

Regulating Access to Genetic Resources and the Sharing of Benefit Through the Sarawak Access Benefit-Sharing Legislation

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Abstract: Currently, Malaysia does not have specific national legislation to regulate access to its genetic resources and ensure equitable sharing of benefits derived from their commercialisation (ABS legislation). However, the States of Sabah and Sarawak in Malaysia have enacted their ABS legislations to be implemented within their States territories. This research will examine how Sarawak provides for mechanism for resolving conflicting interests in genetic resources. For purposes of this study, this research will evaluate Sarawak ABS legislation, namely, the Sarawak Biodiversity Centre Ordinance in 1997 and Sarawak Biodiversity Regulation in 2004. The principal issues to be considered are the manner in which the Convention on Biological Diversity (CBD) is reflected in the legislative enactments; the degree to which the CBD was implemented in the legislative enactments and the degree of effective consultation and participation in the process of formulating the respective legislative acts. The particular questions to be answered are: to what extent the ABS legislation in Sarawak has conformed to ABS requirements in the CBD; how have the legislative acts been implemented by the respective authorities and what are the strengths and limitations of the legislative acts? For purposes of this evaluation, comparison will be made between the situation in Sarawak and in the Philippines, specifically with regards to Philippines Executive Order 247. It is the conclusion that Sarawak has not via its ABS legislation; conform to ABS requirements as reflected in the CBD, particularly in regards to the adequate protection of the interests of the indigenous peoples. The basic foundation of ABS legal framework in Sarawak is not compatible with Philippines and unless this is improved, Sarawak will not have an adequate legal infrastructure to support its involvement in future biotechnology-related activities.

Key words: Indigenous peoples, genetic resources, access and benefit-sharing, ABS legislation, bioprospecting

INTRODUCTION

Legal framework: Of Malaysia's states, Sarawak has the richest and most diverse natural resources as well as the largest number of ethnic communities with traditional cultures (Mamit, 1997). The discovery of calanolide in Sarawak has increased awareness among indigenous peoples and scientists on the importance of having legislation to regulate access to genetic resources in Sarawak. The initiative to regulate access to genetic resources started in 1994 by way of an amendment to its Forests Ordinance in 1958.

The amendment introduced via Section 65A a new control for access by requiring any person wishing to remove or export trees for the purposes of developing pharmaceutical or medicinal compounds to acquire prior authorisation from the Director of Forests as approved by the Minister. However, this control is only in respect of access to trees with commercial uses which are related to healthcare and does not cover other biological resources or applications for access to trees by an applicant who did

not at the time of the access, intend to develop pharmaceutical or medicinal products but subsequently decided to do so (Kate and Wells, 1998).

Due to the limitation, the State Government of Sarawak (SGOS) formulated and enacted the Sarawak Biodiversity Centre Ordinance of 1997 as amended in 2003 (1997 Ordinance) and the Sarawak Biodiversity (Access, Collection and Research) Regulations of 1998 (1998 Regulation). The Sarawak Biodiversity Council (the council) was established in February 1998, pursuant to 1997 Ordinance as the competent authority to regulate any access to Sarawak's genetic resources and to protect the biodiversity through the implementation of relevant legislation (Osman, 2001). The Sarawak Biodiversity Centre was established in 1998 to assist the council with the implementation of the legislation. The 1998 Regulation has imposed similar treatment towards local and foreign researchers. The regulations were amended in 2001 by way of the Sarawak biodiversity (Access, Collection and Research) an Amendment Regulation 2001 to give incentives to local researchers by making several

amendments to the regulations. However, the 1998 Regulation were revoked in 2004 and replaced by The Sarawak Biodiversity Regulations (2004).

