

Indigenous Knowledge in Peru

Norka E. Paden

INTRODUCTION

Indigenous people and their communities represent 4 percent of the world's population, but 95 percent of the world's cultural diversity (Rainforest web, 2005). Indigenous communities have developed over generations a holistic traditional and scientific knowledge to adequately manage their natural resources, which has greatly contributed to the improvement of the environment status in their own communities.

The ability of indigenous people to participate fully in sustainable development practices has been limited due to economic, social, and cultural factors. Thus, there is a growing concern among authorities at all levels to recognize, promote and strengthen the role of indigenous knowledge worldwide at the national, regional and international levels and sponsored by governmental and non-governmental institutions.

The goal of this paper is to provide an overview about indigenous knowledge, including the legal framework at international, regional and national levels. At the international level, the main United Nations (UN) Conventions will be mentioned. The current situation of Latin American, relevant data on the Amazon region and a specific case study in Peru and will be provided. It is expected that this paper will contribute to the current debate on indigenous knowledge systems.

Definitions

Authors' rights

CSIPAA (2001) defines author's right as the rights of property that automatically generated for the creation of the diverse type of works, and that protect the rights and interests of the creators. Copyright is a system of intellectual creation which needs to be registered (CSIPAA, 2001).

Biodiversity

Biodiversity or Biological diversity is defined as the variety of life in all its forms, levels and combinations. Biological diversity includes

ecosystem diversity, species diversity, and genetic diversity (IUCN, UNEP and WWF, 1991).

Copy right

Copyright is a form of protection provided by the laws of the United States (title 17, U.S. Code) to the authors of "original works of authorship," including literary, dramatic, musical, artistic, and certain other intellectual works (SLI, 2005). This protection is available to both the published and unpublished works that are fixed in a tangible form of expression. Copyrightable works include the following categories: literary, musical and dramatic works as well as pictorial, graphic, sculptural, audiovisual, and architectural works (SLI, 2005).

Indigenous Knowledge

Indigenous knowledge (IK) is related to the environment that people live in. Factors modifying indigenous knowledge are changes in social structure and values as well as interactions with other communities (Indigenous Knowledge Journals, 2005). Thus, indigenous knowledge is actually contemporary knowledge. Indigenous knowledge is embedded in traditional knowledge systems of indigenous communities in the local context (WIPO, 2005). Indigenous knowledge within the communities is valuable for the *in-situ* conservation of natural resources such as plant genetic resources and medicinal plants, which are relevant in the pharmaceutical and agricultural fields (Indigenous Knowledge Journal, 2005; WIPO, 2005).

Intellectual Property

Intellectual Property (IP) covers all literature, artistic, musical and scientific work (CSIPAA, 2001). IP is divided into two categories: Industrial property, which includes inventions (patents), trademarks, industrial designs, and geographic indications of source; and Copyright, which includes literary and artistic works such as novels, poems and plays, films, musical works, artistic works such as drawings, paintings, photographs and sculptures, and architectural designs (WIPO,

2005). Rights related to copyright include those of performing artists in their performances, producers of phonograms in their recordings, and those of broadcasters in their radio and television programs (WIPO, 2005).

Patents

A patent is an exclusive right granted for an invention, which is a product or a process that provides, a new way of doing something, or offers a new technical solution to a problem (WIPO, 2005). Patent is also defined as the document in which the government recognizes the rights of the author (CSIPAA, 2001). The World Intellectual Property Organisation (WIPO) mentions some requirements for an invention to be patented. It must be of practical use; it must show an element of novelty, that is, some new characteristic which is not known in the body of existing knowledge in its technical field. Finally, its subject matter must be accepted as “patentable” under law.

A patent is issued for a limited period (WIPO, 2005). The author has to pay an annual amount, and make a proper use of the product (CSIPAA, 2001). Patents provide incentives to individuals by offering them recognition for their creativity and material reward for their inventions (WIPO, 2005). Patents are issued for the prevention of illegal commercialization or distribution without the owner’s consent and enforced in court (WIPO, 2005). A court can also declare a patent invalid upon a successful challenge by a third party (WIPO, 2005).

