

The Protecting of Biodiversity and Traditional Knowledge through the Access and Benefits Sharing (Opportunities and Challenges in Development of Aceh)

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Abstract.

This paper looks, opportunities and challenges to protecting of biodiversity and Traditional Knowledge (TK) through the access and benefits sharing in the development of Aceh. Therefore, interests of the economic, social, culture and political of biodiversity and TK, causing an increase in the economically value of biodiversity and TK. Indonesia has ratified the Convention on Biological Diversity (CBD) in Act Number 5 of 1994, as a rule in protecting of biodiversity through the Access and Benefits Sharing (ABS). In addition, has the Nagoya Protocol as the implementation of ABS regulations, but not yet ratified. And this is a challenge for Aceh region of Indonesia as one area that has a large biodiversity and TK, desired to protect of biodiversity and TK through ABS contracts. Such conditions require the attention of the government in making laws and regulations, enhance the knowledge and ability to negotiate or human resources so that the opportunity for profit are balanced in the development of Aceh.

Keyword : biodiversity, traditional knowledge, protection, aceh, development.

Introductions

This article discusses some key concepts to answer the question whether the opportunities and challenges of the protection of biodiversity and TK in the development of Aceh? Namely, the concept of TK and IPR, international conventions, national regulations and the interests of protecting biodiversity and TK, supported by theories.

Biodiversity including genetic diversity, species, ecosystems and human cultural diversity. From the diversity of biodiversity also appeared in supporting the various TK human life. Biodiversity and TK have a close relationship (Van Overwalle, Geertrui, 2005). Regarding both have value and become its own knowledge. Values and knowledge derived from genetic resources that are available. Repertoire of TK about biodiversity is reflected in the utilization patterns of biodiversity, traditional patterns of agriculture and nature conservation efforts are still living in the community (Winarto, R.E., 1999).

The existence of nature that provide biodiversity and TK is knowledge gained from processed natural resources by the community, then it has been used repeatedly and hereditary since time immemorial. Meaning, TK is derived from biodiversity assets, which includes some information on various types of biodiversity are processed for the purposes of foods and medicines.

Indonesia is ranked the world's second after Brazil in terms of biodiversity. A total of 5.1311 million biodiversity in the world, 15.3 percents of them are in Indonesia. And this has the potential to be used as medicine, and biological potential of this tremendous need to be explored and utilized for the health and welfare of the people of Indonesia (Based on data from the Ministry of Forestry Indonesia in 1994).

IPR dan TK Concept

TK with the Intellectual Property Rights (IPR) has a very different concept. Debate about the concept of IPR is strongly influenced by the style of European, which revolves around the creation, possession, transfer and utilization rights. As for traditional societies, it treats TK as the cultural heritage and does not care who the creator, owner,

who may take advantage and whether the rights to TK can be transferred or not (Michael Blakeney, 1997).

Because, the IPR is a concept of ownership that comes from the liberal state to protect of individual rights of IPR. This is inversely related to the concept of ownership of TK particularly in Indonesia who are in the realm of customary law with the main characteristics that promote communal interests (Endang Purwaningsih, 2005).

According IPR concept to protect TK, the patent related to the requirements of novelty, the terms in question are not the same technology in a technological invention that has never been revealed. In TK this novelty requirement difficult to fulfill because TK is the development of technologies that had previously been owned or discovered by generations of predecessors. In general, TK developed from generation to generation within a particular society, so that all members of society who live in the area aware of the technology contained in the TK. This condition, resulting from the use of technology in traditional societies usually done together always (Ahmad Zen Umar Purba, 2005).

So that, TK can be understood as a co-ownership of the community. In the TK is the element of the relationship between man and nature, both in terms of material and spiritual. This is to achieve balance the relationship between man with man, and man with nature. The balance between these components, the traditional community is the central point in life (Agus Sardjono, 2006), and in general looked at TK part of spirituality. All creation is sacred and holy, and the secular are inseparable. Spirituality is the highest form of consciousness, and spiritual consciousness is the highest form rather than consciousness (Posey, Darrel Addition, 1999).

International Conventions

United Nations Conference on Environment and Development, which is generally known as the Earth Summit, held in Rio de Janeiro, Brazil, in 1992, has produced the Convention on Biological Diversity (CBD). The conference has three main objectives, namely the maintenance of biodiversity, the use of components of genetic resources in a sustainable and equitable cooperation, mutual benefits from the existing genetic resources.

