



Six Case Studies in Latin America and the Caribbean: Access to Genetic Resources and Benefit Sharing



IUCN's Regional Office for South America



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Case Study in Peru



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Registry of collective knowledge associated with biodiversity

1. Introduction

Since 1996, through Decision 391, countries of the Andean Community established a Common Regime on Access to Genetic Resources recognizing the right and power of indigenous, Afro American and local communities to decide on their traditional knowledge, innovations and practices associated with genetic resources and its by-products. In the same rule, transitional provision eight set a period of three months to establish a special regime or a harmonization standard to enforce the right and power to decide; however, after 17 years the intended purpose and protection have still not been implemented.

In 2005 the Andean Community of Nations (CAN) published the results on the analysis of a sui generis regime for the protection of traditional knowledge, innovations and practices of indigenous peoples related to biodiversity and cultural aspects and folklore. Globally, since 2001 the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (CIG) of the World Intellectual Property Organization (WIPO) conducts activities to analyze gaps and possible solutions to an articulated proposal for the negotiation of States. This case study focuses on a system of registry of collective knowledge in Peru.

2. Potential use of genetic resources and their by-products

Collective knowledge associated with the use and properties of biodiversity in indigenous and peasant communities in Peru is framed at a legal level with preventive mechanisms. The objective is to ensure compliance with CBD's third objective on fair equitable benefit-sharing arising from the use of traditional knowledge and in 2002 the government established a registration system.

The details of the established system, its components and legal, technical and political matters related to its development and implementation are described in a technical paper called "The need to integrate indigenous worldviews in protection systems of traditional knowledge: an approach from biocultural diversity" (Tobin and Swiderska 2001). The analysis on this case study is supported by documentation prepared by the National Institute for the Defense of Competition and the Protection of Intellectual Property (INDECOPI) and interviews with its officials.

3. Actual and potential use of collective knowledge

The analyses conducted established that collective knowledge of indigenous and peasant communities have a potential use in: agriculture, nutrition, natural medicine, cosmetics and vegetable dyes among others. They are associated with plant species in the Amazon, namely: *cocona* (*Solanum sessiliflorum*), *sangre de grado* (*Croton lechleri*) and *chuchuhuasi* (*Maytenus macrocarpa*), and in the Andean Region represented by quinoa or *quinua* (*Chenopodium quinoa*) and a diversity of the *Solanum* type.

In this context it should be noted that Peru is a mega diverse country hosting one of the centers of origin and variety of crops that contribute to global. It also has a confluence of indigenous peoples, Afro descendant and peasant communities in its territory who contribute dynamically to cultural diversity and biological richness.

To summarize, a careful analysis should be done of the actual and potential use of collective knowledge associated as object of research, but in some cases it is accessed breaching: permits; prior informed consent and mutually agreed terms and legal ownership of intellectual property rights (IPR), all of which must be met according to the established requirements in the national and Andean regional legislation (Law 27811 of 2002, Decision 486/2000, Art. 26, Paragraphs h, i; ILO Convention 169 of 1989).

4. Bioprospecting project actors

In Peru, during the implementation of the “International Cooperative Biodiversity Group” (ICBG), there were reasons to design a registry of collective knowledge system in response to a series of debates (Tobin and Swiderska 2001; Clark, Lapeña and Ruiz 2004). The Peruvian case excelled in the Latin American and Caribbean region because it is one of the first bioprospecting agreements involving indigenous collective knowledge related to biodiversity resources.

The bioprospecting project in Peru showed the need of Peruvian indigenous communities to overcome a situation of uncertainty and vulnerability especially in future prospective negotiations. Thus, a part of the response is the registry of collective knowledge system and the established legal parameters for its access. The actors involved in the country’s strategy to protect collective knowledge and achieve a fair benefit-sharing derived from its use are many, including institutions and organizations involved in researching protection, design, development and management options of a particular system.

