databases for Sarawak. Other functions of the SBC include the regulation biodiversity research in Sarawak through the use of a research permit system and research agreement scheme (Chua & Yen, 2000), and the implementation of bioprospecting programmes on Sarawak's indigenous biodiversity (Nordin, 2008).

The main objective of the TKD programme carried out by the SBC is to facilitate the indigenous peoples (natives) in the state in preserving their traditional knowledge through proper recording or documentation techniques. The SBC's efforts regarding this have included capacity building workshops to provide the indigenous communities with the necessary skills, such as documentation techniques, propagation and management of useful indigenous plants (SBC, 2011). The programme was introduced in 2001 which involved 12 ethnic groups in 25 locations. SBC has begun its own pilot project in compiling a log of medical knowledge among the Bidayuh Dayaks. The communities that opted to document their traditional knowledge are free to keep the data to themselves, while possessing information that serves as a basis for claims, financial rewards, or other future benefits. The immediate benefit is that such communities have documented and preserved their traditional knowledge for

future generations (Chalmers, 2001). Similar to the Indian PBRs, SBC's documentation project is participatory in nature. However, while the Indian PBRs are published as prior art information, the SBC's documentation is currently maintained in secrecy. While the objective of the SBC's TKD project is to facilitate the preservation and protection of the indigenous peoples' traditional knowledge, it is not clear whether the documentation project will be converted into databases that contain information on prior art in a fashion similar to the Indian PBRs. However, the Patent Unit, MyIPO Malaysia is currently working on the establishment of the TKD databases.

The SBC's documentation project has in 2006 prompted the United Nations Development Programme Global Environment Fund to nominate the SBC as a centre of excellence for TKD for the Asia Pacific Region (Star, 2006). SBC stated that there were two reasons for documenting traditional knowledge: "firstly, it is our heritage for future generations and secondly, it is for the sharing of knowledge for mutual gain." What was not clear from the statement was whether the TKD agency was to serve as a means for the indigenous communities to pass traditional knowledge on to future generations or whether they perceived it as a potential tool for commercialisation. This is very crucial because as a facilitator, the SBC should allow the communities to decide the rationale for the documentation. For many communities, it is imperative to ensure that their traditional knowledge are preserved and respected, rather than to obtain monetary compensation or profit. While it may be said that they are ignorant of the potential monetary value of their knowledge, the decision by the communities have to be respected.

The SBC has also confirmed that almost 90 percent of researches in the SBC's laboratory are guided by traditional knowledge. As in 2006, "SBC has collected more than 1,500 plants from a dozen ethnic communities in 27 villages and they have performed bioassays on nearly 200-plus plants and more than 35 percent have shown good activity against cancer cell lines when tested" (Star, 2006). The centre further views that they should assign the rights back to the communities. In this respect, it may be assumed that the approach to traditional knowledge used by SBC was premised upon contemporary notions concerning the PIC of the respective communities. The process, however, has raised concerns about the potential commercialisation of traditional knowledge related to bioprospecting.

Part VI of the Sarawak Biodiversity Regulations 2004 provides that no person shall undertake ethnobiological research except with a permit issued by the council and the permit holder shall sign a research agreement with the Sarawak government. Further, the permit holder may be required to make payment to the natives as rewards for the knowledge or information provided in connection with the ethnobiological research, regardless of whether the research results in commercial development of any medicinal or other products. If the research leads to commercial development, the patent or IPR shall be shared with the natives who supplied the knowledge or information.

The precise role of the SBC in relation to ethnobiological research, however, is not clear. As a multi-tasking agency, the SBC functions as: (i) a facilitator of the TKD; (ii) an end user of such knowledge (bioprospector); and (iii) a regulator which exercises its regulatory function via research permit system and research agreement scheme. As a result, the SBC's functions seem to overlap and it is unclear whether the SBC requires the explicit permission of the Sarawak Biodiversity Council and the Sarawak government when it conducts ethnobiological research. If permission is required, the SBC is obligated to get a permit from the Sarawak Biodiversity Council as a bioprospector sign a research agreement with the Sarawak government, which is normally represented by the SBC for the conclusion of such agreements. A subsequent issue which would then need to be resolved is whether the SBC is required to make payments to the communities affected by its ethnobiological research activities as required by the provisions,

as well as what form the benefit-sharing. The final issue is whether SBC makes payment to the respective natives for the use of the knowledge as required by the provision and in what manner and form the benefit-sharing shall take place (benefit-sharing mechanism).

In short, the activities and issues associated with the SBC could serve as further fuel for debates regarding the effectiveness of the TKD projects, such as databases and libraries, in safeguarding traditional knowledge against biopiracy or exploitation by politico-economic elites in power in the state government (Kalpavriksh, 2002). Therefore, the SBC's TKD initiative may be seen as the successful means of protecting and preserving traditional knowledge only if the above issues are resolved accordingly.

CONCLUSION

It is important to stress that the IPR regime does not protect traditional knowledge via patents. It should prevent the potential exploitation of traditional knowledge that arises when traditional knowledge is used in inventions without the owner(s) of such knowledge receiving any benefits/profits from the commercialisation of such knowledge. However, the existing legal framework in the CBD and TRIPS Agreement do not provide adequate protection for the indigenous peoples' rights on their resources and knowledge. Many communities now have been influenced or encouraged to document their resources and knowledge so that the documentation of their traditional knowledge may serve as a tool to prevent future misappropriation of their knowledge, as well as an effort to ensure benefit-sharing in the event the knowledge is used for research. The communities also believe that the documentation of traditional knowledge is as a mean to preserve the knowledge for future generations. For these reasons, parties like national/state governments, private entities and NGOs have initiated such projects all over the world.

On the other hand, local communities and indigenous peoples (the traditional knowledge holders) often find themselves disagree with their governments because of the fundamental difference in their perception of traditional knowledge and the need for its protection. By and large local communities and indigenous peoples are averse to the privatisation of traditional knowledge, while interested parties and the government themselves are interested in the commercialisation of such knowledge. As a result, the government initiatives are often seen as adversarial on issues related to the protection of traditional knowledge, rather than efforts to protect the interests of the communities affected.

Though the rationales of the documentation projects differ between the PBRs in India and the one in Sarawak, both countries should tackle this issue from a bigger perspective. This can be done by recognising the indigenous peoples' rights to property and self-determination. Without these recognitions, TKD projects, especially those initiated by the state government and private collaborators, shall continue to be seen as opportunities to further exploit the already marginalised indigenous peoples' resources and knowledge. The owner of any TKD projects should model its programmes and initiatives based on the lessons from the models put forward in practice in India in an effort to avoid the stigma associated with the other state initiated efforts elsewhere in the world.

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