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Traditional Knowledge: An  
analysis of the current international  
debate applied to the Ecuadorian  
Amazon context

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# Abbreviations

ABS	Access and benefit sharing
CBD	Convention on Biological Diversity
COICA	Coordinating Body for the Indigenous Organizations of the Amazon Basin
CONAIE	Confederation of Indigenous Nationalities of Ecuador
CONFENIAE	Confederation of the Indigenous Nationalities of the Ecuadorian Amazon
FAO	Food and Agriculture Organization of the United Nations
ILO	International Labour Organization
IPR	Intellectual property rights
MTA	Material transfer agreement
MAT	Mutually agreed terms
NGO	Non governmental organization
PIC	Prior informed consent
TK	Traditional knowledge
TRIPs	Trade-Related Aspects of Intellectual Property Rights
UDHR	Universal Declaration of Human Rights
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UPOV	Union for the Protection of New Varieties of Plants
WIPO	World Intellectual Property Organization
WTO	World Trade Organization
WWF	World Wide Fund for Nature (called the World Wildlife Fund in the United States)

# 1 Introduction

## 1.1 Overview

With the advancement of technology, traditional knowledge (TK), understood as “the information that people in a given community, based on experience and adaptation to a local culture and environment, have developed over time, and continue to develop”<sup>1</sup> constitutes nowadays valuable information that has attracted the attention of the modern industries due to the economic value that it has acquired. This situation has directed the spotlight towards developing countries holding rich natural and cultural resources.

Amongst those countries is Ecuador, well known for holding one of the richest biodiversity on earth and for its multicultural population. The Ecuadorian indigenous groups from the Amazon have lived in the rainforest over centuries and have developed a knowledge considered valuable for future improvements in the fields of medicine, agriculture, environmental management, amongst others. This information is a “gold mine” desired by universities, research institutes, laboratories, pharmaceutical companies, etc. that are looking for the way to access these resources and the knowledge that native people have over them. However, appropriation of traditional knowledge has occurred neither with authorization from the indigenous people nor with proper compensation for its use. This has turned the access to traditional knowledge into a battle of interest between the holders of TK and the outsiders who want to take advantage of this knowledge.

For indigenous people, traditional knowledge is not only a potential source of income; it is a valuable cultural heritage and a tool they have used to survive, which must be respected and protected. Many international forums support this position and the debate is focus on finding proper means to protect traditional knowledge and the emerging rights of the indigenous groups. However, to date it has not been possible to find a global agreement regarding the protection of TK.

The scenario remains the same in Ecuador; however, it is aggravated by the economic and social crisis that the country is going through, which forces the protection of traditional knowledge to the bottom of the main national political agenda. On the other hand, the role that the well-organized indigenous groups from the Amazon are playing keeps this topic under debate in some of the national institutions, especially those related to the environment. Ecuador has acquired obligations towards traditional knowledge by ratifying the Convention on Biological Diversity, the Andean

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<sup>1</sup> American Association for the Advancement of Science, *Traditional Knowledge and Intellectual Property: A Handbook on Issues and Options for Traditional Knowledge Holders in Protecting their Intellectual Property and Maintaining Biological Diversity*, p. 13, <<http://shr.aas.org/tek/handbook/handbook.pdf>>. Visited on 26 august 2005.

Decisions 391 and 486 and the ILO Convention but more efforts are needed in order to fully implement them. In a positive remark, Ecuador has developed a national plan in order to ensure the protection of biodiversity and traditional knowledge and steps are being to articulate it. The governmental objective, while a proper legal framework for protection is found, is to guarantee that the indigenous groups obtain the benefits derived from the use of their knowledge. In this regard, the Andean Community has developed a set of rules regarding the access to genetic resources and related knowledge. However, cases of misappropriation are still occurring, evidencing a need to establish an international enforceable mechanism to ensure a proper protection.

To date, the main debate is focused on the creation of a *sui generis* system that includes the unique characteristics of traditional knowledge and that guarantees both the protection and the preservation of TK.

## 1.2 Purpose and Methodology

The primary objective of this research is to analyze the current international debate on traditional knowledge protection and the possible future trends of this issue. Special attention will be given to the Amazon indigenous groups from Ecuador as well as to the conventions ratified by this country and the steps taken to implement them.

The research is based on an analysis of the policies developed by international organizations dealing with traditional knowledge as well as the indigenous perceptions. This study does not claim to provide a solution for this issue, rather it aims to study the current settings regarding traditional knowledge and the possible development of a *sui generis* system based on the different approaches provided herein.

In order to reach an understanding of the issues presented and extensive literature review was necessary. This process included reviewing primary documentation as well as secondary bibliographical sources. An extensive review of Internet based resources was also necessary since many relevant organizations (WIPO, ILO, WTO, UNESCO, CBD, CONAIE, etc.) have their publications and data available mainly on line. Additionally, a number of interviews were performed in order to assess the current situation of traditional knowledge in Ecuador.

# 2 RELEVANT FEATURES OF TRADITIONAL KNOWLEDGE

## 2.1 What is traditional knowledge?

It is a difficult task to define what traditional knowledge is due to the different parts and perspectives involved in this issue. Most of the definitions are merely a description of the characteristics of traditional knowledge and they differ one from another. One of the most accepted and widely used definitions is the one provided in the article 8(j) of the Convention on Biological Diversity (CBD) according to which traditional knowledge involves “innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity”<sup>2</sup>. Similarly, Johnson defines traditional knowledge as:

“a body of knowledge built by a group of people through generations living in close contact with nature. It includes a system of classification, a set of empirical observations about the local environment, and a system of self-management that governs resource use”<sup>3</sup>.

Both definitions highlight the relation between traditional knowledge and the protection of the environment, however traditional knowledge also involves:

- Traditional technical know how
- Traditional ecological knowledge
- Medical knowledge
- Agricultural knowledge
- Traditional cultural expressions or expressions of folklore
- Traditional tools

Whatever the definition one chooses to use, there are certain characteristics that must be considered: usually it is held collectively, it tends to be transmitted orally, it is not static and it is ‘traditional’<sup>4</sup>. The first characteristic will be further analyzed in a separate section related to the holders of traditional knowledge. The oral transmission of the knowledge takes place from generation to generation and that is why it remains undocumented. It is not static since it is continuously evolving over time according to the needs of the communities, thus, making it a source for creation and innovation. The ‘traditional’ aspect of the knowledge is settled by Barsh as follows:

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<sup>2</sup> Convention on Biological Diversity, article 8 (j).

<sup>3</sup> M. Johnson, *Research on Traditional Environmental Knowledge; its Development and its Role*, in G. Dutfield (ed.), *Intellectual Property, Biogenetic resources and Traditional Knowledge* (Earthscan, United Kingdom, 2004) p. 91.

<sup>4</sup> United Nations Conference on Trade and Development, *Systems and Nationals Experiences for Protecting Traditional Knowledge, Innovations and Practices*, (TD/B/COM.1/EM.13/2) para. 9.

“What is ‘traditional’ about traditional knowledge is not its antiquity, but the way it is acquired and used. In other words, the social process of learning and sharing knowledge, which is unique to each indigenous culture, lies at the very heart of its ‘traditionality’. Much of this knowledge is actually quite new, but it has a social meaning, and legal character, entirely unlike the knowledge indigenous peoples acquire from settlers and industrialized societies”<sup>5</sup>.

In other words, traditional knowledge does not have to be old or antique; it is the way in which traditional attribute is acquired and used that reflects the traditions of the groups.

- Thai traditional healers use plao-noi to treat ulcers
- The San people use hoodia cactus to stave off hunger while out hunting
- Sustainable irrigation is maintained through traditional water systems such as the aflaj in Oman and Yemen, and the qanat in Iran
- Cree and Inuit maintain unique bodies of knowledge of seasonal migration patterns of particular species in the Hudson Bay region
- Indigenous healers in the western Amazon use the Ayahuasca vine to prepare various medicines, imbued with sacred properties.

Some examples of Traditional Knowledge<sup>6</sup>

To sum up, the simplest way to define traditional knowledge is referring to it as useful information developed by local communities regarding aspects of life such as health, food, education, biodiversity management, amongst others which are used to maintain the culture and preserve the genetic resources and the environment.

## 2.2 Why protect traditional knowledge?

The fact that there are many efforts to protect traditional knowledge in different international forums (i.e., WIPO, WTO, UNCTAD, ILO, UNESCO, etc.) shows that its importance is growing. About a decade ago, this discussion only mattered to the holders of the knowledge while nowadays the scenario has changed to involve a variety of players ranging from multinational pharmaceuticals to activist NGOs.

According to Dutfield, there are a variety of moral and legal reasons to protect traditional knowledge, these reasons include; improving the life of the communities where the traditional knowledge is created and used, creating a new income for national economies, conserving the environment and preventing the misappropriation of traditional knowledge<sup>7</sup>.

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<sup>5</sup> R. Barsh, *Indigenous Knowledge and Diversity*, in G. Dutfield (ed.), *Intellectual Property, Biogenetic resources and Traditional Knowledge* (Earthscan, United Kingdom, 2004) p. 95.

<sup>6</sup> World Intellectual Property Organization, *Intellectual Property and Traditional Knowledge*, (Booklet n° 2) p. 5.

<sup>7</sup> G. Dutfield (ed.), *Intellectual Property, Biogenetic resources and Traditional Knowledge* (Earthscan, United Kingdom, 2004) p. 97.



As for the holders of traditional knowledge, the importance of preserving it is a matter of survival, as one can understand from the words stated by the leader of a community

“[w]e maintain a vital linkage between the ancestral wisdom, collective knowledge, the land and our existence as communities. This knowledge is fundamental for the integrity of the environment in which we live and not only a retrieval of the socio economic rights, it is about a condition without which we cannot exist as such. Thus, we have affirmed that the collective knowledge, the ancestral wisdom and the biodiversity conservation are linked to the right of self determination”<sup>8</sup>.

The traditional knowledge is created and used by its holders and communities in their daily life for such essential aspects like nourishment, health, spirituality, etc. In other words, it is a vital tool for the well being of the members of the communities.

Concerning the benefit for national economies, many products used worldwide, such as plant-based medicines, cosmetics, agricultural and non-wood forest products and handicrafts are originated from traditional knowledge and have been successfully traded. This constitutes a valuable input to national economies, for example, according to studies made by Kate and Laird, the annual amount of money derived from the trade of genetic resources is about US500 to US800 billion<sup>9</sup>.

One of the most compelling reasons to protect traditional knowledge is that without it, valuable skills to preserve the environment and biodiversity would be lost. For example, in the highlands of Ecuador a deterioration of the land cover has occurred since the traditional way of managing the soil (i.e. terraces, channels, etc) has been replaced by intensive forms of monoculture (i.e. flower plantations)<sup>10</sup>. In contrast, when traditional knowledge is maintained the outcome for environmental conservation is evident as exemplified by the Wola people from Papua, New Guinea, where the fertility of the soil has been maintained thanks to the use of terraces and decomposing vegetation applied as fertilizer and the strategic selection of crops to be used<sup>11</sup>. Such examples are present all over the world and demonstrate that traditional knowledge has the potential to provide useful skills and techniques for biodiversity policies.

Regarding the misappropriation of traditional knowledge it is palpable that in the last decades science and technology have progressed in an accelerated fashion while natural resources are being increasingly depleted, this situation draws the attention of the developed countries into the developing ones where most of the natural resources are located together with the indigenous people that inhabit those areas. This constitutes an added value

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<sup>8</sup> Coordinator of the indigenous Organizations of the Amazon Basin – COICA, *Going back to Maloca* [Volviendo a la Maloca] p. 59.

<sup>9</sup> S. Laird, *Contracts for Biodiversity Prospecting*, in *supra* note 7, p.18.

<sup>10</sup> Author observations of the rural area of Cayambe, Ecuador.

<sup>11</sup> M. Gómez, (ed.), *Protección de los conocimientos tradicionales en las negociaciones TLC* [Protection of traditional knowledge in the TLC negotiations] (Universidad Externado de Colombia, 2004) p. 66.

since traditional knowledge contributes to reduce time and money when searching for potentially beneficial natural products for the western world.

Traditional knowledge contributes with valuable information to genetical and biochemical resources that could be the basis of pharmaceutical products, natural medicines and other products. For example, according to statistics provided by Pascual Trillo, from ten thousand biological products potentially valuable for the pharmaceutical industry only one proves to be useful, however, this rate significantly changes from two to one when the research done is based on the information provided by indigenous cultures<sup>12</sup>. With this scenario, biopiracy -understood as the unauthorized extraction of biological resources and/or associated traditional knowledge from developing countries-<sup>13</sup> has become more common than ever and the big industries from developed countries have gained intellectual property rights over traditional knowledge without the consent of the holders that are in turn reluctant to see how their information is spread and use without their permission, as a consequence, the claim for a set of rules regarding the protection of the knowledge is increasing.

