

Biopiracy and Access to Biological Resources:
International Law Perspective

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Abstract

This article deals with the issue of biopiracy from the perspective of international law. It examines in detail the leading international instruments in this field, the Biodiversity Convention and the Bonn Guidelines that were adopted by the parties to the Convention to facilitate access to biological resources and to ensure the fair sharing of benefits from its access. It is noted that even though conservation of nature was one of the moving forces for international law in regard to biodiversity, the international law is now determined mainly by intellectual property considerations. The author attempts to examine the fundamental principles which lie at the foundation of the international law on biodiversity: patentability, ownership, access and distributive justice. He concludes that international law fails to give proper attention to the ethical concerns of traditional communities.

Keywords: biopiracy, biological resources, international law

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1. Introduction

Some scientists are accused in biopiracy¹ when they, for example, find herbs with medical properties, and sell the patents to drug companies while the native people, whose knowledge they use, get nothing. This paper examines the state of international law in relation to biopiracy which is defined here as an unauthorized access to national biological resources and the traditional knowledge of using it, by a foreigner with the purpose of getting material profit. The main question to be answered is whether or not biopiracy is a legal offence according to international law. If so, what are the moral grounds for its illegality? This basic question cannot be satisfactorily answered without looking at the issue of patentability of biological resources or their other status as the object of intellectual property rights. Putting the problem more generally: can the bio resources, and genetic resources in particular, be an object of property for example, by the state, indigenous people, communities or individuals? Does it mean, then, that it is illegal for the scientists to go abroad and collect samples of biological resources and then reuse them in the third countries? Should the pharmaceutical companies share their profits with traditional communities who contributed their knowledge to the development of medicines? These legal and moral questions are falling within the international agreements on biodiversity which has become one of the major fields of international law.

Biodiversity has been the object of international law for over the century. It has been defined as “the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.”² Biological resources are defined as including genetic resources, organisms or parts thereof, populations, or any other biotic component of

¹BBC, **Amazon moves to curb bio-pirates** [Online], available URL: <http://news.bbc.co.uk/1/hi/world/americas/212560.stm>, 2016 (March, 26).

²Convention on Biological Diversity 1992, article 2.

ecosystems with actual or potential use or value for humanity. In this paper, biological resources will be conceived mainly in terms of genetic resources unless otherwise indicated.

International law aims at the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.³ The first significant convention was signed in 1900 (*London Convention for the preservation of Wild Animals, Birds and Fish in Africa*). Another agreement – *Whaling Convention* was signed in 1931. Among many conventions related to biodiversity the most important is *Convention on Biological Diversity* (CBD) signed in 1992. US signed but not ratified the convention. Many other countries, such as UK, China, Russia, Thailand ratified the convention. The CBD is a major source of international environmental law concerning biodiversity. In order to examine the meaning of its provisions on access to biological resources, one must understand the overall structure and purpose of this agreement. The Convention imposes on the states a duty to cooperate in conserving and managing biological resources. The nature of the duty is moral rather than legal, because the Convention does not actually force any given state to participate. It simply calls the states to cooperate “as far as possible and as appropriate.”⁴ At the same time the states carry the responsibility to ensure that activities within their own jurisdiction or control do not cause damage to the environment of other states.⁵ There are several obligations, although not very specific, imposed on the states by the Convention. A state must develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity.⁶ A state must actively promote such use. It must adopt measures to avoid or minimise adverse impacts on biological diversity.⁷ A state must protect and encourage customary use of biological resources

³Convention on Biological Diversity 1992, article 1.

⁴Ibid., article 5.

⁵Ibid., article 3.

⁶Ibid., article 6.

⁷Ibid., article 14.

in accordance with traditional cultural practices.⁸ It carries a duty to 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. When speaking about conservation of biological resources, the Convention deals with two types of conservation: *in situ conservation* and *ex-situ conservation*.⁹ The first deals with the conservation of genes, species and ecosystems in the surroundings where they have developed their distinctive properties. The second deals with the conservation outside the natural habitats in so-called gene banks and zoological and botanical gardens.

The origins of international movement for biodiversity originally were not connected to the property issues. It lay in ecological ethics which argued that other forms of life have moral rights deserving legal protection. However, nowadays the importance of biodiversity comes not only from the need to care for the nature, but is also caused by economic interests. Since the development of genetic engineering biodiversity becomes one of the conditions of getting economic profit from using genetic materials in commercial production. There is an increasing concern that the development of biotechnology carries negative side-effects on the environment.

