Agrobiodiversity zones and the register of native crops in Peru:

Learning from ourselves

Manuel Ruiz Muller

Sociedad Peruana de Derecho Ambiental

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Prolongación Arenales Nº 437, San Isidro - Perú
Phones: (511) 421 1394 – 422 2720 / Fax: (511) 442 4365
E-mail: postmast@spda.org.pe
Web Page : www.spda.org.pe

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The cover photograph shows Mrs. Francisca Bayona Paco, or Pancha, of the Potato Park cultivating and blowing to the Gods.

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"We are diverse … we shall always be"
Said by a colleague from IIAP

Dedication

To my wife Rosie for her love and affection, and my sons Manolo and Alonso for their patience.

Note from the author

Underlying an extensive recognition of the importance of agrobiodiversity and native crops in Peru, there is a relatively recent phenomenon in urban sectors of Peruvian society, namely, a rapid process of discovery and valuation of and care for biodiversity and associated cultural diversity.

While more than half of the Peruvian population lives in urban areas, others are located in rural areas, small communities or small, 'semi-urban centres', usually extremely rich in biodiversity. There are approximately 78,000 'populated centres' (including communities), where more than 6 million people live. These people have a direct and strong relationship with biodiversity and there is no need to teach them about its critical importance to sustain livelihoods and promote development.

For these sectors of society, biodiversity is – literally – life; hence the extraordinary cultural and religious relationship between Andean and Amazonian communities and the 'pachamama' (Mother Earth) and the natural environment.

But, what is biodiversity? In simple terms, it is the variability in and between ecosystems and species, including genetic diversity within a species. It is an attribute that characterizes the natural wealth of an area or region. What we recognize in the variability of fish, livestock, birds, vegetables, wild plants, woodlands and other landscapes and areas is all, in essence, a reflection of biodiversity in it most visible and tangible form.

Paradoxically, for a growing urban sector, including new generations of immigrants from farming areas, biodiversity seems to be remote. Yet, at the same time, even though it is not really understood or valued for its relevance and importance for

sustainable living, people have a general feeling of high regard and even pride for 'the natural things Peru owns'.

This document seeks to reflect upon some of the reasons that have led to this process of discovery of and appreciation for biodiversity and, more generally, of diversity as a potential integrating and unifying element in Peru.

A number of policy, social and legal dynamics and circumstances are described in detail, as they relate to two issues: agrobiodiversity and native crops. The emerging interest in these has triggered various responses and very positive, albeit incipient, changes in society during the last few years, including in public institutions, social organizations, regional representatives and citizens in general.

The views expressed in this document are exclusively personal and do not reflect the positions of the institutions and people who have supported the author in its preparation.

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Prologue

More than 16 years have passed since the historical United Nations Conference on Environment and Development took place in Rio de Janeiro in 1992. We are now at the brink of ending the first decade of the XXI Century, and I can safely say that the contribution to knowledge and political sciences as a result of the continued recognition and re valuing of diversity, is close to reaching a qualitative leap in terms of the relations between humanity and the environment. Deeply rooted in an individualist vision of the world, where human beings occupy a dominant position and, therefore, are not very respectful of other species and living organisms on the planet, modern society begins to awaken from a dream that governs the majority of daily decisions, in which the virtues of Nature can be continuously subjected and plundered -almost without limits – based on short term interests, to satisfy the needs and appetites of privileged minorities.

Modern technology is beginning to discover its real potential since the theory of systems has become integrated in practice and need, into the same levels in which diversity is expressed: this is, its biological, cultural, economical and policy dimensions. The Internet is the best example of the potential and generosity of applying systemic thoughts practically: Internet is today an essential condition of life in a community (in this case, the global community). It not only facilitates, multiplies and democratizes human communication and the transmission of knowledge, but also allows humans to rediscover different levels in which the assembly of life and culture is expressed, with feedback from the permanent recreation by and evolution of improved ways of life.

I have described this conceptual framework to emphasize that at this moment in time, to talk about agriculture without considering biological diversity is not only absurd, but also irresponsible. Although the expression *agro-biodiversity* has not found a prominent place in the different language dictionaries, it is clear that agricultural engineers from universities have

included in their own knowledge process, a pragmatic notion of the value of biodiversity as a master key of traditional practices of indigenous peoples, has become a third eye, capable of integrating ancestral technologies with more those more complex and productive of modern society. The experience of mutual recognition for the purpose of revaluing biological and cultural diversity is not enough; one must take actions and decisions in order to re-convert public policies and legal instruments to incorporate in the systems itself –the policy and legal system- those scientific and technological discoveries and developments based on a new way of seeing and understanding Nature.

The book in your hands underlines the virtues of *agro-biodiversity zones* as an alternative to conserve and maintain cultures and spaces that interact with domesticated biodiversity. Manuel Ruiz points out that this is very important in countries such as Peru (as in other magadiverse countries) where similar rural structures are shared, which include ancestral communities, crops oriented towards self-consumption, extensive and intensive agricultural systems, and the common purpose of guaranteeing food safety, among others. The author argues that although there is not an internationally recognized category to protect these types of zones and spaces, the Peruvian experience formally expressed in a legal norm that recognizes the value of «agro-biodiversity zones» is worth taking into account and putting to the test. Ruiz proposes the establishment and recognition of agro-biodiversity «hotspots» in countries that occupy geographical areas that are centers of origin and diversification, as this will promote the conservation of domesticated genetic diversity and the cultures of associated agricultural based populations. The additional proposal to create a register of native crops and recognize and systematize knowledge related to them, as well as other efforts to protect intellectual rights of indigenous people, opens the door for possibilities to research and action. It also calls not to remain idle or passive in regards to the cultural and natural patrimony inherited from ancestors that interacted with their environment in a friendly manner, based on knowledge of systematic processes.

However, we are living in times where the tail wind of international trade is putting pressure on agricultural public policies to adopt a-systemic production systems promoted by interests so-called directed towards alleviating poverty, but that really hide an appetite to expand in the capture of markets for bio-technological products, the risks and responsibilities of which few want to talk about. Contributions such as this book that my colleague and friend Manuel Ruiz is used to giving us, helps to modestly balance the pessimistic view that some are continuously stressing, in the sense that it is too late for us to incorporate mind, body and soul into the system

of life. One must not forget that all investments directed towards the recuperation of production processes in agro-biodiversity will be more profitable that any other option that has broken away from the production system and that makes ecosystems work.

Jorge Caillaux Zazzali
Lima, January 2009

The Genetic Resources Policy Initiative (GRPI) was an innovative and highly diverse project seeking to develop country-specific proposals for the reform of genetic resources policies that are based on well-researched evidence and broad stakeholder participation. In many ways, GRPI–Peru has been representative of the project as a whole, with several unique activities being undertaken by unusually diverse groups of individuals and organisations.

Much of GRPI–Peru's work focused on promoting the conservation and sustainable use of agricultural biological diversity, or 'agrobiodiversity' in today's jargon. Agrobiodiversity embraces a complex network of species that are inextricably linked to human activities for the production of food. The plants, animals and microbes in this network interact with each other and with us, to make up viable food production systems in almost all areas and climates of the globe. The links between food production and communities are clear. Given that food production is one of the most basic necessities for any community, and that agriculture has been evolving for ten thousand years or more, it has become closely entwined with the social and cultural practices and religious beliefs of almost all societies. The links between particular species and specific communities also tend to mean that these 'agrobiodiversity systems' are associated with the places where they have evolved. For example, as much as one might be able to pick up and preserve a particular potato variety, it would be far harder to simultaneously pick up and preserve some of the other factors that might surround that potato's production: there may be symbiotic relationships with other species, a need for particular soils, or a special pattern of cultivation.

Simply trying to describe the relationships between agrobiodiversity and communities and, in turn, the places where these relationships exist, is hard enough. Trying to develop policies to nurture them is a greater challenge by far. GRPI-Peru has sought to address this challenge directly and in two of its flagship activities has broken new ground.

Work on the practical realisation of a legal framework for the establishment of agrobiodiversity zones has its origins in the activities of a few organisations promoting a reevaluation of native crops and indigenous agricultural cultures, and some others undertaking pioneering work in the field, particularly the Pisac Potato Park and the *In Situ* Conservation Project of Native Crops and their Wild Relatives. The establishment of agrobiodiversity zones goes to the heart of the link between agrobiodiversity, communities and places, both through recognition of the value of these systems and by the creation of a mechanism that seeks to promote their natural dynamics. Closely complementing these efforts is the work on a native crop register, in particular its linkage with the national seed regulatory system, which has the potential to make a valuable contribution to global debates on the links between the particular situations of communities and the seeds they depend upon, by opening up the available reform options in what has often been a narrowly conceived and conservative sector.

The Peruvian organisations and individuals that worked on these projects, and the policy makers that have embraced them, have established examples that many others can learn from, including international fora such as the International Treaty on Plant Genetic Resources for Food and Agriculture (IT) and the Convention on Biological Diversity (CBD). As these examples take root and grow, we must watch, learn from and adapt them to help us build national and international frameworks that can truly deliver the objectives of sustainable agricultural development.

The author has done a wonderful job in making these examples and experiences and, most importantly, the thought processes and evidence underlying them available to everybody who reads this book. I congratulate the organisations and individuals who have made these leaps forward possible. Finally, I look forward to a second volume that, in five or ten years, will let us know more about how agrobiodiversity zone policy and nationally and locally-adapted seed regulation function in practice.

Robert Lewis-Lettington
Nairobi, 2009

Table of contents

List of boxes

Acronyms and abbreviations

AIDESEP	Interethnic Peruvian Amazon Development Association (Asociación Interétnica de Desarrollo de la Selva Peruana)
ANDES	Association for Nature and Sustainable Development, Peru (Asociación para la Naturaleza e Desarrollo Sostenible)
APCI	Peruvian Agency for International Cooperation (Agencia Peruana de Cooperación Internacional)
ARARIWA	Association for Andean Technical-Cultural Promotion (Asociación para la Cooperación Técnica y Cultural Andina)
BIODAMAZ	Biodiversity Project in Amazonia
CAF	Andean Development Corporation (Corporación Andina de Fomento)
CAN	Andean Community (Comunidad Andina)
CBD	Convention on Biological Diversity
CCTA	Coordinator for Science and Technology in the Andes (Coordinadora de Ciencia y Tecnología Andina)
CESA	Agricultural Service Center (Centro de Servicios Agropecuarios)
CENSI	Centre for Intercultural Health (Centro para la Salud Intercultural)
CEPES	Peruvian Centre for Social Studies (Centro Peruano de Estudios Sociales)
CIP	International Potato Center (Centro Internacional de la Papa)
CONADIB	National Commission for Biological Diversity (Comisión Nacional de Diversidad Biológica)

CONAP	Confederation of Amazonian Nationalities of Peru (Confederación de Nacionalidades Amazónicas del Perú)
CONAM	National Environmental Council (Consejo Nacional del Ambiente)
CONVEAGRO	National Convention of Peruvian Agriculture (Convención Nacional Agraria)
COPROBA	National Commission for Native Peruvian Products (Comisión Nacional de Productos Bandera)
CRIBA	Regional Centre for the Investigation of Andean Biodiversity (Centro Regional de Investigación de la Biodiversidad Andina)
FAO	Food and Agriculture Organization of the United Nations
GEF	Global Environment Facility
GRPI	Genetic Resources Policy Initiative
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
ICBG	International Cooperative Biodiversity Groups
IDB	Inter-American Development Bank (BID: Banco Interamericano de Desarrollo)
IEPI	Ecuadorian Institute for Intellectual Property (Instituto Ecuatoriano de la Propiedad Intelectual)
IIAP	Peruvian Amazon Research Institute (Instituto de Investigaciones de la Amazonía Peruana)
IIED	International Institute for Environment and Development
INDECOPI	National Institute for the Defense of Competition and Protection of Intellectual Property (Instituto de Defensa de la Competencia y la Propiedad Intelectual)
INDEPA	National Institute for the Development of the Andean, Amazonian and Afro-Peruvian Peoples (Instituto Nacional de Desarrollo de Pueblos Andinos, Amazónicos y Afroperuano)
INIA	National Institute for Agricultural Innovation (Instituto Nacional de Innovación Agraria)
INRENA	National Institute of Natural Resources (Instituto Nacional de Recursos Naturales)

IPPN	Peruvian Natural Products Institute (Instituto Peruano de Productos Naturales)
IT/the Treaty	International Treaty on Plant Genetic Resources for Food and Agriculture
IUCN	International Union for Conservation of Nature
MAB	Man and the Biosphere Programme of UNESCO
PGRFA	Plant genetic resources for food and agriculture
PRATEC	Andean Project for Peasant Technology (Proyecto Andino de Tecnología Campesina)
PROINVERSION	Private Investment Promotion Agency (Agencia de Promoción de la Inversión)
PROMPEX	Peruvian Export Promotion Agency (Comisión para la Promoción de Exportaciones)
RNPNP	National Register of Peruvian Native Potato (Registro Nacional de Papa Nativa Peruana)
SAG	Agriculture and Livestock Service – Chile (Servicio Autónomo de Agricultura)
SDC	Swiss Agency for Development and Cooperation
SENASA	National Agricultural Health Service (Servicio Nacional de Sanidad Agraria)
SEPIA	Permanent Seminar on Agricultural Research (Seminario Permanente de Investigación Agrícola)
SINANPE	National System of National Protected Areas (Sistema Nacional de Areas Naturales Protegidas)
SPDA	Peruvian Society for Environmental Law (Sociedad Peruana de Derecho Ambiental)
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UPOV	International Union for the Protection of New Varieties of Plants
WCMC	World Conservation Monitoring Centre
WIPO	World Intellectual Property Organization
WTO	World Trade Organization

Glossary

Agrobiodiversity: The biological diversity found in small farms (plots, fields), and in the agroecosystem in general; it includes the diversity of crops, breeds, culture and interactions between these different components. It includes genetic resources of insects, microorganisms, forest and river and lake biological resources used by farmers, as well as services provided by the ecosystem, such as the carbon cycle, water cycle, pollinating insects, etc. and recreational services.

Agroecology: A branch of ecology which studies the interrelationship between cultivated plants, the function and effects of agricultural inputs and dependence on fertilizers and pesticides, as well as the performance of crops given certain environmental conditions.

Agroecosystem: The cultivated or cultivatable land and crops planted therein, as well as animals associated with small farms in marginal rural areas and agroindustrial systems (intensive, traditional and subsistence production systems). It is the particular unit used to study agroecology.

Biodiversity: This is commonly identified at three levels: (i) genetic diversity, i.e. the diversity of genes manifested as genetic variability among individuals and populations of the same species; (ii) the diversity among species within an ecosystem; and (iii) diversity at the level of the ecosystem seen in the variety of natural systems found in a region, a country and on the planet.

Breed: All types of animal species domesticated by man, bred in farms and rural areas and used to satisfy his needs.

Native crop: A cultivated plant species, which has originated and obtained its distinctive characteristics in a certain country.

Plant genetic resources for food and agriculture (PGRFA): Any genetic material of plant origin (seeds, plants, part of a plant, etc.) of actual or potential value for food and agriculture.

Wild relative: A plant species that grows spontaneously; an ancestor of the cultivated plant, which is biologically compatible with such species, meaning it can interbreed and multiply.

Introduction

The concept of biodiversity tends to evoke tropical forests, the African plains, coral reefs and fish, wild plants, wild fauna and ecosystems untouched by humans. However, a very critical, but less appreciated component of biodiversity, is formed by domesticated or cultivated biodiversity and the human and cultural factor behind the domestication process of plants and animals. This component is referred to as 'agrobiodiversity', to distinguish it from a more traditional view of biodiversity and its 'wild' elements.

During the last few years, two ideas related to biodiversity and, specifically, agrobiodiversity have started to consolidate in some national, regional and local policy agendas in Peru. These are the notions of 'agrobiodiversity zones', and the 'register of native crops'. Apart from a growing understanding by society of the importance of biodiversity in general, there is also a particular and more focused interest in protecting certain areas or zones where cultural, geographical, biological and environmental elements result in a high inter- and intra-specific concentration of genetic elements, expressed as high diversity in crops, native breeds and their wild relatives.

Unlike the situation of typical natural protected areas (such as the National Reserve of Paracas, the National Reserve of Pacaya Samiria, or the National Park of Manu), these zones or areas are relatively small in extent, and provide an environment where natural and human factors combine and interact in the evolution of the richness of crops, breeds and the agroecosystem as a whole.

In terms of policy and legal debate, Peru has advanced with regard to discussions concerning the nature and scope of the two concepts. Considering that Peru is recognized as a centre of origin and diversity of crops important for food and agriculture, the idea of protecting agrobiodiversity – both areas and species – through agrobiodiversity zones and an official register of native crops respectively, could be replicated in countries which are also rich in culture, crops, native breeds, their wild relatives and biodiversity. It is, therefore, interesting to highlight some of the factors that have led to debates and link these to processes in other countries with similar circumstances, realities and interests.

This document will not analyze in detail the substantial content which defines agrobiodiversity zones and the register of native crops; rather, it will focus on

the *processes* from which these concepts have evolved and have become incorporated into debates and agendas, including legislation. It will also reflect on how they have become internalized in the collective subconscious of society and its specific sectors (policymakers, academics and communities). It is primarily a document on the processes and their origins, and how the development of these issues has been encouraged.

The discussion in the following sections addresses three issues. The first, is an analysis of the role of the Convention on Biological Diversity (CBD) as the main motivating and catalytic instrument for policy processes at different levels. Its importance cannot be underestimated. Since 1993, when the CBD entered into force, the interest of actors has increased dramatically, and initiatives at the national level have multiplied in response to international obligations. Current norms on biodiversity, agrobiodiversity *per se*, access to genetic resources, protection of the traditional knowledge of indigenous peoples and biosafety are, among others, direct consequences of the CBD (see Box 1).