Various actors participated in the initiative for protection of collective knowledge, among them: public institutions; academic sectors; NGOs; companies and indigenous peoples. In this regard it should be said that the process on intellectual property was led by the Peruvian authority INDECOPI together with: National Natural Resources Institute (INRENA); National Agricultural Research Institute (INIA); National Environmental Council (CONAM) and the Peruvian Society for Environmental Law (SPDA). Some activities such as meetings and workshops related with the discussion and dissemination of the initiative were characterized by opening spaces for participation and comments reception from representatives of indigenous organizations, researchers and scientific institutions.

5. Legal instruments and fair benefit sharing

The strategy followed by Peruvian institutions aims at ensuring the protection of collective knowledge and the fair and equitable benefit sharing begins with the development and implementation of a regulatory framework expressed in two laws. Law 27811 of 2002, which establishes a regime of protection for collective knowledge of indigenous peoples linked to biological resources. Law 28216 which establishes a National Commission for the Protection of Access to Biological Diversity and to Collective Knowledge of Indigenous Peoples in Peru (Valladolid 2013). In this legal scenario, the first law mentioned refers to a system of registry of collective knowledge to prevent misappropriation and to establish an institutional platform that ensures a fair benefit sharing arising from the use of this knowledge with the original creators; and the second Act will complement the first formalizing the action of the State and civil society institutionally against biopiracy.

Ever since Patent No. 6428824 was issued by the United States Patent and Trademark Office to “Pure World Botanicals Inc.”, on a technical innovation based on a plant species of Peruvian origin known as *maca* (*Lepidium meyenii*), government authorities and civil society in coordination with the INDECOPI created a commission to identify cases of biopiracy gathering Ministerial entities; commissions of the export and environmental sectors; research institutes on natural resources, agriculture and health; indigenous organizations; representatives of the industrial sector; and NGOs (OMPI 2005).

The establishment of this Peruvian system did not include a prior consultation with indigenous peoples but their organizations were involved in the design process, discussion on a protection regulation, and even its issuance as a national Act. Intervention of indigenous communities through a registry of collective knowledge and an increase on applications between 2006 and 2012 demonstrates that the initiative is recognized by the main actors.

6. Project description

The protection system implemented in this country as a defensive mechanism against misappropriation is based on the registration of collective knowledge associated with biodiversity and genetic resources of Peruvian origin. Therefore, three types of registration were established through Law 27811 of 2002:

- i. The National Public Registry of Collective Knowledge of Indigenous Peoples includes all publicly available knowledge and the one declared as such by the communities.
- ii. The National Confidential Registry of Collective Knowledge of Indigenous Peoples includes all knowledge that the communities demand to keep as confidential.
- iii. Local Registries of Collective Knowledge of Indigenous Peoples correspond to registries that communities choose to establish locally under their administration and according to their uses and customs, unlike the first two managed by INDECOPI. This last type of registry is implemented by the communities themselves.

6.1 Activities for the registry of collective knowledge

When considering the original objectives of the protection system especially to prevent improperly granted IPR on innovations related with collective knowledge of indigenous peoples, activities were focused on making effective their registry. Also the law, its components and potential benefits were spread aiming to gain the trust of the communities and indigenous peoples through the following:

- i. Identification, search and registry of collective knowledge on uses and application associated with biodiversity, spread or of public domain, with or without consent of the communities.
- ii. Sensitization with indigenous leaders and representatives about the risks of losing traditional knowledge and persuade them about the benefits of the law.
- iii. Preparation of data collection equipment in the field represented by researchers, indigenous representatives and parataxonomists.
- iv. Preparation of material in Spanish and indigenous languages through written and sound diffusion.
- v. Diffusion about law contents through events with indigenous peoples, and public, academic and corporate sectors.
- vi. Submission and support of the benefits of the system and its rationality at an international and regional level.
- vii. Creation of an electronic portal with updated data and relevant to indigenous peoples and potential users on Traditional Knowledge of Indigenous Peoples (CTPI). In this site <http://aplicaciones.indecopi.gob.pe/portalcipi/>, there is information on how the registry operates and functions and on documents on experiences and rights of indigenous peoples and communities.
- viii. Dissemination of visits, group discussions and events within the communities on the description, operation and training, socialization of objectives, functioning and participation of the registry of collective knowledge.