2. Biodiversity and Intellectual Property

The issue of biodiversity links international environmental law with international economic law, particularly with the regime of international protection of intellectual property. Traditionally, intellectual property rights (IPRs) could not cover plants and other living organisms. They were mainly applied to industrial innovations. The reasons for that were that IPRs (patents in particular) were reserved for innovations exclusively, and not for discoveries. There were also ethical reasons. The USA was the first country which allowed patenting living organisms created by genetic engineering. Europe had a more cautious approach, but it has

⁸Convention on Biological Diversity 1992, articles 8 and 10.

⁹Ibid., articles 8 and 9.

recently allowed patentability of living organisms. Most of the developing nations resist this tendency. The reason is that they possess resources. Most of biological resources of the world are found in the developing countries like Thailand. The developed countries, however, have capital, knowledge and technology to use those resources. Thus international environmental and economic laws reflect this conflict between the developed and developing countries. This conflict finds its expression in the rules of accessibility and ownership of biological resources. Law needs to find a balance between those who own knowledge and those who own resources.

Patent law normally covers inventions not discoveries. The UK Patents Act 1977 excludes discoveries from being patentable.¹⁰ The US law, however, may cover discoveries too, providing that they can be utilized.¹¹ Anyway, one problem with the biological resources is that sometimes it is difficult to draw a line between discovery and invention. For example, in the case of bio-pirates in Brazil, the traditional knowledge in using medical properties of plants can be seen both as a discovery and innovation. The fundamental problem with the rights of the traditional communities in respect of their knowledge and the use of biological resources is that it cannot be patented according to the Western law. The US law on patents says:

“Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent there for.”¹² Then it states among other conditions that

A person shall be entitled to a patent unless -

(a) the invention was known or used by others...

(f) he did not himself invent the subject matter sought to be patented.¹³

¹⁰ UK Patent Act 1977, section 1.

¹¹ US Code, title 35, section 100.

¹² Ibid., section 101.

¹³ Ibid.

Thus, the patent law is deeply individualistic. It acknowledges the rights of an individual, but it cannot grasp the possibility for a community to be an owner of a patent. At the same time, the pharmaceutical companies can patent that knowledge through minor additions to it. The success of the revocation of the patent on Neem tree oil is an exception rather than a rule.

In 1995, the European Patent Office granted a patent to the US Department of Agriculture and multinational agriculture company W R Grace.¹⁴ It covered a method of using the Neem tree oil for fungicidal purposes. The Neem tree has been used for centuries as a medicine, insecticide and contraceptive. Many plants have already been patented - mainly in the US. Around 70 patents have been taken out on products from the Neem tree alone. Genes from nutmeg and camphor have also been patented with the aim of producing their oils artificially - a move which would hit producers in developing countries. Subsequently, the granting of the patent was challenged by Green party politicians in the European Parliament and other pressure groups. They oppose big business owning the rights to living organisms because they say the livelihoods of poor farmers in developing countries will be undermined. At a later hearing, the manager of an Indian agriculture company proved that he had been using an extract of Neem tree oil for the same purpose as described in the patent several years before it was filed. For this reason the EPO said the method couldn't be patented. The European Patent Office eventually revoked a patent granted some years ago on an anti-fungal product, which uses seeds from the Neem tree grown widely in India.¹⁵

It is estimated that plants and animals from tropical countries are worth more than 20bn pounds a year to major pharmaceutical companies and until now,

¹⁴BBC, **Neem tree patent revoked** [Online], available URL: <http://news.bbc.co.uk/2/hi/science/nature/745028.stm>, 2016 (March, 28) and Henry K. Moyer, "Patenting Neem and Hoodia: Conflicting decisions issued by the opposition board of the European Patent Office," **Biotechnology Law Report** 27, 1 (2008): 1-10.