A patent is granted by a national patent office or by a regional office that does the work for a number of countries, such as the European Patent Office and the African Regional Intellectual Property Organisation. In regional systems, an applicant requests protection for the invention in one or more countries, and each country decides as to whether to offer patent protection within its borders (WIPO, 2005).

Sustainable Development

Brundtland defined Sustainable Development as development that meets the needs of the present without compromising the ability of future generations to meet their own needs (ARE, 2005). Sustainable development respects the limited capacity of an ecosystem to absorb the impact of human activities (ARE, 2005).

International Agreements Concerning the Protection of Indigenous Knowledge

Agenda 21

Agenda 21 in Chapter 26 stresses the holistic role of indigenous knowledge for the protection of natural resources (UNSD, 2005). It recommends objectives, activities, and means of implementation. Chapter 34 also mentions the importance of property rights and transfer of private owned technology. The role of indigenous people in conserving biodiversity was pointed out in Chapter 15. Similarly, the Convention on Biodiversity discussed the key issue for indigenous communities to make governments guarantee the use and share of their rights over the resources.

Rio +5

Five years after the Rio Convention, the United Nations declared 1993 as the international year of the indigenous people and provided support for regional meetings (Tauli, 2005). UNESCO designated special focal points for indigenous people, and the International Labour Office (ILO) set up an Interregional Programme Self-reliance of Indigenous and Tribal Communities through Cooperatives and other Self-help organisations.

The Indigenous Peoples’ Biodiversity Network (IPBN) has been an active participant in discussions around the Convention on Biological Diversity since the beginning of the implementation period of Agenda 21 (The Earth Network, 2005). The IPBN has facilitated an ongoing discussion among indigenous people concerning the opportunities for promoting, preserving and protecting their rights to manage, control and benefit from their own knowledge and resources (The Earth Network, 2005).

However, quite noticeable is the lack of political will to implement Agenda 21, particularly from multilateral agencies such as the World Bank and the International Monetary Fund (IMF) (Tauli, 2005). Participation of indigenous communities and interested parties such as UN agencies and non-governmental organisations is a must for the implementation of the goals of the Convention on Biological Diversity at both local and regional levels (The Earth Network, 2005).

The World Summit on Sustainable Development (WSSD)

During the WSSD held in September 2002, in

Johannesburg, different topics related with indigenous knowledge protection were discussed. Two main issues were addressed, the intellectual property rights through the Doha Declaration on the agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) and the use of scientific knowledge in order to improve local indigenous communities throughout the enforcement of national law. In Chapter 4, the need for dissemination of technical and scientific knowledge as well as traditional and indigenous knowledge to mitigate the impact of disasters in vulnerable countries is mentioned. Similarly, it also pointed out the importance of indigenous knowledge on combating desertification and promoting ecotourism particularly in Africa.

The main outcome of the WSSD was the “Plan of Implementation” (PoI), which does not refer specifically to the protection of indigenous knowledge in Latin America and Caribbean. However, it mentioned the South-South cooperation and partnerships with all major groups in order to promote sustainable development (WSSD, 2002).

Other Agreements

Important agreements at international level have been realised to protect products of human intelligence such as the Universal Convention of Copyright in 1952. The Paris Convention for the Protection of Industrial Property in 1883 was one of the bases of the international intellectual property system. The Berne agreement, held in 1886, is for the protection of literary and artistic works. It establishes categories for copyright protection, rights and the duration of copyright protection (Caslon Analytics, 2005).

Supplementary agreements extending the initial Berne convention include (Caslon Analytics, 2005):

- The 1928 Rome Convention for the protection of performers, producers of phonograms & broadcasting organisations.
- The 1971 Geneva Convention for the Protection of producers of phonograms against unauthorized duplication of their phonograms.
- The 1974 Brussels Convention Relating to the Distribution of programme-carrying signals transmitted by satellite.
- The 1996 World Intellectual Property Orga-

nisation (WIPO) Copyright Treaty (WCT) and the 1996 WIPO Performances and Phonograms Treaty (WPPT) have updated the Berne and Rome convention.