The second is an analysis of the background and context in which discussions on agrobiodiversity zones in particular were initiated. Three main factors are motivating the process: (i) activities from a few institutions and organizations seeking to promote the revaluation of native crops and indigenous and peasant culture; (ii) specific projects (such as the Potato Park project in Cuzco – an area specially dedicated to conservation of native crops – see below) or the Global Environment Facility (GEF) *In Situ* Conservation Project of Native Crops and their Wild Relatives; and (iii) an enabling legal framework which opens up the possibility of enacting laws and regulations with regard to these zones.

The third section adresses the situation of native crops and their recognition and protection through a national register of crops. After rediscovering a number of natural products and native resources with many applications and properties relevant to industry and other sectors, efforts have intensified to protect these native crops and recognise them through different mechanisms. Globalization and trade agreements between countries, have often led to the appropriation of, e.g., images, names, products, molecules and knowledge, through the application of intellectual property instruments (patents, brands, breeders' rights). This can take place without either recognizing or compensating the country, in this case Peru, whose communities have, over time, conserved, maintained and developed the crops and their specific characteristics upon which innovation is based.

Some conclusions and reflections are presented at the end of the document. These seek to contribute to the debate and the development and definition of ongoing processes, and to consolidate a social, cultural, economic and policy dynamic which supports revaluation of our natural and cultural patrimony through concrete, practical measures.

1. The catalytic role of the Convention on Biological Diversity

The Convention on Biological Diversity (CBD)[1] represents an important milestone as a promoter of national and international policy and normative processes. In the case of Peru, the CBD's entry into force marked a 'before and after' transition with regard to legislation and public policies on the conservation and sustainable use of natural resources (including biodiversity and agrobiodiversity).

Prior to the CBD, the concept of 'biodiversity' and its environmental, economic, policy and legal implications were practically unknown, to the extent that it was not part of environmental norms or regulations. National public policies made no reference to biodiversity as a concept, nor was there a minimal body of technical, scientific and legal literature on biodiversity.[2] What we refer to as 'biodiversity' today, was then addressed in a sectorial manner (forests, water, protected areas, flora, fauna, etc.), and even now is still very segmented and fragmented in public natural resources management and administration.

One of the first steps taken by the country after ratifying the CBD, was to establish a National Commission for Biological Diversity (CONADIB).[3] This Commission maintains a multi-sectorial composition, and its main role is to

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1 The CBD was ratified by Peru through Legislative Resolution 26181, 11 May 1993; it entered into force 29 November 1993.

2 The concept of 'biological diversity' was used for the first time by the biologist and entomologist E.O. Wilson, at the beginning of the 1980s, during a series of conferences at Harvard University. What became interesting about this approach, was that it integrated ecosystems, species and genes under a unique concept and, furthermore, recognized *diversity* as a basic quality of life and nature. See: Wilson, E.O. *Biodiversity*. National Academy Press, USA, 1988. In the case of Peru, the Environment and Natural Resources Code (Legislative Decree 613 of 1990), was the first law to refer to biological diversity (or biodiversity), ecological diversity and the need for its protection.

3 The National Commission for Biological Diversity (CONADIB) was created through Supreme Decree 022-93-AG of 18 June 1993, and was coordinated by the National Institute of Natural Resources (INRENA). Subsequently, the presidency of the

ensure the implementation of the CBD and promote compliance of its mandates and obligations. More specifically, the Commission was created to generate policy input and recommendations through dialogue and interaction between different actors and sectors involved in the conservation and sustainable use of biodiversity, as part of their institutional roles and competences.

Initially, the Commission was very active and managed to bring together a significant number of members to address different matters derived directly from CBD negotiations including, among others, access to genetic resources, the protection of traditional knowledge, biosafety, biodiversity planning, and the relationship of biodiversity and intellectual property.[4]

From 1993 onwards, in a context of structural changes in the Peruvian economy,[5] the environment as an issue – not only biodiversity – began to occupy important portions of the debates on, e.g., investment, exploitation of

Commission was reassigned to the Ministry of Foreign Affairs. The original members of the Commission were: the Ministry of Agriculture, Ministry of Fisheries, Ministry of the Presidency, Ministry of Economy and Finance, National Institute of Natural Resources, National Institute for Research in the Peruvian Amazon, Institute of the Sea, National Service of Meteorology and Hydrology, Peruvian Foundation for the Conservation of Nature, PROTERRA, Pachamama Society, Peruvian Society for Environmental Law, and Andean Council of Ecological Management. CONADIB was recognized as a participative platform for different sectors and interests linked to biodiversity, under the regulation pertaining to the Law on Conservation and Sustainable Use of Biological Diversity (Supreme Decree N° 068-2001-PCM). It became an advisory body, providing counsel and guidance on policy matters. Through this regulation, CONADIB came under the coordination of the National Environmental Council CONAM, the CBD national focal point. Actions were recommended and proposed by CONADIB to comply with the CBD in an effective manner. They include defining national positions for international negotiations, proposing policy and technical measures, and defining national policies regarding conservation and sustainable use of biological diversity. At present, CONADIB is recognized in Legislative Decree 1013 which created the Ministry of the Environment

[4] With regard to genetic resources and traditional knowledge, activities started in 1992, when a legal regime for the protection of plant breeders' rights started to be negotiated in the Andean Community. As part of this debate – which ended with the adoption of Decision 345 on a Common Regime for the Protection of Plant Breeders' Rights in 1993 – discussions also addressed the relationship between access to genetic resources, intellectual property and traditional knowledge. The Third Transitory Provision of Decision 345, includes a mandate to approve a regime on access to genetic resources and biosafety (the latter still pending). For information on this process, see: Caillaux, Jorge, Ruiz Muller, Manuel and Tobin, Brendan. *El Régimen Andino de Acceso a los Recursos Genéticos. Lecciones y Experiencias.* WRI, SPDA, Lima, 1999).

[5] Pasco Font, Alberto and Saavedra, Jaime. *Reformas Estructurales y Bienestar. Una Mirada al Perú de los Noventa*. GRADE, CEPAL. Lima, Perú, 2001.

non-renewable natural resources, and institutional structures. As a result, changes and adjustments were required in environmental legislation and institutional frameworks to respond to new challenges resulting from free trade and liberalization.

The National Environmental Council (CONAM)[6] was created in 1994 as the guiding institution for national environmental policies. Its main objective was to promote, plan, coordinate, monitor and control Peru's environment and natural patrimony – including its biodiversity. A few years later, CONAM was assigned responsibility for intersectorial coordination on conservation and sustainable use of biodiversity.[7] CONAM was also granted the coordination of CONADIB, which it exercised until recently. Although CONADIB exists formally, its activities have been sporadic due to various factors, including a period of uncertainty from 2006 to 2008 on the future of CONAM as an institution. CONAM has been integrated into the Ministry of the Environment.

Some basic principles of the CBD are specified under Biodiversity Law 26839 (see Box 1). These include measures proposed for biodiversity conservation, designing a strategy for biodiversity conservation, regular monitoring of its ecological status, raising awareness, prioritizing *in situ* conservation and complementing it with *ex situ* conservation.

[6] CONAM was created by Law 26410 on 1 December 1994, published in the Official Journal El Peruano of 22 December 1994. It merged with the Ministry of the Environment through Legislative Decree 1013 of 13 May 2008.

[7] Under Supreme Decree 038-98-PCM of 18 August 1998.

Box 1. Important legal and institutional milestones

Year	Norms	Key concepts
1986	Law 24520 on the Promotion, Production and Consumption of Agricultural Food Products from Andean Areas	Promoting the production and consumption of native food products, public use
1990	Code of the Environment and Natural Resources (Legislative Decree 613)	Cultural diversity, natural heritage, genetic diversity
1993	Convention on Biological Diversity (CBD)	*In situ* and *ex situ* conservation of agricultural biological diversity
1993	National Biological Diversity Commission	Compliance with the CBD at the national level
1996	Andean Community Decision 391 - Common Regime on Access to Genetic Resources	Conservation, sustainable use, genetic resources (in general)
1994	Law 26410 creates the National Environmental Council (CONAM)	Governing body for national environmental policy, national focal point for the CBD
1997	Law 26839 on the Conservation of Biological Diversity	Species of cultural value, traditional knowledge, cultural heritage
2001	Regulation of Law 26839 (Supreme Decree 068-2001-PCM)	Agrobiodiversity areas, tourist use, indigenous culture, cultivated native species
2001	National Strategy for Biological Diversity (Supreme Decree 102-2001-PCM)	*In situ* conservation, agrobiodiversity
2002	Law 27811 on the Protection of Collective Knowledge of Indigenous Peoples Related to Biological Resources	Legal protection of collective knowledge of communities associated with biodiversity (including agrobiodiversity)
2004	National Agrobiodiversity Programme (CONAM Council Directive Decree 022-2004 CONAM/CD) – Basis for Agrobiodiversity Regional Agendas	Sustainable use of agrobiodiversity and its different components
2005	Law 28477 establishing Native Crops and Breeds and their Wild Relatives as Natural Patrimony of the Nation	Germplasm conservation, patrimony of the nation, native species of crops and breeds
2004	Law 28216 establishing a National Commission against Biopiracy	Biopiracy, protection of traditional knowledge, sovereignty
2005	Law 28611, General Law of the Environment	Biological diversity, genes, cultural diversity, benefit-sharing, genetic resources, traditional knowledge, biotechnology, *in situ* conservation
2008	Legislative Decree 1013 creating the Ministry of the Environment	Governing body for national environmental policy

2. Recognizing agrobiodiversity zones: the idea and its incorporation into the debate

Peru is one of the ten megadiverse countries on the planet. It has practically all of the scientifically recognized life zones distributed in three large regions: coastal plains (Costa), the Andes (Sierra) and the Amazon jungle (Selva). It is located in western South America, bordering the Pacific Ocean between latitudes 0°22 and 18°212'343" south and the longitudes 68°392'73" and 81°202' 133" west. Covering 1,285,216 sq. km. (496,223 sq. miles), it is the third largest country in South America.

Some of the Earth's most important biodiversity is distributed in the Andean–Amazonian region (see Box 11). Historically, wild biodiversity – reptiles, amphibians, fish, birds, crustaceans, invertebrates, etc. – has been the focus of national attention and has stood out as the essence of our biological wealth. But like a few privileged countries in the world, Peru is also a centre of origin and diversification of some of the most important food and agricultural crops and their wild relatives.[8] Examples include potato (*Solanum tuberosum*), tomato (*Solanum lycopersicum*), maize (*Zea mays*),[9] sweet potato (*Ipomoea batatas*), ají pepper (*Capsicum baccatum*), and coloured cotton (*Gossypium barbadense*). Potato is an essential staple food worldwide, as it is the fourth most important food

[8] Today there is evidence that the Northern Andean region of Peru is the birthplace of agriculture in South America. Together with Mexico, the Middle East and some areas in Africa, China, South India and Papua New Guinea, Peru is considered one of the centres of origin of world agriculture, dating back to approximately 10,000–12,000 BC. For a detailed review of the origin of agriculture, see: Diamond, Jarred. *Guns, Germs and Steel. The Fates of Human Societies.* W.W. Norton. 1997. For a more Peru-oriented article, see: Chumpitaz, Marcos. *Tierra Prometida. Perú, Cuna de la Agricultura en el Nuevo Mundo*. In: Somos. Weekly Magazine of the Newspaper El Comercio. Year XX, No. 1074, 2008.

[9] In the case of maize, Mexico is the center of origin and diversification *par excellence*. However, Peru is also an important center of diversification of the crop.

crop in terms of consumption, after maize, rice and wheat.[10] Cotton is an industrial crop that has allowed Peru to have an important textile manufacturing/ export sector.[11] Tomato, on the other hand, is an important input for the expanding food processing industry, especially in the United States.

Crops such as mashua (*Tropaeoleum tuberosum*), olluco (*Ullucus tuberosus*), oca (*Oxalis tuberosa*) and quinoa (*Chenopodium quinoa*), are important locally. Other native crops (sometimes called 'underutilized crops') have a different relevance, satisfying urban/regional markets and, in some cases, very localized demands.[12]

[10] Hobhouse, Henry. *Seeds of Change: Five Plants that Transformed Humankind*. Papermac, UK, 1999. For a history of the potato, see: EDELNOR, ENDESA. *Todo sobre la Papa: Historia, Secretos y Recetas*. Lima, Peru, 2008.

[11] Peruvian cotton (mainly the Tanguis and Pyma varieties developed at the beginning of the 20th Century) continues to be recognized as one of the best in the world in terms of quality, fineness and length of its fibers. Although Peru is not among the main producers of cotton in the world (14,184 ha. and 89,243 ha. of the two named varieties in 2006), the quality of its varieties is widely acknowledged. The variety of coloured cotton grown by pre-Inca cultures, mainly in the north and south coast of Peru is equally interesting. Planting varieties of coloured cotton was prohibited during the 1940s, but a few small farmers conserved them. In 1990, a company – Natural Cotton Colors of the USA – obtained plant patents on two varieties derived from coloured cotton seeds collected in Peru. In 2008, INIA started a project at the Vista Florida Experimental Station in Piura, in the north of Peru, to establish a germplasm bank to conserve and improve commercial cultivars of native colored cotton. (For more information see: http://www.inia.gob.pe/notas/nota0208/).

[12] Pastor, Santiago, Fuentealba, Beatriz and Ruiz Muller, Manuel. *Cultivos Sub-Utilizados en el Perú. Análisis de las Políticas Públicas Relativas a su Conservación y Uso Sostenible*. SPDA, GFU, ProUsoDiversitas. Lima, Peru, June 2006.

Peru is also a centre of origin of animal breeds with economic potential, such as the alpaca (*Vicugna pacos*), llama (*Lama glama*), and their wild relatives, vicuña (*Vicugna vicugna*), and guanaco (*Lama guanicoe*), also known as South American camelids. There is also the cuy (*Cavia porcellus*), muscovy duck (*Cairina moschata*) and cochineal (*Dactylapius coccus* Costa).[13]

Closely linked to the above, Peru is also the birthplace of indigenous cultures and cultural expansion, which were critical elements in the development and domestication of crops and animals since 8,000 BC.[14, 15] Up until today, some areas, especially in the Andes and Amazon, maintain practices that combine agriculture with cultural expression. This interaction identifies the country as a megadiversity centre for wild and cultivated species and living culture.[16]

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[13] In the case of camelids, there is an interesting trend in the development of research lines and products (antibodies called "Nanobodies"), which can be used as diagnostic kits and for the production of vaccines. Pastor, Santiago and Fuentealba, Beatriz. *Camélidos, Nuevos Avances Tecnológicos y Patentes. Posibilidades y Preocupaciones de la Región Andina*. Iniciativa para la Prevención de la Biopiratería, Documento de investigación. SPDA, Año 2. No. 4, 2006.

[14] Diamond, Jarred. *Collapse. How Societies Chose to Fail or Succeed*. Viking Penguin, UK, 2005.

[15] On the origin of agriculture in Peru, see: Bonavia, D. *De la Caza a la Agricultura*. In: *Perú, Hombre e Historia de los Orígenes del Siglo XV*. Edubanco, Lima, Perú. 1991. An easy text to read and understand the contribution of Peru as a center of origin and diversification is: Brack, Antonio. Peru: *Ten Hundred Years of Domestication*. GTZ, UNDP, Editorial Bruño, Lima, 2003.

[16] Peru has approximately 72 indigenous ethnic groups: seven located in the Andean area and 65 in the Amazon. These ethnic groups fall, at the same time, into 14 linguistic families different from Spanish: Quechua, Aru, Arahuaca, Jíbaro, Pano, Tupí-Guaraní, Cahuapana, PebaYagua, Huitoto, Harakmbet, Tacana, Sucano, Záparo and another unclassified language. They are organized in 'peasant communities' in the case of the Andean region (5,818 recognized communities) and 'native communities' in the Amazon region (1,345 recognized communities). Although not all maintain their traditional and ancestral lifestyles, a considerable number of them do, and live based on principles of reciprocity, equality, exchange, worship of the Earth (pachamama), communal work, etc. This has made Peru a multiethnic and pluricultural country, a characteristic recognized legally and constitutionally.

T. Müller

Paradoxically, this cultural wealth is still maintained in areas with almost zero economic development, where extreme poverty, exclusion and discrimination prevail, and where terrorist violence concentrated its actions until the early 1990s.

However, these native crops and breeds are not located evenly throughout Peru's national territory.[17] Certain areas have greater concentrations of crops and breeds and of their diversity. There are some farmers and peasant families in such areas, who follow conservation practices that are more deeply rooted than those of others. They are known as "conservationist" or "curious" farmers or peasants,[18] who not only practice traditional agriculture, but also concentrate their efforts on conserving, maintaining and developing diversity – and they are proud of this.

As pointed out by Mr. Humberto Tapullima, a conservationist farmer of the Solo Community, in trying to capture the feeling behind traditional agricultural practices "… *we have all (referring to the Ayllu, the basic family/community unit in ancestral Andean communities) had small farms since children; for us they mean*

[17] In the case of peasant communities, they possess or have control over nearly 40% of agricultural land. 55% of agricultural units are less than three hectares in size and correspond to 16% of agricultural land in use. 24% of these units are less than one hectare in size and correspond to less than 3% of agricultural land (*1994 Agricultural Census*, Ministry of Agriculture). Land fragmentation and small farms are what characterize agriculture, especially in the Andes. Small farmers or peasants maintain the highest concentration of crop genetic diversity on these lands.