The SGOS, pursuant to 2004 Regulation, implemented a research permit system as a mechanism to regulate any access to its genetic resources. Under the permit system, one will require a research permit, export permit and sale permit for any protected species and ethnobotanical research permit. Anyone whether a local or a foreigner who wants to access, collect and perform research on biological resources (protected resources) in Sarawak is required to obtain one or more of these permits. Pursuant to Section 23, 1997 Ordinance before any permit may be granted for research on protected resources a research agreement must be entered between the government and the person or institution intending to carry out such research. Further, 1997 Ordinance was amended in 2003 to provide for better implementation of the Ordinance.

SCOPE AND METHOD

This study is divided into two main parts, namely ABS legal framework in Sarawak and the implementation of ABS legislation upon which the ABS legislation in Sarawak will be evaluated with an appropriate and necessary assessment and analysis. The main area to be evaluated is the degree of CBD implementation as reflected in the legislation and the degree of consultation and participation involve in the process of formulating the legislation. The research guiding questions for this research are: to what extent the ABS legislation has conform to the ABS requirements in the CBD how the legislation is implemented by the respective authorities and what are the strengths and limitations of the legislation? For purposes of this evaluation, this research will compare the position in Sarawak with the position in Philippine. Philippine has been chosen for this comparative analysis because it is another developing country within the South East Asian region that has a stand-alone ABS legislation. As and when it requires, this research will look at the corresponding provisions in Philippines' Executive Order of 247 (EO 247) (Swiderska *et al.*, 2001). Method of the analysis is mainly doctrinal and theoretical analysis with some data gathered from an interview.

ABS LEGAL FRAMEWORK IN SARAWAK

This study will analyse the status of Sarawak ABS legislation in addressing bio-prospecting and benefit-sharing issues. Analysis will also include the EO 247 and Department Administrative Order 96-20 which established

the legal framework for bio-prospecting and regulation of access to biological resources in the Philippines. The main question that will be answered in this section is whether Sarawak ABS legislation merely provides a set of procedures and requirements for access to biological resources or has managed to address all relevant bio-prospecting or benefit-sharing issues. For purposes of clarity, discussion on Sarawak ABS legislation in this study will be divided into four basic aspects; setting up of the respective regulatory bodies, implementation of research's permit system, a scheme of mandatory research agreement and traditional knowledge documentation.

Setting up of the regulatory bodies: The council is established as a corporate body consisting of a chairman, a deputy chairman, a secretary and six to ten other members to be appointed by Majlis Mesyuarat Kerajaan Negeri as provided under Section 4 (1) 1997 Ordinance. The council is responsible for undertaking the collection of biological resources to determine their medicinal or therapeutic properties; the establishment of a library of extracts of biological resources and managing the biodiversity centre. Any activities under 1997 Ordinance may be carried by the council in association or collaboration with other bodies including the departments or agencies of SGOS or Government of Malaysia. According to Section 10, the council may also appoint an advisor or consultant having requisite experience, expertise and knowledge in biological resources.

Pursuant to 1997 Ordinance, the council established the Sarawak Biodiversity Centre (the SBC) in July 1998 to implement the regulations. The function of SBC is to collect and regulate the access to Sarawak's biological resources for study, research, protection, utilization and export in an effort to monitor and license bio-prospector and prevent biopiracy.

The responsibilities of the SBC among others are to maintain a library of extracts of biological resources collected by the centre; undertaking studies, research and documentation of traditional knowledge use of biological resources by natives in the state and providing the facilities for screening of the bioactive compounds. The SBC is intended to be the focal point for Sarawak biodiversity research, utilization, inventory, monitoring, education, management and conservation. During interview session on 26 January 2006, SBC representative confirmed that the mission of the SBC is:

- To identify, set priorities and initiate programmes for research and sustainable management and utilization of biological resources in Sarawak including bio-prospecting and product development

- To facilitate documentation on the traditional uses of biological resources by the local and indigenous peoples in Sarawak
- To promote awareness of the appreciation for Sarawak's rich biodiversity among all sectors of society
- To obtain and disseminate accurate and up to date information on the biodiversity of Sarawak and to establish linkages with local and foreign institutions with similar interests

To achieve these aims, the SBC is facilitating the traditional knowledge documentation of Sarawak communities' use of biodiversity; the propagation of Sarawak's indigenous plants for conservation and appreciation; the development of biodiversity/biotechnology databases for Sarawak; workshops on awareness and appreciation of biodiversity/biotechnology; the regulation of biodiversity research with commercial potential in Sarawak; networking with organizations with similar interests and the implementation of bio-prospecting programmes on Sarawak's indigenous biodiversity. The regulatory function of SBC is implemented through the research permit system and the research agreement scheme.