WIPO Copyright Treaty extends traditional copyright protection to computer programs and “compilations of data or other material (databases) in any form, which by reason of the selection or arrangement of their contents constitute intellectual creations” (Caslon Analytics, 2005). The Performances & Phonograms Treaty deals with intellectual property rights of performers and producers of phonograms. The treaty covers both groups - performers and record companies (Caslon Analytics, 2005).

The Mataatua Declaration on the Cultural and Intellectual Property Rights of Indigenous Peoples held in 1993 in New Zealand, was signed by more than 150 delegates from fourteen countries who attended, including indigenous representatives from Ainu (Japan), Australia, Cook Islands, Fiji, India, Panama, Peru, Philippines, Surinam, USA, and Aotearoa. Furthermore, Mataatua Declaration recognizes that indigenous peoples are capable of managing their traditional knowledge themselves, but are willing to offer it to all humanity provided their fundamental rights to define and control this knowledge are protected by the international community (UNESCO, 2004).

The Indigenous Peoples Biodiversity Network is a signatory to the Declaration and is systematically working towards the full implementation of its objectives. The Mataatua Declaration includes recommendations such as specific goals for national and international agencies to consider in the development of any policies and practices (The Earth Network, 2005).

The Mataatua Declaration takes the principles discussed on the United Nations Technical Conference on Indigenous Peoples and the Environment in Santiago, Chile and reinforces the recommendations of the Culture and Science from the World Conference of Indigenous Peoples on Territory, Environment and Development held in Brazil in 1992 (UNESCO, 2004).

INDIGENOUS KNOWLEDGE IN THE AMAZON REGION

Indigenous Communities in the Amazon Region

The Amazon ecosystem is characterized by

Table 1: Ethnic Groups, Indigenous Population, and Territorial Extension of the countries of the Treaty of Amazon Cooperation

<i>Countries</i>	<i>Number of Ethnic Groups</i>	<i>Estimate Indigenous Population</i>	<i>Territorial Extension (Has)</i>
Bolivia (1)	31	171.827	2.053.000
Brazil (2)	200	213.352	74.466.149
Colombia (3)	52	70.000	18.507.793
Ecuador (4)	6	94.7000	1.918.706
Peru (5)	60	300.000	3.822.302
Guyana (6)	9	40.000	N.D.
Suriname (7)	5	7.400	N.D.
Venezuela (8)	16	38.670	8.870.000
TOTAL	379	935.949	109.637.950

Source: SPDA, 2001. (1) Instituto Indigenista Boliviano 1991, (2) CEDI/Museo Nacional-UFRG 1997, (3) Reichel 1997. (4) Urquillas and Davis 1982, (5) Instituto Indigenista Peruano, (6) Censo Indigena, Oficina de Estadistica 1982. (7) compton 1989, (8) Kloss 1972 cited in Ruiz 2002

its variety of indigenous communities. As shown in Table 1, there are almost 400 indigenous communities each of them with its own particularities, at organisational, social, economic, and especially at cultural levels. The indigenous people are born as members of different communities in which they have their roots (own identity, territory, and way of communication) (Ruiz, 2002). However, it is believed that indigenous communities present common features, which allow the identification and determination of the actual situation of these groups (Ruiz, 2002).

Secondly, these indigenous communities have suffered similar processes of invasion and colonization and in several cases lost of territory. This has determined an “occidental” influence on their cultures and lost of ancestral traditions. Finally, due to the physical space they occupy - the tropical forest - indigenous communities have developed a high capacity of adaptability, particularly to hostile environments with a great equilibrium and rational use of natural resources (Ruiz, 2002).

The current situation of indigenous communities in the Amazon Region is critical because of pressures on the environment from activities such as mining, agriculture, and construction. These have generated various problems including migration, conflicts due to land tenure, environmental pollution, and negative human health effects.

After the “caucho” era, government laws improved agriculture expansion, increased wood exploitation and the construction of roads, which at the same time contributed to the “*modus vivendi*” of the indigenous communities, specially reducing their space to live (Ruiz, 2002).