[18] UNDP, FMAM. Government of Italy. The *Project for In Situ Conservation of Native Crops and Their Wild Relatives.* PER98/G33 http://www.insitu.org.pe This project has managed to identify (by name and surname) 'conservationist' or 'curious' farmers at the level of families or even specific individuals. In addition to having typical agricultural duties, these farmers also undertake conservation, maintenance, development and characterization of their native varieties. See: Revilla, Luis. *Organizaciones Tradicionales para la Conservación de los Cultivos Nativos. Project for the In Situ Conservation of Native Crops and Their Wild Relatives.* PER98/G33. INIA, IIAP, PNUD, Lima, Peru, 2006. PRATEC undertakes interesting work from a small farmer's perspective. See: *Proyecto Andino de Tecnologías Campesinas. Los Caminos Andinos de las Semillas. Núcleos de Vigorización de la Chacra Andina.* Lima, Peru, January, 1997.

life. Working on a farm brings happiness. By treating plants well, we can sometimes get three varieties out of two. Plants teach us to love. A punishment may be when you become a slave of hard cotton or corn, but for someone who has a bit of everything [diversity], *life is a joy*".[19]

These farmers and the areas in which they live in Peru, maintain a high genetic diversity, making them particularly interesting and important from a cultural, social, ecological, economic and scientific perspective. The areas could be described as "specialization areas or zones" with regard to genetic diversification. Throughout history, many studies have identified with relative precision the location, extent and specific characteristics of these areas. Institutions and researchers have also concentrated their work on the social and ecological dynamics that give these areas their natural and cultural wealth.

Diversity, as a factor for responding and adapting to the environment, is one of the characteristics that contribute to the definition of these areas and their peasant and native traditional and ancestral communities. This includes food security and family well-being considerations. In these areas, there are no other alternatives in terms of economic activities to support families. In fact, agriculture is what historically maintains and unites these peasants (in the Andes) and natives (in the Amazon) in cultural and social terms.

[19] Asociación Rural Pradera. *Vigorización de la Chacra Campesina del Bajo Mayo*. Tarapoto, Peru, August 1993.

In this context, it is relevant to mention the project on '*In Situ* Conservation of Native Crops and their Wild Relatives' (initiated in 2000; Box 3), as a multi-disciplinary and multi-sectorial effort that has contributed to elevate the profile of agrobiodiversity and raise awareness of the importance and key role of genetic resources in national agriculture. This is not so much in terms of their specific economic contribution (which is marginal), but relates to their environmental, ecological, cultural and social significance and to the maintenance of lifestyles and traditions which are the essence of being Peruvian.[20]

The interest in peasant and native communities, as well as in the areas where diversity predominates and in forms of traditional agriculture, is based on the following reasons:

- Cultural and ecological factors that make Peru a country of undeniable biocultural wealth, and thus, qualitatively different from the majority of countries
- The social and economic importance of genetic diversity that is only just beginning to be understood; but it represents comparative advantages for the country, in the context of economic policies for agriculture that are strongly oriented towards intensification and monoculture
- Exogenous factors that are eroding cultural diversity (e.g. 'city lights',[21] imported cultural patterns, seeking of job opportunities, etc.), and genetic diversity (introduction of improved varieties, changed consumption habits and demands for uniformity, introduced diseases and pests, urban growth, building infrastructure, etc.)
- The importance of the genetic diversity of traditional crops for farmers in poor communities who have to confront diseases, pests, droughts, frost, etc.
- Sectorial policies that prioritize intensive agriculture to support agro-industry and agro-export activities
- General legal mandates that establish obligations for biological diversity conservation, including genetic diversity of crops (and their wild relatives)
- The increasing importance of genetic diversity in the light of climate change and global warming, with Peru standing out as one of the critical reserves of cultivated and wild genetic diversity in the world.

The meaning and significance of an agrobiodiversity zone, or of a high concentration of native crops and native breeds and their wild relatives, can

[20] UNDP, FMAM. Government of Italy. The *Project for the* In Situ *Conservation of Native Crops and Their Wild Relatives.* PER98/G33 http://www.insitu.org.pe.

[21] Cities and their urban surroundings exert pressure and attraction on younger generations, who see an opportunity to progress in life, from being peasants and poor, to becoming citizens (literally, as 'ciudadanos'), with more substantial options for improving their lives and becoming 'someone' in life.

be explored, based on these general background considerations. Although it is difficult to identify the exact moment and circumstance in which the idea or notion of an agrobiodiversity zone emerged with a legal or policy connotation, it is possible to make some preliminary comments regarding its appearance in national policy and normative processes.

Likewise, for a long time it has been more or less clear among scientists and other experts that Peru had areas where its wealth in crop and animal genetic diversity was concentrated, i.e. 'microgenecenters'. However, legal and policy thought and analysis of their implications probably started recently, during the mid 1990s.

In the following section, a brief analysis is made of some institutions, projects and legal and policy instruments which, during the last few years, have played a relevant role in general awareness raising regarding genetic resources, traditional knowledge, and agrobiodiversity and its different components.

2.1 Institutions

Discussions and debates on genetic resources and the protection of traditional knowledge have been taking place in the Andean Community and at the nationally since 1993. This has helped public institutions and different sectors of civil society to have a better understanding of the importance of genetic resources – particularly for food and agriculture – and of the knowledge, innovations and practices of peasant and native communities related to the conservation and use of those resources. This, in turn, was related to the sites and ecosystems where peasant and local culture interacts with native crops, seeds, traditional practices of crop rotation, and the preference for genetic diversity as a defence against threats such as pests, diseases and adverse climates. These discussions also coincided with demands made internationally by indigenous peoples, regarding the need to recognize and respect their land and territories as the key element for their development.[22] At that time, an interesting dynamic was in place wherein international debate informed national debate and *vice versa*.

These discussions were, however, taking place in a relatively closed manner, as only a few institutions and organizations (as experts) were participating

[22] For example, many declarations from conferences, seminars and workshops organized by indigenous organizations around the world (the Mataatua Declaration, Santa Cruz Declaration, Kari-Oca Declaration, etc.) have pointed out the crucial need to safeguard and respect the territorial rights of indigenous peoples (including, in the case of Peru, native and peasant communities), as a precondition for any kind of effort on the conservation and sustainable use of biodiversity. Without land and territories, there is no culture, no indigenous society nor the possibility for indigenous groups to survive. As a result of the efforts by the indigenous movement, the United Nations Universal

actively. The issues of genetic resources access and use, and protection of traditional knowledge were – and are – highly technical; they did not always arouse interest among all actors alike. Broader policy concerns over these issues became more visible when the North–South controversy was raised more directly and openly (see Box 12).

In this context, some research organizations had a clearer view on the importance of these matters, particularly reflecting Peru's position as a megadiverse and highly multicultural country. These include institutions such as the Peruvian Society for Environmental Law (SPDA),[23] organizations representing indigenous peoples such as the Confederation of Amazonian Nationalities of Peru (CONAP) [24] or the Interethnic Peruvian Amazon Development Association (AIDESEP),[25] and the Permanent Seminar on Agricultural Research (SEPIA). They are probably the most representative with regard to their active involvement and participation in the initial stages of policy and legal discussions – a phase that lasted from approximately 1993 to 1997.

Declaration on the Rights of Indigenous Peoples was approved in 2007, which reiterates and emphasizes rights over land and territories as a basis for the survival of communities, cultures and knowledge.

[23] In late 1993, SPDA, the IUCN Environmental Law Centre and the Secretariat of the Cartagena Agreement (currently the General Secretariat of the Andean Community), coordinated and led the process to develop Decision 391 on a Common Regime to Access Genetic Resources, to be approved in 1996. SPDA had already participated in the development of Decision 345, where access to genetic resources and protection of traditional knowledge were brought up in the debate for the first time. SPDA's interest and participation was consolidated and strengthened by becoming the legal advisor for CONAP in a bioprospecting project between 1993 and 1998. The International Cooperative Biodiversity Groups (ICBG) project, involved CONAP, Universidad Peruana Cayetano Heredia, the National History Museum, Washington University and Searle Pharmaceuticals (a subsidiary of Monsanto). Its goal was to identify and develop active components from medicinal plants, as used by indigenous peoples, for pharmaceutical purposes. For more details on these different processes see: Caillaux, Ruiz Muller and Tobin, ibid. at 4.

[24] As noted above, CONAP was the first indigenous organization to participate in an active and informed way in a project (of ICBG) involving access to medicinal plants traditionally used by Aguaruna groups in the Peruvian Amazon. This participation materialized in the form of a revolutionary 'know how' license to use traditional knowledge between CONAP, Searle and Washington University, plus a joint patent between CONAP and Washington University. This explains the role of CONAP during these years, trying to raise awareness on the importance of regulating access to genetic resources and protecting traditional knowledge. On the ICBG process in particular, see: Rosenthal, Joshua. *Politics, Culture and Governance in the Development of Prior Informed Consent and Negotiated Agreements with Indigenous Communities*. In: McMannis, Charles (Ed). *Biodiversity and the Law, Intellectual Property, Biotechnology and Traditional Knowledge*. Earthscan, UK, USA, 2007.

[25] From the outset, AIDESEP has been very active in the international CBD process, and

It is also worth highlighting the role that public institutions have played. Over the years, the National Institute for Agricultural Innovation (INIA), the National Institute of Natural Resources (INRENA) and CONAM have always been active in debates – albeit at different levels of intensity – due to their competences and jurisdiction.[26]

The National Institute for the Defense of Competition and Protection of Intellectual Property (INDECOPI) deserves particular mention. INDECOPI, as the competent intellectual property agency, represents a special case when compared with institutions with similar competences in other countries around the world. Historically, national intellectual property authorities worldwide have been very conservative in their interest in and approach to new issues and challenges related to the protection of traditional knowledge.[27] Yet INDECOPI perceived very early on – in 1995 – how important it was to generate adequate public policies regarding the legal protection of traditional knowledge, and by extension, genetic resources.[28, 29]

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their experience is reflected in their policy approaches to genetic resources. AIDESEP participated in the development of Law 27811 on the Protection of the Collective Knowledge of Indigenous Peoples derived from Biological Resources (2002). Although very critical of the process itself (claiming limited levels of indigenous participation and further consultation), they are an important and representative organization. Both AIDESEP and CONAP are key actors in different national commissions, working groups and technical groups where these and other related matters are discussed.

[26] According to the Regulation on Access to Genetic Resources (Supreme Decree 003-2009-MINAM), the competent authorities are: the Ministry of Agriculture in the case of genetic resources, molecules, extracts, etc. of continental wild species; INIA for genetic resources of cultivated or domesticated species; the Vice-Ministry of Fisheries for genetic resources of marine and continental hydro-biological species; and the Ministry of Energy and Mines for genetic resources, molecules or extracts from minerals and hydrocarbon resources.

[27] This has started to change. In Ecuador for example, the Ecuadorian Institute for Intellectual Property (IEPI), has begun an institutional strengthening process to identify actions and measures towards the protection of traditional knowledge of indigenous peoples. This is in parallel to a process in which a draft law for the protection of the intellectual efforts of indigenous peoples in Ecuador (led by indigenous experts) is being debated.

[28] It was SPDA who, at the end of 1995, formally requested the Presidency of INDECOPI to undertake activities oriented towards generating public policies regarding the protection of intellectual efforts of indigenous peoples associated to biodiversity. INDECOPI, immediately responded, subsequently promoting and leading a normative and policy process.

[29] The legal protection originally conceived by INDECOPI, included the possibility of protecting traditional knowledge in terms of exclusive rights and also supporting the preservation of this knowledge and its promotion as a way to guarantee economic options for the holders. See: Work Document No. 033-1999, Area de Estudios

Not only has INDECOPI taken an interest in these issues and challenges, but it has remained very active, leading national positions in regional and international fora such as the CBD, the World Trade Organization (WTO), and the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore of the World Intellectual Property Organization (WIPO). INDECOPI has organized many activities to generate awareness among a large group of actors, and was also instrumental in creating the National Commission for the Prevention of Biopiracy (see Box 2).[30]

Box 2. A brief review of institutional initiatives and efforts concerning agrobiodiversity, traditional knowledge and native crops

- Since 1996, INDECOPI has led different efforts and initiatives for the protection of traditional knowledge, innovations and practices of indigenous peoples and communities. Two tangible results from their work have been the enactment of Law 27811 on the Protection of Collective Knowledge of Indigenous Peoples derived from Biological Resources (2002), and Law 28216 which created the National Commission for the Prevention of Biopiracy (2004). Likewise, since the mid-1990s, INDECOPI has organized various decentralized capacity-building workshops and meetings, to train indigenous groups. INDECOPI is also a partner of CONAP and SPDA in the 'Proyecto Rescate y Protección de los Conocimientos Colectivos de los Pueblos Indígenas Amazónicos' ('Project to Rescue and Protect the Collective Knowledge of Indigenous Peoples of the Amazon'), sponsored by the GEF Small Grants Programme, through the United Nations Development Programme (UNDP)–Peru.
- They have implemented a link on their institutional website (http://www.indecopi.gob.pe) on traditional knowledge and intellectual property, and have led national delegations at a number of international meetings to defend the position of Peru regarding the protection of traditional knowledge. In 2007, INDECOPI received an Award for Good Government Practices (in the area of social inclusion) for their work on behalf of indigenous peoples and the protection of their traditional knowledge.

Económicos de INDECOPI. *Propuesta de Régimen de Protección de los Conocimientos Colectivos y de los Recursos Genéticos*. Legal Norms. Official Journal El Peruano, Thursday 21 October, 1999. Special Working Paper. Also see: Ruiz Muller, Manuel. *Hacia el Desarrollo de un Régimen Legal para la Protección de Conocimientos Colectivos de Pueblos Indígenas Asociados a la Diversidad Biológica*. In: La Alianza Regional para Políticas de Conservación en América Latina y el Caribe. *Definiendo Herramientas para la Influencia en Políticas Orientadas al Desarrollo Sostenible. Análisis de experiencias de influencia en políticas de organizaciones en América Latina*. The Nature Conservancy, John D. and Catherine T. MacArthur Foundation, Costa Rica, 2000.

[30] Law 28216 of 2004, created the National Commission for the Prevention of Biopiracy. The Commission is presided over and coordinated by INDECOPI, and comprises a multidisciplinary and multisectorial group of institutions.

- The Project for *In Situ* Conservation of Native Crops and their Wild Relatives (2000–2006), has also been an inter-institutional and multi-disciplinary effort led by INIA and the Peruvian Amazon Research Institute (IIAP). The project has worked actively with small peasant and native communities in the Andes, Amazon and Coastal regions, particularly in areas with a high concentration of genetic diversity of native crops and their wild relatives, generating ethnographic information and scientific and technical data.
- The Peruvian component of the Genetic Resources Policy Initiative (GRPI) project, coordinated by Bioversity International, was led by SPDA from 2003. GRPI–Peru has promoted various activities on research, policy action, legal developments and training (including decentralized workshops, audiovisual materials, preparation of manuals and explanatory guides). The participation of indigenous groups (mainly from the Amazon represented by AIDESEP) has been important, and current work to promote the legal recognition of agrobiodiversity zones and the national register of native crops is also relevant. In addition, the consolidation of an informed inter-institutional alliance between INIA, CONAM, IIAP and INRENA, partners of GRPI since its conception and implementation, deserves attention.
- SPDA has also undertaken policy and legal research activities in the areas of Farmers Rights, the International Treaty of the Food and Agriculture Organization of the United Nations (FAO), biopiracy, and the legal protection of traditional knowledge, among other relevant issues. All these activities, related documents and their distribution and presentation, seek to disseminate and build knowledge, train a cadre of relevant actors, and make these issues generally known and 'mainstreamed'.[31] An important project in this regard is 'Supporting the Implementation of the FAO International Treaty in Peru', sponsored by GTZ (Deutsche Gesellschaft für Technische Zusammenarbeit).

In this context, there are institutions that have seriously undertaken challenges relating to recognizing agrobiodiversity as an element with considerable social, cultural, policy and economic implications. However, a coherent, all-embracing legal and institutional framework, addressing agrobiodiversity *per se*, is still a pending challenge, notwithstanding some of the more evident progress on policy that has taken place over the years.

Yet there remain important actors and stakeholders who have only taken a marginal interest in these issues. They show little appreciation or understanding of the importance of genetic resources and indigenous

[31] See for example: Ruiz Muller, Manuel. *FAO International Treaty on Plant Genetic Resources for Food and Agriculture: Contributions its Application and Implementation in Peru.* Occasional Series on Policy and Law. GTZ, SPDA, FNI, Yanapai, Lima, Year I, No. 1, May 2007; Ruiz Muller, Manuel. *Farmers' Rights in Peru. A Case Study.* The Farmers' Rights Project. GTZ, FNI, FNI Report 5/2006. Available at: http://www.fni.no/doc&pdf/FNI-R0506.pdf. Ruiz Muller, Manuel. *How to Prevent Biopiracy? A Latin American Approach.* Research Document. Initiative for the Prevention of Biopiracy. SPDA, Year I, No. 1, January 2005.

knowledge in relation to globalization, exchange, communications, interconnection, etc. For example, the Ministry of Economy and Finance, which administers the national budget, has had little participation over the years in debates on such matters. This may have implications for the approval of budget items for public investment projects that have an impact on conservation and sustainable use of genetic resources.[32, 33] There would be serious consequences if, for example, the Ministry's limited awareness and understanding were to lead to budget assignments to finance development projects that have negative and irreversible impacts on agrobiodiversity or biodiversity in general.

Another relevant actor with little participation in debates (except on a few occasions, as we shall see below) is the Peruvian Congress and, particularly the Commissions for Agriculture and Ecology, Environment, the Amazon and Indigenous Peoples. This is despite relevant issues being under their specific legislative mandate and interests. There are different reasons for this including a plain and simple lack of interest by individual members, little empathy for such matters, even political calculations on whether or not to get involved in issues of 'political irrelevance', when measured by votes.

2.2 Projects

The 'Regional Project on Conservation, Management and Sustainable Use of Biodiversity of Andean Roots and Tubers in the Sierra of Peru',[34] and the 'Project on *In Situ* Conservation of Native Crops and their Wild Relatives in Peru' (see Box 3), among others, contributed to informing technical debates

[32] In 2006, CONAM presented the Ministry of Economy and Finance with a project called 'Identification of the Main Agrobiodiversity Problems in Peru' to request resources from the public budget for the generation and implementation of public agrobiodiversity policies for conservation and sustainable use, and in particular to support the National Agrobiodiversity Programme. This project represents a milestone in the efforts to commit public resources to these matters. However, poor coordination with competent sectors and others involved and inadequate follow-up of administrative process (inside the Ministry of Economy and Finance), have made financing of the project impossible to date.