7. Legislation and fair benefit sharing

Law 27811 established an Indigenous Peoples Development Fund (IPDF) as a compensatory mechanism associated to the registry of collective knowledge and it also provides as resource sources: national budget; international technical cooperation; donations and fines for offences committed in the use of collective knowledge. A specific income would be a percentage of economic benefits from royalties of no less than 10% per cent of the gross sales of products developed directly or indirectly from collective confidential knowledge. Additionally, royalties (not fixed) for gross sales of products developed from knowledge of public domain in the last 20 years are expected (Art. 8 and Art. 13, Law 27811).

Benefits are distributed through financing of projects in the communities that do not require having a registry of their knowledge in the system. In any case, project funding is delegated to the Administrator Committee composed by seven representatives, five from indigenous organizations and two of the National Commission of Andean, Amazonian and Afro Peruvian communities.

The possible amount of royalties is set out in the user's declaration whether for research or industrial application of collective knowledge purposes. Bruno Mérchor, Director of Inventions and New Technologies of INDECOPI said in 2012 that in case of industrial or commercial purposes the community will get paid at least 5% per cent of the products sold, using collective knowledge and a 10% will be assigned to the Indigenous Peoples Development Fund.

As of February 2013, no economic benefits are reported arising from license agreements of collective knowledge and no projects from the Indigenous Peoples Development Fund are financed. However, non-economic visible benefits have been generated under the local and/or institutional socio-economic conditions.

8. Research, follow up and monitoring activities

The registration system of collective knowledge during its operation especially during 2006 and 2012 shows that indigenous communities have filed 1594 applications of which 260 are associated to plant species and some to animal species. A total of 1081 registries of collective knowledge include some that were available because their access is public domain or were published; however, the majority (60%) refer to information not yet published (Table 1).

Communities of indigenous peoples of *Bora* and *Aguaruna* have 357 and 340 applications respectively, representing altogether a 65% of the registries granted by INDECOPI. At the same time, communities from *Ocaina* have a significant place with 128 registries (12%). The high participation from Amazonian communities contrasts with Andean Quechua communities because they only have 27 registries representing 2.5% of the total.

Data obtained until October 2012 regarding registry applications requested and granted do not represent proportionally the richness of collective knowledge of indigenous peoples associated with biodiversity resources, but only the temporary results of a system that is spread with a scope that varies among the different indigenous peoples. For example, the Amazonian indigenous peoples with the highest population are the *Ashaninka* (26.6%), but only two communities, *Kivinakiy* and *Aldea*, have registered collective knowledge contrasting with a (16.6%) from the *Aguaruna Awajún*. In this Peruvian scenario the follow up and monitoring mechanisms would be linked to license agreements for use of collective knowledge but up until now no agreement has been signed and the follow up is made by INDECOPI and the National Commission against Biopiracy (CNB).

Table 1. Registry of collective knowledge in Peru made by Amazonian, Andean, Indigenous and Peasant communities between 2006 and October 2012.