¹⁵Silke von Lewinski, "Indigenous heritage and intellectual property: genetic resources, traditional knowledge and folklore," **Kluwer Law International** (2008): 75.

very little of that money has gone back to the developing world.¹⁶ Pharmaceutical companies are the ones who benefit from the traditional knowledge, not the traditional community which have discovered, utilized and preserved that knowledge. The fundamental legal and moral issue is that if businesses have the right to protect their inventions, why the traditional communities should be deprived of it? This issue becomes particularly sensitive in relation to biological resources which are vital for the whole humankind and the rest of the environment. Is this an area where the patents should not be granted at all? The reason for denying patents is that it is in the interest of public to preserve the knowledge of biological resources in the public domain, and because granting patent protection to the businesses only and not to the real inventors would be immoral. The patent law contains normally the provisions which allow the regulators to exclude certain areas from being patented. According to English law “a patent shall not be granted for an invention the commercial exploitation of which would be contrary to public policy or morality.”¹⁷ It is an interesting fact that the US patent legislation does not express the same idea.

It is true that protection of traditional knowledge does not need necessarily to acquire a form of patents. The moral and economic justification of patents is to encourage and protect the inventors. In the case of biodiversity, however, the interest is to preserve and protect the variety of plants and species through their selection and cultivation. Therefore, it seems logical to grant certain rights to the farmers so that they can benefit from, and also try to preserve biodiversity. There are already special rights of the breeders which are different from patents. The rights of the breeders are not as stringent as those of innovators, which allow other people to use the result of breeder’s achievement for further development without restriction. At the same time, the economic rights of the breeders are protected.

¹⁶Shahid Alikhan and Raghunath Mashelkar, “Intellectual property and competitive strategies in the 21st century,” **Kluwer Law International** (2004): 80.

¹⁷UK Patent Act 1977, section 1 (3).

There is an international legal regulation of plant breeder's rights, but not animal breeder's rights by the *International Convention for the Protection of New Varieties of Plants* (UPOV Convention) 1961. It was revised many times. All major countries of the world are parties to the Convention. Thailand is not a party to this Convention. The purpose of the UPOV Convention is to ensure that the states acknowledge the minimum scope of the plant breeder's right. The Convention requires that the breeder's prior authorization is necessary for the production of the protected plant variety when it is done for purposes of commercial marketing. The TRIPs agreement requires member states to provide protection for plant varieties either by patent or by an effective sui generis (stand alone) system, or a combination of the two.

In other words, patent is not the only form of protecting the rights of the breeders of new animal and plant varieties. The businesses, however, always try to get patents because they give them more benefits by preventing any other people even from non-commercial use of everything related to the patented invention.¹⁸ The main problem is that neither patent nor sui generis rights of breeders can help farmers who use traditional knowledge. The main obstacle in granting protection to traditional knowledge is the difficulty of identifying the subject or the bearer of the right to the protection. Traditional knowledge can be seen as possessed by the community as a whole and as by a group of individuals within that community.

Let us suppose that there is a specific law which requires the pharmaceutical companies to give a share of their profits to the community where the source of information on the medical properties of certain plants is originated. Who exactly shall receive that benefit? The person who provided the information or the whole village? If it is the first, then the law may appear unfair, since that person may have got the knowledge from his neighbour. If it is the local community, then the whole complex of distribution problems arises. The first problem is to identify the community itself. The knowledge of a particular medical property of a plant can be

¹⁸Cornell Law School, 35 U.S. Code § 271 - Infringement of patent [Online], available URL: <https://www.law.cornell.edu/uscode/text/35/271>, 2016 (March, 19).

shared by many villages. There would be also a problem with the enforcement of such law.

Another solution would be to declare all the knowledge of biological resources to be common property of the humankind, denying all patents and other forms of intellectual protection in this area. There is a trend to support such a solution. This knowledge and the ownership of the resources are different matters. The issue of ownership requires a separate consideration. As for intellectual property rights it appears that granting patents to the Western pharmaceutical companies on products derived from traditional knowledge is deeply unfair, as long as, first, it does not channel fairly and equitably the benefits to the bearers of traditional knowledge, and second, it bars medical products produced by traditional communities from being exported to the countries where the companies secured the patents on similar products.