[33] The Ministry of Economy and Finance does not approve investment projects *per se*. The project and investment office of each sector approves specific projects and the Ministry of Economy and Finance determines if there is a budget available or authorizes the project to be implemented.

[34] For a decade (1993–2003), different governmental and non-governmental organizations and institutions and universities in Bolivia, Ecuador and Peru have worked on research and promotion of Andean root and tuber crops under the 'Collaborative Research Programme for Biodiversity of Andean Roots and Tubers'. This has included promotion of and support for germplasm conservation activities, sustainable use activities by farmers, opening up of new market opportunities, research regarding crop and harvest


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CULTIVOS SUBUTILIZADOS EN EL PERÚ
ANÁLISIS DE LAS POLÍTICAS PÚBLICAS RELATIVAS A SU CONSERVACIÓN Y USO SOSTENIBLE

and policy discussions at the end of the 1990s and the beginning of the following decade.

The *In Situ* Project identified what were at the time known as 'diversity microgenecentres'. These are clearly delimited areas in the country which have a high concentration of diversity of native crops and their wild relatives. Microgenecentres are located in the Andes, Amazon and Coastal regions (see Box 4). They also coincide with areas that have an important presence of traditional, indigenous, peasant (farming) and native communities that maintain their ancestral farming practices and persist with ancestral socio-cultural patterns that contribute to the conservation, maintenance and development of diversity.

Box 3. The Project: '*In Situ* Conservation of Native Crops and their Wild Relatives in Peru'

The objective of this five-year (2000-2005) project was to guarantee the *in situ* conservation of native crops and their wild relatives in Peru. Specifically, it aimed to preserve agrobiodiversity in small farms and protect wild relatives in neighbouring zones, by supporting and improving agricultural management of species and habitats. At the same time, it sought to help conservation and maintain genetic material, gene flows and traditional practices, thereby ensuring the future viability of native crops.

This project was executed in areas where Andean and Amazon communities have produced and conserved native crops for centuries. It also helped compile and register agricultural information related to eleven priority crops: potato (*Solanum* spp.), corn (*Zea mays*), pallar/lima bean (*Phaseolus lunatus*), sweet potato (*Ipomoea batatas*), quinoa (*Chenopodium quinua*), kañiwa (*Chenopodium pallidicaule*), maca (*Lepidium meyenii*), arracacha (*Arracacia xanthorrhiza*), granadilla/passionfruit (*Passiflora ligularis*), cassava/yuca (*Manihot esculenta*), camu camu (*Myrciaria dubia*), in regions with a high concentration of genetic diversity. Also included were nineteen associated species including: granadilla (*Passiflora sp.*), oca (*Oxalis tuberosa*), olluco (*Ullucus tuberosus*), mashua (*Tropaeolum tuberosum*) and tarwi/Andean lupin (*Lupinus mutabilis*).

The criteria to select the crops were:

- In the case of potato, corn, beans, quinoa, sweet potato, maca and cañihua: their contribution to diet and food security, locally and regionally
- In the case of arracacha: genetic erosion throughout the country

storage, and post-harvest storage. The Swiss Agency for Development and Cooperation (SDC) has played an important role in supporting this effort. Another timely initiative has been led by the Andean Community which, with financial support from the Inter-American Development Bank (IDB), designed the 'Project for the Implementation of the Regional Biodiversity Strategy: Actions in Biotechnology and Biosafety; Agrobiodiversity; Valuation, and Distribution of Benefits'. This Project was elaborated in 2004 but has not yet received the necessary funding to enable it to be executed.

- In the case of camu camu and granadilla: their adaptation to different agroecosystems and their commercial potential.

With regard to selecting working zones or areas, the criteria used were:

- Being centres of origin or diversification of selected species
- Having a high genetic diversity of species
- Being endemic zones for the species
- Having an important presence of wild relatives of selected species
- Having agricultural systems based on traditional practices of Andean and Amazon communities
- Existence of traditional knowledge related to selected species and how agroecosystems work
- High ecological, physiographic, climate and soil diversity
- Existence of traditional seed exchange mechanisms.

To support and complement activities of the project, work from the following public and private institutions was included: IIAP, INIA, Association for Andean Technical-Cultural Promotion (ARARIWA), Agricultural Service Center (CESA), Andean Project for Peasant Technology (PRATEC) and Coordinator for Science and Technology in the Andes (CCTA). This has ensured appropriate interaction with communities and the compilation of data and ancestral knowledge regarding agrobiodiversity. The roles and competences of some of the relevant institutions are:

- INIA – public agricultural research entity responsible for domesticated flora and fauna species
- INRENA – public entity responsible for the management of wild life and wild relatives of domesticated species
- IIAP – public/private institution responsible for biological research in the Amazon region of Peru
- ARARIWA – NGO based in Cuzco, which supports the agricultural practices of peasant communities
- CONAM – public institution under the Ministry of the Environment, responsible for developing and establishing public policies on the environment
- CESA – NGO working to improve social and economic conditions of peasant communities in the Southern Andes
- PRATEC – NGO working with peasant communities in the Southern Andes of Peru, promoting cultural affirmation through the rescue and promotion of traditional agricultural practices and technologies
- CCTA – NGO that coordinates a network of organizations dedicated to promoting sustainable agriculture in the Andes and coastal region of Peru.

Source: IIAP, UNDP, FMAM and Cooperazione Italiana (2002). *In Situ* Conservation of Native Crops and their Wild Relatives. Project: PER/98/G33. Lima, Peru. 2002.

Box 4. *In Situ* Project work zones

The *In Situ* Project activities were executed in eight work zones (genetically rich microgenecentres) located in 12 Departments, 32 Provinces and 52 Districts of Peru. The project considered that it was important not to limit activities to only a few zones, in order to maximize intraspecific diversity. Peasant communities were located in each District. Communities formed Neighbourhoods, Annexes, Locations or Sectors. The peasant families participating in this project were all classified within these categories. Work was undertaken in 131 communities, with more than 300 'curious' or 'conservationist' farmers/peasants who were identified and recognized as experts in the conservation of native crops on small farms.

Sierra Norte (Northern Andes)

This area is located in the North of Peru in the Departments of Cajamarca and Piura. The target sites for this microgenecentre were: Sorochuco, Huasmín, Pedro Gálvez, Gregorio Pita and San Juan in Cajamarca; and Frías in Piura. Their agrobiodiversity is very special, mainly due to the diversity of potato and beans, which is different from that in other Andean areas. Corn, quinoa and arracacha are also of interest, as well as their associated species, such as oca, olluco, mashua, tomatera, yacón, chiclayo and kiwicha. The middle slopes of hillsides and valleys are rich with wild relatives. Participants were mostly small farmers practising subsistence agriculture.

Sierra Central (Central Andes)

This work zone includes areas where some of the most important Andean agricultural activities take place. It includes the Departments of Huánuco, Junín and Huancavelica, which surround the Mantaro Valley. The target sites were: Pariahuanca, Junín and Ondores in Junín; Nuevo Occoro, Laria, Conayca and Yauli in Huancavelica; and Kichki and Tomayquichua in Huánuco. It is one of highest areas of the country. June and October are considered the driest months. It has the highest circulation of seeds (via seed routes) in Peru and is famous for the intensity of traditional agricultural practices. Important species in this microgenecentre are: maca, arracacha, potato, yucca, corn, sweet potato, quinoa, granadilla and beans. The most significant associated species are: kiwicha, oca, squash, olluco, mashua, tomatera and cherimoya.

Sierra Centro Sur (Southern Central Andes)

This is in the department of Ayacucho. The target sites were: Sarhua, Chuschi, Vinchos, Luricocha, Tambo and Soccos. The main crops are: potato, Andean tubers, chirimoya, kiwicha, lúcuma and corn from the highlands. The peasants maintain their important traditional agricultural practices.

Sierra Sur (Southern Andes)

This work zone is located in the South East of Peru, in the Department of Cuzco. It is one of the areas with the highest concentration of agrobiodiversity. The target sites were: Colquepata, Paucartambo, Lamay, Chinchero, Ccarhuayo, Ollantay-tambo, Pisac, Mollepata, Limatambo, Santa Teresa and Ocongate. A great amount of cultural wealth exists with regard to traditional conservation technologies applied to native crop varieties. Species in the microgenecentre include: corn,

quinoa, cañihua and potato. Associated species include: tarwi, oca, olluco and mashua. Although corn originated in Mexico, Peru is one of its most important centres of diversification, and this microgenecentre is the most important centre of corn diversity in Peru.

Altiplano (High altitude plains)

The Altiplano is located in the South of Peru in the Department of Puno, surrounding the endorheic drainage basin of Lake Titicaca. The target sites were: Yunguyo, Conima, Tilali, Moho, Pomata, Pucará and Plateria. It is a special region, with important agrobiodiversity, mainly of potato (approximately five domesticated species), grains (kiwicha or amaranthus, quinoa and cañihua) and root crops (oca, olluco and mashua). The region is an ancient centre of development for Andean agriculture and for the domestication of South American camelids (llama, alpaca) and cuy. It is also an important centre for the generation of traditional technologies related to agrobiodiversity conservation including farming systems around Lake Titicaca (waru-warus or camellones), crop rotation systems (laymi, muyuy) and the use of mixed crops of different species and varieties. Species considered are: corn, potato, cañihua and quinua. Associated species are oca, olluco, mashua, tarwi and cucurbits.

Selva Alta (High Amazon)

Located in the Mayo River basin in the Department of San Martin, this is a representative centre of the sub-region. The target sites were: Rioja, Posic, Soritor, Habana, Yorongos, Lamas and Chazuta at the mouth of the Huallaga River. Farmers involved include the Quechua Lamas, which are part of a native ethnic grouping, as well as settlers that have migrated from the Andes. Species considered are: corn, beans, yuca and hot peppers.

Selva Baja (Lower Amazon)

This is located in the Ucayali River and Napo River basins in the Department of Loreto. The target sites were Mazán, Genaro Herrera, Requena and Sapuena. Species selected were: yucca, camu-camu and corn. The most significant associated species are: shuin (*Pachyrrizus tuberosus*), ungurahui, hot pepper, peanuts and aguaje. This site is a very important centre of diversification for yuca, ajipa (*Pachyrrhizus ajipa*), sweet potato and pijuayo (*Bactris gasipaes*). The area located between Rivers Marañón and Ucayali is considered the centre of origin of aguaje (*Mauritia flexuosa*). The Lower Ucayali is known for having the highest concentration of wild camu-camu (*Myrciaria dubia*) species in the world. Agriculture is oriented mainly to self-consumption. In addition, people hunt wild animals, fish, and collect fruit, medicinal plants, fibres and resins.

Costa Central (Central Coast)

This area is located on the coast of Southern Peru. The target sites were: Salas (Ica) and Huaral (Lima). Species selected were: beans, corn and sweet potato. Associated species were pallares, peanuts and sweet cucumber. This area is known for its wide genetic variety of wild native species of beans. There is some evidence of genetic erosion of black bean.

Source: http://www.insitu.org.pe

Among its main objectives, the *in situ* project calls for the official designation of 'special management zones for agrobiodiversity conservation' or 'agrobiodiversity zones', in order to provide legal and financial mechanisms to facilitate institutional and programmatic support for these zones by protecting their agrobiodiversity, in collaboration with conservationist farmers.[35] The project has also managed to generate an important body of technical and scientific information related to the Peru's agrobiodiversity. Some of the specific products generated are highlighted in Box 5.

Box 5. Products generated by the *In Situ* Project

The *In Situ* Project is one of the most interesting *in situ* conservation efforts involving Peruvian agrobiodiversity. The quality and quantity of data and information generated, offer valuable inputs into the processes of designing strategies and policies and adopting measures on agrobiodiversity, including laws and regulations regarding agrobiodiversity areas and the protection of native crops.

There are two areas in which this project has had major impacts, namely, the generation of data and scientific, social and economic information on agrobiodiversity (mainly on conservationist farmers and on genetic diversity) and the empowerment of peasant groups and farmers, recognized as conservationists. Four tangible products of the project which are worth mentioning as examples include the following reports/publications:

1. Revilla, Luis (2006). *Sistematización de factores clave. Organizaciones tradicionales. (Systematization of key factors. Traditional organizations).* Conservación *In Situ* de la Agrobiodiversidad Andino-Amazónica. UNDP, IIAP.
2. Velásquez, Dora (2006). *Tecnologías apropiadas no tradicionales. (Appropriate non-traditional technologies).* Conservación *In Situ* de la Agrobiodiversidad Andino-Amazónica. UNDP, IIAP.
3. Raime, Lorenzo and Donato, Bonifacio (2006). *Caracterización campesina. (Peasant characterization).* Conservación *In Situ* de la Agrobiodiversidad Andino-Amazónica. UNDP, IIAP.
4. Guzman, Yolanda (Editor) (2007). *¿De vuelta al mundo al revés? Repensando el Perú a partir de sus diversidades. (Back to the world upside down? Rethinking Peru based on its diversity).* Proyecto Conservación *In Situ* de Cultivos Nativos y sus Parientes Silvestres. Lima, Perú.

The first report offers a thorough review of the social organization of groups of conservationist farmers and the characteristics distinguishing specific activities. The second report identifies technologies and the knowledge used by these farmers to conserve and improve their crops, and enhance their small farms and lands. The third report describes the characterization made by peasants and farmers of

[35] See: Chevarria, Marco, Santana, Raúl and Torres, Juan. *Conservación In Situ de la Agrobiodiversidad Andino-Amazónica.* AMECA: Base Técnica para su Reconocimiento Oficial. Lima, Peru, 2006.

resources, according to their own and traditional categories. Finally, the fourth report offers a review of elements of diversity (cultural and biological) that may help enhance development and alleviate poverty.

Database

The *In Situ* Project database contains 2,200 knowledge records related to *in situ* conservation, which include traditional practices regarding to on farm breeding, traditional uses of crops, etc. All information is georeferenced, and 10 regional compilations (Ayacucho, Cajamarca, Puno, Loreto, San Martin, Ica, Lima, Junín, Huánuco and Cuzco) have been produced, plus a national compilation. The original idea was for this information to be returned to the communities participating in the project (131 communities) in order for them to exchange information. Subsequently, another idea proposed was to register some of this knowledge (approximately 150 entries) in the confidential registry created under Law 27811. This last initiative was not possible due to a limited budget and the ending of the project.

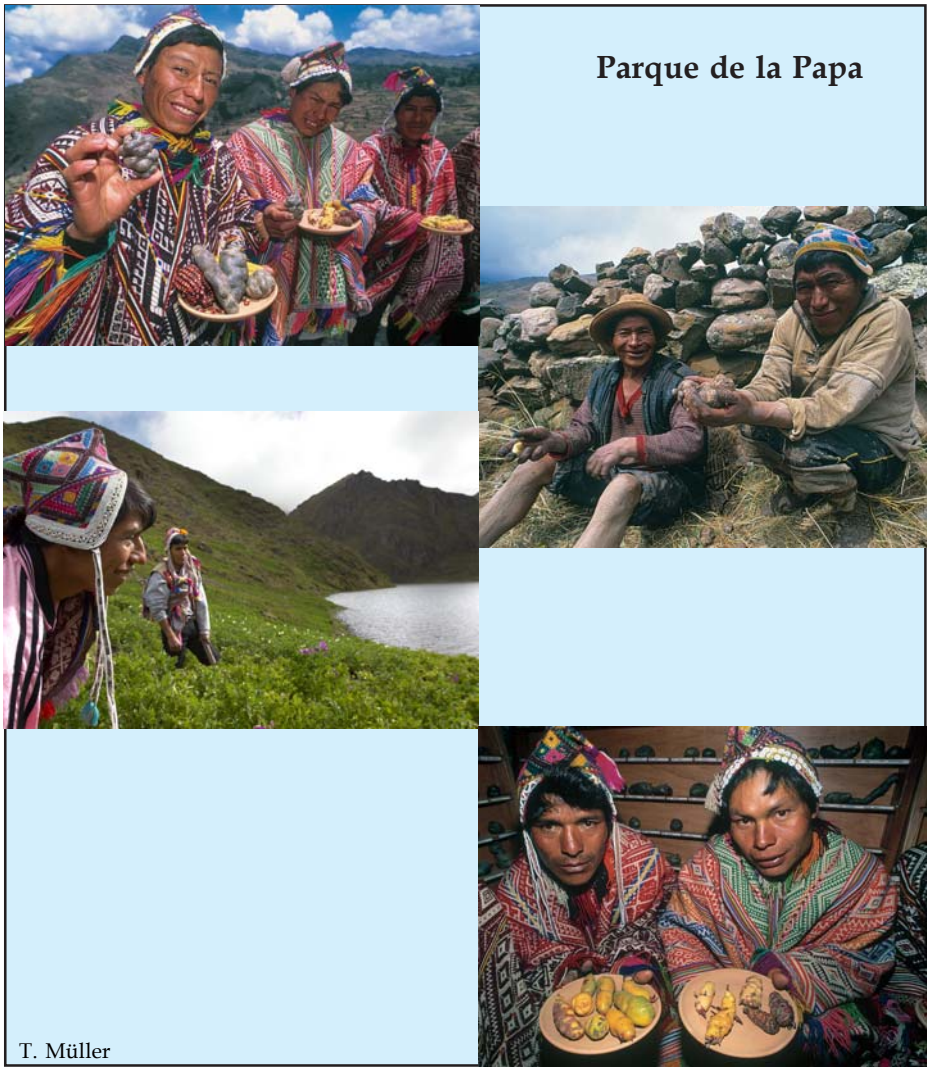
Finally, it is important to mention a difficulty that the project faces with regard to data and information considered sensitive or that implies access to ancestral knowledge which has not necessarily been obtained with the prior consent of peasants and local communities. Although this is not the general situation, the few examples that may fall within this scenario are a concern. As a result, all information and data have not yet been made public.