## 2.3 Who are the holders of traditional knowledge?

The debate about who the holders of traditional knowledge are -meaning the people that hold or/and use it- is extensive between the different forums dealing with this issue. Unfortunately, the literature available provides a wide variety of approaches sometimes contradictory and with generalizations that lead to confusion instead of clarifying the matter.

For instance, the CBD considers that traditional knowledge is held by indigenous or local communities, implying that the holders of the knowledge are not necessarily indigenous groups and could be communities of any sort as long as they lead traditional life styles despite the fact that indigenous groups are the ones who usually make a claim protection.<sup>14</sup>

The difference between traditional communities and indigenous peoples and the knowledge they hold is well explained by Mugabe, who affirms that “traditional peoples are not necessarily indigenous but indigenous peoples are traditional”<sup>15</sup>. According to him,

“traditional people are described as those who hold an unwritten corpus of long-standing customs, beliefs, rituals and practices that have been handed

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<sup>12</sup> J. Pascual, *El Arca de la Biodiversidad* [The ark of biodiversity], in *ibid*, p.70.

<sup>13</sup> G. Dutfield, *supra* note 7, p.52.

<sup>14</sup> A. Meyer, ‘Towards the Explicit Recognition of Traditional Knowledge’, *Review of European Community and International Environmental Law RECIEL*, Volume 10, issue 1, (2001) p. 38.

<sup>15</sup> J. Mugabe, *Intellectual Property Protection And Traditional Knowledge: An Exploration in International Policy Discourse*, p. 2, <[www.wipo.int/tk/en/hr/paneldiscussion/papers/pdf/mugabe.pdf](http://www.wipo.int/tk/en/hr/paneldiscussion/papers/pdf/mugabe.pdf)>. Visited on 15 July 2005.

down from previous generations. They do not necessarily have claim of prior territorial occupancy to the current habitat; that is, they could be recent immigrants.”<sup>16</sup>

While, the definition he adopts regarding indigenous peoples is the one provided by the International Labor Organization (ILO). The Convention Concerning Indigenous and Tribal Peoples in Independent Countries regards indigenous groups as:

“peoples in independent countries who are regarded as indigenous on account of their descent from populations which inhabited the country, or a geographical region to which the country belongs, at the time of conquest or colonization or the establishment of present state boundaries and who irrespective of their legal status, retain some or all of their own social, economic, cultural and political institutions”.<sup>17</sup>

Then, the difference according to Mugabe is that the concept of indigenous groups has wider political implications such as the prior territorial occupancy to the current habitat. But, regarding the knowledge, the indigenous knowledge is a subset of the traditional knowledge held by the communities that still live in a traditional style. However, it is important to mention that the knowledge held by traditional communities has not been addressed in the human rights forums unlike indigenous traditional knowledge. It is argued that the knowledge held by traditional communities has not reached a momentum in the international debate while the indigenous traditional knowledge has been recognized as vital for the existence of these communities.

Similarly, Gupta states that individuals, groups of individuals, local or indigenous communities may create traditional knowledge and it could be confidential or shared between or outside the community, furthermore, he argues that if the knowledge is legally shared outside the community it falls in the public domain which is an important input in this debate.<sup>18</sup> However, when Gupta addresses that an individual could be a holder of traditional knowledge, a precision must be made, for instance, the collective character of the property rights between traditional communities differs from the individual nature of these rights in western societies, consequently, even if it is possible that the traditional knowledge is only held and used by one person in the community such as the shaman or leader, this does not mean that he/she is the ‘exclusive owner’ of the knowledge, it still belongs to the community and is used for communal benefit and according to the practices of the community it could be shared or not.

In conclusion, it can be said that traditional knowledge is being created and used by traditional communities, indigenous or not. However, for the purpose of this study, especial importance is dedicated to the indigenous communities as holders of traditional knowledge. In South America, when referring to the holders of traditional knowledge, it usually means the

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<sup>16</sup> *Ibid.*

<sup>17</sup> Convention (No. 169) concerning Indigenous and Tribal Peoples in Independent Countries, art. 1, 1 (b).

<sup>18</sup> WIPO-UNEP, *Study on the role of intellectual property rights in the sharing of benefits arising from the use of biological resources and associated traditional knowledge*, p.11, <[www.wipo.int/tk/en/publications/769e\\_unep\\_tk.pdf](http://www.wipo.int/tk/en/publications/769e_unep_tk.pdf)>. Visited on 13 July 2005.

indigenous communities that have inhabited the territory before the European conquest. A detailed study regarding the indigenous groups from the Ecuadorian Amazon will be provided in the chapter 3.

## **2.4 Current threats to traditional knowledge**

As pointed above, traditional knowledge has been created and continues to evolve thanks to the innumerable arts, abilities and wisdom of the indigenous communities that live in stretch relation with the environment. These people have learned through a process of trial and error. But now, due to the globalization process and increased pressure over the resources from the Amazon rainforest, these tribes are being absorbed by the modern world and so is their traditional knowledge.

There are many factors that endanger the survival of the knowledge, ranging from internal reasons such as the loss of the native languages and the lack of interest from new indigenous generations about their roots coupled with external factors like the economic exploitation of the rainforest, the contamination of the environment and the misappropriation of traditional knowledge due to the lack of protection.

The majority of the native languages are vanishing; mostly only the elders are able to speak them. If indigenous languages disappear, traditional knowledge will also be lost. A recent study made by linguist Ken Hale shows that from 6000 world's languages, 3000 are condemned to die since no children speak them.<sup>19</sup> The acculturation process that these groups are living is influencing their education and culture and, in general, there are no efforts from governments to preserve them. However, even if there is a general trend to follow western models of living, there is also a movement to keep the essential components of the culture alive (i.e. language, traditions, etc.). Paradoxically, many of these efforts are promoted by western organizations. For example, UNESCO has funding programs for recovering and maintaining indigenous languages, private NGOs have put pressure to include native languages in the curriculum of primary schools of the Amazon courses which are given by the elders of the community in order to preserve the culture.

Regarding the external factors, they follow a trend that starts with the arrival of western influences; usually this takes place in the form of religious missions or military posts, which open the path for industries like oil companies, tourism and logging, amongst others. It would be unfair to generalize all of them as detrimental to traditional knowledge; however, experience has shown that in many instances this is the case. A good example to illustrate this case is the situation lived by the Huaorani people

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<sup>19</sup> E. Linden, *Lost Tribes, Lost Knowledge* <[www.ee.ryerson.ca:8080/~elf/abacus/lost-tribes-lost-knowledge.html](http://www.ee.ryerson.ca:8080/~elf/abacus/lost-tribes-lost-knowledge.html)>. Visited on 9 June 2005.

of the northern Ecuadorian Amazon who until the early 1960's were one of the few cultures in the world that had not entered into contact with the western civilization. This was changed when a group of missionaries financed by oil companies, interested in prospecting in the area, started a military-like plan to 'civilize' the Huaorani people in order to secure the oil company's entrance to this land. The first attempt to contact the Huaorani ended in a massacre of the missionaries, which led to subsequent missionary efforts backed up with armed military support. Eventually, the Huaorani people were acculturated and fragmented. To this day, the oil company has an operation in their territory strongly influencing these communities (there cases of prostitution, introduced heath diseases, etc.) without making any effort to preserve the cultural identity and integrity of the group. These incursions are quite common all over the Amazon leaving the native cultures in danger of loosing their past and jeopardizing their future as well.

# 3 THE ECUATORIAN CONTEXT

## 3.1 Geographical and socio-political context

Ecuador is located on the Pacific coast bordering with Colombia and Peru. With 256.370 square kilometers in size, holding about 13 million people ethnically diverse -65% mestizo, 25% indigenous, 10% Caucasian and 10% Afroamerican-. Geographically, it is divided into four regions (the Amazon, the Highlands, the Coast and the Galapagos Islands) and politically divided into 22 provinces.

Ecuador is primarily an exporter of raw materials; the major sources of foreign exchange are; oil, of which most of the active wells are located in the Amazon region, bananas, flowers and shrimp.

The Republic of Ecuador is a representative democracy. The Government is divided into three branches: executive, legislative, and judicial. In the past decade, the politic and economic situation has been unstable and threatened by poverty, bureaucratic ineptitude, political fragmentation and the higher corruption level in the region<sup>20</sup>. No government in the last ten years has been able to address the popular needs; which have evolved into uprisings and eventually *coup d'etat*; as a consequence, there have been six presidents in only eight years. This long running political instability goes along with a deepening economical crisis, 40.8% of population is below the poverty line (USD2 per day)<sup>21</sup> and an additional 17% are vulnerable to fall bellow it, most of them are located in the rural areas.

Despite the difficulties described above, Ecuador is considered a rich country due to its natural resources, exemplified by its position as one of the 10<sup>th</sup> mega diverse countries in the world. Remarkably the region that holds most of this richness is the Ecuadorian Amazon, which will be explored in the following section.

## 3.2 The Amazon region and its people: setting the scenario

The Amazon region constitutes almost half of Ecuador and covers 130.035 sq. km. It is divided into the provinces of Sucumbios, Napo, Pastaza,

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<sup>20</sup> According to Transparency International, after Paraguay, Ecuador is the second most corrupt nation in Latin America with a level of corruption compared to Congo, Uganda, Iraq, amongst others.

<sup>21</sup> Human Development Report, 2003 <<http://hdr.undp.org/statistics/data/indicators.cfm?x=24&y=1&z=1>>. Visited on 15 July 2005.

Morona-Santiago and Zamora-Chinchiipe. With continuous heavy rainfall and high humidity it is argued that the Amazon Rainforest is one of the 25 hot spots that must be preserved for the earth's survival (i.e. Rainforest Concern, Rain Forest Alliance, etc) because it holds one of the highest biodiversity in the world and is home to the unique and exuberant fauna and flora.

The Amazon is scarcely inhabited; about 500.000 indigenous people live in the area<sup>22</sup>. The population is divided into nationalities, understood as the historic and political entity that shares a common identity, history, language and culture, living in a determined territory with its own social, economic, political and legal organization<sup>23</sup>. The nationalities are Cofán, Secoya, Siona, Huaorani, lowland Quichua, Shuar, Achuar, Shiwiar and Zápara each one maintaining their own set of traditions and characteristics.

The location of these groups has allowed them to have their own social and political way of living and to develop a unique and strong culture. On a general context the indigenous communities from the Amazon were traditionally nomadic or semi nomadic, moving from one place to another according to hunting patterns, soil fertility, conflicts, etc., however, this trend has gradually changed towards a more settled way of living around structured communities and alternative living activities more dependant on the market economy such as cattle raising and logging. The ownership of the land is communal and the families are given pieces of land for their use which are usually located along the river. In these areas they practice small-scale agriculture, mainly for family subsistence. The rest of the community land is typically set aside as a reserve for future development, hunting and gathering.

Regarding the politic organization, the indigenous groups from the Amazon have been driven to create well organized associations to make a stand for their land, cultural rights, conservation and other threats from outsiders such as oil companies, missionaries, tourism, amongst other challenges that are endangering the survival of the culture.

There are organizations at local, national and international level. At local level, the indigenous groups from the Ecuadorian Amazon are organized in community-level structures, which turn into organized higher-tier associations or local and regional federations that then form the national federation.

At national level, the Confederation of Indigenous Nationalities of Ecuador (CONAIE) is the largest and most representative organization formed by regional indigenous organizations throughout Ecuador. This organization fosters self-reliant development by establishing and implementing indigenous policies. Additionally, there is an indigenous political party

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<sup>22</sup> National Institute of Statistics and Census of Ecuador, 2002.

<sup>23</sup> Council for Development of Nationalities and Peoples of Ecuador (CODENPE), < <http://www.codenpe.gov.ec/npe.htm>>. Visited on 15 July 2005.

named Pachacutik, which has a 10% of the seats in the Congress, and its participation in the government is growing. For instance, during the last elections in 2002 the indigenous political party participated for the first time in the political coalition that won the elections, as a consequence, many indigenous leaders were appointed to high-level government offices, including ministerial posts.

At international level, the main representative organization is the Coordinator of the Indigenous Organizations of the Amazon Basin (COICA), which was created in the city of Lima-Peru in 1984. COICA integrates nine organizations from the nine countries that share the Amazon region<sup>24</sup>. In Ecuador, the organization that represents the country in COICA is the Confederation of Indigenous Nationalities of the Ecuadorian Amazon (CONFENIAE); this is an umbrella organization that holds thirteen federations formed by the Amazon groups and promotes the cultural and economic development of the indigenous communities from the Ecuadorian Amazon as well as the preservation of the Amazon environment. CONFENIAE constitutes the major component of CONAIE<sup>25</sup>.