Nº	Community	Ethnicity	Public Registry	Confidential Registry	Public and Confidential Registry	Total
1	Peasant Community of <i>San Antonio de Montecucho</i>	Quechua	1	3	0	4
2	Peasant Community of <i>San Juan de Chito</i>	Quechua	2	0	0	2
3	Peasant Community of <i>San Martín de Hercomarca</i>	Quechua	3	4	0	7
4	Peasant Community of <i>Vischongo</i>	Quechua	7	7	0	14
5	Native Community <i>Bajo Aldea</i>	Ashaninka	3	22	0	25
6	Native Community <i>Betania</i>	Bora	0	28	0	28
7	Native Community <i>Brillo Nuevo</i>	Bora	78	135	0	213
8	Native Community <i>Caco Macaya</i>	Shipibo-Conibo	0	2	0	2
9	Native Community <i>Calleria</i>	Shipibo-Conibo	2	7	3	12
10	Native Community <i>Estirón del Cuzco</i>	Murui	2	55	0	57
11	Native Community <i>Estirón</i>	Murui	0	10	0	10
12	Native Community <i>Kivinaki</i>	Ashaninka	3	23	0	26
13	Native Community <i>Nueva Esperanza</i>	Ocaina	57	71	0	128
14	Native Community <i>Nuevo Peru</i>	Bora	43	69	0	112
15	Native Community <i>Pakun</i>	Aguaruna (Awajún)	109	87	7	203
16	Native Community <i>Pucaurquillo</i>	Bora	0	4	0	4
17	Native Community <i>Pucaurquillo</i>	Murui	30	67	0	97
18	Native Community <i>Wawas</i>	Aguaruna (Awajún)	75	60	2	137
Total			415	654	12	1081

Source: Directorate of Inventions and New Technologies of INDECOPI (2012).

9. Impact of the registry system for collective knowledge on local socio-economic and/or institutional conditions

Local socio-economic and institutional conditions in Peru arising as a result of the implementation of the registry system are as follows:

- i. The country has a leading experience in designing, establishing and operating a protection strategy for collective knowledge within the IPR.
- ii. The adoption of the registry system and its implementation has allowed Peru to participate in debates about collective knowledge and stand out at international and regional levels in different forums for intellectual property, access to genetic resources and biodiversity conservation.
- iii. INDECOPI as administrator of the registry system and other Peruvian institutions have developed an effective communication and persuasive strategy achieving an increasingly widespread use of local and indigenous communities.
- iv. The operating registry system provides relevant information and can enhance efforts of government institutions and civil society fighting the misappropriation of genetic resources and traditional knowledge.
- v. The initiative promotes social and institutional recognition of the value of collective knowledge and INDECOPI's job who received national awards in two competitions. The first in 2007 for a Good Governmental Practices in the category of Social Inclusion, and the second in 2012 in the Recognition to Good Governmental Practices in Executive Power bodies.
- vi. The coordination of activities among authorities of intellectual property represented by indigenous organizations, Confederation of Amazonian Nationalities of Peru (CONAP), Indigenous Nationalities Council and Center of Indigenous Cultures of Peru (CRIRAPAQ), and NGOs on the profile of Peruvian Society for Environmental Law (SPDA). Since 2011, INDECOPI has forged an institutional partnership with the Peruvian Amazon Research Institute (IIAP) as a strategy to: promote the conservation of Amazonian biodiversity; support the protection of collective knowledge; ensure the taxonomic identification of associated resources and increase the registry of collective knowledge.

10. National Anti-Biopiracy Commission: Intellectual property rights and status of patents

In the results of the first search of potential cases of biopiracy submitted in 2005, CNB included applications and additional follow up cases regarding patents. Cases were identified in the databases of: United States Patent and Trademark Office (USPTO), European Patent Office (EPO) and the Japan Patent Office (JPO), tracing the following plant species: *hercampuri* (*Gentianella alborosea*); *camu* (*Myrciaria dubia*); *yacón* (*Smallanthus sonchifolius*); *caigua* (*Cyclanthera pedata*); *sacha inchi* (*Plukenetia volubilis*), and *chancapiedra* (*Phyllanthus niruri*) (OMPI 2005).

By identifying the potential cases of biopiracy the CNB advanced on investigations to corroborate the origin and circumstances of applications and patents granted. On January 2013, 18 cases of biopiracy related to genetic resources of Peruvian origin and traditional knowledge of indigenous peoples were identified, 10 of which were resolved in favor of the Peruvian State thanks to the intervention of the CNB (Table 2).

Table 2. Status of patents identified by the National Commission against Biopiracy in Peru.