In objective of the CBD, the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding (Bernd Siebenhqner, et all., 2005).

The access and benefits sharing provisions of the CBD have caused controversial debates between developing and developed countries and among advocacy groups from indigenous and local communities to business and industry. In fact, the positions on ABS at the international level were, and to some extent still are, highly polarized. While representatives from countries providing genetic resources and many NGOs view companies and researchers that are involved in bioprospecting as biopirates, members of the business community regard the CBD as an illstructured and uninformed UN-process, governed by politicians who vastly over estimate the value of genetic resources (Ten Kate and Laird, 1999).

In accordance with the Charter of the United Nations, and the principles of international law, State have the sovereign rights to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction, or control do not cause damage to the environment of other States or areas beyond the limits of national jurisdiction (Article 3 CBD).

Against the interests to protect of biodiversity, Each Contracting Party shall, as far as possible and as appropriate: subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices (Article 8 (j) CBD).

In access to genetic resources, recognizing the sovereign rights of States over their natural resources, the authority to determine access to genetic resources rests with the national governments and is subject to national legislation (Article 15 (1) CBD).

Next, handling of biotechnology and distribution of its benefits is each contracting party shall take all practicable measures to promote and advance priority access on a fair and equitable basis by contracting of parties, especially developing countries, to the results and benefits arising from biotechnologies based upon genetic resources provided by those contracting of parties. Such access shall be on mutually agreed terms (Article 19 (2) CBD).

The paradigm of fair and equitable benefits sharing implies significant challenges and concerns into the debate in each Conference of Parties (COP), from COP 1 until to COP 10, that produces Nagoya Protocol. In a major achievement of COP VI, was the adoption of the Bonn guidelines on access to genetic resources and the fair and equitable sharing of the benefits arising from their utilization. The Guidelines were recognized as a useful first step of an evolutionary process in the implementation of relevant provisions of the convention related to access to genetic resources and benefits sharing. They will be kept under review by the COP and the need for their further refinement will be considered on the basis of relevant developments under the convention, including those on issues such as traditional knowledge, and technology transfer.

Later, The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their utilization to the CBD is an international agreement which aims at sharing the benefits arising from the utilization of genetic resources in a fair and equitable way, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding, thereby contributing to the conservation of biodiversity and the sustainable use of its components.

Mean, in Nagoya Protocol has been agreed and adopted in October 2010 is a comprehensive and effective arrangements in providing protection of biodiversity and ensure benefits sharing for Aceh region of Indonesia, as a wealthy area of genetic resources. As of this writing, Indonesia has not ratified the protocol.

National Regulations

Indonesia has ratified the CBD in Act No. 5 of 1994, but there is no specific legislation to protect of the biodiversity as a mandate of the CBD. During this time, setting the protection of biodiversity and TK under the IPR, as in the Patent Act, Copyrights, and Protection of Plant Varieties (PVP).

The protection of biodiversity and TK through IPRs, lack of benefits for our society, in the IPR system has the properties of individual ownership so that the capitalist society which does not have the capital and technological capabilities, do not have access to participate have such property. According to the Patents Act No. 14 of 2001, does not regulate how and where the origin of biodiversity and TK is acquired, so that would eliminate the moral identity of origin of biodiversity and TK. Even, eliminate the rights of communal ownership of the society due to patenting.

Can be interpreted that, the enforcement of provisions concerning patents on biodiversity and TK could potentially lead to biopiracy in Indonesia, this is still limited because of new discoveries. While farmers and citizens who have long been maintaining biodiversity is not protected. This is because, the provision applies in the middle there is no clear regulations concerning to access of biodiversity by outsiders as well as the sharing of benefits from the utilization of biological materials by outsiders.

In article 10 of Copyrights Act No. 19 of 2002, has a statement that the state representing the interests of traditional communities in Indonesia. Whereas, In the PVP Act was, rights to plant varieties are exclusive and monopolistic (Articles 1 Paraghrap (1)-(2) PVP Act).While, the right of local varieties in the communities controlled by the state, implemented by the government, which shall provide the naming of local varieties. Terms of naming, registration, and use of local varieties as well as agencies that are

tasked to implement them, shall be further regulated by the government¹. Meaning, the PVP was the same with the provisions of the Copyright Act that the rights of society will be represented by the government.