An example of the typical structure of the Amazon organizations is the one followed by the Shuar nationality which is organized as follows:

- At community level they have formed centers
- The second-tier organization is called association
- The associations created the Shuar Federation
- This federation along with other ethnic federations from the Amazon basin have created the CONFENIAE
- This organization together with other highland and coastal federations form the CONAIE.<sup>26</sup>

All these organizations at national and international level are quite important since they have brought the indigenous issues to the public arena and have formed alliances with environmental and human rights organizations, governmental or not, that makes them stronger when claiming their rights to be respected. Moreover, these organizations have helped the indigenous Amazon groups to have a stand in the national and international arenas.

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<sup>24</sup> Perú, Guiana, Bolivia, Brazil, Ecuador, Venezuela, French Guiana, Surinam, Colombia.

<sup>25</sup> The Advocacy Projects, *Defending the Amazon*, <[www.advocacynet.org/cpage\\_view/amazonoil\\_conaie\\_17\\_70.html](http://www.advocacynet.org/cpage_view/amazonoil_conaie_17_70.html)>. Visited on 15 July 2005.

<sup>26</sup> The World Bank, *Social Capital as a Factor in Indigenous Peoples Development in Ecuador*, August 2003, <[http://lnweb18.worldbank.org/ESSD/sdvext.nsf/60ByDocName/SocialCapitalasaFactorinIndigenousPeoplesDevelopmentinEcuadorLatinAmericaandCaribbeanRegionSustainableDevelopmentWorkingPaper15/\\$FILE/Social+Capital+and+Indigenous+Development.pdf](http://lnweb18.worldbank.org/ESSD/sdvext.nsf/60ByDocName/SocialCapitalasaFactorinIndigenousPeoplesDevelopmentinEcuadorLatinAmericaandCaribbeanRegionSustainableDevelopmentWorkingPaper15/$FILE/Social+Capital+and+Indigenous+Development.pdf)> Visited on 17 July 2005.



## 3.3 Traditional knowledge and biodiversity conservation of the Amazon region

### 3.3.1 Biodiversity of the area

The Ecuadorian Amazon lowlands are considered among the richest ecosystems on earth, enhanced by the cultural diversity and forms of social organization that the indigenous groups have adapted in harmony with the environment in which they have evolved over the centuries. This richness has attracted many industries that base their operations on extractive activities (i.e. oil companies, pharmaceutical companies, monocultures, etc), which endanger the existence of the rainforest without taking into account that the disappearance of this forest and the people that have lived in and preserved it would not only mean the reduction of the genetic pool of the planet and the contribution to global climate change through the release of carbon stored in the forest but also the loss of invaluable knowledge.

The Ecuadorian rainforest is extraordinarily rich in species, it is estimated that only 10% of the flora has been catalogued leaving still an enormous potential for future studies. Preliminary studies show that there are probably 1000-1500 different tree species in this area. It is also estimated as having some of the highest tree diversity reported for any forests. Recent investigations by the Missouri Botanical Garden found that 10% of the tree species inventoried was new to science. Furthermore, it is estimated that around 15% of all plant species from this region are endemic to this region—that is, found growing nowhere else on Earth.<sup>27</sup>

The variety of bird species has also unique numbers in the area; the Ecuadorian Amazon holds 18% of the avian diversity worldwide, only in the Achuar region, a small part of the forest, 562 bird species have been identified, making this region one of the top five sites worldwide for avian diversity. Among the most prominent species in the area is the Harpy Eagle (*Harpia harpyja*) as well as 27 other species of raptors, 20 species of parrots and a series of rare and endemic bird species. Only in the last five years two new species of birds have been discovered.<sup>28</sup>

Rainforest mammal populations are abundant in this area including the Brazilian Tapir (*Tapirus terrestris*), Jaguar (*Panthera onca*), Ocelot (*Felis pardalis*), Jaguarundi (*Felis yarouarouandi*), Oncilla (*Felis tigrina*), Margay (*Felis wiedii*), Capybara (*Hydrochaeris hydrochaeris*), two species of river dolphins (*Inia geoffrensis* and *Sotalia fluviatilis*) and a half-dozen species of primates. The area is also home to a population of Giant River Otters (*Pteronura brasiliensis*), which are considered critically endangered, with

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<sup>27</sup> The Pachamama Alliance, *Achuar Climate and Rain Forest Protection Project Ecuador*, June 2001, p.14.

<sup>28</sup> *Ibid.*

global populations numbering no more than an estimated one thousand individuals.<sup>29</sup>

Such biological diversity constitutes an strategic resource for the future, both for the series of applications that certain tropical species have in favour for the human well being (medicine, raw materials, cosmetics, etc.) and for the big contributions they have made for the development of improved varieties for agriculture. However, the access to these resources and the time it would consume to make them available for society is drastically reduced when traditional knowledge is utilized.

### **3.3.2 Traditional knowledge of the Amazon indigenous groups**

For the purpose of this study, the Amazonian traditional knowledge can be classified in two main pillars; land use (agriculture, hunting and gathering, etc.) and unique management of flora and fauna (medicinal uses, spiritual/ritual applications, construction and handicraft materials).

### **3.3.3 Traditional knowledge applied to land use (agriculture, hunting and gathering)**

The Amazon groups have successfully managed for centuries the tropical forest in which they live. This fact constitutes the strongest argument to prove that traditional knowledge is an example to follow in order to achieve a sustainable use of the environment. For instance, the agriculture practices are based on shifting cultivation in which the indigenous groups take advantage of the natural forest structure and small human-made clearings to plant mixed crops such as edible roots, fruits, medicinal plants and plants used for construction material. These “garden plots” are usually cultivated for three to ten years and then abandoned to allow the soil to regenerate and become part of the forest once again. Occasionally, after that period of time has elapsed, the cultivation plots may be used once again despite the fact that there is no explicit strategy to rotate them due to the amount of land available for a relatively small and scattered population. The traditional agricultural systems make viable the self-subsistence and keep an ecological equilibrium apart from revealing a great knowledge of the dynamics and functioning of the tropical ecosystems<sup>30</sup>.

There are many examples of hunting and gathering practices across the Amazon, however, the one from the Achuar people is particularly

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<sup>29</sup> *Ibid.*

<sup>30</sup> M. Espinosa, *Retos de la Amazonia* [Challenges of the Amazon] (ILDIS, ABYA-YALA, 1993) p. 31.

illustrative. The Achuar base their hunting and gathering activities on the movement of two constellations, Pleiades (*musach*), which is visible to them between July and April, and Scorpion (*ankuam*) that appears in mid January signaling the beginning of the rainy season. The position of these constellations marks twenty-seven specific seasons for hunting and gathering activities, for instance, in the month of January six seasons take place indicating the time for fishing for small species since the water level in rivers and lakes decreases, the fruit of the Chonta palm is ready to gather, the famine time of frugivorous animals starts thus their hunting season is over. This type of applied traditional knowledge avoids over hunting and allows ecosystems to maintain a healthy equilibrium. It goes without saying that these types of practices are unique to the Amazonian indigenous groups and provide empirical evidence of the functional management of natural resources which could be of value for other fragile areas of the world.<sup>31</sup>

### 3.3.4 Traditional knowledge related to fauna and flora species

Kricher considers that the rainforest is a “neotropical pharmacy”<sup>32</sup> meaning that most of the well-known poisons and stimulants come from the plants that live there. With respect to that, Janzen says “[t]he world is not colored green to the herbivore’s eyes, but rather is painted morphine, L-DOPA, calcium oxalate, cannabinal, caffeine, mustard oil, strychnine, rotenone, etc.”<sup>33</sup>. Nowadays, modern societies are very familiar with compounds coming from rain forests and use them for a variety of purposes ranging from medicine to pesticides.

Given the great quantity of plants and animals that live in the rainforest, the knowledge of the native people of the region plays an important role since they have been dealing with them for many generations and it is not surprising that they have found multiple uses for each chemical contained within the many species of native flora and fauna. For instance, the groups from the Amazon rainforest extract these compounds to use in arrow poisons, hallucinogens, fish poisons, drugs for medical and similar uses, stimulants and spices, essential oils and pigments.<sup>34</sup>

It goes without saying that the knowledge regarding the uses of the chemical compounds from the fauna and flora has become very attractive for outsiders. For the purpose of this study, outsiders refer to the people that are interested in collecting biological resources and/or the knowledge

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<sup>31</sup> KAPAWI Ecologe and Reserve, *Understanding of the Cosmos* <<http://www.kapawi.com/html/en/reserve/achuar/cosmos/january.htm>>. Visited on 27 July 2005.

<sup>32</sup> J. Kricher (ed.), *A neotropical Companion* (Princeton University Press, United States of America, 1997) p. 145.

<sup>33</sup> D. Janzen, *Ecology of the plants in the tropics*, in *ibid.*

<sup>34</sup> O. Gotlieb, *The chemical uses and chemical geography of Amazon Plants*, in *supra note* 30, p.162.

related to them, for different reasons such as academic research, biodiversity prospecting or agricultural research, which may be of interest for profit-seeking bodies.

The main industries that have shown interest in the Amazon people's knowledge are pharmaceutical, biotechnological and agricultural. Some of these industries have performed studies related to the species of the forest, relying on the guidance of local communities and the familiarity they have with the native species.<sup>35</sup>

It is only reasonable that goals such as improving science, health, nutrition, conservation of the environment, preventing hunger and increasing the food production require studies of the rainforest's biodiversity, however the knowledge the indigenous groups already have about the area translates in reducing time and money while performing prospecting and research activities.

By now, it appears to be two relevant players in this scenario, corporations or people researching for natural resources and related traditional knowledge under the premise of improving science, agriculture, health, etc.; and, on the other hand, indigenous groups that claim they have to be compensated for the use of their knowledge and that permission should be granted before the access to knowledge takes place. The latest group is claiming for protection of their knowledge since -although it can not be generalized- their traditional knowledge has repeatedly been taken to benefit many people except for the holders.

### **3.3.5 Cases of misappropriation of traditional knowledge from the Amazon region**

As pointed above, there have been many cases of unauthorized use and misappropriation of traditional knowledge and biological resources in this region neither with the consent of the holders nor with compensation. The rules regarding the use of knowledge by third persons will be a matter for the next chapter, by now, some cases of misappropriation will be provided.

The *Ayahuasca* case

*Banisteriopsis caapi* is the name assigned to this variety of plant, used for generations by shamans of the groups from the Amazon and considered to be sacred. The bark of this plant is processed along with other rainforest plant to produce a ceremonial drink called *ayahuasca* in Ecuador and *yage* in Colombia, meaning "vine of the soul". This plant is used for spiritual and healing ceremonies. The following statement was made by the

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<sup>35</sup> A. Posey and G. Dutfield, *Beyond Intellectual Property Toward Traditional Resource Rights for Indigenous Peoples and Local Communities* (International Development Research Centre, Canada, 1996) pp. 5-12.

Confederation of Indigenous Nationalities of Ecuador (CONFENIAE) when referring to the value of *ayahuasca*

“[t]his is our sacred vine whose purpose is to teach us how to be born into a state of wisdom and be connected to the source and origin of all things and to see with our own eyes the personification of the supernatural and the mystical, bringing us into direct contact with our ancestors”<sup>36</sup>

The traditional knowledge regarding this plant is not based on the mere use of a single plant species, what is indeed remarkable is the fact that *Banisteriopsis caapi* does not contain the necessary enzyme for the human body to assimilate its compounds, in order for it to have an effect, it needs to be combined with a different plant to catalyze the necessary reaction. This begs the questions, how did the indigenous communities from the Amazon find out which two plants to mix from the thousands of different varieties available in the rainforest? and how long did it take for them to realize this combination?

Although this plant has been used in the Amazon for generations, in 1986, an American citizen, Loren Miller obtained, for a period of twenty years, the US Plant Patent number 5,751 that granted him rights over an alleged variety of *B. caapi* he had called "Da Vine" for an application he had made in the year 1984. To obtain the patent he stated that this specie is a new variety of the *Banisteriopsis caapi* because of its new flower's color and that he found it in a domestic garden in the Amazon Region.<sup>37</sup>

After ten years the patent was granted, the indigenous communities from the Amazon realized this fact, bringing up huge polemics and debates around this issue and declaring Mr. Loren as a *non-grata* person among the indigenous peoples, thus preventing him from entering into their territories. The opinion of Indigenous, Environmental and Human Rights organizations soon expressed their solidarity with these groups. Then a legal demand to suspend the patent was presented under the auspices of the Center for International Environmental Law (CIEL), on behalf of the Coordinating Body of Indigenous Organizations of the Amazon Basin (COICA); and the Coalition for Amazonian Peoples and Their Environment (Amazon Coalition).