Another interesting experience began to evolve in Cuzco during the mid-1990s. The Association for Nature and Sustainable Development (ANDES – a civil society organization based in Cuzco) started to collaborate with six small Quero peasant/farming communities in the Pisac area.[36] Pisac has a high concentration and diversity of native crops and their wild relatives, especially potato.[37] The idea was to design and develop an integrated project for the protection, conservation and maintenance of communities' culture, natural environment and crops. Over time, and as a result of a joint effort involving teamwork, interaction and generation of trust, ANDES together with the communities founded the Potato Park (Parque de la Papa), a conservation effort widely recognized nationally and internationally.

[36] The communities that form the Asociación de Comunidades del Parque de la Papa (Association of Communities of the Potato Park) in the Pisac area are: Cuyo Grande, Chawaitire, Saccaca, Amaru, Paru-Paru and Pampallacta. The Park is approximately 30 hectares in size.

[37] It is calculated that the Park concentrates more than 400 native varieties of *Solanum* spp. (potato and its wild relatives), as well as other species important in the local and regional diet (*llucus tuberosus, Oxalis tuberosa, Tropocolum aestivum,* etc.). Communities in the area have maintained many of these for centuries. A number of important varieties were introduced after the Repatriation Agreement entered into by the Association of Communities of the Potato Park and CIP. For more detail on the Potato

An outstanding feature about the Potato Park, is that Association ANDES and the six communities which form the Association of Communities of the Potato Park are responsible for its administration and planning, and for the organization of different activities inside the Park. These activities include



Park experience, see: IIED. *Traditional Resource Rights and Indigenous People in the Andes. Sustaining Local Food Systems, Agricultural Biodiversity and Livelihoods.* PDF Document available at: http://www.iied.org.

maintaining and organizing the local register of biodiversity and traditional knowledge, managing ecotourism activities, conserving the diversity of native crops, and administrating the on-site museum and the traditional restaurant. They also include maintaining and managing the collective brand for the Park's products (mainly potato) for which an application has been made to the national authority (INDECOPI). This is a bottom-up initiative, that started as a private community interest, and aims at managing an area and indigenous knowledge based on the concept of 'Collective Biocultural Heritage'. Another important activity, carried out 2005, was the 'repatriation' of potato varieties from the International Potato Center (CIP) to the Park.

The third example, is the Genetic Resources Policy Initiative (GRPI) project coordinated internationally by Bioversity International and by SPDA in Peru. Over the last five years, GRPI has contributed to raising awareness – mainly among the academic, policy and research sectors – of many of the issues addressed in this book.[38] This has been the case particularly for 'agrobiodiversity zones', as centres of cultivated and domesticated biodiversity, and the protection and registration of native crops and their wild relatives.

The emphasis of GRPI has been on policy and law, where it has focused on the identification of legal alternatives and options to promote further *in situ* conservation. This has been achieved by assessing and revaluing areas with confirmed genetic richness in cultivation, and creating and developing a national register for native crops. In the process of promoting the creation of agrobiodiversity zones and developing a register of native crops, work has been undertaken with public officials with competences in genetic resources, and with representatives of organizations who work directly with peasants and farmers, NGOs, universities and other institutions.

Regional and Local Governments (for example the Regional Government of Junín and Loreto or the Municipality of San Marcos in Cajamarca), have benefited from the results of legal and policy work. This has helped to build closer ties with the governments to engage them in dialogue processes, in which an exchange of experiences and points of view has been generated, and to raise awareness in general.

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[38] The GRPI Project has generated tangible products in terms of papers and publications. These include research documents such as: Pastor, Santiago and Sigueñas, Manuel. *Bioprospecting in Peru*. SPDA, GRPI. MacArthur Foundation. Lima, 2008. Bulletins: *The Legal Protection of Agrobiodiversity and Traditional Knowledge in Peru*. In: *Crops and Knowledge*. GRPI-Peru, CCTA, SPDA. No. 68, November 2006. Information manuals: *Manual for Indigenous Peoples and Local Communities on Critical Biodiversity Issues*. GRPI-Peru, SPDA. October 2004, Lima, Peru, and CDs (DVDs) on awareness. *Protecting our Collective Knowledge. A Shipibo, Ashaninka and Awajun Documentary*. AIDESEP, GRPI-Peru, IPGRI, SPDA, 2006.

It is important to mention that decentralized work undertaken with Regional and Local Government authorities responds to the fact that:

a) Peru is going through a decentralization process.
b) Some competences have been formally delegated to Regional Governments (although these are not 100% clear), which gives them the capacity to identify, recognize and/or create agrobiodiversity zones with some administrative and institutional flexibilities. In fact, various Regional Governments have developed Biodiversity Regional Strategies or Programmes in which agrobiodiversity constitutes an element for further action.
c) There is growing enthusiasm and will from Regional Governments to become involved and play a key role in these processes, based on the legitimate desire and aspiration by their representatives to 'want to do something'.
d) There is a natural proximity of regional and local authorities with their constituencies, and in this regard, a responsibility and expectation to satisfy their interests; and
e) Any formal or official recognition of agrobiodiversity zones offers a special status to areas which have benefitted by this action.

Work has also been undertaken with communities, to try and promote and stimulate participatory and inclusive processes (see Box 6). One of GRPI's characteristics has been the implementation of a methodology known as the '3M approach', standing for multi-disciplinary, multi-sectorial and multi-stakeholder cooperation. This has served to generate activities and realize project objectives through wide participation and interaction.

As a result, there is an important dynamic in some Regional Governments and within authorities, interested in consolidating and developing these issues as part of their local and regional policy agendas. Some of the areas have been identified based on the work undertaken by the *In Situ* Conservation Project. As a result of the '3M' methodology, some highly participatory dynamics have taken place, with the commitment of different participants.

These dynamics emerged particularly during and after national and regional authorities, SPDA, INIA and other organizations convened a series of workshops in different regions in the course of executing the two phases of the GRPI project.[39]

[39] For details on the various workshops held since 2004 as part of GRPI, see: Genetic Resources Policy Initiative. *Final Project Report. May 2004 – June 2008*. Lima, Peru. 48 p.

Box 6. Initiatives at the national level and by Regional Governments regarding the creation and recognition of agrobiodiversity zones

Regional Government or scope	Specific advances and actions	Criteria and basis for its recognition	Threats
Cajamarca Region (Sorochuco, Huasmin and Celendín target zones)	Technical file in the final stage of development. The Regional Government is in the process of enacting a Regional Ordinance of recognition.	Conservation of local varieties of Andean potatoes and tubers.	Mining activities.
Cajamarca Region (San Marcos target zone)	Municipal Ordinance 043-2006-MPSM declaring the need to create an agrobiodiversity zone.	Conservation of native crop varieties of conservationist farmers.	Mining activities.
Junín Region (Pariahuanca target zone) Size of the area to be recognized: 617 km^2	Technical file concluded (by INIA) with a draft Master Plan and a draft Regional Ordinance proposal under development.	Ecological, floristic, environmental, ecological, scientific and tourist values.	Frost, droughts, grazing and burning pastureland, pests, introduced species absence of markets, foreign consumption habits affecting culture.
Huancavelica Region (Laria and Conayca target zones; Pachachaca and Alauna micro-basin). Size of area to be protected: 10,302 hectares	Technical file concluded (by INIA) with the conceptual/technical basis for a draft Regional Ordinance proposal (Huancavelica Regional Government) to recognize the agrobiodiversity zone; SPDA has the responsibility of preparing draft Ordinance.	Wide diversity of native potato (202 varieties), traditional agricultural technologies, craftwork (clay ceramics), seed fairs, a multiplicity of traditional food recipes, landscape and archaeological remains.	Desertification, soil erosion, overgrazing, climate change, introduction of improved varieties.
Cuzco Region	Regional Ordinance 010-2007-CR/GRC.CUZCO regulating the condition of the agrobiodiversity centre of origin and domestication of crop varieties and which prohibits the introduction of genetically modified organisms (Regional Government of Cuzco).	Protection of native cultivated species from the contamination of transgenic organisms.	Climate change.

In short, although agrobiodiversity zones have national and global importance,[40] they are of more relevance in local and regional contexts, as bottom-up alternatives for sustainable development. Therefore, it is suggested that Regional[41] and Local Governments undertake a direct role in their recognition, creation and maintenance over time. Various activities and outputs (e.g. workshops and documents) of the *In Situ* Conservation Project and GRPI itself, have recommended that state institutions should participate more decisively in the promotion and creation of agrobiodiversity zones.[42]

2.3 Norms

As a result of the different initiatives and projects described above, some of them taking place concurrently, discussions began about the convenience of identifying a special category or instrument to protect and maintain areas where cultural and domesticated biodiversity coincide.

The first approach was to analyze whether there was a category of protected area suitable for agrobiodiversity within the classic categories of national protected areas. The Law for Natural Protected Areas and its Regulation, as

[40] Their global importance can be understood in terms of these zones becoming the last large genetic diversity and germplasm deposits, under *in situ* conditions. These genetic reserves should be maintained for the benefit of the country and humanity as a whole.

[41] Law 27867 (Organic Law of Regional Governments) provides in Article 51, in relation to their competences in agriculture, that Regional Governments should "… i) *Encourage biodiversity and germplasm protection systems …* and p) *Promote, advise and supervise the development, conservation, management, improvement and use of native crops, South American camelids and other regional species of cattle*".

[42] SPDA organized a workshop in December 2006, in Iquitos (Loreto Region), addressing the development of agrobiodiversity zones in the Loreto Region, with the participation of Regional Government representatives, IIAP, INIA, CONAM and other institutions. The possibility of agrobiodiversity zones becoming integrated into Regional Conservation Areas was discussed. The recommendations of the workshop highlighted the need for designing a process and mechanisms to create agrobiodiversity zones and reaffirm that Regional Governments have the competence and are entitled to recognize them. These would then be registered by INIA (an agency of the Ministry of Agriculture). This would mean taking advantage of the existing interest of some Regional Governments such as Loreto, through the Regional Conservation System or the Municipality of San Marcos (Cajamarca). A workshop on the *'Development of Regional Policies for the Implementation of Agrobiodiversity Zones'* was held in Cuzco in February 2008, organized by the Regional Government of Cuzco, INIA, SPDA, the International Institute for Environment and Development (IIED) and ANDES. At the workshop, Regional Governments were called upon to become more active and involved in the establishment of these areas, based on general environmental competences already granted to them.

well as the Directorate Plan for Natural Protected Areas,[43] do not contain - in general terms, and at least in the opinion of most experts – appropriate legal instruments specifically to protect native crops, associated peasants'/farmers' culture and the ecosystems in which crops and culture develop and evolve.[44]

The Biodiversity Law and its Regulation. The Regulation of the Biodiversity Law concerning the Conservation and Sustainable Use of Biological Diversity was enacted in 2001.[45] During development of this Regulation, a new category of 'agrobiodiversity zones' was created to protect culture, crops and rich agricultural ecosystems. Article 38 of the Regulation establishes that:

"*Agrobiodiversity zones oriented to the conservation and sustainable use of cultivated native species, by indigenous peoples, shall not be destined for purposes other than the conservation of such species and the maintenance of indigenous cultures.*

They may be used for tourist activities, in order to serve the promotion and understanding of native agrobiodiversity and traditional customs and practices of indigenous peoples, including through seed fairs and other mechanisms".

Article 39 also establishes that:

"*Indigenous peoples may constitute agrobiodiversity zones as private conservation areas as provided for in Law 26839*".

There are various interesting elements that can be extracted from these norms. Firstly, Article 38 seems to consider that agrobiodiversity zones already exist as a category and that their main objective is the conservation and use of native crops by indigenous peoples. What is true is that, in some academic and scientific circles and among communities, there is the recognition that Peru has certain areas where native crops (and their wild relatives) are concentrated and abound. These could be recognized as microgenecentres, diversity and

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[43] Law 26834 of 30 June 1997. The Regulation was approved by Supreme Decree 038-2001-AG of 26 June 2001. The Directorate Plan for Natural Protected Areas was approved by Supreme Decree 010-99-AG of 11 April 1999.

[44] Some experts believe that there are some legal categories under which these zones could be adapted or 'fitted'. For example, Private Conservation Areas (recognized in Article 3c of the Law for Natural Protected Areas and further regulated in Articles 30, 70 and others in the Regulation, and in Administrative Resolution 59-2004-INRENA), are considered adaptable and sufficiently flexible to recognize this particular type of agrobiodiversity zone. The Regulation of Law 26839 in Article 39 explicitly recognizes this possibility. Other experts are more inclined towards considering the need to create and regulate a new, different category, outside natural protected areas where native crops (domesticated and agricultural biodiversity) and culture in particular, are the key issues of interest and subjects of law.

[45] Supreme Decree 068-2001-PCM published in the Official Gazette El Peruano dated 20 June 2001, approved the Regulation of the Biodiversity Law.

diversification centres, areas with a high concentration of cultivated genetic diversity, or agrobiodiversity areas or zones – to use the concept included in the Regulation.

The norm specifies that these zones may not be used for purposes or objectives other than conservation and, additionally, the maintenance of indigenous culture. These zones are clearly associated to two elements: genetic diversity in terms of native crops, and peasant and native culture – the most traditional – linked to these crops. This refers to native communities, mainly farmers/ peasants, who still worship the 'pachamama' ('Mother Earth'), associate their agricultural activities to religious celebrations, and undertake their activities following traditional communal work patterns, for example, through Andean practices of reciprocity.

Secondly, another activity compatible with agrobiodiversity zones is tourism, provided that it be oriented towards recognizing and promoting agrobiodiversity, and maintenance and respect for indigenous customs and practices, including seed fairs, exchange or barter, communal work, reciprocity, etc. Thus, the idea of cross-cultural/participatory 'vivential tourism' or 'agroecotourism' would be compatible with these zones.

Thirdly, it is proposed that the Ministry of Agriculture should have the competence to recognize these zones. In this case, it is considered that the zones already exist and should simply be recognized formally by an authority such as the Ministry of Agriculture. On this particular point, there are some disagreements, as the norm contradicts the views expressed in many decentralized workshops and fora that have recommended that the zones should be recognized by Regional or Local Governments and not a central government agency.

Many of the elements proposed in Article 38, are based on and informed by results of the *In Situ* Project and Potato Park experience in Pisac. In this regard – as is appropriate – the norm seeks to reflect and regulate over general situations extrapolated from reality.[46]

[46] This is a frequent phenomenon. For example, in the case of Law 27811 on the Protection of Indigenous Peoples' Collective Knowledge, most of its content is based on and informed by a real experience, the International Cooperative Biodiversity Group (ICBG). The Law's license for the use of collective knowledge, is derived from the license developed in the ICBG. The knowledge register of the Law also derives from this project and other initiatives such as the Potato Park. The obligation of an economic compensation for the use of collective knowledge is also informed by the ICBG. Specific provisions that are incorporated into legislation are usually based on practical experiences.

Finally, Article 39 offers an alternative, in the form of 'private conservation areas' (as defined in the Regulation and Law for Natural Protected Areas and its Administrative Resolution).[47] These may be used by communities to help agrobiodiversity zones to be maintained under a special legal status, become formally recognized by the State and benefit from the legal protection offered by this instrument (see Box 7).

Box 7. Existing private conservation areas recognized by the state

N°	Name	Area (ha)	Department	RM. N°	Date
1	ACP Chaparri	34412	Lambayeque y Cajamarca	1324-2001	19.12.01
2	ACP Bosque Natural El Cañoncillo	1310.9	La Libertad	0804-2004	22.09.05 and 24.09.05
3	ACP Pacllon	12896.56	Ancash	0908-2005	14.12.05
4	ACP Huayllapa	21106.57	Lima	0909-2005	14.12.05
5	ACP Sagrada Familia	75.8	Pasco	1437-2006	23.11.06
6	ACP Huiquilla	1140.543	Amazonas	1458-2006	30.11.06
7	ACP San Antonio	357.39	Amazonas	0227-2007	10.03.07
8	ACP Ábra Málaga	1053	Cuzco	0229-2007	10.03.07
9	ACP Jirishanca	12172.91	Huanuco	0346-2007	24.04.07
10	ACP Abra Patricia - Alto Nieva	1415.74	Amazonas	0621-2007	16.10.07
11	ACP Bosque Nublado	3353.88	Cuzco	032-2008	15.01.08
	TOTAL	**89295.29**			

A private conservation area is basically defined as land governed by a property right or a similar right, e.g., possession which, given its environmental, biological, scenic or other similar characteristics, contributes to complement coverage by the National System of Protected Areas. It is recognized by INRENA through a Ministerial Resolution. This category has been used to promote biodiversity conservation and sustainable use, mostly in its wild and

[47] Article 39 refers to Law 26839 (Law for the Conservation and Sustainable Use of Biological Diversity) but, in reality, it should refer to Law 26834 (Law for Natural Protected Areas, its Regulation and Administrative Resolution which regulate Private Conservation Areas).

natural state. However, the protection of cultivated biodiversity has not been envisaged.[48]

However, Article 39 does not define private conservation areas as the only possible protection mechanism. As suggested previously, some institutions including ANDES, CONAM, INIA and SPDA, as well as representatives of Congress, propose that due to the objective of protecting crops, culture and agricultural ecosystems, it is necessary to think about and create *another* entirely different legal category, specifically adapted to protect the interrelationship between these three elements.

In this regard, the specific legal framework for these areas needs to be complemented in its operational details – either through a regulation or specific law. This could be done by defining criteria of the technical evaluation report, defining the basic content of the master plan for the zone, and describing formal administrative procedures. This also includes clearly determining the authorities with specific competences in this process (Central Government, Regional Governments, INIA and others) and the rights of supervision of management and operational activities in these zones. Some modification of the existing legal regime will necessarily be required.

Although this document does not attempt to analyze in detail the existing international options, it is worth mentioning briefly some of the ideas and proposals that are being discussed or that already exist (see Box 8). The idea of protecting sites with a significant concentration of genetic diversity (cultivated or domesticated) is not new, and it is of international importance (has been widely recognized) as noted below.