In the first two and half years of its existence, the SBC received approximately 100 requests for research permits, ranging from a nursery business that wanted pitcher plants to a scientist seeking to gather DNA from the eyes of snakes. About 90% are granted although often with strict provisos. In all cases, the foreign researchers are required to share their knowledge with the SGOS.

Research permit system: The SBC implemented the Research permit system to ensure biodiversity conservation, sustainable utilization and fair and equitable benefit-sharing. The permit system regulates the types of permit allocated, the eligibility requirements for permits, the local sponsor and local collaborator requirements, penalties for non-compliance, research agreements and the application process (Latiff and Zakri, 2000).

Regulation 3 (1) of 2004 Regulation provides that no person is permitted to enter, collect or take biological resources from state land without the permit issued by the Director or the Controller. Permits cannot be issued unless the Chief Executive Officer (CEO) has been consulted and approves the issuance of the permit; the person receiving the permit has entered into a research agreement with the council, acting as representative of the SGOS and the person receiving the permit has agreed in writing that

biological resources, extracts and species will not be removed without an export permit issued by the council. The 2004 Regulation requires further permits to collect protected resources, issued following the applicant's submission of a detailed collection plan and the particulars of the research scheme; an outline of previous and current collection efforts and specific information on the collectors and researchers including their technical expertise. Any export of biological resources or protected resources for research will require an export permit.

Part III of 2004 Regulation establishes special procedures for any approved institution desiring to remove biological resources from any forest reserve for study, experiment, test or other educational or teaching purposes, requiring the submission of notification to the council at least 7 days before the proposed date for collection. Approved institutions are further required to submit a report to the SBC within 14 days after the collection of the biological resources. In the event that an approved institution removes biological or protected resources, the institution is required to notify the council within 30 days of the specific manner in which the resource is intended to be used and furnish the SBC with all research data, findings and results.

Research that leads to the discovery of any compound or chemical which has pharmaceutical, medicinal value, properties or potential, the person or body undertaking the research is required to notify the CEO and an application for patent or copyright or intellectual property rights in regard to the discovery can be made in accordance with the terms of the research agreement. In respect of the propagation of protected resources, any person undertaking research into the germination, propagation, breeding or cultivation of any protected resources must obtain prior written approval of the council and no person shall undertake ethnobotanical research except with a permit issued by the council. The 2004 Regulation also provides an incentive and protection to indigenous peoples by requiring the permit holder to make payments to the natives as rewards for their traditional knowledge, irrespective of whether the ethnobotanical research results in the commercial development of any medicinal or other products.

The Internal Research Committee of the SBC is mandated to conduct internal evaluations on each application falling under the legislation which is to be accompanied by a technical evaluation by an international technical expert. Once the evaluations and reports are prepared, they are submitted to the council for deliberation and decision, together with the appropriate recommendations from the SBC. Its normally take a

minimum of 6 months for the SBC to make any decision and it requires a lot of paperwork on the part of the applicants. In the event that application is approved, the decision is forwarded to the applicant and the research agreement is prepared and signed by the SBC, representing the SGOS and the applicants. Research permits will be prepared following the signing of the research agreements and the researcher may commence the research immediately.