Legal arguments to cancel the patent:

- To obtain a plant patent, an applicant must show that the plant is a new variety; that it is distinct from existing forms; and that it is not found in an uncultivated state. Such patents are authorized under a 1930 law designed to reward efforts of growers who develop new varieties of crops such as fruit trees or grapevines.
- Plant Patent 5,751 implies that "Da Vine" is novel because of its medicinal qualities. In fact, these characteristics of *B. caapi* were already well known — i.e.

<sup>36</sup> J. Luna, *Bioprospecting or Biopiracy, the Complex Relations of the Appropriation of Indigenous Knowledge*, (Florida State University, United States of America, 2005) p. 4.

<sup>37</sup> COICA, *Situation of the Patent for Ayahuasca*, [www.coica.org/en/ma\\_documents/patent\\_ayahuasca.html](http://www.coica.org/en/ma_documents/patent_ayahuasca.html). Visited on 26 July 2005.

part of “prior art,” in terms of patent law — long before the patent was issued: indigenous people have known of the plant’s medicinal and psychotherapeutic uses for many generations.

- The patent claims to have identified a variety of the species with new and distinctive physical features, particularly flower color. But according to Professor William A. Anderson of the University of Michigan — a leading expert on the plant family to which *B. caapi* belongs — the features described in the patent are typical of the species as a whole, and are documented as “prior art” in the records of major herbariums.
- Law cannot award plant patents to plants “found in an uncultivated state.” But this plant grows naturally throughout the Amazon basin.
- Intellectual property rights (which include patents) are designed to further the public good by striking the right balance between private rights and the public domain. They are intended to reward those who contribute a new invention to society — not those who merely register something they did nothing to create.
- There is a limit to what should be claimed as private property under United States patent laws. This patent crosses that limit. It seeks to privatize something that is held sacred by many indigenous peoples of the Amazon rainforest. A private intellectual property claim should be denied when it offends deeply held moral and cultural values. As the PTO itself recently noted, the utility requirement of 15 U.S.C. § 101 permits it to deny patents to inventions deemed “injurious to the well being, good policy, or good morals of society” (Media Advisory 98-6, April 1, 1998).

CIEL, COICA AND AMAZON COALITION<sup>38</sup>

In November 1999, The US Patent and Trademark Office (USPTO) came to the revocation of the patent. However, it was because of the research the USPTO did and realized that the species Mr. Miller wanted to patent was not distinguishable and not due to the fact that the plant was considered sacred and held intrinsically traditional knowledge for the Amazonian indigenous groups. The USPTO based the rejection of the patent arguing that the color of the petals of the flower of ‘*Da Vine*’ was patentably indistinguishable from mounted herbarium species. According to international guidelines, such as the Convention on Biological Diversity, which advocates for the protection of traditional knowledge, the patent should have never been granted. It is important to mention that United States is one of the few countries that have not ratified the CBD.

After the patent was cancelled, Mr. Miller presented an appeal stating that he had fulfilled the requirements for the grant of a patent (novelty, non obviousness and utility), and submitted many botanical studies arguing that in fact, the plant constituted a new variety. After three years of examinations, in 2001, the patent was re-issued despite the overwhelming arguments showing that *ayahuasca* patent was not valid, these arguments included; the common use and documentation of the plant, the spiritual importance for the Amazonian indigenous groups, the lack of novelty, amongst others<sup>39</sup>. This situation fueled once again the protests from the indigenous groups and the organizations that had helped them to get the

<sup>38</sup> CIEL, COICA and AMAZON COALITION, *Legal Elements of the “Ayahuasca” Patent Case*, <[www.ciel.org/Publications/ayahuascalegalelements.pdf](http://www.ciel.org/Publications/ayahuascalegalelements.pdf)>. Visited on July 26 2005.

<sup>39</sup> A. Posey and G. Dutfield, *supra note* 35, p.5.

patent rejected few years prior.

Eventually, on June 17, 2003, the patent reached its 20<sup>th</sup> year and therefore it expired. This case clearly shows that traditional knowledge has not a strong enforceable mechanism to protect it and that the agreements that address intellectual property rights do not include indigenous peoples' perspectives and rights. Despite this case gaining a lot of international attention, it did not set a legal precedent for possible future conflicts. This situation drove the indigenous organizations to a state of alertness when it comes to sharing their knowledge and woke them up from a naïve position of having to accept the rip of their knowledge without the necessary acknowledgement and proper economical compensation.

### *Epipedobates Tricolor* case

Another case of biopiracy which occurred in the Ecuadorian Amazon lowlands was the *Epipedobates Tricolor*. This specie is a poisonous neotropical frog that has been used by indigenous communities of the area since ancient times. The frog's skin secretes a chemical compound that the native people use to hunt by putting this poison into the spear, this substance causes the death of the animal once it reaches the blood system. A scientist from the US National Institute of Health (NIH) had learned about this specie and its effects from the Amazonian communities and then he illegally took 750 samples of the animal to investigate them, without even having a license to take the frogs, which is needed since this animal is one of the endangered species of Ecuador, as it is stated in the annex to the Convention on International Trade in Endangered Species (CITES) that Ecuador ratified in 1975. Later on, after many investigations about the chemical compound and its effects, Abbot Laboratories obtained the patent through the creation of ABT-594, which is a non-toxic painkiller, in the line of opium derivates; it has no side effects and promotes alertness. Again in this case, the traditional knowledge from which this product derives has not been recognized according to the Convention on Biological Diversity and regional legislation such as the Andean Pact Decision regarding the access to genetic resources.<sup>40</sup>

These two cases demonstrate what is currently going on with the issues of biological resources and related traditional knowledge. In this scenario, the interest of big companies (i.e. pharmaceuticals) to acquire the traditional knowledge related to the resources is growing, thus protection must be granted to the holders in order to ensure a fair outcome for both sides. Traditional knowledge is not separable from the indigenous communities and they do not see it only as a possible tool to obtain an economic benefit, it is part of their daily lives and has a cultural and social dimension that has to be recognized when dealing with this topic.

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<sup>40</sup> Accion Ecologica, *Biopiracy of Epipedobates Tricolor*, <[www.grain.org/bioipr/?id=55](http://www.grain.org/bioipr/?id=55)>. Visited on 4 August 2005.

There are many international forums where this topic is being discussed to foster an equitable distribution of benefits derived from the access to traditional knowledge. However, this is not only a debate regarding the sharing of benefits, it involves more complex issues such as full participation of indigenous groups, mechanism of consultation and prior informed consent for activities that take place in their territories, autonomy and self-determination in the exercise of their own decision-making and the customary laws regarding the use of traditional knowledge<sup>41</sup>. Even if some achievements have been reached, especially regarding the legal framework, more efforts are needed in order to implement and enforce the standards set by instruments such as the Convention on Biological Diversity. Therefore, it is relevant to explore the set of instruments that might influence the future of traditional knowledge with special attention to those who have played an important role in the Ecuadorian setting.

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<sup>41</sup> Working Group On Article 8(J) And Related Provisions Of The Convention On Biological Diversity, *Composite Report On The Status And Trends Regarding The Knowledge, Innovations And Practices Of Indigenous And Local Communities*, <[www.indigenas.bioetica.org/wg8j-03-inf-10-en.pdf](http://www.indigenas.bioetica.org/wg8j-03-inf-10-en.pdf)>. Visited on 12 July 2005.



# 4 POLICY FRAMEWORK FOR THE PROTECTION OF TRADITIONAL KNOWLEDGE

In the previous chapters the importance of traditional knowledge and its current challenges were addressed, in this chapter the discussion will move forward into the relevant international forums and conventions that have fueled the debate regarding the protection of traditional knowledge, biodiversity and indigenous peoples rights.

Despite the fact that different forums (CBD, WTO, WIPO, UNCTAD, FAO, UNESCO, UNEP, UN Permanent Forum for Indigenous Issues, amongst others) are currently addressing the concerns of traditional knowledge there is not yet a consensus of the kind of protection that is needed. This may be due to the fact that there are many sorts of traditional knowledge and each forum is trying to assess the one that best fits into their scope and objectives. However, even if each forum gives a significant input to the debate, it will be an important task to agree in a general system of protection and preservation of traditional knowledge, since at the end, the providers of the knowledge are the same communities that need to rely on a unique system of protection when their rights are being infringed while providing the necessary measures to preserve traditional knowledge since it is being lost at an alarming rate<sup>42</sup>.

For the purpose of this study, special attention will be given to three conventions at international level, the Indigenous and Tribal Peoples Convention No. 169, the Convention on Biological Diversity and the TRIPs Agreement, while at regional level the Andean Decisions 486 and 391 will be analyzed. Those conventions were chosen for being applicable to the Ecuadorian context and for its significance to the traditional knowledge debate. Both the international framework and the national legislation will be considered further on.

## 4.1 ILO 169

The International Labour Organization ILO is the specialized agency of the United Nations in charge of promoting social justice, international recognition and implementation of labour rights standards. Back in 1921, ILO first addressed indigenous situations when dealing with the miserable situation of “native workers” in the overseas colonies of Europe. Then, after

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<sup>42</sup> For example, it is estimated that 90 per cent of the world’s languages will become extinct in the next 100 years, which are carriers of culture and traditional knowledge.

the creation of the United Nations in 1945 ILO broadened its objectives and started dealing with indigenous peoples in general<sup>43</sup>.

In developing normative, ILO elaborated the convention 169 which is an updated version of Convention No. 107, since the latest had an integrationist approach of indigenous peoples to western societies, while Convention No. 169 promotes the survival and development of indigenous and tribal peoples with their own structures, culture and traditions. This document constitutes the platform for national and international discussions concerning these peoples and, to date, 17 countries have ratified it, including Ecuador who did so on 15 May 1998.<sup>44</sup>

Although this convention does not directly address traditional knowledge it is relevant for traditional knowledge since it recognizes the importance of indigenous and tribal peoples participation in the decision making process of their countries and also attaches importance to the consultation process that has to be done regarding any decision that may affect these groups. In this line, article 7.1 states

“[t]he peoples concerned shall have the right to decide their own priorities for the process of development as it affects their lives, beliefs, institutions and spiritual well-being and the lands they occupy or otherwise use, and to exercise control, to the extent possible, over their own economic, social and cultural development. In addition, they shall participate in the formulation, implementation and evaluation of plans and programmes for national and regional development which may affect them directly.”<sup>45</sup>

Another relevant feature of this Convention that makes it significant for the protection of traditional knowledge is that it deals with land rights of indigenous and tribal peoples. As mentioned before, land and environment are indispensable elements in the creation and preservation of the knowledge. According to the convention, decisions that may have environmental consequences for these groups cannot be taken without a consideration of their approach. However, this is not an absolute obligation of the state since a consultation has to be done only “whenever appropriate” leaving to the discretion of the state the use of this tool. This convention also enshrines the importance of the culture and the spiritual values of indigenous groups as well as the rights of indigenous peoples to use and manage the natural resources of their lands.<sup>46</sup> Furthermore, Mugabe highlights the importance of the convention in recognizing collective rights of indigenous groups, according to him, “[t]his provision provides a basis for arguing for the enlargement of intellectual property regimes to accommodate collective rights of indigenous peoples”<sup>47</sup>.

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<sup>43</sup> International Labour Organization, *Background on ILO work with indigenous and tribal peoples*, <[www.ilo.org/public/english/indigenous/background/index.htm](http://www.ilo.org/public/english/indigenous/background/index.htm)>. Visited on 24 August 2005.

<sup>44</sup> *Ibid.*

<sup>45</sup> The Indigenous and Tribal Peoples Convention, 1989 (No. 169), article 7.1.

<sup>46</sup> A. Meyer, *supra note* 14, pp. 42-43.

<sup>47</sup> J. Mugabe, *supra note* 15, p. 19.

Although critics qualified this convention as a weak instrument, specially due to its few members, it does recognize indispensable rights for indigenous peoples like lands, territory and natural resources, and provides valuable measures such as the consultation to these groups in order to respect their social, economic and cultural rights.

In a concluding remark it is important to state that this convention has generated important outcomes for the Andean Community countries, in which the respective governments have developed a diverse suit of measures oriented to the compliance of the acquired obligations under ILO No. 169 (i.e. strengthening of; systems of protected areas, legal frameworks, policies addressing the use of biological diversity, amongst others).