Traditionally, the main objective of protected areas has not been the conservation and maintenance of locations rich in crop genetic diversity or sites with an important presence of indigenous peoples and communities interacting

[48] It is important to highlight that INRENA exercises competence over *wild* biodiversity, including the wild relatives of crops. Technically, this limits INRENA's actions and competence in the case of agroecosystems, where human intervention, the transformation and continuous use of the landscape, and the use of cultivated or domesticated biodiversity prevail. These agroecosystems are under the competence of INIA. There have been long policy discussions and tensions on this issue over the years, as wild relatives are important when they are associated with crops. INIA, CIP and SPDA, among others, have stated that the competence for crops and their wild relatives should fall under INIA, which has specific mandates with regard to different crops and should have responsibilities regarding their relationship to wild relatives. Thus, INIA should have technical competence to evaluate the creation of this type of zone, and formalize its recognition. In any case, as INRENA has been deprived of many of its competences (since the creation of the Ministry of the Environment), the Ministry of Agriculture should recognize specific competences over wild relatives or assign these to INIA.

Box 8. Some international proposals for the protection of sites

Instrument or proposal	What does it seek to protect?
UNESCO (United Nations Educational, Scientific and Cultural Organization) Biosphere Reserves: concept originated in 1968 from activities of the UNESCO Man and the Biosphere (MAB) Programme.	A network of designated areas and zones (Biosphere Reserves) that are characterized by a form of interaction between people and the natural environment, through which ecosystems, species and biological diversity in general are maintained and conserved, and where forms of sustainability are evidenced in activities carried out by people living in these areas.
IUCN (International Union for Conservation of Nature) Categories of protected area: established by the IUCN Commission for Protected Areas and the World Conservation Monitoring Centre (WCMC), from efforts initiated in 1978.	*Category IV. Habitat/Species Management Area:* Protected area managed mainly for conservation through management intervention. Area of land and/or sea subject to active intervention for management purposes so as to ensure the maintenance of habitats and/or to meet the requirements of particular species. *Category V. Protected Landscape/Seascape:* Protected area managed mainly for landscape/seascape conservation and recreation. Area of land, with coast and sea as appropriate, where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, ecological and/or cultural value, and often with high biological diversity. Safeguarding the integrity of this traditional interaction is vital to the protection, maintenance and evolution of such an area. *Category VI. Managed Resource Protected Area:* Protected area managed mainly for the sustainable use of natural ecosystems. Area containing predominantly unmodified natural systems, managed to ensure long-term protection and maintenance of biological diversity, while providing at the same time a sustainable flow of natural products and services to meet community needs.
UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage (2006).	Protects knowledge and techniques used by communities in their interaction with the environment (knowledge understood in terms of traditions, culture, methods and ancestral technologies).
UNESCO Convention for the Protection of the World Cultural and Natural Heritage (1972).	Protects monuments, groups of buildings and sites where people and nature interact and are important from a historical, anthropological and archaeological point of view. Sites are recognized through an international register.

with this specific component of diversity. However, during the last few years, views have changed with respect to the meaning of protected areas, their function and their role in supporting livelihoods and communities within them. There is an express recognition of the need to integrate human activity with the protected area.

In this regard, it is necessary to include efficient and effective management and administration criteria in all of the categories described in Box 8, to ensure the maintenance of living culture and its interaction with agrobiodiversity, including the protection of cultivated genetic diversity. All of this needs to be linked to national public policies and specific norms addressing protected areas, territorial planning and zoning.[49]

Recent studies show how 'classical' protected areas tend to overlap with zones that concentrate domesticated genetic diversity. One example is the case of the Manu National Park, which covers the Amazon plains and Andean Amazon areas in Southeastern Peru and is possibly one of the most important biodiversity reserves in the world. In 93,000 hectares of *Polyepis,* an Amazonic tree that still exist in the higher parts of the National Park, a very important concentration of wild relatives of Andean crops, including potato and other tubers, have been located and identified. It is calculated that 40% of wild potato species on the planet can be found in this area.[50]

The conventions and instruments included in Box 8 refer to legal tools that offer some criteria to be considered in the design of policies or a specific strategy to protect important areas from cultural and agrobiodiversity points of view.

The National Biodiversity Strategy. This strategy was approved in 2001[51] and reaffirms, in terms of public policy, the importance of agrobiodiversity, genetic resources, ecosystems and the cultural element relating to peasant and native communities. The strategy emphasizes the need for actions that prioritize the identification and highlight the importance of areas *"with a high concentration of wild and cultivated genetic resources, found under the care of local communities"* (Strategic Objective 1.1. Identify and prioritize components of biological diversity and the processes that are threatening biodiversity).

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[49] On the relationship between protected areas and agrobiodiversity conservation objectives (mainly genetic diversity of crops) see: Solton, Sue, Maxted, Nigel, Ford-Lloyd, Brian, Kell, Shelagh and Dudley, Nigel. *Arguments for Protection. Food Stores: Using Protected Areas to Secure Crops Genetic Diversity*. A research report by WWF, Equilibrium and the University of Birmingham. WWF, August 2006.

[50] Solton, Maxted, Ford-Lloyd, Kell and Dudley, ibid.

[51] After an extensive participatory process with the intervention of many sectors of civil society and the public and academic sectors, the National Biodiversity Strategy was approved, through Supreme Decree 102-2001-PCM (published in the Official Gazette El Peruano on 5 September, 2001).

The Strategy also explicitly recognizes "*that humanity with its cultural diversity is an integral component of many ecosystems*" (Strategic Objective 1.2. Planning with an ecosystem approach). With regard to *in situ* conservation, it specifies that "*the State should promote conservation policies for private management of land, for traditional knowledge and location of genetic diversity micro-centres, for the knowledge of local varieties and the quantification of factors affecting the viability to maintain the process to guarantee local germplasm conservation*". It also recognizes that "*policies for protecting wild and domesticated relatives of some species of global and national economic importance do not exist*" (Strategic Objective 1.4 – *In Situ* Conservation).

Consequently, the Strategy stresses the importance of undertaking actions that ensure the development of appropriate incentives to guarantee biological diversity conservation "*in areas of importance for native and cultivated germplasm, under management of peasant and/or native communities*" and "*mechanisms for technical assistance and monitoring of native and peasant communities and communal groups, living in areas dedicated to conservation or who contribute to the conservation of biological diversity*".

The Strategy also emphasizes the need to rely on the human factor in the conservation of genetic resources, by suggesting the need to conserve "*genetic resources with local communities in* in situ" conditions, and undertake actions to: (i) "*identify areas with a high concentration of wild and cultivated genetic resources;* (ii) "*support and promote shared conservation plans with communities and farmers from the zones with a high concentration of genetic resources"; and* (iii) "*support the development of market and economic studies and promote the fair distribution of benefits derived from traditional knowledge of biological diversity*" (Strategic Objective 1.6. Conservation of species and genes).

Then, Action 2.2.9 of Strategic Objective 2.2 (Supporting the sustainable use of agroecosystems), suggests the need to identify and conserve "*areas that could support the natural protected areas system for biological diversity conservation purposes*". It is clear that reference is being made to zones and areas that have a high concentration of native crops and their wild relatives, and complement the integral conservation of biological diversity as a whole. Action 2.2.12 adds the need to guarantee "*food security as much for agrobiodiversity as for domesticated fauna*". This could be achieved by disseminating "*the richness of local and native gastronomy, supported by a strong cultural identity*".

Finally, Action 2.2.13 (Supporting diversified markets), suggests the need to promote and support differentiated and diversified markets that allow for the consolidation of agrobiodiversity products, without generating pressure that could result in product uniformity or homogeneity. The Strategy is a good example of how to seek synergies and complementarity between different

approaches in order to support the formation of markets and promote *diversity* as an element to differentiate and enhance these markets.

Box 9 presents a draft law for the creation and recognition of agrobiodiversity zones. This proposal was initially elaborated by SPDA under the framework of GRPI, using contributions from a series of institutions and individuals.[52]

Box 9. Proposal for a draft law for the creation and recognition of agrobiodiversity zones

Considering that Peru is one of the most important centres of origin and diversification of native crops and their wild relatives,

Considering that these crops and their wild relatives are the main source for many breeding and development activities of new varieties useful for national and global food and agriculture,

Considering also, that these same crops guarantee food security for a very important portion of rural families in Peru,

Considering that maintaining the ancestral relationship of indigenous culture with agriculture and the land, is essential in order to safeguard national cultural heritage and the future development of indigenous and local communities,

Considering that farmers, especially conservationist farmers, are continuously introducing and experimenting with different seeds on their small farms and plots, increasing their genetic diversity,

Recognizing the diversity of ecosystems, ecological levels and habitats with which people of Peru's Coast, Andes and Amazon have dynamically interacted for centuries,

Recognizing that genetic diversity of native crops and their wild relatives is a great natural wealth of Peru and there is the need to guarantee its conservation, mainly in *in situ* conditions,

Recognizing that agrobiodiversity, Natural Protected Areas and national gastronomy are defining elements of the Nation, and within these elements one can find factors for the unity and awareness of Peruvians,

Recognizing that different projects and initiatives have identified and located areas and zones in the country with a high concentration of agrobiodiversity, mainly of crop genetic diversity and also of individuals (peasants), conservationist peasant families, communities and groups of communities, among others,

[52] The people who have contributed to this proposal and from whom various comments and points of view have been received include: Isabel López-Noriega (Bioversity International), Manuel Sigueñas (INIA), William Roca (CIP), Isabel Lapeña (SPDA), Bruno Monteferri (SPDA), Luis Campos Baca (IIAP), Napoleón Machuca (Centro IDEAS), and Ramiro Ortega (CRIBA; Regional Centre for the Investigation of Andean Biodiversity).

Aware of the need to develop incentives to ensure that conservation practices of native crops and their wild relatives are adequately recognized and stimulated,

Aware that categories of Natural Protected Areas by the State do not allow national, regional and local interests related to *in situ* conservation of native crops and their wild relatives to be adequately safeguarded, and therefore do not ensure the protection of ecological and cultural elements associated to these crops,

As provided in Article 38 of Supreme Decree 068-2000-PCM, which recognizes agrobiodiversity zones as areas oriented to the conservation and sustainable use of native cultivated species by indigenous peoples, of the National Biodiversity Strategy which includes specific references on the need to conserve native cultivated species and their wild relatives through the creation and recognition of agrobiodiversity zones,

The following Law has been enacted:

Title I. On definitions

Agrobiodiversity: diversity of ecosystems, species and genes of particular relevance for agricultural development.

Indigenous and local communities: organized groups that have preserved, maintained and developed a multiplicity of native crops and their wild relatives in the course of time, maintaining a permanent and dynamic interaction – based on traditions and customs – with the land, the environment and areas where they have developed their agricultural activities – including, but not limited to, peasant and native communities of the Andean and Amazon zones, respectively.

Native crops: cultivated plant species that have originated and obtained their distinctive characteristics in a certain country.

Wild relatives: plant species grown spontaneously; an ancestor of a cultivated species, which may be compatible with such a species and may be able to crossbreed naturally.

Title II. On general principles

Article - This Law applies to zones formally recognized by the State, by virtue of their wealth in regard to native crops and their wild relatives (genetic diversity of crops in general).

Article - Agrobiodiversity zones may be created through public or private initiatives, at the national and regional level (including the local level).

Article - As a general principle, agrobiodiversity zones are not a part of the National System of National Protected Areas (SINANPE) and are geographically found outside Natural Protected Areas. In the case of an overlap with protected areas under SINANPE, the administration and management will take place in accordance to established Management Plans, taking into account objectives and principles applicable to the protection conferred by SINANPE and its categories.

Article - The internal organization of communities in an agrobiodiversity zone,

should be based on the specific needs of communities that inhabit them and manage their resources and activities.

All activities to be carried out in agrobiodiversity zones by third parties must be based on Prior Informed Consent, from decision-making bodies within the community/communities.

Article - Agrobiodiversity zones are geographical areas which, due to the combination and interaction of biological, environmental, cultural and social elements, maintain a high concentration of genetic diversity of native crops and their wild relatives.

The concentrations of diversity shall be determined depending on specific indicators established in technical reports by INIA and IIAP.

In general, these zones do not have regular contact with markets, on the contrary, local markets and the exchange of seeds and crops prevail and stimulate economic relationships between farmers and peasants.

Title III. On the objective of special zones for agrobiodiversity conservation

Article - The general objective of creating and recognizing an agrobiodiversity zone is to guarantee the conservation and sustainable use of agrobiodiversity components in *in situ* conditions.

Article - Specific objectives for agrobiodiversity zones are the conservation and sustainable use of native crops and their wild relatives, as well as the protection of traditional practices of indigenous and local communities (peasants/farmers) for their maintenance and culture.

Title IV. On conditions for their recognition

Article - The following conditions must be met for the creation of an agrobiodiversity zone.

a) The area proposed must coincide with a zone with high levels of genetic diversity, mainly of native crops, and, if the case be, their wild relatives
b) The direct presence and interaction of indigenous and local communities with genetic diversity, native crops and their wild relatives in the area proposed must be verified
c) The proposed area must be exempt from the use of intensive agricultural practices (including the use of introduced seeds, transgenic seeds, agrochemicals, etc.) and, on the contrary, base its existence and development on traditional practices and customs of peasants/farmers and native ancestral communities
d) Territorial, possession or property rights of communities located in these agrobiodiversity zones must be duly recognized and registered in the corresponding register; otherwise, they will be regularized as part of the administrative procedure for recognition of the zones
e) The area must be dedicated mainly to activities related to agriculture.

Article - Activities compatible with agrobiodiversity zones are:

- conservation and maintenance of native crops and their wild relatives,
- agricultural and cattle-raising activities and work,
- trading of native crops and their wild relatives,
- ecological or vivential tourism,
- guided visits to learn the virtues of gastronomy,
- agriculture for self-consumption,
- guided visits to learn agricultural practices and techniques,
- botanical, agricultural, social, anthropological and archaeological research,
- guided visits to learn of the lifestyles of indigenous and local communities,
- maintenance of botanical gardens or nurseries of cultivated plants, including medicinal plants,
- exchange and barter,
- training and education related to agrobiodiversity.

These activities shall be undertaken and executed by the communities who live in agrobiodiversity zones, with the support, in association with, or under the sponsorship of third parties if the need be.

Article - To undertake infrastructure work (roads, paths, schools, medical centres or others) in an agrobiodiversity zone, traditional standards and styles of the areas should be respected. Typical natural resources of or nearby the zone should be used as far as possible for building purposes.

Title V. On incentives for the creation of an agrobiodiversity zone

Article - Maps officially published by the State, identifying protected areas and other areas of particular interest, must include and indicate the geographical location of agrobiodiversity zones created and recognized.

Article - Agrobiodiversity zones shall be promoted as tourist destinations in regional development plans and programmes and in national tourism promotional activities.

Regional authorities shall coordinate with communities in agrobiodiversity zones, on the way in which the flow of tourists will be managed.

Article - Goods and services provided by agrobiodiversity zones shall be prioritized according to trade options arising as part of the regional development process.

This includes priority in the purchase of agricultural products from agrobiodiversity zones for poverty alleviation programmes, social assistance through food, and other regional and national programmes.

Article - The genetic diversity of native crops and their wild relatives shall be recognized by authorities and other regional and national actors in official activities

in order to emphasize the role and activities of conservationist farmers and communities living in agrobiodiversity zones.

This recognition will take place based on:

a) national registers according to each native crop (including the National Register of Peruvian Native Potato),
b) relevant publications,
c) awards and incentives for the conservation of crops and genetic diversity.

Article - The economic incomes generated from activities in agrobiodiversity zones shall be distributed in a fair and equitable manner between members of the communities in those zones.

For this purpose, funds will be established under the administration and supervision of communal authorities. These funds shall be awarded to peasants, families and groups of families who are successful in the maintenance, development and conservation of *in situ* genetic diversity.

Article - Regional Governments shall assign 2% of the general budget to these funds. Such resources shall be used to support activities which reaffirm the cultural identity of communities in each zone, improve their living conditions and support conservationist farmers in their efforts to conserve and enhance their agricultural genetic heritage. The specific destination of these funds shall be decided by a representative authority of the agrobiodiversity zone (the communal council, association, leader or other authority).

Article - Agrobiodiversity zones shall benefit from plans and support programmes for regional development, as well as credit programmes for tourism and agricultural activities. The Peruvian Agency for International Cooperation (APCI), shall support the identification of possible sources for funding to assist in the development and consolidation of agrobiodiversity zones.

Title VI. On the initiative for its creation

Article - An agrobiodiversity zone may be created and recognized through private initiatives (including those of indigenous and local communities, non-governmental organizations and other representative organizations of civil society) or public (Local or Regional Government) initiatives.

In all cases, there is the need for Prior Informed Consent from the community(ies), as a means of effectively legitimizing their participation and involvement in the creation and recognition process.

Article - In the case of initiatives by the Regional or Local Government for their creation and recognition, agreements with indigenous and local communities need to demonstrate their commitment to participate in efforts for conservation and sustainable use in agrobiodiversity zones.

Article - The administration and management of agrobiodiversity zones is a responsibility of the communal council, the association created for these purposes,

the head of the community, or any other organizational form adopted according to customary practices of communities and the characteristics and objectives of the agrobiodiversity zone.

Title VII. On recognition by authorities

Article - Agrobiodiversity zones are recognized by Regional Governments.

Article - A technical file and management plan must be presented in order to recognize an agrobiodiversity zone. This administrative management plan must be approved by a representative of the zone and developed and prepared in a participative manner.

Article - The Local and Regional Government shall request a technical opinion from IIAP and INIA, if necessary, on documentation presented in the case of areas located in the Amazon or Andean Coast region, respectively.

In the case of areas located on the Coast, a technical opinion shall be requested from INIA. This technical opinion must be issued within a period of 45 days.

Title VIII. On monitoring and follow-up

Article - The Regional Government shall convoke a Special Council formed by five experts from the Region on matters regarding genetic resources, conservation and communities, to assess the work undertaken and interact with representative members and organizations.

Article - The holders of an agrobiodiversity zone title shall present to the Local or Regional Government annually, a report on the management of the zone.