Then Indonesia has the Draft Law on Genetic Resources, Traditional Knowledge and Folklore (SDGPTF), but until recently, protection of biodiversity and TK in Indonesia does not get better. In Aceh has Conservation of Natural Resources Qanun No. 20 of 2002, but only regulate the procedures for wisely the management of natural resources.

The Interests to Protect of the Biodiversity and TK (Opportunities and Challenges)

The legal protection of biodiversity and TK and the equitable sharing of their benefits have gained wide concern in civil society. It has triggered stakeholders, government officials, politicians and scholars to screen various existing instruments and to develop new lines of thought (Van Overwalle, Geertrui, 2005).

There are many reasons to protect biodiversity and TK, because the economic value as a source for the dependent poor people (Maureen Liebl & Tirthankar Roy, 2004). Not just from the economic aspect, for developing countries assume TK is also a legacy of their ancestors, have cultural and social values (Posey, Darrel Addition, 1999), so that protection of TK is a requirement that is quite important (Shahid Alikhan, 2009).

Politically, many parties that are contrary to the values and goals set forth in exploiting biodiversity. This issue is caused by uncertainty in the use of biodiversity and conservation measures (Nicholls and Margules, 1993). They are excited, not only for political reasons, but also in economic theory would have the incentive for the conservation of biodiversity and can support the government to protect biodiversity (David R. Downes, 1993).

The reason for preserving biodiversity and TK, especially in developing countries, it was reported that 90 percent of the genetic information and TK can be found in that country (Rural Advancement Found. Int'l (RAFI), 1994), but in some places in the world already are on the scale decreased sharply, and was replaced by industrial development in order to achieve rising living standards. It is clear that, all the government considers genetic resources will be a key resource for economic benefits in the 21st century. Legal aspirations of developing countries trying to take control over income and resource conservation. While the developed countries to protect their interests focus on market access for products of biotechnology, access to resources in situ, security research and conservation of these resources (Thomas Cottier, 1998).

If associated with the theory taught by Thomas Aquinas, that human nature is teleological, have a tendency to focus on specific goals (Thomas Aquinas in Darji Darmodiharjo & Shidarta, 2006).

Implicit in the theory implies that biodiversity and TK generated from human created is not only excellence reason, but also the faith given by God. On this basis, the protection of biodiversity and TK actually not only to economic rights of individuals, but also against the interests of spirituality (the values of the divinity and humanity) which actually lies within every human being. Thus, protection of biodiversity and TK that contains the values of social, cultural and spiritual can be a philosophical foundation.

Looking at the geographical, topographical, and climatic conditions including the Aceh region of Indonesia is a rich, provide great benefits for the creation of high biodiversity value. This is a great potential in supporting the development of Aceh because of its existence as a natural resource that can be updated. However, because the protection of these resources are still weak, then the potential is even more widely used by foreigners illegally.

Therefore, the establishment of a national regulatory system should be capable of supporting TK and community rights (Coenraad Visser, 2006), for national regulations to prevent abuse of biodiversity for commercial purposes without compensation (Sylvia I. Martinez, et all, 2010). Ownership for accessing biodiversity are put to the state

¹ Article 7 PVP Act.

(Sabreena Raman, et al., 2005). Countries have a strong right (Carmen Richerzhagen, 2005), authority (Hamdallah Zedan), competent (Michael I Jeffrey, 2002), and sovereignty (Jeffrey P. Kushan, 1995), to support and responsibility (Hamdallah Zedan, 2005), to protect indigenous peoples (Van Overwalle, Geertrui, 2005), and biotechnology consumers (Sabreena Raman, et al., 2005), in the access to biodiversity and TK (Michael I. Jeffrey, 2002).

In this regard, the central and district governance in managing the use of biodiversity is needed, including the role of local communities (Aceh) and non-governmental organizations (NGO). This is a big challenge for Aceh region of Indonesia, to protect of biodiversity and TK, because the device is not ready in legislation, technology, still lacking of research studies, and the human resources has limited.

Similarly, in making the contract, usually in negotiating the contract, the parties do not have the technology to have a low bargaining position. ABS contracts between developing and developed countries is not balanced (Van Ovawalle, Geertrui, 2005). Bargaining position of developing countries are generally weak that profit sharing is less promising (Dutfiel, G., 2000). This, because of language problems, lack of experience or knowledge in drafting the contract (Silke Von Lewinski, 2008).