Denevan estimates that before colonization, there were at least 2000 indigenous communities in the Amazon region with a population of more than seven million inhabitants. However, diseases introduced due to the colonization process as well as the “caucho” exploitation led to the reduction of the population (Ruiz, 2002).

The Importance of Indigenous Knowledge in the Amazon Region

Indigenous communities all over the world have adapted cultural systems that demonstrate great knowledge and respect for the environment. These systems contain rules, rituals, and ceremonies that regulate the use of natural resources and maintain equilibrium in the ecosystem (NMNH, 2005). Traditional knowledge of the Amazon region, one of the most megadiverse regions in the world, has greatly contributed world wide to the pharmaceutical industry with the use of medicinal plants and traditional practices for improving biological diversity in this region (Taylor, 2004).

More than 35,000 plant species worldwide are being used in various human cultures for medical purposes and they are subjected to uncontrolled local and external trade (Lewington, 1993). In the Amazonian region, at least 1,300 plant species are used as medicines, poisons, and narcotics (Schultes, 1979). On the other hand, since indigenous people of the Amazonian region are often the only ones who know the properties and use of medicinal plants, their knowledge is now considered an essential component of all efforts to conserve and develop the rainforest (Taylor, 2004).

THE POLICY FRAMEWORK OF INDIGENOUS KNOWLEDGE IN PERU

The proposal for the protection of collective knowledge of indigenous knowledge in Peru establishes in its first article that the Peruvian government recognizes the right and faculty of indigenous people to decide about their collective knowledge. This is also based in the right that every person has to intellectual creativity and intellectual property as defined in article 2(8) of the National Constitution of 1993 (Ruiz, 2002).

The “Decision 391” document, which recognizes in its article 7 the rights of indigenous communities innovations and practices. The Law N° 26839, related to the conservation and sustainable use of the biological diversity, promulgated the 17th of June 1997 in its article 24 determines that the knowledge, innovations, and practices of these communities constitute part of its cultural patrimony. Thus, they must have mechanisms to regulate its use and diffusion (Ruiz, 2002).

The objectives of the regime of protection are mentioned in article 6:

- a. To promote the protection, preservation, application, and the development of the collective knowledge of the indigenous communities.
- b. To promote an equilibrated distribution of the benefits derived from the use of collective knowledge.
- c. To promote the use of this knowledge in benefit of humankind and indigenous communities.

In sum, respect, protection, promotion and the application of this knowledge are combined as objectives as well as the need of similar distribution among indigenous communities (Ruiz, 2002).

Institutional Framework

The office of inventions and new technologies INDECOPI (Instituto Nacional de la Defensa de la Competencia y Protección de la Propiedad Intelectual) is the institution competent to know and solve in the first instance issues related to the protection of the collective knowledge of indigenous communities, including the administrative processes (article 61). The proposal has established a multidisciplinary assessment committee. The members of the committee are designated by INDECOPI in cooperation with the technical office of indigenous affairs of PROMUDEH (Promoción de la Mujer y del Desarrollo Humano) (Ruiz, 2002).

Collective Nature of Knowledge

According to article 9 of the proposal, the knowledge that needs to be protected has a collective nature. This implies that they belong to indigenous communities and not a single person who is part of the community. It is common that indigenous knowledge belongs to various communities along the country or to communities of neighbouring countries, which does not affect the traditional rights that can be generated within indigenous communities (Ruiz, 2002). The aim of the proposal is to promote the recognition of collective knowledge of indigenous communities and to apply the distribution of benefits under the traditional system considering the role of the social aspects within indigenous communities (Ruiz, 2002).

Collective Knowledge in the Public Domain and Licence Contracts

One of the largest difficulties in designing a regime of protection is the amount of information on indigenous knowledge contained in data bases, publications, research work, and dissertations. This situation certainly worsens the possibilities that communities must effectively control the use of this information.