Article - When necessary, the Regional Government, through a Special Council, may carry out inspections of the agrobiodiversity zone, to confirm *in situ* the achievements presented in the annual report mentioned previously.

Title IX. On the loss of an agrobiodiversity zone title

Article - The Regional and Local Government may revoke an agrobiodiversity zone title granted in the following cases:

a) when requested by a representative organization of the zone
b) when the Special Council determines incompliance with the objectives for which the zone was created.

Final provisions

1. The National Register for Agrobiodiversity Zones is created under the administration of INIA.
2. INIA shall develop within a 90 day period, a reference model of an agrobiodiversity zone management plan, to orient and guide the planning of these zones. This reference model must adapt to the special features and characteristics of each zone.

This preliminary draft document was part of the working agenda of decentralized workshops in Huancavelica, Iquitos and Huancayo, involving representatives of Regional Governments, INIA and civil society organizations. Agrobiodiversity was also discussed during a decentralized workshop held in Cuzco, and an informal mandate has been given for SPDA to prepare a draft proposal for a law on agrobiodiversity zones, to be further discussed in a broader national policy process.[53] This proposal has been submitted to Congress for consideration by the Environment and Ecology Commission.

Box 10 presents a Municipal Ordinance of the San Marcos Province, Region of Cajamarca, establishing general standards under which the Municipality can recognize areas and zones which possess a combination of cultural wealth, genetic diversity of native crops, traditional knowledge and practices of farmers, and agrobiodiversity in general. In this case, it is an enabling norm that provides the Municipality with a legal mandate.

It is expected that a national law will establish a general framework and criteria, in order for different Municipalities and Regional Governments to formally recognize these zones.

2 .4 Some conclusions and recommendations from decentralized workshops

The decentralized workshops referred to above have led to interesting reflections and opinions regarding agrobiodiversity zones and problems associated with biodiversity in general. Common issues that have been emphasized in these different workshops, in the way of conclusions and recommendations include:

- Given the situation of the Peru as a centre of origin and diversification of crops, national and regional public policies that guarantee the protection for zones and areas with a high level of genetic diversity of crops and their wild relatives (also of native breeds) should be promoted and stimulated.
- Classical categories of protected area and national legal frameworks do not offer appropriate options to protect interests pertaining to: cultivated genetic diversity, wild relatives, peasant/farmers and native culture, agroecosystems, and specific efforts of *in situ* conservation of native crops, among others.

[53] Elements of this proposal were also debated in the workshop *'Development of Regional Policies for the Implementation of Agrobiodiversity Zones'*, held 21 February 2008, organized by Association ANDES, International Institute for Environment and Development (IIED), SPDA, and the Regional Government of Cuzco.

Box 10. Ordinance of the Cajamarca Region regarding Agrobiodiversity Zones

Provincial Municipality of San Marcos
Mayor's Office

MUNICIPAL ORDINANCE No. 043-2006/MPSM-A

San Marcos, August 11th 2006

PROVINCIAL MUNICIPAL COUNCIL OF SAN MARCOS
In the Councils' Ordinary Session dated August 11th 2006:

CONSIDERING:

That, Article 85 of the Political Constitution of Peru expresses the State's preferential support for agricultural development.

That, the fifteenth State Policy of the National Agreement provides that "we commit to the establishment of a policy on food security that allows the populations availability and access to sufficient quality food, to guarantee an active and healthy life within the conception of integrated human development".

That, the Decentralization Law provides as one of its decentralization objectives to promote self-sustained economic development through the competitiveness of different regions and localities in the country, based on their productive trades and expertise.

That, the Rural Development National Strategy approved under Supreme Decree No. 065-2004PCM determines that its objective is to promote human development in rural areas with economic, social, environmental sustainability, fairness, local decision making under democratic criteria.

That, the Technical Regulation for Organic Producers approved by Ministerial Resolution No.0076-2003-AG states that the transition to organic agriculture is a dynamic and planned process aimed towards obtaining a sustainable agroecosystem.

That, Article X of the Municipal Organic Law provides for local governments to promote integral development in order to make economic growth, social justice and environmental sustainability viable.

That, Article 4 of the General Environmental Law calls for the State and all inhabitants to protect the environment and natural resources through improvement, restoration and the elimination of unsustainable production and consumption patterns.

That, considering organic production is based on low cost natural raw materials, the intensification of the labour force is promoted, as a factor contributing to the generation of social justice in the field, as well as helping to improve the quality of life for people and the environment.

That, it is the policy of the Provincial Municipality of San Marcos together with local stakeholders, to promote local economic development in order to achieve human development invigorating the productive infrastructure, allowing the economic growth from private investment to invigorate based on the organization of farmers and the comparative and competitive advantages in our jurisdictional scope, strictly in harmony with the environment.

That, having approved by unanimity at the Council's Ordinary Session dated August 11th of 2006, and by using the attributions conferred by the Political Constitution of Peru and the Organic Law of Municipalities, the following Municipal Ordinance was approved.

MUNICIPAL ORDINANCE THAT APPROVES THE PROMOTION OF ORGANIC AGRICULTURE AND CONSERVATION OF NATIVE CROPS IN THE PROVINCE OF SAN MARCOS

ARTICLE ONE - The Local Government of the Province of San Marcos shall promote ecological agriculture in its jurisdictional scope, as a conservation and sustainable use strategy of natural resources (land, plants, water), contributing to improving the quality of life for people and the environment.

ARTICLE TWO - It is the policy of the Local Government to protect and conserve varieties of native crops in the Province of San Marcos, as a strategy for sustainable development, while promoting local economic development.

ARTICLE THREE - The knowledge and contributions of conservationist farmers who undertake agrobiodiversity conservation practices in the Province of San Marcos are recognized and valued.

ARTICLE FOUR - The Municipality of San Marcos, through its Management of Local Economic Development Office shall coordinate the declaration of zones of local interest and protection, in areas with a high level of local agrobiodiversity of native crops such as maize and potato.

- The participation of peasant and native communities, and conservationist farmers in particular, is critical in the process of constructing and developing agrobiodiversity zones.
- Regional and Local Governments and INIA (together with communities) are the central actors in the process to establish agrobiodiversity zones. They are the key promoters of the necessary policy support, technical assistance and overall initiative to create these zones.

Opportunities and challenges. Although, during the last few years, there has been considerable enthusiasm for agrobiodiversity zones, there are still challenges to be overcome in a context of limited interaction between different initiatives. As a consequence, the following considerations should be taken into account:

- An agrobiodiversity zone will be sustainable only if, and as long as, communities are the motors and effective actors in their establishment and daily development. Communities and their members must be absolutely convinced of the qualities and advantages derived from creating an agrobiodiversity zone, as well as of the obligations derived from its creation. This should include the appropriate incentives for long-term sustainability. Although original initiatives and ideas may come from actors outside communities (NGOs, the State, etc.), the internalization process should allow communities to make the ideas and proposal their own, bringing legitimacy and conviction of the possibility of success.
- The question on why, specifically, an agrobiodiversity zone is established should be answered appropriately if the incentives that will be needed to lead to its eventual viability are to be identified.
- Agrobiodiversity zones offer an interesting protection category not only for Peru, but also for other Andean and Amazon countries. This is an ecoregion recognized worldwide as the centre of origin and diversification of a number of important crops and their wild relatives. The 'great warehouse' of diversity is not only in zones identified in Peru, but also includes many other sites throughout the Andes and Amazon. Countries and communities could benefit from the advantages offered by official recognition of this nature.
- In-depth studies have not been undertaken on the interrelationship between agrobiodiversity zones and the National System for Natural Protected Areas, but a certain degree of overlap has been initially demonstrated, implying the need to design conservations strategies (e.g., management plans) that take such overlap into account.
- An agrobiodiversity zone should offer a *clear* advantage to a site and its communities in comparison with its prior situation. Thus, an adequate incentive should be identified so that the establishment of the zone is acknowledged as a 'plus'.

2.5 The GRPI Project: specific elements of its implementation

Activities for the recognition of agrobiodiversity zones. Previous sections have made reference to the GRPI Project and its influence on the processes and dynamics related to agrobiodiversity zones and the register of native crops. This project has, in practice, meant much more than specific activities in these two issues. Since its first phase (2004–2006), it has aimed to support policy and legislative processes regarding agrobiodiversity in general and its different components.

Its emphasis has been to try to generate and stimulate processes, based on a set of strategies and tools. These included simple interviews and informative talks with key stakeholders and public officials, the production of informative and analytical materials, and capacity building and direct support to public officials and institutions (especially CONAM and INIA). As a result, the project has been sustainable, considering the fact that activities and dynamics are still ongoing, even though the project has formally been finalized.

The National Agrobiodiversity Programme, has recognized that agrobiodiversity zones are a central instrument to promote *in situ* conservation of agrobiodiversity in the country. Although the Regulation of the Biodiversity Law grants the Ministry of Agriculture the faculty to recognize these zones or areas, this competence is far from clear, especially given the ongoing decentralization process with Regional and Local Governments and the interests and expectations of these governments on such issues.

The GRPI Project and the multi-sectorial Task Force which was formed, has served to catalyze and trigger a series of processes and initiatives. For the most part, decentralized agrobiodiversity activities and interests among Regional Governments have intensified as a result of the project and the efforts of its Task Force members. It has been concluded that the reasons for the creation of these zones include:

- the need for food security at a local level,
- the need to safeguard culture and traditional knowledge related to agrobiodiversity,
- the need to maintain local germplasm,
- the need to preserve tourism attractions,
- the need to enhance possibilities for economic development through the generation of 'niche' products for specialized markets,
- the need to promote further participation of communities in research and development projects, and
- the need to strengthen the social, political and institutional autonomy of these areas.

It is now clear that Regional Governments have an explicit political and social interest of converting themselves into the competent entities for the recognition of these areas. This has been the main reason for their collaboration and participation in the execution of decentralized activities.

Decentralized workshops. A decentralized workshop was organized in September 2006 in Iquitos, with the support of and in coordination with IIAP, the Regional Government of Loreto and regional institutions. The workshop debated the recognition and creation of an agrobiodiversity zone in the Loreto Region. It served to propose the first orienting guidelines or elements of these zones, so that an appropriate national law might be developed and approved by Congress (see Box 9). The Regional Government is interested in declaring the area of Yurimaguas, Urco Miraño, an agrobiodiversity zone. Policy developments in this region are very interesting, to the point that a Regional Programme and Plan of Action for Agrobiodiversity has been approved.[54]

Soon thereafter, the GRPI Task Force, based on the technical and scientific information produced by the *In Situ* Project, decided to start working towards the recognition of these agrobiodiversity zones in: Laria (Huancavelica Region), Pariahuanca (Junín Region), Huasmín and Celendín (Cajamarca Region) (see Box 6). INIA, CONAM, CCTA and SPDA, were the main promoters of workshops, meetings with authorities, capacity-building activities and research on policy and law issues, to the benefit of local and regional actors.

In the case of Laria and Pariahuanca – where INIA and CCTA already had activities underway – over 40 representatives of farmers, communal leaders and municipalities, and representatives of the regional private sector and universities, were invited as participants. In the case of the Laria workshop, the Regional President participated. In Celendín, over 70 representatives of a wide range of sectors participated.

The agendas of these meetings were based on initial inputs from the Task Force, and informed by reactions and comments of local and regional actors. In terms of methodology, conceptual elements were first presented and discussed. Working groups were then used to generate more concrete and specific inputs by all participants.

The workshops concluded, almost unanimously, that there was an urgent need to promote agrobiodiversity zones as a means of ensuring conservation and maintenance of agrobiodiversity and, especially, cultural practices of farmers and peasants. These workshops elaborated action plans and detailed work plans for advancing relevant efforts. Local committees (comprising local representatives) were created to undertake follow up on agreed commitments,

[54] This was approved through Regional Ordinance 13.2008-GRI (9 May 2008).

to convene working meetings and to interact with Regional Governments and the Task Force and its members. Details on each zone are provided in Box 6.

The various efforts have had a cascade effect. The Regional Government of Cuzco – which also participated in the Potato Park development experience – organized a Regional meeting, to which members of the Task Force were invited. The meeting discussed the creation of a Technical Regional Working Group to support the implementation of a resolution creating a regional system for the conservation of native crops and their wild relatives.

Another workshop was convened in Cuzco in mid-2008, with the participation of representatives of the Regional Governments of Cuzco, Cajamarca, Junín and Huancavelica, and members of the Task Force. The objective of this meeting was to discuss and agree on a more harmonized approach to the creation and development of agrobiodiversity zones. The workshop concluded that:

- All process should include Prior Informed Consent as a key elements when interacting with communities.
- The initiative for the creation of agrobiodiversity zones should come from communities and Regional and Local Governments.
- INIA and IIAP should prepare all technical reports.
- Regional authorities should formally create and recognize agrobiodiversity zones.
- The Ministry of Agriculture could support the recognition of Regional Governments of these zones as a way of giving them more political 'weight'.
- Regional Governments should be responsible for monitoring good practices and activities in the agrobiodiversity zones.

Impacts of the project. It is not an easy task to evaluate the impact of interventions in projects that are targeted at policy processes. Impacts are hardly ever measurable directly, particularly in the short term. Such projects should be evaluated in terms of their results, taking into account that: (i) public authorities and actors understand that policies and norms are a means of contributing to the conservation of genetic resources; (ii) these actors are more interested in promoting *in situ* and *ex situ* conservation activities and projects to reduce genetic erosion; (iii) these issues are clearly integrated into national, regional and local policy agendas; and (iv) these experiences and examples are replicated by other actors (and maybe even countries).

The GRPI Project inserted itself into a wider process initiated by other organizations. GRPI's forte has been to strengthen policy and legal discussion around certain issues much more, and make them more dynamic at the national and regional level. What has been interesting is how processes have

closed the gap between policy making and the people who have a direct and immediate interest in issues under debate, especially farmers and peasants. Peru is a country with hundreds of laws and regulations. However, enforcement and compliance remain a difficult matter. In this context, GRPI, with its 'bottom-up' efforts, has enabled actors to make processes, products and results their own, and thereby contributed to implementation efforts.

Another interesting aspect has been the way GRPI has enabled bridges to be built between results of scientific and social research on agrobiodiversity and policy and legal processes. As a result, proposed policies and legal norms are based solidly on scientific and social evidence that can rapidly be verified through research. GRPI has supported and contributed to the development of 'sound policy' and laws that are informed by good data, both present and past, and by experience.

Finally, GRPI has also helped substantially with the creation and consolidation of formal and informal partnerships among different institutions with competences relevant to agrobiodiversity, and among institutions who can potentially contribute to discussion and debate. In the process, GRPI's '3M' methodology has been rapidly internalized and replicated; informed participation has been a critical element in processes triggered by GRPI.

3. The National Register of Native Crops: in search of an identity

3.1 Background

Peru is, without a doubt, still a country in formation. In this process, it seeks to find elements that offer it coherence and that support equality among its inhabitants. Such elements may include its biodiversity, natural protected areas, a common cultural past and, possibly, its gastronomy (see 3.3).[55]

Peru is a megadiverse country *par excellence*. A good part of its pre-Inca and Inca culture has been maintained due to the agricultural skills of ancient Peruvians. Up to the present day, agriculture in Peru is characterized by its amazing diversity of crops for food, medicinal purposes and many other uses. Some of these crops have continuously proved their potential. The case of *Solanum* (potato) alone, as one of the five most important crops for the world's food supply, is an indicator of Peru's contribution to agriculture and humankind's well-being.[56]

After many years of agricultural and biological research, national and international institutions (such as INIA or CIP) have managed to identify and promote other crops with unrealized nutritional potential. For example,

[55] Pedro Solano raises some very interesting reflections on the role that protected areas can play as an element that can unite Peruvians, and gastronomy and food as something everyone identifies with (rich, poor, Andean and Amazon people alike, whites, blacks and people of mixed blood). Therefore, promotion and social awareness of these issues are critical. Their effects can, in some way, already be verified from, e.g., radio and television programmes, participatory planning processes in protected areas and the involvement of multiple actors. See: Solano, Pedro. *La Esperanza es Verde*. Peruvian Society for Environmental Law. Lima, Peru, 2005.

[56] Of the five most important plants in human history due to their policy, social and economic implications (cotton, sugarcane quinoa, potato and tea), two of them originated in Peruvian territory: quinoa and potato. Hobhouse, Henry. *Seeds of Change: Five Plants that Transformed Mankind*. Papermac, UK, 1999.

kiwicha (*Amaranthus caudatus*) is now part of the regular diet for astronauts. Yacón (*Smallanthus sonchifolius*), has also become an important source of natural sugars in regular diets for diabetes patients in countries like Japan and USA.

It is not by chance that the International Potato Center (CIP) has been set up in Peru to undertake *ex situ* and *in situ* research, conservation and preservation activities on potato and other Andean crops. CIP was formally created in Peru in 1967, and is one of the products of the 'Green Revolution'. CIP was founded originally through an initiative of the Rockefeller Foundation, the University of California and the Government of Peru. Although its interest is predominantly potato, it has carried out extensive research on a diversity of Andean roots and tubers.[57]

Some of the so-called 'underutilized Andean tubers' also have interesting commercial potential, at least for national and local markets. The reference to 'underutilized' relates only to the commercial aspect and the limited consumption in larger geographical areas. Yet at the level of farmers, mainly traditional Andean peasants and native communities in the Amazon, these crops are part of their regular diet and cultivating them is part of their daily chores. They are considered 'underutilized' in that they are not included in national research programmes and have a limited, localized pattern of consumption, although this has been changing during the last few years.

3.2 Life is full of surprises: original Peruvian crops and native products abroad

Almost unconsciously, Peruvian society has tended to consider, historically, that crops such as potato, chirimoya (*Annona cherimola*), lúcuma (*Pouteria lucuma*), maca (*Lepidium meyeni*), and uña de gato (*Uncaria tormentosa*) are *exclusively* Peruvian, particularly in terms of property. On the other hand, processed products such as ceviche, pisco (and pisco sour), chicha morada or arroz con leche (rice pudding) are, without a doubt, typically Peruvian from an historical/cultural perspective. However, this does not mean Peru has exclusive property rights over them – at least in general legal terms.