Thus, the formation of legislation in Aceh, should put the law as a means of renewal, order and legal certainty. Thus, the formation of these laws can protect biodiversity and TK in Aceh region of Indonesia. As in Sociological Jurisprudance doctrine developed by Roscoe Pound. That laws are made to pay attention to laws that live in the community (living law), whether written or unwritten, and good law is the law in accordance with the laws that live in a society that reflects the values that live in the community (Roesco Pound in Marni Emmy Mustafa, 2007).

In his thinking, the law is not a static condition, but a process. The establishment of law, interpretation and application should be linked with social facts (Otje Salman , et al., 2004). Thus, the law should serve as a means of renewal, in addition to the means to ensure order and legal certainty (Khudzaifah Dimiyati, 2004).

In the legal establishment, there are three interests that must be protected by the law of personal interests, social interests, and public interests (Roesco Pound in Marni Emmy Mustafa, 2007). In all three interests, the law must be able to hold the balance and minimizing tension between them in order to achieve satisfaction for the needs of society as a maximum as the ultimate goal of the law. This reasoning is based on one of the legal function as a tool of social engineering (a means of social reform). The law does not only take sides on how to provide economic benefits to the individual, but also there must be norms governing how to provide benefits (William A. Shrode , et al. in Esmi Warassih, 2005).

In Aceh, has opportunity to get benefits as a source of revenue and the district, community and farmers, while preserving biodiversity is still lacking. Because, in addition to the lack of bargaining power in contract, is still the lack of technology and knowledge. As for the larger benefits, requires a research, biodiversity research and high technology. That would require cooperation with enterprises that have high technology to get results. Research on biodiversity, will result in drugs with high economic value. In order for these opportunities can be maximized, all parties should cooperate in responding to the challenges they faced, so as to encourage the development of Aceh.

Conclusions

Protection of biodiversity and TK through an ABS contract opportunities in encouraging development of Aceh. Because the ABS contract may provide benefits to the community providers of biodiversity and TK. Meaning, people's rights can be accumulated in ABS contracts. But the conditions as mentioned, will be realized if the government response in answering the challenges in protecting biodiversity and TK through ABS. The government desired to answer the challenge by strengthening national arrangements, providing funds for research, improvement of human resources, and provide sufficient knowledge for the community. So that, the bargaining position of countries and communities in making better the ABS contract to get a fair benefits.

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References

- Act Patent No. 14 of 2001.
Act Copyrights No. 19 of 2002.
Plant of Plant Varieties No. 29 of 2000.
Agus Sardjono. 2006. Hak Kekayaan Intelektual dan Pengetahuan Tradisional. PT. Alumni, Bandung.
Ahmad Zen Umar Purba. 2005. Hak Kekayaan Intelektual Pasca TRIPs. Penerbit Alumni, Bandung.
Bell, Graham. press. Comm. Di kutip daripada laman web <http://redpath-museum.mcgill.ca/Qbp/2.About%20Biodiversity/importance.html>. Dikunjungi tanggal 18 September 2011.
Benrd siebenhuner, et all. 2005. Implementing the access and benefit-sharing provisions of the CBD: A case for institutional learning. *Ecological Economics* 53, 507-522.
Carmen Richerzhagen. 2005. The Effectiveness of Access and Benefit Sharing in Costa Rica: Implications for National and International Regimes. *Ecological Economic* 53, 445-460.
Coenraad Visser. 2006. Biodiversity, Bioprospecting and Biopiracy: A Prior Informed Consent Requirement for Patents. *Afr. Mercantile Law Journal* 18, 497-507.
David R. Downes. 1993. New Diplomacy for the Biodiversity Trade: Biodiversity, Biotechnology, and Intellectual Property in the Convention on Biological Diversity. *Touro Journal of Transnational Law*, Vol 4.
Dutfiel, G. 2000. *Intellectual Property Rights, Trade and Biodiversity*. UK, Earshan Publications.
Endang Purwaningsih. 2005. *Perkembangan Hukum Intellectual Property Rights Kajian Hukum Terhadap Hak Atas Kekayaan Intelektual dan Kajian Komparatif Hukum Paten*. Bogor, Ghalia Indonesia.
Hamdallah Zedan. 2005. Patents and Biopiracy: The Search for Appropriate Policy and Legal Responses. *Brown Journal World Affairs*, Vol. XII, Issue 1, 189-205.
Jeffrey P. Kushan. 1995. Biodiversity: Opportunities and Obligation. *Vand. Transnat'l law* 28, 755-761.
Khudzaifah Dimiyati. 2004. *Teorisasi Hukum : Studi tentang Perkembangan Pemikiran Hukum di Indonesia 1945-1990*. Muhammadiyah University Press, Surakarta.
Marni Emmy Mustafa. 2007. *Prinsip-Prinsip Beracara dalam Penegakan Hukum Paten di Indonesia dikaitkan dengan TRIPs-WTO*. PT. Alumni, Bandung.
Maureen Liebl & Tirthankar Roy. 2004. *Handmade In India, In Poor People's Knowledge*. Journal Ichael Finger & Philip Schuler, Eds 2.
Michael Blakeney. 1997. Bioprospecting and Protection of Traditional Medical Knowledge of Indigenous peoples : An Australian Perspective. *Ueropean Intellectual Property Review*, Vol. 19.
Michael I Jeffrey. 2002. Bioprospecting: Access to Genetic Resources. *Singapore Int'l Journal* 6, 747-808.
Nicholls and Margules. 1993. An Upgraded Reserve Selection Algorithm Biological Conservation. *Biological Conservation*, Vol 64, 2, 165-169.
Otje Salman & Anton F. Susanto. 2004. *Beberapa Aspek Sosiologi Hukum*. PT. Alumni, Bandung.
Posey, Darrel Addition. 1999. *Cultural And Spiritual Values Of Biodiversity*. UNEP-Intermedite Technology, Nairobi.
Posey, Darrel Addition. 2000. *Introduction : Cultural and Nature dalam Cultural and Spritual Values of Biodiversity*. UNEP-Intermediate Technology Publications. Nairobi.