In article 12 of the proposal establishes that collective knowledge belongs to the public domain (freely available). The indigenous communities that acquired this knowledge that become part of the public domain can negotiate a compensation for its application. The focus will be on the knowledge that entered the public domain without the agreement of the indigenous communities. This can be the case of ethnobotany, goals of which are rarely known by the communities.

Registry of Collective Knowledge

Article 15 of the proposal mentions that the “Registry of Collective knowledge of the indigenous communities” has the objective of preserving the collective knowledge of indigenous communities and provide the national authorities with the information to protect the interests of those indigenous communities that registered their knowledge with third people. The registry will incorporate information on the biological resources, its uses, and the knowledge that is planning to be protected.

The unauthorized use of the registry by outsiders of the indigenous communities will not be tolerated. Information can be requested by INDECOPI about indigenous communities based on the needs of the interested party.

Finally, indigenous communities could organize local registries of knowledge, independent to the registry of collective knowledge of the indigenous communities administered by INDECOPI.

Rights of Indigenous Communities that have Collective Knowledge

Article 40 of the proposal of the protection regimen establishes that "... the indigenous community that has collective knowledge will be protected against the revelation, acquisition or use of public domain".

This regime, applies the notion that information and knowledge can still be maintained by indigenous communities (not under public domain). Communities will be protected against the unauthorized disclosure of information and assisted to introduce actions for infractions.

SELECTED CASE STUDIES ON INDIGENOUS KNOWLEDGE AND SUSTAINABLE DEVELOPMENT IN PERU

Agricultural and Farming Practices

Waru Waru, a cultivation and irrigation system used in flood-prone areas of the Altiplano, is mentioned by UNESCO (2005) as a good practice of indigenous knowledge in Peru. The implementation of Waru waru took place during 1991 in the Southern Altiplano of Puno, where the highest lake of the world is located. The aim of the project was to recover an ancient agricultural practice done by the Tiahuanaco culture, which basically includes the opening of shallow canals (10-15 meters wide) filled with water in order to ensure a microclimate that acts as a buffer against night-time frosts and provides moisture during droughts and drainage during the rainy season. The canals also act as barriers to keep out crawling insect pests.

The project helped to incorporate the Waru-Waru in more than 120 communities in Puno. The practice improves land use for agriculture through diversified farming systems, which provide local farmers with greater harvest security, and reduce

the risks associated with frosts and drought. Furthermore, this practice reunites indigenous people with their ancient culture, strengthens identity, raises self-esteem, and increases potatoes yield in the order of 50 to 100% through a better management of natural resources (UNESCO, 2005).

The Waru-waru system combines two sets of traditional knowledge. The first is the crop system based on rounded ridges, which are two metres wide and crossed with furrows. The ridges are constructed with a traditional tool named *chakitacla*, which is a pointed stick with which the soil is mounded up, softened and aerated. This creates a layer, safely above the water table, where the roots of plants do well. The second one is a crop system also based on rounded ridges, but the furrows run lengthwise instead of across the ridges. Because seeds are planted in two rows, the system is called *panayra* in Aymara. This means 'two eyes' (UNESCO, 2005).

Situation Medicinal Plants in Peru

The Amazon region can be considered the pharmacy of the world. Indigenous knowledge and innovations of medicinal plants have been maintained and have contributed to the improvement of quality of life of people all over the world. The information provided by indigenous communities to knowledge of medicinal plants is abundant and invaluable. The examples of medicinal plants used by the indigenous communities in the Amazonia of Peru are presented in Table 2 (Ruiz, 2002).

Almost 90 percent of people in developing countries still rely on traditional medicine, based largely on different species of plants and animals, for their primary health care (Raintree, 2005). In Latin America, 50 % of the population have low or no access to conventional medicine (Ruiz, 2002). Lama (2005) mentions that one of every three Peruvians has turned to indigenous medicine and emphasizes that traditional knowledge about the chemical traits of plants and roots is a valuable resource that complements modern pharmacology.