## 4.2 The Convention on Biological Diversity

The Convention on Biological Diversity (CBD) was adopted on 5 June 1992 at the Earth Summit Conference held in Rio de Janeiro under the auspices of the United Nations Conference on Environment and Development and came into force on 29 December 1993 after thirty ratifications. To date, it has 188 parties, including Ecuador that ratified it on 23 February 1993.

The governing body of the convention is the Conference of the Parties (COP) that meet every two years in order to assess the implementation of the convention and keep developing the issues involved in the agreement. To date, there have been seven ordinary meetings and one extraordinary to adopt the Biosafety Protocol. The meeting number eight will take place in Brazil during March 2006.<sup>48</sup>

Besides the COP there are two bodies dealing with aspects related to traditional knowledge: the Working Group on Article 8(j) and Related Provisions and the Working Group on Access and Benefit Sharing. The first one was created in 1999 at the suggestion of the COP to assist them by addressing issues involved in the protection of traditional knowledge and to focus on the implementation of article 8 (j). The Working Group on Access and Benefit Sharing was established to develop the implementation of the obligation assumed by the states to promote equitable sharing of the benefits derived from the access and commercial use of genetic resources.<sup>49</sup>

Given the importance of traditional knowledge to the conservation of biological resources and the preservation of the environment, this convention is the first legally binding instrument that explicitly addresses

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<sup>48</sup> Convention on Biological Diversity web site, <<http://www.biodiv.org/convention/cops.asp>>. Visited on 24 July 2005.

<sup>49</sup> Ministry of Economic Development of New Zealand, *Fact Sheets on International Bodies Considering Traditional Knowledge*, <[www.med.govt.nz/buslt/int\\_prop/traditional-knowledge/fact-sheets/index.html](http://www.med.govt.nz/buslt/int_prop/traditional-knowledge/fact-sheets/index.html)>. Visited on 13 July 2005.

traditional knowledge. However, it is important to mention that CBD does not offer protection to all kinds of traditional knowledge, rather, it focuses only in practices and innovations associated with the conservation and sustainable use of natural resources, leaving outside of its scope all the traditional knowledge that does not fall into this category like the expressions of folklore<sup>50</sup>, as a consequence, indigenous and local communities will have to find out other means to protect the different sorts of traditional knowledge. For the purpose of this study, the analysis of CBD plays an important role since most of the traditional knowledge of the groups from the Ecuadorian Amazon is related to biodiversity and the big interest from outsiders lies down in this kind of knowledge as well.

In the CBD, traditional knowledge aspects are dealt with in the preamble as well as in four of its articles. The pivotal article regarding traditional knowledge is Article 8(j),

Article 8. In-situ Conservation

Each Contracting Party shall, as far as possible and as appropriate:

(j) 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;<sup>51</sup>

This article establishes three main obligations of the states:

- To respect, preserve and maintain indigenous knowledge.
- To promote the wider application of this knowledge with the authorization and participation of the holders.
- To encourage equitable sharing of the benefits derived from the use of the knowledge.<sup>52</sup>

Other provisions related to traditional knowledge are the articles 10(c), 17.2 and 18.4. The first one calls upon states parties to protect and promote the customary use of biological resources in accordance with “traditional cultural practices that are compatible with conservation or sustainable use requirements”<sup>53</sup>. Article 17.2 deals with the exchange of information and highlights the importance of the repatriation and return of the information to indigenous and local communities in order to ensure the conservation and sustainable use of biological diversity. The last article describes the requirements for technical and scientific cooperation while encourages the development and use of technologies, including traditional technologies to achieve the purposes of the convention.

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<sup>50</sup> A. Meyer, *supra note* 14, pp. 37-38.

<sup>51</sup> CBD, art. 8(j).

<sup>52</sup> L. Gundling, *Implementing Article 8 (j) and Other Provisions of the Convention on Biological Diversity*, (COICA, Ecuador, 2000) pp. 9-14.

<sup>53</sup> CBD, art. 10(c).

In sum, when ratifying the Convention states parties commit themselves to do adopt all necessary measures to respect, preserve and encouraging a fair exchange of traditional knowledge. This convention constitutes the first attempt to regulate traditional knowledge and its importance is based, amongst others, on the following aspects:

- The Convention recognizes the pivotal role of indigenous and local communities to the conservation and sustainable use of biological resources since these communities have been using the biodiversity and preserving the environment for generations.
- It also recognizes the significance of traditional knowledge as a starting point to develop valuable agricultural, medicinal and industrial information and practices.
- The CBD promotes the creation of favorable conditions to facilitate the access to genetic resources.
- It fosters the parties to set mechanisms in order to share with the communities the benefits arising from the use of the traditional knowledge by outsiders.
- It promotes a full participation of the indigenous and local communities when dealing with traditional knowledge aspects and the Conference of the Parties itself has established a funding mechanism in order to ensure that these communities participate in the official meetings under the CBD.
- It encourages recognizing and respecting the integrity and value of traditional knowledge.

Although, the CBD is considered an important step meant for the arguments mentioned above, there have also been strong criticisms against it. For instance, regarding the language of the convention, Mugabe argues that “[l]anguage such as ‘subject to national legislation’ and ‘as far as possible and as appropriate’ was promoted during the negotiations for the CBD by governments that did not want to commit themselves to protection of indigenous peoples and their rights”<sup>54</sup>, meaning that the implementation of articles such as article 8(j) depends on the willingness of national governments, leaving the protection of traditional knowledge in a weak position and to the discretion of the states. The author considers that an international convention dealing with such a broad and controversial topic cannot contain a detailed set of provisions; they ought be developed and implemented by each party through national legislation or administrative measures but supervised by the Convention Bodies as well as the parties themselves. Furthermore, the development of directives, guidelines or recommendations -at international level- regarding the implementation of the convention is the proper way to expand some of the matters addressed by the CBD in order to guide states in the implementation of the convention and the adaptation of its articles into concrete measures at domestic level.

The CBD includes two more aspects regarding traditional knowledge that need to be addressed further on, the access to genetic resources and the

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<sup>54</sup> J. Mugabe, *supra note* 15, pp.23.

benefit sharing mechanism.

Regarding the access to genetic resources, when these resources and the traditional knowledge associated with them are being exploited by outsiders, article 15 of CBD (access to genetic resources) needs to be inextricably read in conjunction with article 8 (j), because the former establishes that the governments of states parties are the ones that will take the decision regarding the access to genetic resources and it does not mention local or indigenous communities. According to the emerging practice and evolution of the concepts such as traditional knowledge and sovereignty of indigenous groups, it is internationally recognized that when exchange of genetic resources and related traditional knowledge takes place in indigenous or local communities, all the arrangements must involve these groups<sup>55</sup>. It is argued that the CBD is “an important re-assertion of the sovereign rights of states over their biological resources (articles 3 and 15)”<sup>56</sup> but as mentioned before, in the current international law trend ‘state sovereignty’ does not exclude the respect for indigenous peoples’ rights ensured by international treaties as well as by the constitutions of many countries, including the Ecuadorian.

Furthermore, article 15 of the CBD requires the prior informed consent (PIC) of the party that provides the resources, and again, reading this article in conjunction with article 8(j), the Prior Informed Consent (PIC) of the holders of traditional knowledge related to these resources is needed too. Examples of national legislation in this respect are found in Costa Rica as well as in The Andean Community, both of them require the PIC from native communities. However, it is important to assert that prior informed consent from the local and indigenous communities must be given once they are completely aware of all the implications and applications that the transfer of the knowledge and/or resources embraces.<sup>57</sup>

Apart from legislative measures to protect traditional knowledge, that are not yet fully developed, the celebration of contractual agreements is taking place in the private sphere. If PIC is obtained, a contractual arrangement dealing with mutually agreed terms (MAT) and benefit sharing aspects might be discussed between the local or indigenous community and the outsiders. The elaboration of contracts on access to genetic resources and sharing of benefits is the current private law trend to accomplish the objectives of CBD regarding these aspects. The Fact Finding Missions conducted by WIPO in order to assess the needs and expectations of the holders of traditional knowledge, have found that these contractual arrangements are being elaborated in different forms such as licenses, material transfer agreements, access agreements, information transfer

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<sup>55</sup> L. Gundling, *supra note 52*, pp. 9-13

<sup>56</sup> J. Gibson, *Traditional Knowledge and the International Context for Protection*, <[www.law.ed.ac.uk/ahrb/script-ed/docs/TK.asp](http://www.law.ed.ac.uk/ahrb/script-ed/docs/TK.asp)>, p. 13. Visited on 24 June 2005.

<sup>57</sup> T. Zamudio, *Conocimiento Tradicional, Hacia un Marco Normativo de Proteccion*, [Traditional Knowledge: Towards a Normative Framework of Protection] (Abya Yala, Ecuador, 2004) p. 253.

agreements and so on<sup>58</sup>.

The celebration of these contracts seems to be a useful tool to procure a fair access to genetic resources and related traditional knowledge. However, contractual arrangements in the private arena should not be considered the unique solution to accomplish the goals of protecting traditional knowledge and procuring a fair exchange, there is the need to implement an international enforceable mechanism to that respect. In this line, during the 7<sup>th</sup> Session of WIPO's Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC), India argued that

“[h]owever carefully any model contract is drafted, however ardently such contracts try to correct the huge imbalance between the provider and the user, such an approach simply cannot lead to anything even remotely resembling a fair and equitable regime.”<sup>59</sup>

Countries like Ecuador and Brazil adopted the same position, and the latest manifested that making the ‘disclosure of origin’ a requirement dependant on a contractual agreement will weaken the protection of traditional knowledge. There is the need to stipulate that every country requires the disclosure of origin prior to granting a patent based on genetic resources, protecting in this way the source of origin of those resources<sup>60</sup>.

A study made by COICA to this respect draws attention to the possible problems arising from the conclusion of contracts: the contracts are not binding upon third parties (i.e. weakening the protection of traditional knowledge if misappropriation occurs), it could generate high costs, the implications of concluding a contract are not well known by indigenous groups since they do not have the necessary skills to negotiate the terms of the contract, the parties of the contract are on a disparate power relation, amongst others.<sup>61</sup> It is argued, however, by the same organization, that all these inconveniences could be dealt with properly by strategies to support and train local and indigenous communities in order to prepare them to achieve fair terms when the disclosure of knowledge occurs.

In the process of implementing the CBD, the COP, through its specialized bodies has produced two sets of guidelines, the so called “Akwe: Kon Guidelines” and the “Bonn Guidelines”. Both of them are the result of many years of national and international experiences in the adaptation of the CBD. They clarify concepts and aspects of the convention and promote the sustainable use of resources as well as the protection of traditional

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<sup>58</sup> World Intellectual Property Organization, *Draft Report on Fact-finding Missions on Intellectual Property and Traditional Knowledge*, [www.wipo.int/tk/en/tk/ffm/report/interim/pdf/8.pdf](http://www.wipo.int/tk/en/tk/ffm/report/interim/pdf/8.pdf), p.20. Visited on 17 June 2005.

<sup>59</sup> World Intellectual Property Organization, Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, *Draft Report of the Seventh Session* (2004), in M. Berglund, *The Protection of Traditional Knowledge Related to Genetic Resources: The case for a modified patent application procedure*, <[www.law.ed.ac.uk/ahrb/script-ed/vol2-2/TK.asp](http://www.law.ed.ac.uk/ahrb/script-ed/vol2-2/TK.asp)>. Visited on 1<sup>st</sup> August 2005.

<sup>60</sup> *Ibid.*

<sup>61</sup> L. Gundling, *supra note 52*, pp. 9-13.

knowledge. Even if the guidelines are not legally binding instruments, their efficacy in achieving the goals of CBD is highly expected since they are useful tools in guiding states to implement the convention in a more detailed way.