3. Ownership of Genetic Resources

Since international law nowadays remains mainly a product of what the states have agreed on, the problem of property in relation to biological resources is being solved in favour of the states. The Convention on Biological Diversity affirms that the states have sovereign rights over their biological resources.¹⁹ In other words, the states determine the ownership status of biological resources within their jurisdiction. When speaking about the ownership of the resources, the Convention does not clearly cover the issue of ownership. According to Article 3 the states have the sovereign right to exploit their own resources pursuant to their own environmental policies. Exploiting, however, is not necessarily owning. There is the Indigenous and Tribal Peoples Convention which guarantees to the indigenous people like those in Brazil the right to participate in the use, management and conservation of these

¹⁹See the Preamble of the Convention.

resources.²⁰ However, many countries like the USA, Russia, Thailand, and China which have significant indigenous minorities have not ratified this convention. Brazil has ratified it recently. Nevertheless, the right is expressed in very general forms, and it is not clear whether the indigenous people can claim any rights under that convention in the case of biopiracy.

Thus, leaving the issue of ownership of biological resources to the good will of sovereign states does not seem to help indigenous people very much. Should it be there a comprehensive doctrine of ownership of biological resources in international law which does not rely on the discretion and policy of individual states? Since biological resources cover the whole variety of living organisms and their parts it is very unlikely that the unified international rules of their ownership can be offered. It is possible, however, to set up such rules in relation to specific types of biological resources, like genetic resources. In fact, one way to solve the problem of biopiracy is to declare all genetic resources to be common ownership. In international law, common ownership or common management of a given resource is referred to as “common heritage of humankind”. It is applied to Antarctica and deep seabed resources. It implies not only that all states have equal access to the resources, but also that all states should benefit from the exploitation of a given “common resource” whether they actually participate in exploitation or not. Common heritage is different from the concept of open access which is characterized by the absence of property rights. In this respect, a question whether certain biological resources and the knowledge of their use, must be considered as a common heritage, involves important implications for international environmental law.

Declaring genetic resources to be common ownership would reinforce moral right and legal basis for indigenous people, and not only for them, to participate in sharing benefits derived from the exploitation of biological resources and the traditional knowledge about them. It would also direct both the developed

²⁰International Labour Organization, **C169 - Indigenous and Tribal Peoples Convention, 1989 (No. 169)** [Online], available URL: https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C169, 2016 (August, 16).

countries and the developing countries towards cooperation rather than competition. There are, however, several arguments against this move. The first is that the developing countries would lose their control over their biological resources. Secondly, the developed countries will lose the incentive to develop their technology since it will become a part of the public domain as long as biotechnology cannot be separated from a biological resource. These arguments are correct. There are, however, significant benefits in forsaking the idea of national or individual ownership of genetic resources. The developing and the developed countries will be relieved from much of the burden of governmental regulation and control of those resources. There will be no need to employ the army of lawyers and officers to enforce genetic property rights around the world. It will provide also with the basis to limit the exploitation of the resources by private companies. Whatever they do with a genetic resource, will remain in common ownership.

Legally assigning the ownership rights to the economically poor countries with the rich biodiversity and intellectual property rights to the countries with developed technology creates an atmosphere of conflict. This conflict results in that bio resources are pirated as well as the objects of intellectual property rights. Declaring biological resources and biotechnology as common heritage of humankind would provide a strong bond of cooperation between the states, rather than competition. It would also solve the third complex of problems related to the access to the biological materials, along with two other issues: first, intellectual property on the results of scientific research in the area of biological resources, and second, the ownership itself of genetic resources. The regulation of the access to biological resources is one of the growing areas of national legislation.

The disadvantages of such regulation have been briefly discussed above. On the one hand, it is unlikely that such regulation will prevent proliferation of biopiracy. On the other hand, it can hinder the development of research in many areas of biological science. An open access to biological resources could be an option. The IU or *International Undertaking on Plant Genetic Resources* was agreed

on in 1983.²¹ Article 1 of the Undertaking stated that “This Undertaking is based on the universally accepted principle that plant genetic resources are a heritage of mankind and consequently should be available without restriction.” This principle has been rejected by the Biodiversity Convention in 1992 which replaced it with the principle of the sovereign right of the states to exploit their own resources.²² The rejection of the principle of common heritage of genetic resources has been reaffirmed in another important agreement: the *Treaty on Plant Genetic Resources for Food and Agriculture*.²³ Thailand signed but not ratified it yet. The US, UK and Germany ratified it. China and Russia are not parties to the Convention.²⁴ The Treaty came into force in 2004.