Cabieses, a specialist in neurology and cerebral medicine, is a pioneer in renewing appreciation of Peruvian traditional medicine. He began studying this indigenous knowledge in 1950 when he observed the cranial boring techniques of Incan doctors. His book "Apuntes de Medicina Tradicional" (Notes on Traditional Medicine) is

Table 2: Situation of Medicinal Plants of the Amazonia used by Indigenous Communities

<i>Resource</i>	<i>Composition and Use</i>	<i>Situation</i>
Curare (<i>Chodendron tomentosum</i>) Quinina (<i>Chinchona sp.</i>)	d-Tubocurarina, used a muscular relaxation of muscles Quinina, used for the treatment of malaria	The use of this drug is being tested by the pharmaceutical industry It is part of pharmaceutical derivatives (drugs such as Cloroquina and Primaquina: Novaris)
Coca (<i>Erytoxylum coca</i>)	Cocaine, used as local anesthetic and stimulant	
Uña de Gato (<i>Uncaria tomentosa</i>)	Antinflammatory, anticonceptive, anticarcinogen	It is commercialized in Latin America and the USA.
Sangre de Grado (<i>Croton lecheri</i>)	Healing, antidiarrheal, anticarcinogen	Shaman Botanicals commercialize SB-Normal Stool Formula

Sources: Tratado de Cooperacion Amazonica 1995. Plantas Medicinales Amazonicas: Realidad y Perspectiva: Secretaria Pro Tempore, TCA, Lima, Peru, Meza, Elsa. Latex Medicinales de "Sangre de Grado" en el Mercado Mundial in: Bosques Amazonicos June 2000.

considered the most rigorous study of the issue and records in detail the medicinal plants of Peru's native flora (Lama, 2005).

According to Cabieses, when the Spaniards arrived in Peru, Incan medicine was superior to Europe's, "to the point that the chief of the conquering armies, marquis Francisco Pizarro, sent his surgeons home and turned to the Quechua doctors because they were more effective" (Lama, 2005). He also stresses that Andean medicine was enriched by ideas coming from medieval Europe, and both have a strong religious undercurrent. Peru's healing traditions later also adopted techniques from popular African and Chinese medicine (Lama, 2005).

The work done by experts in traditional medicine has now won official recognition and has caught the attention of local and foreign investors who are interested in uncovering new healing substances in order to manufacture and market them. The Institute of Traditional Medicine, under Peru's Health Ministry, opened its doors six years ago in Iquitos, the country's largest Amazonian city. The institute has projects underway that involve growing and studying more than 600 medicinal plants (Lama, 2005). A germplasm bank can be found at the institute, containing 120 selected species. The research centre will soon begin reproducing another 500 medicinal plants belonging to 104 families and 332 botanical categories - all part of the biological wealth of the Peruvian Amazon jungle (Lama, 2005).

The concern over the conservation of traditional knowledge of medicinal plants in Peru is that most of the information about uses and characteristics of medicinal plants and crops used by the communities is freely available (Correa, 2000) for research or commercial uses (Vogel,

2000). Researchers affirm that generally this information is obtained with the consent of the communities. However, collections that are unauthorized by the community without retribution do happen (Ruiz, 2002).

CHALLENGES AND PROSPECTS OF THE FULL DEVELOPMENT OF INDIGENOUS KNOWLEDGE IN LATIN AMERICA

Political and economic issues in Latin American countries have led to the exploitation of natural resources, marginalization of indigenous communities, and systematic loss of indigenous knowledge. Although some Latin American countries have acted to protect indigenous knowledge for the sustainable use of natural resources (Costa Rica and Brazil), most of the Latin American countries still need to implement a number of legal and political measures in order to protect, monitor and control an effective transfer of indigenous knowledge. The increasing loss of traditional knowledge and biological resources is affecting interests at the national, international, and multinational levels (Adison, 2000). The key prospects for developing and protecting IKS are explained in the next subsections.

Regional Coordination Systems

At the regional level there are four coordination systems: The Andean Community, Treaty of Amazon Cooperation, Amazonian Parliament, and the Agreement on the Free Commerce for the Americas (Ruiz, 2000). Similarly, the instances and initiatives concerning the protection of indigenous knowledge are increasing not only at the

nongovernmental level, but also at the local level within the indigenous communities (Ruiz, 2000).