The main aspects of these guidelines will be provided in the following table:

The Akwe: Kon Guidelines	
Adoption:	February 2004 at the seventh meeting of the COP. Contained in the annex to decision VII/16
Objective:	<p>These guidelines were created “for the conduct of cultural, environmental and social impact assessments regarding developments proposed to take place on, or which are likely to impact on, sacred sites and on lands and waters traditionally occupied or used by indigenous and local communities”.<sup>62</sup></p> <p>In other words, the guidelines encourage state parties and developers to carry out a consultation process and an impact study when large projects are going to take place in the territories of indigenous or local communities and would affect them. It is a very important contribution since in the Ecuadorian Amazon the main threats to the disappearance of indigenous communities are the mining, logging and oil companies.</p>
Main Issues:	<ul style="list-style-type: none"> <li>- Participation of indigenous or local communities in the evaluation of the impacts of the projects in their territories.</li> <li>- Accountancy of traditional knowledge when evaluating the process and its impacts.</li> <li>- Suggestion on how to carry out the assessment task, including aspects such as: a) Public consultation, b) Identification of the possible affected groups (i.e. holders, stake holders), c) Effective participation of all the sectors amongst the communities (women, the youth, the elderly, etc), d) Consideration of the concerns of the communities, e) Give the communities the option to accept or reject the project according to its impacts, f) Provide communities with enough resources to participate in the project (i.e. human, financial, technical resources), g) Evaluation of the environmental impact, h) Identification of the</li> </ul>

<sup>62</sup> Secretariat of the Convention on Biological Diversity, *Akwé: Kon Guidelines*, <<http://www.biodiv.org/doc/publications/akwe-brochure-en.pdf>>, p.2. Visited on 09 June 2005.



	actors in case there is the need to establish legal responsibility, i) Plan to prevent or mitigate possible negative impacts and, j) Creation of an appeal process. <sup>63</sup>
The Bonn Guidelines	
Adoption:	April 2002 at the sixth meeting of the COP. Contained in the annex to decision VI/24A
Objective:	<ul style="list-style-type: none"> <li>- To Assist parties and stakeholders when implementing the convention in regard to the access to genetic resources and benefit sharing</li> <li>- To provide a transparent framework to facilitate a fair exchange</li> <li>- To promote a sustainable use of genetic resources</li> </ul>
Main Issues:	<ul style="list-style-type: none"> <li>- Prior informed consent: It may include elements such as consent of the national authority and indigenous or local communities, involvement of relevant stakeholders, reasonable timing and deadlines, specification of the use to be given to the resources and associated traditional knowledge, direct connection with Mutually Agreed Terms (MAT), detailed procedures to obtain the consent and a description of the general process for access.</li> <li>- Mutually Agreed Terms: They should be elaborated taking into account the principles of legal certainty and reduction of costs. The type of provisions that should form part of the contract are provided in this section including ethical concerns, the accountability of customary law regarding genetic resources, confidentiality clauses, sharing of benefits, amongst others.</li> <li>- Benefit Sharing: This section includes a list of the possible types of benefits including profits, royalties, training, scientific cooperation, etc.</li> <li>- Traditional Knowledge: The guidelines promote the respect for the legal rights of indigenous and local communities where traditional knowledge is associated with genetic resources. It is suggested that the contract includes an indication if traditional knowledge</li> </ul>

<sup>63</sup> Convention on Biological Diversity web site, <[www.biodiv.org/programmes/socio-eco/traditional/akwe.asp](http://www.biodiv.org/programmes/socio-eco/traditional/akwe.asp)>. Visited on 20 July 2005.

	<p>has been respected and preserved.</p> <ul style="list-style-type: none"> <li>- Monitoring and enforcement measures: The guidelines suggest a set of measures to ensure the compliance of PIC and MAT, such as monitoring and reporting of activities, follow up of the clauses of the contract, disclosure of information, certification schemes, measures against unfair practices, etc.<sup>64</sup></li> </ul>
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After thirteen years of the adoption of the CBD, and being the first international instrument acknowledging the role and contribution of indigenous and local communities in the sustainable use of biodiversity and the preservation of the environment, the CBD through their bodies dealing with these issues have carried out important research regarding the most controversial concepts such as PIC, MAT, preservation of traditional knowledge, amongst others, that have resulted in valuable inputs to the discussions. It is remarkable that the work that has been done includes the perspectives of all the stakeholders given a multidimensional approach to each matter. Furthermore, considering that nowadays the most common way to exchange natural resources and related traditional knowledge is the elaboration of contracts, the CBD has made important advances in this respect by establishing standards and guidelines for the conclusion of contracts. However, these ‘suggestions’ should be turned into a more enforceable mechanism at national level, i.e. through their incorporation in national legislation. This is only, however, part of the protection that is required, there is also the need of a parallel mechanism in order to ensure the protection of other interests of the communities such as the preservation of traditional knowledge itself, sanctions for misappropriation and the implementation and enforcement of the contracts, and to this effect is required a legally binding system. This constitutes a big discussion amongst the different forums dealing with traditional knowledge and, to this respect, the CBD suggests the creation of a *sui generis* system based on the current intellectual property rights regime, and this will be part of the main discussion in the 8<sup>th</sup> meeting of the COP. The creation of such a system will be discussed further on.

Although the CBD itself does not offer a binding dispute settlement mechanism, it is important to remark that the principles established by the CBD have created a platform to develop and implement a new system of protection, other forums have come out with possible solutions as well, though some of them are somehow contradictory to the principles established by the CBD that are internationally recognized, an example of this is the position of TRIPs agreement that according to critics, weakens the status of traditional knowledge and leaves it unprotected. The remarks of this discussion will be provided in the next section.

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<sup>64</sup> South Centre, *CBD & The Bonn Guidelines on Access and Benefit Sharing*, [www.southcentre.org/info/southbulletin/bulletin48/bulletin48-03.htm](http://www.southcentre.org/info/southbulletin/bulletin48/bulletin48-03.htm). Visited on 4 August 2005.

## 4.3 The TRIPs Agreement

The Trade Related Aspects of Intellectual Property Agreements, concluded in 1994, are part of the overall agreement establishing the World Trade Organization. This treaty sets down minimum standards for intellectual property rights like copyright, trademarks, patents, geographical indications, industrial designs and integrated circuits in order to ensure that intellectual property normative do not constitute an obstacle to trade.<sup>65</sup> In other words, TRIPs agreement has the main task to internationalize the current intellectual property law standards. The agreement does not expressly mention traditional knowledge but it has provisions that may affect them.

TRIPs is criticized especially by developing countries (most of them rich in biodiversity and traditional knowledge) that argue that the agreement is not in line with the interest of traditional knowledge holders since it allows state parties to include patents for inventions that could be based on genetic resources and traditional knowledge, without the consent of the person or community that owns that knowledge. Developed countries, on the other hand, consider that patents are critical to economic development. Critics say that with this kind of regulations, TRIPs agreement promotes carrying out research in biodiversity rich areas of the world where plants, seeds and the associated traditional knowledge can be the starting point for future developments in agriculture, medicine, etc.<sup>66</sup> This is acceptable if the conditions to conduct such research are fair enough to local and indigenous communities where the resources and related knowledge is found.

Regarding the inconsistency between the TRIPs Agreement and the CBD, while the CBD recognizes the sovereignty rights of states over their natural resources, TRIPs agreement allows states to grant patents regarding biological resources (plants, animals and micro organisms). TRIPs agreement neither asks for the consent of the communities nor for sharing benefits derived from the use of the knowledge while those aspects are well established in the CBD. To this respect, some countries are pursuing a modification of the agreement, especially in its articles 27.3 (b) or 29<sup>67</sup> in such a way that, before granting a patent related to biological resources, states should request the applicants to fulfill the following aspects:

- To divulge of the source of origin (disclosure of origin) meaning the country where the biological resource comes from and if traditional knowledge has been used.
- Proof of the prior informed consent given by the competent authority.

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<sup>65</sup> Ministry of Economic Development of New Zealand, *supra note* 49.

<sup>66</sup> International Institute for Sustainable Development, *Traditional Knowledge and Patentability*, [www.iisd.org/pdf/2003/investment\\_sdc\\_may\\_2003\\_7.pdf](http://www.iisd.org/pdf/2003/investment_sdc_may_2003_7.pdf). Visited on 02 August 2005.

<sup>67</sup> Article 27.3 deals with exclusions to patentability and *sui generis* systems for plant varieties while article 29 with disclosure requirements.

- Proof of the agreement regarding the benefit sharing.<sup>68</sup>

Developed countries do not agree with this kind of requirements, since they consider that WTO is not the appropriate forum for dealing with this type of protection of traditional knowledge, according to them, that should be done by WIPO; other reasons to avoid the inclusion of such requirements is the difficulty that they could create in the procedure of obtaining a patent (i.e. the difficulty to identify who owns the knowledge) and the impossibility of traditional knowledge to fulfill the requirements for obtaining a patent.<sup>69</sup>

This controversial situation has lead WTO to conduct a research on the relation between TRIPs and the CBD through the Doha Declaration that includes a directive to address the issues of patenting of biotechnology, biopiracy and the interests of traditional knowledge holders. There are no agreements yet and the two distant positions remain, at least it is commendable that WTO demonstrates interest in this matter and maybe later, as WTO itself have mentioned it would be possible to include traditional knowledge in their enforcement mechanisms. This would, however, only be when all the controversial issues related to this topic have been covered by WIPO, implying that there is the need to amend the existing intellectual property rights regime in order to adapt it for the protection of traditional knowledge, only then, will it be all set to be included under the protection of TRIPs agreement<sup>70</sup>. However, given the importance that traditional knowledge and biological resources are acquiring, the attention of other forums dealing with this topic will be on WTO in order to adjust its principles in accordance with the CBD.

#### **4.4 Andean Community Decision 391 (access to genetic resources) and Andean Community Decision 486 (industrial property)**

The Andean Community of Nations is a regional integration treaty regarding social, political and economic aspects. Its members are Venezuela, Colombia, Peru, Ecuador and Bolivia. All the resolutions take the form of 'Decisions' that constitute legally binding instruments that must be applied by each member state without the need of the Congress approval.

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<sup>68</sup> PRODIVERSITAS, *OMC y Conocimiento Tradicional* [WTO and Traditional Knowledge], <[www.prodiversitas.bioetica.org/tkomc.htm](http://www.prodiversitas.bioetica.org/tkomc.htm)>. Visited on 26 July 2005.

<sup>69</sup> International Institute for Sustainable Development, *supra note* 66.

<sup>70</sup> G. Dutfield, *Protecting Traditional Knowledge and Folklore*, in M. Berglund, *The Protection of Traditional Knowledge Related to Genetic Resources: The case for a modified patent application procedure*, <[www.law.ed.ac.uk/ahrb/script-ed/vol2-2/TK.asp](http://www.law.ed.ac.uk/ahrb/script-ed/vol2-2/TK.asp)>. Visited on 1<sup>st</sup> August 2005.

Acknowledging the value of biological resources and related traditional knowledge and, in order to establish an equitable benefit sharing mechanism system between the Andean Community countries, the Decision 391 on a Common Regimen on Access to Genetic Resources was developed and adopted in July 1996. Basically, this decision sets a legal framework for bioprospecting in the region. The elaboration of this decision was made at a very early stage of the international debate regarding traditional knowledge when the CBD was the only reference<sup>71</sup>. It is argued that this Decision is a big step in the implementation of CBD in the region, especially regarding the benefit sharing mechanism.

Amongst the main aspects of this decision, it establishes that genetic resources are part of the patrimony of the state and, in order to access them with the purpose of investigation or economic interest, there has to be a contract between the party interested in conducting the bioprospection and the national authority of the state.

It also establishes the fair and equitable share of the benefits derived from the access to the resources and recognizes the value of traditional knowledge from the communities. To this respect, article 7 of the Decision "...recognize and value the rights and decision making process of indigenous, afro-american and local communities over their traditional knowledge, innovations and practices associated to genetic resources and derived products"<sup>72</sup>. This recognition is remarkable in formal legislation but unfortunately, in most of the cases, the members have not applied it. In the same line, article 35 of the Decision requires the conclusion of a contract or agreement in the case where the access to resources is associated with traditional knowledge (the convention refers to traditional knowledge as an 'intangible component'), this contract has to be signed by the applicant and the provider of the knowledge and sometimes, depending on the national legislation it could be signed also by the national authority. However, the Decision is only partially in agreement with the objectives of CBD since consultation to indigenous communities is only necessary when traditional knowledge is associated with the genetic resources to be exploited, therefore, if the genetic resources in discussion do not involve traditional knowledge it is not necessary to reach an agreement with the communities. This leaves the communities in a weak position because even if traditional knowledge has not been applied to a natural resource, the process itself of preserving the resources of the area is a merit of the communities and at the end, whatever process takes place in their lands will affect the culture and environment of these groups.

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<sup>71</sup> M. Ruiz, *Regulating Bio Prospecting and Protecting Indigenous Knowledge in the Andean Community: Decision 391 and its Overall Impacts in the Region*, in UNCTAD (ed.), *Recopilación de documentos relevantes para el Taller "Acceso a recursos genéticos, conocimientos y prácticas tradicionales y distribución de beneficios"* [Compilation of Relevant Documents for the workshop "Access to genetic resources, traditional knowledge and practices and benefit sharing"], <[www.comunidadandina.org/desarrollo/unctad\\_can\\_caf.PDF](http://www.comunidadandina.org/desarrollo/unctad_can_caf.PDF)>, pp. 89-90. Visited on 14 august 2005.