Theoretically, by implementing four tier processes, EO 247 has a similar system to regulate ABS in the Philippines. However, in practical, EO 247 has received criticisms and has been alleged as the reason for a low number of research agreements concluded in Philippines. The main problem identified are the low information level of applicants, the long processing time of the agencies involved, deficiencies in the work of the multi-stakeholder bodies and the time it takes for the secretaries to sign. First, the applicant is required to submit the application form and three copies of the research proposal to the Inter-Agency Committee for Biological and Genetic Resources (IACBGR). An initial screening will then be performed by the Technical Secretariat to determine whether or not the application falls within the scope of EO 247. In an affirmative case, the application is then turned over to the appropriate department and further documents including the Prior Informed Consent (PIC) certificate are required to be submitted to the IACBGR. The second initial review on the complete application is then carried out by Technical Secretariat who submits an evaluation to the IACBGR for deliberations. The decisions of the IACBGR are turned over to the secretary concerned and if approved, the secretary has to approve and sign the research agreement. Finally, the Technical Secretariat will maintain the file on the research agreement for purposes of implementation.

Mandatory research agreement: Like EO 247, Regulation 4 (1) and Regulation 6 (1) of the 2004 Regulation requires applicants to sign a research agreement with the SBC, acting as the representative of the SGOS, prior to the issuance of a collection permit. The research agreement includes the terms and conditions of the research, the use of the biological resources and the manner and mode of protection of any patents or intellectual property rights related to any invention or discovery made subsequent to the research. EO 247 differs from 2004 Regulation in respect of the roles played by the IACBGR and the state in relation to research agreements. EO 247 mandates that all research agreements whether academic or commercial are to be concluded between the collectors and the state government with the IACBGR acting as the negotiator in

all cases. In Sarawak, the SBC is the signatory or party to the agreement rather than the negotiator as in the case of the Philippines. Arguably since, the SBC also acts as a regulatory body, the SBC should be independent and should not become party to the agreement.

Additionally, EO 247 contains more expressed provisions concerning benefit-sharing provisions in research agreements than the Sarawak legislation. EO 247 requires research agreements to contain general and minimum terms on the provision of information and samples, technological cooperation and benefit-sharing. The requirements for commercial research agreements are slightly more stringent and contain more benefit-sharing provisions. The 2004 Regulation, on the other hand, does not require provisions on benefit-sharing to be incorporated into any research agreement. Prior to the 2004 amendments, a standard agreement was utilised in all cases concerning bio-prospecting/biotechnology in Sarawak. SBC representative affirmed that following the amendments, the SBC introduced a more flexible approach in determining the terms and conditions of research agreements, taking into account the nature of the research; the expected outcome and the manner in which the SGOS and the indigenous peoples in Sarawak could benefit from the outcome of the research. The lack of substantive provisions within Sarawak ABS legislation however is indicative of a failure to implement basic CBD provisions on benefit-sharing in legislative enactments that obviously fall within the scope of the CBD.

All research agreements should contain five principal elements: access to genetic resource PIC benefit-sharing; intellectual property rights and sustainable use of genetic resources. Furthermore, the agreements must state that collecting activities are to be restricted to clear biological and geographical boundaries defined by the state government. PIC can be inferred from the agreement's clauses, requiring the collecting party to provide precise information on the scope of work to be performed. Additionally, a reporting mechanism is defined within the agreement to allow the state government to monitor the activities of the collector. The research agreement also provides for the notification of local and indigenous peoples. The manner in which this is accomplished is determined on a case to case basis.

In regards to ABS, research agreements should have provisions on benefit-sharing address benefits to indigenous peoples and local communities, local collaboration and monetary gains (Nordin, 2010). Where research, collecting and prospecting are undertaken jointly with the government, IPRs applicable to any findings, results, products and/or technology should be equally shared. IPRs shall be in the joint name of the

parties. Likewise, benefits or profits arising from the research should be equally shared unless otherwise agreed. In instances where activities are not undertaken jointly, the collector may own the IPRs. However, this would be subject to the government's right to take measures to ensure the results of research, development and other benefits are shared fairly and equitably. The agreement requires a collecting party's activities to be sustainable. In other words, only a specified amount of a specimen can be harvested (Chalmers, 2001).