Resource	Patent or application	Office	Status
Maca (2010-	“Agent for preventing on treating osteoporosis” 235533).	Japan	Abandoned
Maca from	“Compositions and methods for their preparation <i>Lepidium</i> ” (WO/0051548).	PCT Japan	Rejected Rejected
Maca	“Functional food product containing ‘maca’” (Publication N° 2004-000171).		
Maca	“Ameliorant for sleep disturbance” (JP/2007031371).	Japan	Rejected
Maca	“The manufacturing method and composition of a ‘maca’ extract” (Kr/20070073663).	Korea	Rejected
Maca	“Testosterone increasing composition” (JP/2005306754).	Japan	Withdrawn
Sacha inchi	“An extract of a plant belonging to the genus <i>Plukenetia volubilis</i> and its cosmetic use” (WO/2006/048158).	PCT	Withdrawn
Sacha inchi	“Utilisation d’huile et de protéines extraites de graines de <i>Plukenetia volubilis</i> dans des préparations cosmétiques, dermatologiques et nutraceutiques” (FR/2880278).	France	Withdrawn
Camu	“Preserves of fruit of <i>Myrciaria dubia</i> (Publication N° 09-215475).	Japan	Abandoned
Pasuchaca	A-glycosidase inhibitor (P2005-200389).	Japan	Abandoned

Source: National Commission against Biopiracy, President M.Sc. Andrés Valladolid Cavero (release January 30, 2013).

11. Lessons learned

The following are the main lessons learned, especially because of the legal difficulties and complexities encountered in the project:

- i. The establishment of a national policy and legal framework for positive protection of traditional knowledge linked to international treaties such as: CBD (Art. 8, Paragraph j; and Art. 10, Paragraph c); Convention 169, 1989; Andean regulation on access to genetic resources; general constitutions that protect cultural and ethnic diversity and the United

Nations Declaration on the Rights of Indigenous Peoples of 2007.

The absence of a valid policy and a regulatory framework enables traditional knowledge to be accessed and processed by users as a free access or public available good, without generating compensations or benefits for its original owners and collective creators.

- ii. The issuance of a rule to protect traditional knowledge is just the first step in a complex process because it requires to make it effective and to strengthen the mechanism in order to achieve it.

Dissemination and persuasion of the rule on the benefits of the system established for communities through the development of appropriate written and sound material in the community's official language is required. It is also required to seek partnerships with NGOs, research institutes and representative indigenous organizations according to the terms of each region.

- iii. Cultural diversity in mega diverse countries is a challenge in terms of identification of methods, procedures, material and institutions that could enable community access and participation.
- iv. The operation of the registry system has two fundamental aspects, community participation and registry validation. In the dissemination of the law to persuade key actors about the benefits of registering their knowledge INDECOPI collaborates on one hand with university institutions for the taxonomic identification of resources associated, and on the other hand it promotes the registry in situ of collective knowledge.

In this perspective, INDECOPI makes pilot visits since 2006 to communities in different departments together with NGOs, representative indigenous organizations and research centers who have an impact on indigenous peoples. In the amazon region where the institution has established a strategy of joint work with the IIAP, greater results are reflected as in 2012, 453 registries of collective knowledge will be delivered, and 596 applications are received from indigenous communities in the *Pebas* district, *Mariscal Ramón Castilla* province. Field activities are possible because renowned traditional authorities participate in the process such as the *Apus* and *Curacas* of the Amazonian indigenous peoples.

- v. Prospects in terms of access and fair benefit-sharing, as well as the impact on socio-economic conditions of indigenous and local communities, are generated from the participation on the use of collective knowledge to the extent that two conditions are met: firstly, effective access applications by users of registered collective knowledge; and secondly, the negotiation and signing of a license of use of collective knowledge with royalties set for their original owners. Economic benefits for indigenous peoples and locals could also originate from strengthening the FDPI with additional financing sources provided by law.

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