<sup>72</sup> Decision 391 of the Andean Community on a Common Regimen on Access to Genetic Resources, article 7.

In the following table, Ruiz sums up the requirements established by this Decision when access to genetic resources and/or traditional knowledge will take place:

**Step 1.** Review general minimum conditions for access (article 17) to be included in application and / or access contract. Conditions could include: terms of transfer of materials to third parties (see final paragraph of Section 2.3 above), submission of research results, support to conservation and sustainable use of biodiversity research, participation of Member State nationals in research activities, among others.

**Step 2.** Submit an access application to the national competent authority (article 26).

**Step 3.** Conclude an accessory contract (between applicant and *ex situ* conservation centre; owner or person in possession of land where biological resource is located; owner or person in possession of the biological resource or the national support institution) (article 41), and / or an accessory contract (or Annex) between applicant and provider of the intangible component (knowledge, whether from an indigenous community or not) (article 35).

**Step 4.** Access contract is concluded between the National Competent Authority and the applicant seeking access. All other contracts are subject to the results of the negotiations of the access contract (article 32). The State will take into account the interests of the providers of the biological resources and the intangible component (article 34). All accessory contracts will only enter into effect once the access contract has been signed (article 42).

**Access by research and *ex situ* centers**

**Step 5.** If bioprospecting is to be carried out by universities or recognized research institutions and researchers and they involve multiple access activities, a framework access agreement must be concluded with the National Competent Authority (article 36).

**Step 6.** If *ex situ* centers or other institutions seek to carry out access related activities they must conclude an access contract with the National Competent Authority. The National Competent Authority may conclude access contracts with third parties who seek to access resources deposited in these centers of which Member States are countries of origin (article 37).

**Step 7.** The National Competent Authority may conclude deposit, administration and inter-mediation contracts with universities or recognized research institutions and researchers (Fifth Complementary Disposition).

General summary of the access procedure in Decision 391<sup>73</sup>

All these steps reflect the willingness of the states to pursue a fair and equitable sharing of benefits derived from the access to the resources and to recognize the utilization of traditional knowledge. This scenario has been seen as a complicated procedure to follow. However, it is important to consider that when the decision was created, cases of biopiracy were increasing in the area, specially given the value of the Amazon region, this drove the members to draft such a detailed procedure in order to prevent more cases of misappropriation of resources and related knowledge.

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<sup>73</sup> M. Ruiz, *supra* note 71, p. 91.

In the same line as the CBD, the Decision has made clear the awareness of the Andean Community regarding the protection of traditional knowledge through a special regime, implying that even if the conclusion of contracts is required in order to access the genetic resources, it is not the solution to ensure the protection and preservation of traditional knowledge. The Eight Transitory provision states that each party will elaborate a proposal regarding the

“...establishment of a special regime or harmonization regulation oriented to strengthen the protection of indigenous, afro-american and local communities traditional knowledge, innovations and practices in accordance with article 7 of this Decision, ILO Convention 169 and the CBD”

Even so, to date there has not been a concrete proposal addressing the elaboration of such system.

In summary, even if Decision 391 sets standards for an equitable sharing of benefits it also has certain restrictions to the exercise of collective rights of indigenous peoples, since eventually it is the State that has the absolute sovereignty over its resources and it is the one that will take the decision regarding the access to genetic resources, and only when the intangible component is involved, the communities will be consulted. This premise is contrary to the integral and indissoluble link of local communities with their resources and traditional knowledge.

Regarding the implementation of the Decision, Ecuador has not developed domestic regulations to implement the decision. This may be due to the lack of financial resources. Still here remains the need to implement a special regimen, at Andean or domestic level, to strength the traditional knowledge of the communities, in compliance with ILO 169 and CBD principles. Also needed is the training of the communities in order to prepare them to implement the standards established in decision 391 regarding the elaboration of contracts and benefit sharing mechanisms.

Moving into another relevant Decision from the Andean Community that contains provisions regarding traditional knowledge, in September 2000, the Andean Community adopted the Decision 486 in order to develop a common regimen between its members about intellectual property. This decision, as well as the Decision No. 391, is considered an innovative step on the topic, since it contains provisions that are directly connected to the protection of indigenous communities and biological diversity, creating a direct link between the industrial property regime and the CBD by subordinating the granting of patents involving TK to previous consultations and agreement with TK holders<sup>74</sup>. This link is developed in its article 3:

“The Member Countries shall ensure that the protection granted to intellectual property elements shall be accorded while safeguarding and

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<sup>74</sup> M. Ruiz, *The Andean Community's New Industrial Property Regime: Creating Synergies between the CBD and Intellectual Property Rights*, < [www.iprsonline.org/ictsd/docs/RuizBridgesYear4N9NovDec2000.pdf](http://www.iprsonline.org/ictsd/docs/RuizBridgesYear4N9NovDec2000.pdf)>. Visited on 26 July 2005.

respecting their biological and genetic heritage, together with the traditional knowledge of their indigenous, African American, or local communities. As a result, the granting of patents on inventions that have been developed on the basis of material obtained from that heritage or that knowledge shall be subordinated to the acquisition of that material in accordance with international, Andean Community, and national law”<sup>75</sup>

Amongst its dispositions, this Decision establishes special obligations in the patent system in order to ensure the protection of traditional knowledge. It includes as a requisite to obtain a patent, the copy of the contract of access to genetic resources and/or the copy of the authorization to use the traditional knowledge from the local, afro-american or indigenous communities. If the applicant does not comply with these access regulations, there is the possibility to cancel any intellectual property right.<sup>76</sup> It is argued that this provision is not protective of traditional knowledge as it could be since at the beginning of the norm the wording says, “...if it be the case...”, meaning that National governments will have to decide in which cases these contract of access concluded with local communities are required. Anyways, when the contracts are required, this constitutes an innovative approach to ensure that the applicant of a patent is not setting aside the indigenous rights concerning their traditional knowledge and that the benefit sharing mechanism has been agreed. But again, the limitation to this article is that it is only applicable between members of the Andean Community. In the current debate, developing countries are requesting industrialized countries to adopt such measures in their intellectual property rights regimes in order to ensure a worldwide protection.

Article 3 of the Decision involves other aspects relevant to traditional knowledge; it calls state members to recognize the rights and the faculty of indigenous communities to decide about their collective knowledge.

The mechanism set out by this decision regarding the patent system is completely aligned with the CBD and it is a viable way to ensure that the principles regarding the access to genetic resources, benefit sharing and protection of traditional knowledge are respected. However, two remarks must be made, first, this mechanism is only compulsory for members of the community and most of the bioprospecting activities come from other countries, and, second, apart from the regional normative, the members of the Andean Community must implement their decisions in their respective countries in order to make them functional, and in the case of Ecuador, this work has not been done.

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<sup>75</sup> Andean Community Common Regime on Industrial Property, Decision 486, art 3.

<sup>76</sup> *Ibid*, art. 26 and 75.



# 5 Ecuador: Implementation of international standards and the development of a *sui generis* system for protection

As pointed out in the former chapter, currently, the protection of traditional knowledge is somehow addressed in CBD and in the Andean Decisions 391 and 486 but all these instruments need to be adapted at national level in order to make them functional. When a State adopts a treaty it binds itself to implement it at national level through legislative or administrative mechanisms. However, almost 10 years have passed since the adoption of the CBD by Ecuador and traditional knowledge in the country remains unprotected. In this chapter the steps that have been taken to protect traditional knowledge will be discussed as well as the national normative that address this issue.

## 5.1 Political Constitution of Ecuador

The Ecuadorian Constitution recognizes the multi-cultural and multi-ethnic character of the country. This fact is highlighted in the reformed constitution of 1998 where the establishment of the collective rights of indigenous and Afro-American groups is stated. Therefore, the Ecuadorian State recognizes these groups as part of the country with the following collective rights:

- The right to preserve an identity and tradition in terms of spiritual, cultural, linguistic, social, political and economic aspects;
- To maintain the ancestral and non-transferable ownership of community lands which shall be inalienable, non-attachable and indivisible, excepting the State's right to declare their public usefulness and including the exemption from payment of real-estate taxes;
- To share in the use, usufruct, administration and conservation of renewable natural resources in their lands;
- To be consulted on projects of exploitation of these or any other resources which may affect them environmentally or culturally;
- To share in profits and receive indemnities for social and environmental damages;
- To maintain collective intellectual property of ancestral lore;
- To maintain, develop and administer their cultural and historical heritage;
- To preserve their knowledge and practice of traditional medicine t

- To preserve and develop their traditional ways of social life and organization (i.e. the administration of justice and the application of their own rules and proceedings in solving conflicts according to their own customs and customary right, if they are not contrary to the Constitution, the laws, public order and human rights. (arts. 191 and. 84, first paragraph).<sup>77</sup>

The rights enshrined in the Constitution are aligned with the principles enshrined in the ILO Convention No. 169, the Convention on Biological Diversity and the Andean Decisions 391 and 486. At first glance, the Ecuadorian constitution appears to be forward looking regarding the legal framework for indigenous groups. However, the rights established in the Constitution are not self-implementing; they need further action and secondary laws to support their provisions. In this respect action is needed in the country to find the proper mechanisms to apply these regulations.

## 5.2 Agrarian Legislation

Apart from the rights established in the Constitution, the Agricultural Development Law also contains a provision related to traditional knowledge which states that the Ministry of Agriculture and Livestock will be in charge of setting a national programme to train and transfer technology to indigenous communities in order to improve the current agricultural practices<sup>78</sup>. However, this provision is far from offering the necessary protection to the traditional knowledge providers. As a matter of fact, it is argued that this is another way of acculturation since it only promotes a one way transfer of knowledge disregarding the traditional knowledge aspect involved in land management.

The agrarian legislation plays an important role amongst the communities since they have been struggling for their land rights for decades and the reform of this law provided them with the necessary tools to claim for their these rights, as a consequence, an entitlement process is currently being implemented. It goes without saying the already mentioned significance that the lands and environment play in the creation and preservation of traditional knowledge.

## 5.3 Intellectual Property Law

The Ecuadorian Intellectual Property Law is aligned with the Andean Decision 486. The first article states that the rights established in the law, neither limit the rights granted by the Convention on Biological Diversity nor the other Ecuadorian laws about the subject.

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<sup>77</sup> Constitución Política de la Republica del Ecuador [Political Constitution of the Republic of Ecuador], art. 84 and 191.

<sup>78</sup> Agricultural Development Law of Ecuador, art. 4 and 5.

The law also requires that for granting a patent regarding genetic resources they have to be legally accessed according to the rights established in the Constitution, international treaties and Andean Decisions (e.g. obtaining PIC, MAT, etc). And, a clause at the end of the law determines the need of implementing a *sui generis* system regarding the collective intellectual rights of indigenous communities through a special law that must be provided to this effect.

Regarding the protection of traditional knowledge through the intellectual property system, there is a general consensus between the Ecuadorian indigenous groups and other forums (i.e. NGO's, Government Agencies, etc.) in a sense that the intellectual property system is not adequate to protect traditional knowledge. The idea behind this argument is that the current intellectual property system, even with the incorporation of new elements, does not guarantee the protection and preservation of traditional knowledge. It is seen as a western system that does not understand the nature of the collective rights of indigenous groups and their concept of communal property.<sup>79</sup> This position has reached the support from most of the stakeholders of traditional knowledge.

The indigenous groups claim for the creation of a *sui generis* system since patents, copyrights, certificates of origin, industrial designs, etc. were created to protect individual rights and have only a commercial purpose, while the traditional knowledge has a collective character and not an exclusive commercial purpose<sup>80</sup>. Even though some countries have succeeded in applying the intellectual property system, the tendency in the Amazon region is the creation of a new system. Nevertheless, despite the fact that this system is not considered to be adequate for the Amazon region, the different studies WIPO has performed on the issue constitutes an important input to the debate concerning the protection of traditional knowledge.

## 5.4 Environmental Normative

The Ministry of Environment is currently the main national forum where the issues regarding traditional knowledge are being discussed and it has a proactive role in developing its protection. There are some administrative measures applied by this Ministry, regarding the recollection, investigation and exportation of flora and fauna. In order to carry out these activities it is necessary to obtain an authorization that is granted provided that the investigation project is presented to the competent authority. This measure is important for traditional knowledge since it protects natural resources that are a vital source for its creation. As mentioned before, in the *Epipedobates*

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<sup>79</sup> R. de la Cruz, *Protección a los Conocimientos Tradicionales* [Protection of Traditional Knowledge], <[www.comunidadandina.org/desarrollo/t4\\_ponencia2.htm](http://www.comunidadandina.org/desarrollo/t4_ponencia2.htm)>. Visited on 10 September 2005.