4. Access to a Genetic Resource

The Convention on Biological Diversity provides a general legal framework of access to biological resources. Article 15 acknowledges again the sovereign right of the states to determine access to genetic resources. At the same time, the states must not impose restrictions on sound uses by other states. Access is provided on “mutually agreed terms” and is subject to the “prior informed consent” of the country of origin. The procedure of obtaining such consent has been developed in detail in *Bonn Guidelines* (2002) adopted at a meeting of the UN Convention on

²¹Food and Agriculture Organization, **International Undertaking on Plant Genetic Resources** [Online], available URL: http://www.fao.org/wiews-archive/docs/Resolution_8_83.pdf, 2017 (September, 21).

²²Convention on Biodiversity 1992, article 3.

²³Food and Agriculture Organization, **International Treaty on Plant Genetic Resources for Food and Agriculture** [Online], available URL: <http://www.fao.org/3/a-i0510e.pdf>, 2017 (September, 25).

²⁴Food and Agriculture Organization, **International Treaty on Plant Genetic Resources for Food and Agriculture: Countries Membership** [Online], available URL: <http://www.fao.org/plant-treaty/countries/membership/en/>, 2017 (September, 25).

Biological Diversity by more than 150 countries,²⁵ and later in *Nagoya Protocol* (2010) signed by 92 countries.²⁶

Bonn Guidelines and *Nagoya Protocol* aim at helping developing countries share the benefits of the discoveries made with their biological resources. Companies would only be given access if they agreed to give a share of the profits or royalties from the products back to the countries in which they are operating. They cover access to genetic resources only. *Nagoya Protocol* (2010) goes beyond the Convention on Biological Diversity and the *Bonn Guidelines* by giving the right to the states to determine not only access to the genetic resources (Article 6 of the Protocol) but also access to traditional knowledge associated with genetic resources (Article 7). Companies would only be given access if they agreed to give a share of the profits or royalties from the products back to the countries in which they are operating. These guidelines are voluntary. That means that the states do not have any obligation to implement them. Indeed, everything depends on the good will of state authorities.

Bonn Guidelines and Nagoya Protocol attempt to bring some clarity in the issue of access and sharing profits so that all interested parties, which are called stakeholders in the document, including indigenous communities, can effectively participate in the sustainable use of biological resources. The guidelines and the Protocol are explicitly limited to genetic resources only. They try to make the process of access and sharing to the resources as clear, objective and transparent as possible. To a certain degree, the agreements succeeded in it. However, their successful application depends very much on the good will of the stakeholders. This is not only because the agreements themselves appear largely in a recommendation form, but also because the nature of obligations contained in the guidelines and the

²⁵Convention on Biological Diversity, **Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization** [Online], available URL: <https://www.cbd.int/doc/publications/cbd-bonn-gdls-en.pdf>, 2017 (October, 23).

²⁶United Nations Treaty Collection, **Chapter xxvii Environment** [Online], available URL: https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-8-b&chapter=27&lang=en, 2016 (May, 15).

Protocol is too broad. For example, it is said, “all stakeholders [should] take into consideration the environmental consequences of the access activities”. It is clear that without conscientious attempt of the stakeholders to do that, there are very limited external mechanisms to enforce this provision.

The guidelines and the protocol call on the states to designate one national focal point for access and benefit-sharing and make such information available through the clearing-house mechanism.²⁷ This focal point has to be used by the companies to find relevant indigenous communities. The agreements speak of the duty of the states of origin of biological resources to ensure that the commercialization and any other use of genetic resources should not prevent their traditional use. The problem is whether the pharmaceutical endeavor to present traditional medicines in the form of pills threatens their traditional use or not. The pharmaceutical companies, on the other hand, could argue that it would facilitate the use of medicines previously known to the limited circle of traditional communities.

It seems a positive step to require that the states where the genetic resources are used (the developed countries) should enforce compliance with the prior informed consent of the state where the resource is situated (the developing countries).²⁸ There should be mechanisms to provide information to potential users on their obligations regarding access to genetic resources; measures to encourage the disclosure of the country of origin of the genetic resources and of the origin of traditional knowledge, in applications for intellectual property rights; measures aimed at preventing the use of genetic resources obtained without the prior informed consent of the state providing such resources; mechanism to address alleged infringements of access and benefit-sharing agreements; and measures discouraging unfair trade practices. All those measures are required from the states according to the guidelines. However, there is at least one negative impact of enforcing all those measures. The scientific institutions and businesses will fall under increasing

²⁷Nagoya Protocol 2010, article 13.