Traditional knowledge documentation program: Sarawak has >36 different indigenous groups which can be broadly categorized into Iban, Bidayuh, Orang Ulu, Melanau, Malay and Chinese. Each of these ethnic groups has inherited a rich array of traditional knowledge from their ancestors much of which has not been documented. The interview on 26 January 2006 disclosed that the various communities know what varieties of crops to plant when to sow and weed which plants are poisonous and which can be used for medicine to cure diseases and at the same time how to manage their natural environment in a sustainable and balanced manner. The knowledge is often passed down through generations orally and is seldom formally documented (Nordin, 2008, 2011).

The main objective of the traditional knowledge documentation programme carried out by the SBC is to facilitate the preservation of the traditional knowledge of local indigenous peoples in the state through proper recording or documentation techniques. The effort is promoted through the use of capacity building workshops that provide the local communities with necessary skills regarding documentation techniques, propagation and management of useful indigenous plants. The project also encourages local indigenous peoples to cultivate useful indigenous plants for uses such as landscaping while increasing local awareness and appreciation. SBC facilitates the preservation of traditional knowledge among indigenous peoples by creating awareness among local communities on the value of their traditional knowledge; conducting capacity building workshops to enable local communities to document their traditional knowledge and facilitating *ex situ* conservation.

This program was introduced in 2001 which involves 12 ethnic communities group in 25 locations. The SBC also organises seminars, lectures, dialogue sessions, conferences, workshops and forums targeted at policy makers, key government officials, members of the academia, scientists and researchers, industry representatives, media, students and the interested members of the public. The objective of the SBC in

pursuing such activities is to increase public awareness and understanding of Sarawak's rich biodiversity and its potentials.

SBC has begun its own pilot project in compiling a log of medical knowledge of the Bidayuh Dayaks whose land surrounds its new offices 12 miles outside Kuching, the state capitol. Given the scope of the venture, the SBC will face difficulties in compiling the traditional knowledge in Sarawak. Traditional knowledge in Sarawak regarding plants and animals as well as their medicinal uses is rapidly being lost. Therefore, the main challenge to the SBC in compiling traditional knowledge is time. Since, participation in the traditional knowledge documentation project is wholly voluntary, communities that choose to record their traditional knowledge are free to keep the data private although, possessing such documentation enhances their chances of successfully receiving financial or other rewards in future cases relating to the use of their traditional knowledge. However, the immediate benefit of traditional knowledge documentation is that the communities have preserved such knowledge and are able to pass it on to the next generations (Chalmers, 2001).

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 traditional knowledge documentation for the Asia Pacific Region. SBC stated that there were two reasons for documenting traditional knowledge: firstly, it is the heritage for future generations and secondly; it is for sharing of knowledge for mutual gain.

IMPLEMENTATION OF ABS LEGISLATION

Sarawak ABS legislation were the first ABS legislation and testing grounds for ABS policy in Malaysia, encountering several difficulties and receiving significant criticism (Carrizosa *et al.*, 2004). The problems with the implementation of Sarawak ABS legislation will now be examined and priorities identified for the remedy of the issues. The problems associated with the implementation of EO 247 will also be considered in light of similar problems faced by the implementation of Sarawak ABS legislation including issues such as the low level of information available to the applicant about the requirements and procedures; the lengthy time required to process application by the respective bodies; deficiencies in the work of the respective bodies and the length of time required to complete the application process.

Equitable benefit-sharing: Sarawak ABS legislation does not contain provisions regarding the basic principles on equitable benefit-sharing contained within the CBD. Article 8 (j) of the CBD is an important provision in the context of protecting traditional knowledge. The provision is specifically concerned with traditional knowledge and recognises indigenous peoples' status as both 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 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.

While the ABS legislation was formulated in 1997/1998 and recently amended in 2004, loopholes continue to exist in the legislation. Although, the legislation requires applicants to sign research agreements with the SGOS prior to being issued permits, it fails to require the parties to enter into an ABS agreement or to incorporate adequate benefit-sharing provisions in the research agreement. The 2004 Regulation do not address benefit-sharing issues in the manner prescribed by the CBD and the Bonn Guidelines.