- Roesco Pound dalam buku Marni Emmy Mustafa. 2007. Prinsip-Prinsip Beracara dalam Penegakan Hukum Paten di Indonesia dikaitkan dengan TRIPs-WTO. PT. Alumni, Bandung.
- Rural Advancement Found. 1994. Conserving Indigenous Knowledge: Integrating Two Systems of Innovation. Int'l (RAFI), IV. It is reported that South America has the largest concentration of plant species, the peak being the combined flora of Colombia, Ecuador and Peru.
- Sabreena Raman. et all. 2005. Biotechnology: Need for a Change, Malayan Law Journal Articles, Vol. 1.
- Shahik Alikhan. 2009. Intellectual Property and Competitive Strategies in the 21st Century. Second Ed. Kluwer Law International.
- Silke Von Lewinski. 2008. Indigenous Heritage And Intellectual Property, Genetic Resources, Traditional Knowledge. Kluwer Law Internasional, The Nedherland.
- Sylvia I. Martinez, et all. 2010. Scientists-Take Action for Access to Biodiversity. Curren Opinion in Environmental Sustainability, 2, 27-33.
- Ten Kate, K., Laird, S.A., 1999. The Commercial Use of Biodiversity. Access to Genetic Resources and Benefit-sharing. Earthscan Publications, London.
- Thomas Cottier. 1998. The Protection Of Genetic Resources and Traditional Knowledge: Towards More Specific Rights And Obligations In World Trade Law. Journal of International Economic Law, 40 of 45, 555.
- Thomas Aquinas dalam buku Darji Darmodiharjo & Shidarta. 2006. Pokok-Pokok Filsafat Hukum : Apa dan Bagaimana Filsafat Hukum Indonesia. PT. Gramedia Pustaka Utama, Jakarta.
- Van Overwalle, Gertrui. 2005. Protecting and Benefit Sharing Biodiversity and Traditional Knowledge: Holder and user Tools. Economical Econ, 53, 585.
- William A. Shrode & Dan JR. Voich. 1974. Organization And Management, Basic System Consept. Florida State University Press dalam buku Esmi Warassih. 2005. Pranata Hukum Sebuah Telaah Sosiologis. PT. Suryandaru Utama, Semarang.
- Winarto, R.E. 1999. Pertanian Organik dan Budidaya Tanaman Padi Jawa (var. Lokal) dengan Kearifan Tradisional, Selaras Alam dan Ramah Lingkungan, Prosiding Makalah Lokakarya Konservasi Indigenous Knowledge di Trawas. Pusat Pendidikan Lingkungan Hidup, Trawas.