²⁸Ibid., article 6.

control by the state which has to apply all those measures with the consequent burden on all the society.

There are many provisions in the guidelines and the protocol aimed at securing the interests of indigenous communities. For example, the state allowing access should inform those communities, and more than that to enhance their capacity to represent their interests fully in negotiations with those who seek to use their traditional knowledge. Among other things, the agreements state that those persons who seek access must respect customs, traditions, values and customary practices of indigenous and local communities.²⁹ They must respond to requests for information from those communities. The users of the resources are limited in their use according to the negotiated terms and conditions. If there is a need to use the obtained resources for other purposes, the users must get new prior informed consent. The users must maintain all relevant data regarding the genetic resource. They should as much as possible endeavour to carry out their use of the genetic resources in, and with the participation of, the providing country. All these provisions can be hardly enforced unless there is good will of all parties to adhere to these principles.

Thus, we can observe two general tendencies concerning the access to the biological resources. The first is that the state acquires more and more functions in controlling the access and the use to the resources. That implies the growth of governmental regulations and the bureaucratic machinery. The second tendency is the increasing reliance on the good will or conscience of the stakeholders to comply with access regulations. Looking from the developing countries perspective, both tendencies promise increasing inefficiency and corruption. There is little hope for traditional communities too, despite the promises contained in the Bonn Guidelines and Nagoya Protocol. It is stated that the providers, like traditional communities, should only supply genetic resources or traditional knowledge when they are entitled to do so. That virtually means an increasing control of the government over traditional communities. In a sense, their knowledge becomes the property of the

²⁹ Nagoya Protocol 2010, article 12.

state, which has the final word to agree or not to agree with the way the traditional communities handle their knowledge. It appears that the guarantees given to the traditional communities turn to be the means of the increasing control by the governments the way of living in those communities.

5. Sharing of Benefits

The general principle is that the donor countries of microorganisms, plants or animals used commercially have the right to obtain a fair share of the benefits derived from the use. These benefits can be expressed in the terms of money or in terms of sharing of research and development results. The need for the transfer of technology if it is necessary for the conservation and sustainable use of biological diversity is recognised in general terms. There is an expert body set up by the Convention on Biodiversity which is responsible for facilitating transfer of such technology and providing further advice.

Article 15 (7) of the Convention obliges the states to take legislative, administrative or policy measures “with the aim of sharing in a fair and equitable way the results of research and development and the benefits arising from the commercial and other utilization of genetic resources with the Contracting Party providing such resources. Such sharing shall be upon mutually agreed terms.” *Bonn Guidelines* and *Nagoya Protocol* attempt to clarify this particular issue. Even though the documents speak much more about access to the resources rather than sharing benefits, they have offered basic requirements for mutually agreed forms of sharing. The ethics of the terms is businesslike. They try to strike a balance between interests of different stakeholders, and this balance is primarily seen in economic terms. The main concern is to give benefits to the developing countries as long as they allow companies from the developed countries to access their biological resources. It has been claimed that this will give a financial incentive to protect the environment. The benefits, however, will likely remain with the governments rather than go to the communities. The size of the benefits is not determined and is

conditioned by allowing access to the resources. The agreements encourage creating complicated legal procedures and mechanisms for allowing access and sharing benefits. In the end, it seems that it will be the lawyers whose expertise will be needed, who will benefit the most from the implementation of those guidelines. Article 19 (2) of the Convention on Biodiversity, which covers handling of biotechnology and distribution of its benefits, says that “Each Contracting Party shall take all practicable measures to promote and advance priority access on a fair and equitable basis by Contracting Parties, especially developing countries, to the results and benefits arising from biotechnologies based upon genetic resources provided by those Contracting Parties. Such access shall be on mutually agreed terms.” The Convention did not say much more about the mechanism of sharing the benefits. Nagoya Protocol offers some mechanism but much depends on the circumstances of a particular case. To draw any specific rules applicable to all areas of the use of biological or even only genetic resources would not be practicable considering the variety of possible transactions. The agreements acknowledge that the requirements of fairness and equity will vary in the light of circumstances. It is wise to leave much to be determined in the light of the circumstances.