Protection on traditional knowledge and PIC: Sarawak ABS legislation are silent on the protection of traditional knowledge and do not address the issue of utilizing traditional knowledge in research. There is no requirement on PIC to be sought from the knowledge holder in 2004 Regulation. The rights of the indigenous peoples concerning access to genetic resources from their native customary land are not recognised (GRAIN and Kalpavriksh, 2002). Unlike EO 247, 2004 Regulation has no provision to require PIC to be obtained from affected local and indigenous peoples for the collection of biological resources in areas where they live. The 2004 Regulation fails to recognise the interest and rights of the indigenous peoples and provide protection for their traditional knowledge. Furthermore, Sarawak ABS legislation fails to incorporate the basic provision on protection of traditional knowledge as provided in Article 8 (j) of the CBD.

Ownership of biological resources: The issue on ownership of biological resources is of considerable importance and needs to be addressed by a national law regarding ABS. EO 247 recognises the property rights to biological resources in its preamble which is also recognised in the Philippines Constitution. According to Section 2, Article XII of the constitution, the state is the owner of all forests, wildlife, flora and fauna and other natural resources.

Therefore, the disposition, development and utilization of such resources are under the state purview through its competent authority, the IACBGR. At the same time, the Philippines has identified and recognised the rights of the indigenous peoples to their traditional knowledge and practices when this information is use (EO 247). Such issues are not specifically addressed by 2004 Regulation which has caused problems in determining the rights of indigenous peoples regarding benefit-sharing. Regulation 21(1) of 2004 Regulation stipulates that a research agreement shall be entered into between the government in whom proprietary rights in such resources are vested and the person or institution intending to carry out such research. Acting pursuant to this provision, the SGOS is treating biological resources as private property instead of public property that should be shared with the public at large.

Institutional capacity: The SBC is responsible for screening applications, coordinating implementation and monitoring compliance. The 1997 Ordinance has given the relevant investigation power to the CEO or any other authorised officer to enforce the relevant legislation. The power allows the competent authority to enter any land or premises without a warrant and call any person to produce any materials and to furnish any information for purposes of investigation and inspection. The power is extended to search, seizure and arrest of any suspect without warrant (Section 26-29). Prosecution of an offence under this ordinance may be conducted by the Public Prosecutor or any other person authorised by him under the Criminal Procedure Code. In order to act effectively in accordance with its responsibilities, the SBC needs a strong driver and adequate resources to ensure that it operates effectively.

Council composition and meeting: The 1997 Ordinance does not have specific provisions on the representation of other agencies in the council and therefore does not have the characteristics of an inter-agency body. Since, genetic resources fall under the purview of various agencies, 1997 Ordinance should provide mandatory representation of other agencies to ensure all concerns

shall be highlighted and addressed accordingly. The concept of an inter-agency body involves bringing together concerned agency and stakeholders to determine the best manner in which to deal with issues that arise. The members of the council in 2004-2006 were the State Secretary (Chairman), the State Financial Secretary, the State Attorney General, the Director of Forests, the Director of Natural Resources and Environment Board, the Director of Agriculture, the Deputy State Secretary, the Director of Human Resources and the CEO of the SBC (Secretary). The composition of the SBC lacked the participation of NGOs, the Indigenous Communities Association and the Department of Science and Technology. Without these representatives present, the concerns of their constituents may not have been highlighted and addressed accordingly.