The implementation of international conventions is vital for conceptual information. These conventions occasionally suggest the establishment of an international system of protection for the knowledge and innovation of indigenous practices. However, at the political level this topic has to mature in order to be considered at the international level (Ruiz, 2000).

Options and Instruments for Protection of Indigenous Knowledge

There are different instruments and mechanisms that can be used to protect indigenous interests, knowledge, innovations and practices. Currently, the international legal protection is facing a difficult situation. However, some instruments can immediately be adopted; each of them can serve as a unique instrument of protection, depending on the understanding of the word "protection". Some of these instruments can be used effectively to assure the use of knowledge within the legal framework; others are more oriented to guarantee the equated distribution of its benefits.

Legal Instruments (oriented to control the use) include:

- Contracts and licenses for the use of knowledge
- Intellectual property rights (patents, rights, commercial or industrial secrets) modified to guarantee the indigenous interest.
- System of access of genetic resources.
- Funds (oriented to compensate).
- International Fund for the Fitogenetic resources (FAO), for the implementation of the agriculture rights.
- Andean Funds for Genetic Resources.
- Funds for the recognition of genetic resources (University of California).
- Funds for the integrated rural development and traditional medicine (Nigeria).
- Peoples Forest Fund (ICBG in Suriname).

Specific projects, which are activities to maintain, knowledge, innovations, and indigenous practices are:

- Registry of knowledge (Peoples of Biodiversity Registers in India).
- Registry of indigenous knowledge.

CONCLUSIONS

- In spite of agreements at the international level

for the protection of indigenous knowledge, most Latin American countries are still far from the implementation process due lack of political will, inadequate coordination, scarce economic means, and the negative influence of multi-nationals.

- The great biodiversity of medicinal plants in the Amazon region needs to be protected through coordination programmes among producer and beneficiary countries.
- In Peru, the availability of indigenous knowledge for public use make natural resources vulnerable through overexploitation and the loss of cultural traditions. The policy framework and national institutions still need to implement appropriate tools.
- The existence of various organisations at the regional level demonstrates the willingness of Latin American countries to join efforts for a common goal; the protection of indigenous knowledge and promotion of sustainable development. However, the implementation of South-South and North-South partnerships is a must in order to effectively stop the loss of biodiversity and traditional knowledge.

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KEYWORDS Authors' rights; biodiversity; copy right; indigenous knowledge; indigenous people; intellectual property; patents; sustainable development

ABSTRACT Indigenous knowledge protection is a key issue that has been addressed by international organisations during the last decade. The United Nations Educational, Scientific and Cultural Organisation (UNESCO) declared 1993 as the International Year for the World's Indigenous People in order "to strengthen international cooperation for the solution of problems faced by indigenous communities in areas such as human rights, the environment, development, education and health" (CIESIN, 2005). In Latin American countries, there is an increasing concern for indigenous knowledge protection, particularly in Peru, due to its megadiversity and great cultural heritage. This paper

analyses the general aspects of indigenous knowledge, intellectual property, author's rights, patents and the international agreements for the protection of indigenous knowledge. In addition, an overview of the importance of indigenous knowledge in the Amazon region is provided. Information on indigenous knowledge in Peru is also analysed. A specific case study on agricultural practices as well as the current situation of medicinal plants in Peru are described. Finally, basic elements for the establishment of indigenous knowledge protection in Latin America, and the options and instruments for the protection of indigenous knowledge are explained.

Efforts need to be added In order to implement interdisciplinary development projects, agreements and national policies in Peru with regard to indigenous knowledge protection, coordination and cooperation at the national and regional levels for protection of biodiversity and the rich cultural heritage in Peru is necessary. This constitutes a challenge for not only the Peruvian authorities, but the whole population.

Author's Address: Norka E. Paden, The Institute of Environmental Toxicology and Human Health, Texas Tech University, 1207 Gilbert Dr., Lubbock, TX 79416, USA.

Telephone: 806-885-4567, Fax: 806-885-2132