The international agreements reiterate the idea that there must be fairness and equity in sharing benefits. The legitimate question is who decides what is fair and equitable? It is clear that it is not the parties to the agreement. If it were the parties then it would be enough to say or simply imply that the access to the benefits and the way of their sharing is determined by the agreement of the contracting parties. On the contrary, the Convention affirms twice that the states are bound by the principles of equity and fairness. The terms which the states have to agree on, however, are not absolutely free from any restraints. It is clear that there is a need to develop a more precise concept of fairness and equity in international law.³⁰ In this respect, the Convention, the Guidelines and the Protocol failed to provide such a concept. It is possible to say that what the parties need is simply to

³⁰Thomas M. Franck, *Fairness in international law and institutions* (New York: Oxford University Press, 1995), p. 406.

apply their conscience and their perceptions on what is right and wrong. However, in the area of the use of biological resources we find more than a mere contact between the scientists, businesses and the state officials. There are also indigenous cultures involved, and different countries, all of which may have different perceptions on what is right and what is wrong.

Even though the specific requirements of equity and fairness for each particular case cannot be substantially determined in advance, there is a need for the principles which will assist the parties to find a common ground. The existing international agreements have failed to provide clear principles on the fair and equitable access and use of biological resources by a foreign scientist, except affirming the principle of commercial greed: the Nagoya Protocol, whose task was to elaborate the principles of the Convention, has spelled out so far only one principle – commercial profit and its sharing. Allowing free humanitarian and any non-commercial access and use of biological resources and their traditional knowledge is left to the will of the states. This is not enough to protect the environment and to meet moral obligations of different stakeholders.

6. Thai moral perspective

One of the most important contributions of Bonn Guide lines to the Convention on Biodiversity is the suggestion that the use of resources must be regulated in such a way so that ethical concerns of the particular parties and stakeholders are taken into account, and particularly the concerns of indigenous and local communities. In this aspect, the Nagoya Protocol offers very little. Nagoya Protocol tends to limit its scope to setting up the governmental control over the use and sharing of genetic resources and its knowledge particularly by the traditional communities to those who want to utilize them. One of the main reasons is that the major drive for international law in the field of biodiversity is securing intellectual property rights and resource ownership rights dominated by the ethics of individualism. This individualism is not limited to the individualism of physical persons, like scientists or

innovators who want to secure and profit from their discoveries and innovations. This individualism is rather a corporate thing, and it is identified with the interests of particular classes and groups of people who are very well organized and represented in the area of international politics. These groups are big businesses and state bureaucracies. The traditional and indigenous communities have little real power to negotiate international instruments.

In contrast to the spirit of international agreements, the ethics of traditional communities is not individualistic. In this aspect, Thai traditional ethics is collectivistic rather than individualistic.³¹ Many Thai folktales emphasize the importance of sharing of natural resources, mutual help, unselfishness, and self-sacrifice in mutual relationships. They teach to care for the poor and needy, to prefer each other's needs.

One Thai folk story is particularly instructive. It is called WHO IS A SINNER?³² Its content is the following. There was a headman of the village, a very righteous person. He never sinned and always made merit. He cared very much for the villagers (the story uses, instead of the word "villagers", a formal word: raatsadon – "citizens" which is uncommon for folktales, but which draws an association with high politics). He decided to build a temple with the help of the villagers, who were very willing to help. When the construction of the temple was finished an abbot was appointed, and the headman himself became a benefactor of the temple. The abbot asked for cow's skin to cover the temple's drum. The headman went to look for some skin but could not find any. Eventually, one cow was willing to give her own skin. The headman cut some skin off from the back of the cow, causing her immense suffering. The suffering continued even after the work was done since the wound had not healed. It produced a rotten smell which attracted vultures. At the same time the wife of a hunter, due to her morning sickness, wanted some unusual curry made of vultures. The hunter found a vulture sitting on the tree under which the cow found a place of rest in her suffering. The hunter shot at the vulture, but missed the target. The bird flew from the tree breaking a huge branch, which fell

³¹Alexander Shytov, **Thai Folktales and Law** (Chiang Mai: Acts, 2004).

³²Ibid., p. 179.

down on the cow and killed her. The teller leaves the listeners with a question who is responsible for the death of the cow: the abbot, the headman, the wife of the hunter, or the hunter himself?