In the Philippines, the IACBGR is supported by a Technical Secretariat who acts as the coordinator for processing applications for bio-prospection and an advisor for any improvements of the existing bio-prospection rules. Being an inter-agency committee, IACBGR is represented by a representative of the Department of Environment and Natural Resources, the Department of Science and Technology, the Department of Agriculture, the Department of Health, the Department of Foreign Affairs, the Philippine National Museum, GOs, the Peoples' Organisations and the scientific community (Section 6, EO 247). IACBGR meets once every quarter to perform the regulatory functions of processing academic and commercial applications and provide appropriate recommendations to the respective departments (Section, 7 EO 247). Upon approval, together with the Protected Areas and Wildlife Bureau (PAWB), the IACBGR ensures that the conditions of the research agreements are strictly observed. The PAWB is the lead agency in monitoring the implementation of the research agreement (Section 8, EO 247).

Similar to the IACBGR, the council meets once every 3 months to resolve and make decisions on any issues that have arisen. Pursuant to provisions in 2004 Regulation however, the council can resolve matters through the use of a circular resolution. The council has frequently opted to resolve matters in such a manner, particular in circumstances where the council could not meet at a specific time and when the matter has been considered urgent. During the sessions of the council, both attendance and demonstrated commitment toward the objectives of the council have been exemplary.

Penalty: Any person collecting and removing biological resources or protected resources without the respective

permit issued by the SBC pursuant to 1997 Ordinance is guilty of a criminal offence, punishable by a fine of fifty thousand ringgit, imprisonment for 3 years or both (Section 22). The SBC has utilised such empowerments in the past as demonstrated by the apprehension of three Japanese tourists who were caught stealing 31 wild orchids from the Mount Mulu National Park. The tourists were charged under the Wild Life Protection Ordinance 1995 and fined RM1, 500 (Genet). However, no statistics are available concerning the total number of arrests made, investigations initiated and prosecutions that have occurred under this legislation.

The driver for the legislation in Philippines is different than Sarawak. In Philippines, the EO 247 is not a Republic Act. So, it cannot include sanctions or penalties and can be amended at any time by the officer of the President without prior consultation.

Implementation briefing: Immediately after its implementation, the SBC organised a tour in Sarawak to introduce the legislation and its implementation. The SBC has also been in attendance at every State Divisional Meeting making presentations to ensure that other divisions are familiar with the legislation and the implementation. In 2000, the SBC organised an international conference as a forum to discuss the current development of all related issues with its international partners. Additionally, the SBC organises eight public lectures and two seminars for state and federal agencies. Unfortunately, there are no similar efforts made in regards indigenous peoples and foreign companies. The SBC should focus on efforts to brief indigenous peoples and foreign companies to ensure reasonable level groups of knowledge and awareness concerning the activities of the SBC and issues relating to bio-prospecting and biotechnology.

Technical committee: Currently, the SBC does not have fixed members for its Technical Committee although, it maintains a network with international technical advisors for purposes of evaluating research applications. Normally, when application is made, a copy of the proposal will be sent to the selected advisors for evaluation and report.

Due to the lack of local experts, the SBC relies wholly upon international advisors with specialities in relevant fields. Ironically, the SBC is relying upon foreign advisors to evaluate the research proposals of foreign companies submitting applications. The SBC is experiencing difficulty in appointing members of the international technical committee as the appointment requires the approval of the State Cabinet.

Monitoring system: The 2004 Regulation is not clear on whether a monitoring group was to be established to implement monitoring strategies, particularly at the point of collection and the point of export. Furthermore, 2004 Regulation do not specifically detail the manner in which the collection is to be performed although, in practice the collectors report to the SBC at a check in and checkout point. The resulting practice, in light of the absence of stringent guidelines concerning the collection of bioresources is insufficient. The fieldwork of collectors should be supervised at all times and the effort should also come to involve customs, police, forestry and immigration agencies. Such supervision would deter the possibility of violating the provisions of 2004 Regulation and agreements entered into with the SBC. The best solution is to establish a separate agency to ensure full compliance of the research permit by permit holder, throughout the course of the research.