<sup>80</sup> *Ibid.*

case, the samples of the frogs were taken without having requested any permission from the national authority, this illustrates that the provision exists but it is not properly enforced, this may be due to budgetary constraints that affect the Ministry of Environment.

The main action that has been taken by the Ministry of Environment is the elaboration of a national plan that is explained below.

## **5.5 National Biodiversity Strategy and Action Plan**

Besides all this normative, the Ecuadorian Government has elaborated a national plan to preserve the biodiversity and it includes the protection of traditional knowledge. The institution in charge of implementing the plan is the Environmental Management Sub-Secretary of the Ministry of Environment that includes amongst its members, representatives from the CONAIE (the main national indigenous organization of Ecuador). The plan is expected to be implemented between the years 2000 and 2010.

The traditional knowledge and practices are part of the four strategic components of the plan. Its objective is to guarantee the respect to collective rights when accessing to genetic resources and/or related knowledge, ensuring the participation of local communities in the decisions regarding the access and control of resources, and promoting an equitable sharing of the benefits.<sup>81</sup>

This plan includes the needs and expectations of traditional knowledge source communities and it is expected to produce the following results:

- The development of the legal framework of the intellectual collective rights regarding traditional knowledge based on the already established guarantees in the Constitution.
- The establishment and facilitation of procedures in order to register the traditional knowledge.
- The development of capacities for the contract negotiation for the access to the intangible component (as established in the Andean Decision 391).
- Information systems on the forms of traditional management of the biodiversity
- Participation forums for the indigenous groups in the implementation of article 8(j) of the CBD through consultation processes.
- The recognition of the right to veto of the indigenous communities

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<sup>81</sup> Andean Community, Documentation of the IV Regional Workshop about Access to Genetic Resources, Traditional Knowledge and Benefit Sharing, (Venezuela, 2001), <[www.comunidadandina.org/desarrollo/dct4.PDF](http://www.comunidadandina.org/desarrollo/dct4.PDF)>. Visited on 19 August 2005.

when the access may have a negative impact in the community.<sup>82</sup>

The referred to plan also mentions that when an indigenous community provides the natural resources and/or related knowledge, the legal framework to regulate the contract containing the benefit sharing mechanism will be the one established in the Andean Decision 391. However, the provisions included in the decision are not self-executing and there is therefore the need to develop the appropriate framework to implement it in Ecuador.

It is important to highlight the role of the indigenous groups from the Ecuadorian Amazon; their contribution to the debate has led to the development of the national movement towards the implementation of the international and regional standards. The contribution of COICA is valuable as well, since it has collected in their publication “Returning to the Maloca” the expectations of the Amazon indigenous groups regarding the creation of a *sui generis* system. These groups expect that whatever form the new system takes, it must be based on the following principles<sup>83</sup>:

- Acknowledgment of our self-determination rights, including our right to decide on the use of our knowledge.
- Acknowledgment of the collective character of our knowledge, innovations and traditional practices.
- Acknowledgment that within us, the innovation is a cumulative process that includes all the manifestations of our creativity.
- Guarantying the legal security of our lands and territories.
- Respect and guarantee our own institutions and organizations, including our original languages.
- The right to foster the exchange of our knowledge, innovations and traditional practices between ourselves.
- The veto right, that is, to oppose to any research that is against the respect and recognition of our rights.
- The declaration of nullity of any transaction that has the objective of destroying or discredits the integrity of our knowledge, innovations and practices.
- Inclusion of impact prevention strategies against our knowledge, innovations and practical traditions, especially for the execution of mega-projects within our territories.
- The custody and management of our collective knowledge belongs to us. In this sense, a system that protects collective property rights must not disable the common use of biological resources and of those corresponding to traditional knowledge.
- To guarantee that we are the ones that takes the decisions on the previous based consent principle. A *sui generis* way must regulate that this consent be granted in a collective way by a community according to their own common practices.
- An access contract to genetic resources does not necessarily imply a permit to use traditional knowledge, without taking into consideration a previous based consent granted by affected peoples.

Principles to be considered in the creation of a *sui generis* system for the protection of traditional knowledge (Perspectives of Indigenous Groups)<sup>84</sup>

<sup>82</sup> R. De la Cruz, *Necesidades y expectativas de protección legal de los titulares del conocimiento tradicional en el Ecuador* [Needs and expectations of traditional knowledge holders regarding their legal protection in Ecuador]. (Ecuador, 2002)

<sup>83</sup> COICA, *supra* note 8, pp. 62-63.

<sup>84</sup> *Ibid.*

As can be seen, Ecuador is aware of the importance and value of traditional knowledge. Good initiatives have been taken both at the public and private sector. The main domestic forum is of environmental character given the importance of biodiversity and the link between natural resources and traditional knowledge. Even if it is still pending the creation of a *sui generis* system, the progressive implementation of the National Biodiversity Strategy and Action Plan is seen with good eyes since it includes concrete measures to ensure the compliance with the principles established in the CBD. However, more support is expected from the central government, especially regarding the financial aspect, in order to develop the initiatives.

## 5.6 Towards the creation of a *sui generis* system

The legal protection of traditional knowledge has triggered different forums to screen current instruments and to develop new approaches to achieve this goal. Basically, there are two approaches: the positive route and the defensive protection system.<sup>85</sup>

The positive protection is based on the assumption that “protection of indigenous knowledge is important to safeguard the rights of knowledge holders in view of commercial exploitation and benefit”<sup>86</sup>. Many examples of possible positive protection that are being discussed include: the current intellectual property system, contracts and ABS systems, liability regimes and the creation of the *sui generis* system. On the other hand, the defensive protection system aims at “the protection of indigenous knowledge, mainly in an effort to protect these assets against acquisition and exploitation by third parties”<sup>87</sup>. As for defensive protection, the documenting of the knowledge is considered a possible solution in order to preserve traditional knowledge and to prevent from unauthorized acquisition by third parties.

Each one of the alternatives provided above are being analyzed as possible solutions to protect traditional knowledge, most of them have a limited potential in offering a strength protection of TK. However, ABS regimes and contracts offer a valuable alternative in establishing the rules for the access, as mentioned in earlier chapters, but they depend on the willingness of states to involve indigenous groups when dealing with the access to genetic resources. Databases are considered also as solution for the protection and this system have an added value which is that it will help to preserve traditional knowledge as well, but it needs a deeper study since it is

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<sup>85</sup> G. Van Overwalle, Protecting and sharing biodiversity and traditional knowledge: Holders and user tools, *Ecological Economics* 53 (2005) pp. 585-607.

<sup>86</sup> *Ibid.*

<sup>87</sup> *Ibid.*

argued that databases could turn into a *dangerous* tool if the access to them is not regulated.

As studies continue to develop some tools are loosing space while others are being considered as preferential tools. However, it is important to mention that they could be used together since they are not mutually exclusive<sup>88</sup>. A fully effective regime involves the use of different tools in order to achieve the protection and preservation of traditional knowledge. To date, any of these tools have offered a full protection of TK that is why the holders of the knowledge are pressuring governments to develop a *sui generis* system that includes their perspectives and could be internationally enforceable.

The development of a *sui generis* system is the focal point in the discussions regarding traditional knowledge and its unique features. At COP 7, the Conference of the Parties recognized that “a *sui generis* system for the protection of traditional knowledge at the international level may enable indigenous an the local communities to effectively protect their knowledge against misuse and misappropriation”<sup>89</sup> this shows the concern of the COP to find out a system for protection and more important, how to articulate in practical terms the dispositions of CBD regarding PIC and the benefit sharing mechanism. To this respect the Working Group on Article 8(j) is in charge to identity the main elements to be considered during the development of this system. The outcomes of this study will be discussed in the fourth meeting of this group to be held in March 2006. It is expected that the eight meeting will move forward the debate of the *sui generis* system since the CBD is carrying out this research with the collaboration of relevant organizations like WIPO and the Permanent Forum on Indigenous Issues and this will bring many different perspective together.

In the document “Legal and other appropriate forms of protection for the knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity”<sup>90</sup>, the Secretariat of CBD stated that a *sui generis* system must have the following features:

- Be not only consistent with but supportive of the provisions of the CBD on indigenous and local communities, and conservation and sustainable use of biodiversity;
- Be based on an integrated-rights approach guided by human-rights principles and concern for the environment;
- Have among their basic objectives:

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<sup>88</sup> *Ibid.*

<sup>89</sup> Permanent Forum on Indigenous Issues, *Contribution of the Convention on Biological Diversity and the Principle of Prior and Informed Consent*, PFII/2005/WS.2/3 (New York, 2005).

<sup>90</sup> Secretariat of the Convention on Biological Diversity, “Legal and other appropriate forms of protection for the knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity. Note by the Executive Secretary”, UNEP/CBD/WG8J/1/2, (2000).

- The encouragement of conservation and sustainable use of biodiversity;
- The promotion of social justice and equity;
- The effective protection of traditional biodiversity-related knowledge and resources against unauthorized collection, use, documentation and exploitation – including PIC; and
- The recognition and reinforcement of customary laws and practices, and traditional resource-management systems that are effective in conserving biological diversity; and
- Be developed in close collaboration with indigenous and local communities through a broad-based consultative process that reflects a country's cultural diversity<sup>91</sup>.

All these aspects are a good departure in the development of a new system. Many countries are already applying measures in order to protect traditional knowledge such as PIC, contracts, databases, amongst others but still persists the need of implementing an international enforceable mechanism and its development will take a long time until developed an developing countries agree in a single system of protection.

By now, at national level it is expected that Ecuador will keep implementing the plan mentioned above; at regional level it is expected that the Andean Community develops a common system of protection and preservation of traditional knowledge and continues supporting the local communities in pursuing a international enforceable mechanism for protection; and, at international level is expected that the forums dealing with this issue act in a orchestrated way in order to find a balance between the industrialized countries and the developing ones.

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<sup>91</sup> G. Dutfield, *Can the TRIPs Agreement Protect Biological and Cultural Diversity?*, Biopolicy International Series No. 19, (Nairobi ACTS Press, 1997).



## 6 Conclusions and Recommendations

The aim of this study was to assess the current status of TK protection with specific focus on the indigenous groups of the Ecuadorian Amazon. During the development of this work, it was found that TK has different kind of values such as economic, cultural, linguistic, spiritual and environmental aspects which makes TK an invaluable asset for humanity that must be preserved and protected.

This study found that the debate about traditional knowledge have almost passed the stage of definition of terms and now is focused on the development of a *sui generis system*; it is now time to move forward and find the way to operationalize these concepts.

Whatever the form that the new system takes it has to consider generating income for indigenous and local communities, contributing to the development of the communities, and respecting and preserving the cultural diversity. Also, the system should include elements like, a) the collective character of the rights of the TK holders, b) registers of knowledge, c) clear rules in order to facilitate the access to such rights and benefit-sharing, d) clarification of land resource rights, e) the inclusion of participation and consultation mechanisms, and, f) the creation of incentives for research.

At international level, it is important to promote the exchange of experiences between countries where progress has been made in the protection and preservation of TK. This exercise will help to develop standards for an international *sui generis* system in order to prevent misappropriation of the knowledge by foreign countries. Even if many international forums are now addressing the protection of traditional knowledge, the question of how to achieve this goal remains blurred. At least, the Convention on Biological Diversity is the only international convention that acknowledges traditional knowledge and its value, and it has become the main platform to support the debate.

Apart from the work that needs to be done by governments, the private sector must involve itself in the process of achieving the protection of traditional knowledge. For example, besides complying with the normative regarding the access to genetic resources and related knowledge, they should go further by developing codes of conduct specific for the industry which may serve as a guide to achieve the aforementioned goal.

In Ecuador the debate has not gone much further than the international one. The creation of a *sui generis* system is part of the national plan and by now it only remains in paper and discussions, however, the steps of the national plan are being taken slowly but at the same time firmly. The Indigenous organizations are playing an active role in this process which is ensuring a

multi-stakeholder perspective when addressing the protection of the TK.

In a more local level, the Amazonian Indigenous groups are growing reluctant to share their knowledge not only because of the lack of mechanisms for economical compensation but because of the extractive nature that the approaches have taken so far. It is recommended here to include more holistic ways of compensation such as training courses for local people about scientific methods, scholarships, student exchanges, sustainable technology (solar power, water pumps, sanitation, etc.) which will allow the communities to take advantage of the western knowledge while the western world can learn from the traditional knowledge of these communities.





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