These stories provide an image of Nature, which sacrificed itself to the ambitions of human race, who are like vultures seek her to devour. Indeed, big businesses, state officials and lawyers – all look, from the point of view of Thai folk wisdom, like the army of flies teemed around a dying poor creature. They lack love, compassion and mercy. The only thing they want is to get their share at their feast. But this feast is the death of Nature. This as well as many other traditional Thai stories teach that the use of natural resources must not harm others. In contrast, the present biodiversity rules encourage competition and selfishness. Access to biological resources is conditioned by carefully devised contractual terms, while Thai folktales point at generosity, giving, kindness, mercy and compassion. A Thai folk approach to the use of biological resources is to allow a free access to everyone according to one's need, and at the same time there is an expectation of reciprocity. A company which develops drugs by using traditional knowledge would be expected to offer those drugs not for the sake of commercial profits, but out of kindness and compassion to those who need those medicines.

7. Conclusion

One can conclude that international rules on biodiversity will have significant difficulties when being applied in traditional societies with strong collectivistic ethics. Further, international law on biodiversity, if applied by national states, will lead to a significant growth of domestic regulation. According to international rules, any foreign scientist or business, who wants access biological resource, must seek a prior informed consent from the state where those resources are situated.³³ It is the states which will determine the terms of the access, not international law. It reflects

³³ Convention on Biodiversity, article 15 (5).

an ever increasing governmental regulation of the life of traditional communities. There is a danger that falling under that regulation, the traditional communities will soon cease to be 'traditional'. International environmental law can offer very little to those farmers and traditional communities which own knowledge of the use of biological resources. The existing international law and practice favour either big companies through legal mechanism of patents or the state bureaucracies through giving them sovereign rights in using biological resources and regulating access to them. The existing international environmental law has failed both to limit the patent protection for the companies which exploit traditional knowledge and biological resources, and to limit the arbitrariness of state regulation of the access to biological resources of a particular country which is so vital for the whole humankind.

Bibliography

- Alikhan, Shahid and Raghunath Mashelkar. "Intellectual property and competitive strategies in the 21st century." **Kluwer Law International** (2004): 80.
- BBC. **Amazon moves to curb bio-pirates** [Online]. Available URL: <http://news.bbc.co.uk/1/hi/world/americas/212560.stm>, 2016 (March, 26).
- _____. **Neem tree patent revoked** [Online]. Available URL: <http://news.bbc.co.uk/2/hi/science/nature/745028.stm>, 2016 (March, 28).
- Convention on Biological Diversity. **Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization** [Online]. Available URL: <https://www.cbd.int/doc/publications/cbd-bonn-gdls-en.pdf>, 2017 (October, 23).
- Cornell Law School. **35 U.S. Code § 271 - Infringement of patent** [Online]. Available URL: <https://www.law.cornell.edu/uscode/text/35/271>, 2016 (March, 19).
- Food and Agriculture Organization. **International Undertaking on Plant Genetic Resources** [Online]. Available URL: http://www.fao.org/wiews-archive/docs/Resolution_8_83.pdf, 2017 (September, 21).
- _____. **International Treaty on Plant Genetic Resources for Food and Agriculture** [Online]. Available URL: <http://www.fao.org/3/a-i0510e.pdf>, 2017 (September, 25).
- _____. **International Treaty on Plant Genetic Resources for Food and Agriculture: Countries Membership** [Online]. Available URL: <http://www.fao.org/plant-treaty/countries/membership/en/>, 2017 (September, 25).
- Franck, Thomas M. **Fairness in international law and institutions**. New York: Oxford University Press, 1995.
- International Labour Organization. **C169-Indigenous and Tribal Peoples Convention, 1989 (No. 169)** [Online]. Available URL: https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C169, 2016 (August, 16).
- Lewinski, Silke von. "Indigenous heritage and intellectual property: genetic resources, traditional knowledge and folklore." **Kluwer Law International** (2008): 75.

Moyer, Henry K. "Patenting Neem and Hoodia: Conflicting decisions issued by the opposition board of the European Patent Office." **Biotechnology Law Report** 27, 1 (2008): 1-10.

Shytov, Alexander. **Thai Folktales and Law**. Chiang Mai: Acts, 2004.

United Nations Treaty Collection. **Chapter xxvii Environment** [Online]. Available URL: https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-8-b&chapter=27&lang=en, 2016 (May, 15).

Convention on Biological Diversity 1992.

Nagoya Protocol 2010.

UK Patent Act 1977.