Scope of implementation: By virtue of the amendments in 2003, the SBC will only regulate any access to genetic resources with potential in commercialization. Prior to the amendments, the SBC handled all research including taxonomy prior to the amendments and due to overlapping with the jurisdiction of Forestry Department, the scope of the SBC was narrowed to biological resources with commercial value. Due to the narrowing of the scope of the SBC, potential issues may arise concerning bioresources although, it is still too early to see the impact of the diminished scope.

Sharing mechanisms: Currently, the SBC does not have a specific mechanism or policy on how to share the benefits between the SGOS and the indigenous peoples. The reason given by SBC is that it involves 36 different ethnic communities with different social and economic background and must be determined on a case to case basis as some communities prefer monetary benefits such as trust funds and other communities tend to focus on development and involvement in the projects. Decisions on benefit sharing are left to be determined by the SGOS and the respective indigenous community. The SGOS should have standardised policies to cover various arrangements, financial or non-financial so that it will be able to suit any indigenous community on a case to case basis.

Traditional knowledge documentation: While the SBC should receive recognition on its effort to document traditional knowledge in Sarawak, it is observed that many more could be done by SBC to ensure success of these projects. SBC will only visit the communities once in

3 months. The communities were left on their own to plan and carry out the project according to the plan. The current SBC's supervision involving the visitation of indigenous peoples once every 3 months should be increased and the SBC should have residence officer at each participating village to ensure the communities have assistance and facilities available as required. The rate of progress of the SBC's projects do not compare to similar efforts in other states. While the SBC has spent years to compile the data required for traditional knowledge documentation, India and China have progressed to the use of traditional knowledge digital libraries in which traditional knowledge documentation is accessible in international languages. Arguably, more effort and resources are required to ensure the success of this project.

Consultation and participation of indigenous peoples: The situation in Sarawak fails to demonstrate the importance of stakeholder participation in the development of ABS policy in Sarawak as it has not facilitated the participation and consultation of indigenous peoples in the process of establishing policies and guidelines. Similar to the Philippines, Sarawak has multiple stakeholders. While a consultation process involving multiple stakeholders may be complicated, time consuming and costly, the constraints do not justify the failure to ensure ABS legislation undergo an extensive consultative process. Active stakeholder participation in policy drafting, coupled with a broader consultative process, facilitates policy implementation by raising the awareness of those affected and responsible for administration; helping to identify and address the concerns of different stakeholders; generating a sense of policy ownership; triggering public discussion and motivating collective action and improving the practical feasibility of a policy (Bengwayan, 2003).

CONCLUSION

Formulated as a dedicated or stand-alone state law on access and benefit-sharing, 2004 Regulation suppose to constitute comprehensive piece of ABS legislation in Sarawak. However, the discussions in this article demonstrated that the Sarawak ABS legislation has failed to address many ABS issues especially on indigenous peoples' capacities to participate and negotiate equally and the failure of the legislation to put in place the PIC mechanism. The legislation should have been improved through 2004 Regulation. The 2004 Regulation has been amended in 2004 and the SGOS has the opportunity to address all the issues through the amendments. Criticism

was raised from all angles especially from stakeholders' point of view. Thus, Sarawak has failed via its ABS legislation to conform to ABS requirements as reflected in the CBD.

The basic foundation of ABS legal framework in Sarawak is not compatible to Philippines. Unlike EO 247 and Department Administrative Order 96-20 which established the legal framework for bio-prospecting and regulation of access to biological resources in the Philippines, Sarawak ABS legislation merely provides a set of procedures and requirements for access to biological resources and seems to have failed to cover important bioprospecting or benefit-sharing issues. Unless this is improved, Sarawak will not have adequate legal infrastructure to support its involvement in biotechnology-related activities.

ACKNOWLEDGEMENTS

This study was presented at the SLSA Annual Conference in 2010 held at Bristol Law School, Bristol University, UK on 1 April, 2010. This research is part of the research funded by the Universiti Kebangsaan Malaysia through grants UKM-OUP-KPB-30-150/2009; UKM-UU-05-FRGS0082-2009; UKM-GGPM-CMNB-138-2010 and UKM-DIPM-103-2011.

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