During the last few years, Peruvians have been surprised that this historical perception and feeling is not grounded in true ownership or enforceable rights

[57] CIP was created through Supreme Decree 102-A of 1 September 1967. Its statute was approved by Supreme Decree 240-68-AG of 29 November 1968. The justification to locate CIP in Peru (according to the Preamble of Supreme Decree 240-68-AG) was that the highest concentration of potato species in the world is found throughout Peruvian territory, as well as the highest diversity of *Solanum tuberosum*. The potential of this tuber in the production of food for the world was also taken into account.

Box 11. The wealth of biodiversity and genetic resources in Peru

over these crops and products. On the contrary, news from abroad reveals cases of improved varieties of potato protected by exclusive rights (sometimes through foreign patents and in other cases through breeders' rights). Rights are also granted to researchers and companies for products derived from maca in China, which are commercialized under the name of 'Chinese Maca' (or 'Maca China'). Other examples include applications for geographical indications or other rights on pisco and pisco sour from neighbouring Chile, and chirimoyas that are commercialized as '*Chile*-moyas' – again in Chile.[58]

Considering the case of potato (and some other crops), the Andean region has no geographical boundaries and, in this regard, potato is *Andean* and not Peruvian in the sense of being Peru's exclusive property. Nevertheless, Peru is certainly the most important centre in terms of diversity and this has been recognized throughout history and through scientific research.

The point is that this same situation has generated an interesting reaction – even outrage – by the State and by society, who have begun to voice concerns over the meaning of property. There is also concern over how to prevent 'biopiracy' and confront it through public policy and legislation, as well as how to develop and promote these goods and products 'as Peruvian' in a more proactive manner.

To give two or three examples: Andean Community (CAN) Decision 391, which regulates access to genetic resources, is the response of CAN to a situation where genetic resources of Andean origin are accessed and thereafter incorporated into products that are protected by intellectual property rights, without the country being recognized or participating in the benefits generated. For the past two decades, with the development of modern biotechnology, the use of genetic resources to generate products subject to intellectual property rights has increased dramatically and the time for their development has been shortened considerably.

On the other hand, the National Commission for the Prevention of Biopiracy is an inter-institutional body, created to prevent and address problems

[58] A particularly noteworthy and illustrative case occurred in 2006, when news from Chile reported that 200 native potato varieties from the south of Chile (Chiloé zone) were to be registered by the Servicio Autónomo de Agricultura (SAG) in Chile. This generated an interesting debate and great controversy in Peru over the right of Chile to register these varieties. This can be explained in simple terms: rights can be sought or invoked over certain *varieties* of potato (complying with the legislation) but not over potato as a species. In this regard, Peru may claim being the centre of origin or diversification of a potato species, but is not the owner or has exclusive rights over it. See: Ruiz Muller, Manuel. *Origen y propiedad de la papa: ni chilena ni peruana*. In: Peru 21, Monday 24 April, 2006. Available at http://www.spda.org.pe.

resulting from biopiracy.[59, 60] The Law that creates the Commission is called the 'Law Protecting Access to Peruvian Biological Diversity and the Collective Knowledge of Indigenous Peoples' (sic). It is simply the result of the recognition that third parties are illegally accessing biodiversity resources and components of Peruvian origin.

La Comisión Nacional de Productos Bandera (COPROBA) or the National Commission for Native Peruvian Products, is another effort by the State to distinguish, in world trade, products that are indubitably of Peruvian origin. This initiative is led by the Ministry of Foreign Trade and Tourism through PROMPEX (the Peruvian Export Promotion Agency) and with the conspicuous participation of and promotion by the national business sector.

The Commission approved the 'National Strategy to Identify Flagship Products'[61] on 1 September 2005, with the objective of "*choosing, protecting and promoting flagship products, of recognized quality and preferred by external markets, highlighting the image of Peru, contributing to its development and strengthening its identity*". The following have been declared flagships products: maca, Peruvian gastronomy,[62] pisco, Peruvian cotton, Peruvian camelids, lúcuma and Chulucanas ceramics. COPROBA may request, in the future the formal declaration of new flagship products, by means of a resolution from the Ministry of Foreign Trade and Tourism.

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59 The National Commission was created through Law 28216, Protecting Access to Peruvian Biological Diversity and the Collective Knowledge of Indigenous Peoples. It was enacted 7 April, 2004 (published in the Official Gazette El Peruano 1 May 2004). The Commission is formed by: INDECOPI (who presides over and coordinates it), CONAM, INRENA, INIA, the Ministry of Foreign Affairs, the Peruvian Institute of Natural Products (IPPN), the National Institute for the Development of the Andean, Amazonian and Afro-Peruvian Peoples (INDEPA), the Centre for Intercultural Health (CENSI), SPDA and CIP.

60 Paragraph 3 of the Third and Final Complementary Provision of Law 28261, defines 'biopiracy' as "*access to and unauthorized use of biological resources or traditional knowledge of the indigenous peoples by third parties, without the necessary authorization, without compensation, and in contravention to the principles established in the Convention on Biological Diversity and the existing regulations. This appropriation may be reflected by physical control, through ownership rights in products incorporating such illegally obtained elements or, in some cases, through the claiming of such rights*".

61 The National Strategy to Identify Flagship Products was approved by Supreme Decree No. 025-2005-MINCETUR of the Ministry of Foreign Trade and Tourism.

62 'Peruvian gastronomy' is a very broad concept. However, it refers mainly to typical Peruvian dishes (lomo saltado, papa a la huancaína, adobo de chancho, carapulcra, etc.) and new fusions that are emerging from a combination of these new trends. For a critical review of the history of Peruvian gastronomy see: Ascoytia, Carlos. *Historia de la Gastronomía Peruana*. September, 2008. Available at http://www.historiacocina.com/paises/articulos/peru/peru.htm. For a more comprehensive and detailed history of Peruvian gastronomy, see: *Diccionario Larousse de la Gastronomía Peruana*, Madrid, 2008.

The functions of COPROBA cover exploring and promoting the potential of identified flagship products, and proposing and supervising necessary measures to identify new products, as well as proposing measures for their protection and conservation, coordinating with INDECOPI and other national and international, public and private institutions.

With regard to these issues, the dilemma that Peru confronts as a country relates to two variables: technological development and free trade. In the case of technological development, it is now possible to generate new plant varieties that are different from the original crop but incorporate its elements or components (for example, phenotypic and genotypic traits), and which can also be legally protected by intellectual property rights.

Modern biotechnology allows this and much more. Although the idea may be unsettling, it seems logical and even fair that a new product based on natural components of another country (or countries) may be protected legally, even

Box 12. The North-South controversy: the origin of tensions regarding genetic resources

Northern countries – developed	Southern countries – under development
Little biodiversity under *in situ* conditions	High concentration of biodiversity (wild and cultivated)
Many *ex situ* collections	Few *ex situ* collections
Public and private investment in research and development	Limited investment in research and development
Biotechnology capacity	Limited technological capacity
Intensive use of intellectual property (extended to innovations of biological origin)	Limited use of intellectual property protection
Few indigenous peoples	High concentration of indigenous peoples and communities
Claim (for example by the USA) the idea that unmodified genetic resources are part of the 'heritage of mankind'	Claim sovereignty over genetic resources
Oppose (in general terms) the design of traditional knowledge protection regimes. (Note: However, the majority recognize indigenous intellectual efforts and the need for protection – not necessarily with a special regime *or sui generis* mechanism)	Propose the protection of traditional knowledge of indigenous peoples

if it is not very different from the original crop or product. In fact, this is the underlying logic of the intellectual property system: continue to construct on what has already been advanced and developed, with a degree of inventiveness. The way to protect the interests of a country is by ensuring that what is used and incorporated in a new product is legally and legitimately accessed from the country it originates from, thus complying with access and benefit sharing laws and regulations. In the case of Peru, Decision 391 seeks to ensure this with regard to genetic resources of which Peru is the country of origin.

From a commercial perspective, opening up to international trade has generated intense competition between countries trying to obtain competitive advantages by adding value to raw materials. In this regard, products derived from medicinal plants, seeds, natural resins and natural oils, etc., which are abundant in countries like Peru, already have important markets that can be protected and enhanced by trademarks – mainly original brands and denominations. However, these do not necessarily recognize the *origin* of the original material. Then, by means of intellectual property protection, rights are granted to those who add value and generate innovation, often foreigners and international companies.

The case of 'origin' is illustrative. For example, determining the origin of a specific food crop is extremely difficult, especially when legal definitions that are not scientifically founded are considered. The CBD makes reference to "country of origin" and defines it as the country that possesses genetic resources in *in situ* conditions and, in the case of domesticated species, in the surroundings where they have developed their essential and distinctive properties. What exactly are "essential" and "distinctive" characteristics? When do they become "essential"? These are the types of question that make the concept of 'origin' difficult to define.[63]

By geographically originating in Peru (for example, a crop that appeared and evolved over time in Peru), it does not mean that, as a country, exclusive rights

[63] Two concepts help to explain this point: centre of origin and diversification. In the first case, there is evidence that some crops 'first appeared' in specific geographical areas (for example potato in Peru, corn in Mexico or coffee in Ethiopia) that coincide with ancestral cultural centres. There are also diversification centres, where crops that, in a certain moment of history, were introduced from other regions, now have a high genetic diversity and variability in these new zones resulting from human intervention, climate factors, appropriate soil, etc. Except in a few cases such as mentioned earlier, identifying the origin of a crop is very difficult. In most situations, the origin corresponds to a region (the Andes, Mesoamerica, North Africa etc.) and not an individual country. Are there *owners* (strictly speaking) of corn, rice, potato and coffee? The answer would be negative. On matter of origin and diversification, see: Andersen, Regine. *Governing Agrobiodiversity: Plant Genetics and Developing Countries*. Ashgate, Aldershot, UK, 2007.

can be invoked over a seed of that crop, when it might be found – given the historic flow of seeds – simultaneously in Bolivia, Brazil, Colombia, Japan and Australia. This is one of the features of global agriculture, namely interdependence, especially in relation to a group of important food crops.

However, it is possible to invoke property rights over *certain* varieties of potato (for example those that have been transformed and imply human work and innovation), if requirements for the protection of these varieties are met. To protect a *new* variety, in the sense that it was generated through human intervention, plant variety protection through the UPOV system or UPOV-type norms can be used.[64]

Invoking property rights over the potato as a species is not possible, first, because it is a generic name and, second, because it referes to and describes a species, as a general category.[65, 66]

The same is the case for other crops or products. If recognition is given to a product through a brand, e.g., pisco, an exclusive right is given over the name. However, this cannot prevent third parties from producing and commercializing the product under another denomination (unless the product is also protected).

3.3 Gastronomy: revaluing native crops

Finally, a phenomenon has been generated in the last decade that has contributed considerably to policy and normative processes regarding native crops, and the revaluation of our genetic patrimony at all levels of society. This is the 'gastronomic boom' led by a generation of young chefs and cooks who, by using native Peruvian crops, breeds, meats and natural ingredients, have revolutionized gastronomy to the point were it has become a strong incentive to visit Lima, other regions and the country as a whole.

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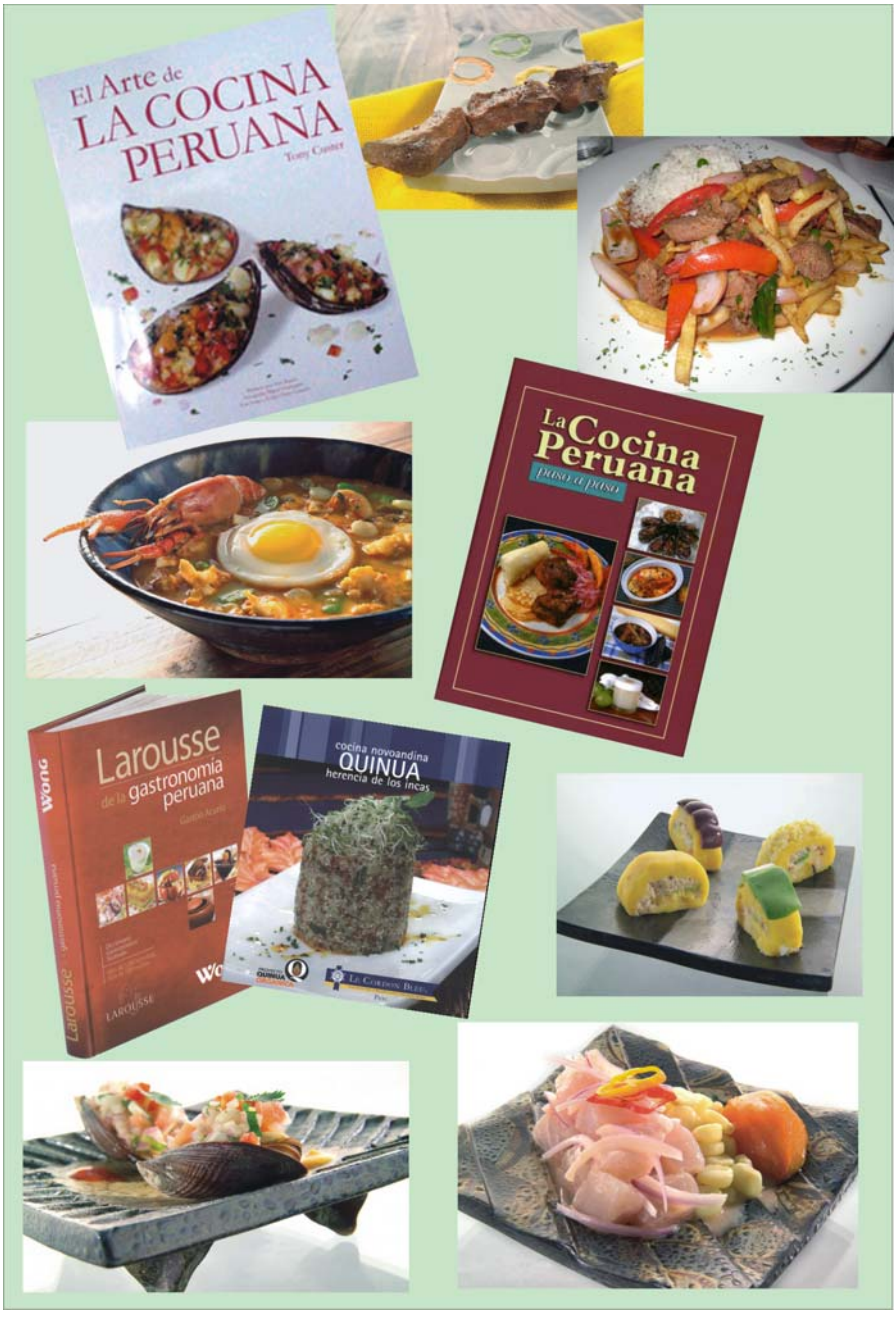
[64] In the case of UPOV, the requirements are: novelty, stability, distinctness and homogeneity.

[65] On this issue see: Ruiz Muller, Manuel, Ibid. at 58.

[66] There are various cases of patents – mainly in the biotechnology field – which at some point conferred rights covering *complete* species. The patents on inventions on cotton and soybean (granted by the US Patents and Trademark Office in 1992 to Monsanto and by the European Patent Office in 1994 to Grace Ltd, respectively), by the nature of specific claims, had as a result to cover all possible uses and applications of cotton and soybean species. In practice, this almost gave absolute rights to the patent holder. These broad patents were contested and reverted, due to concerns regarding the social, cultural, economic and scientific impacts that they generated. For more information on these and other matters related to 'biopiracy' see: http://www.etcgroup.org and http://www.biopirateria.org.

Box.13. Hurrah for gastronomy!



Added to this, are a multiplicity of programmes, campaigns, books, magazines and bulletins that emphasize the gastronomic and culinary richness of the country. Not only this, they also highlight the regions from where products originate, the cultures that have maintained and conserved ingredients and recipes, the conservation processes of many of the crops used, and the wisdom and traditional knowledge from which innovations in the field of gastronomy have arisen. Currently, 'gastronomic tourism' is developing rapidly. In many cases, this means sharing with communities their experiences and their day-to-day diets and lifestyles.[67]

If there is something that brings Peruvians together, it is food. Thus, all these efforts have increased awareness among people – and their leaders – of the potential of Peru as a country and the possibility of taking advantage of its gastronomy, and consequently of its crops and genetic diversity.[68]

An additional factor that contributes to raising awareness of society in general, is the *wealth* surrounding gastronomy and the chain of actors who visibly and actively participate in a process to generate work and thereby wealth. This accelerates the awareness process as the significance of crops, ingredients and recipes, cooking and gastronomic demands are reflected in reality.

There is a recent example illustrating this new tendency to revalue Peruvian products in the field of agrobiodiversity. The TIKAPAPA Project is an initiative of CIP, A&L Biodiversidad Altoandina and SDC, which allows small farmers of native potato in the high Andes to become integrated into national markets. This received The World Challenge 2007 Award, promoted by BBC London, Newsweek Magazine and the Shell Company. The objective of the award is to identify and reward business and development projects that not only seek economic benefits, but also share these with communities in a fair and equitable manner.

This specific case seeks to promote the consumption of underutilized native varieties of potato in Lima, through an agreement with E.Wong, an important supermarket chain. Although the exact demand for these potatoes is unknown, informal conversations with consumers confirm the high quality of the product, which gives them no reservations in paying 'premium' prices.

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[67] A few of the most successful TV programmes include: Tiempo de Viaje, Costumbres, La Aventura del Sabor, Sabores del Perú, and La Buena Tierra. Some of these have been broadcast for more than five years. These programmes include tourism elements with visits to communities and the centres of origin of some foods and dishes, and revaluing customs and lost and forgotten secrets in different regions of the country.

[68] Solano, Pedro. Ibid. at 55.

3.4 The debate on genetically modified organisms: the relationship between biodiversity and new technologies

Biotechnology, its advances and transgenic products, are an important element in discussions and debates on biodiversity and its development in Peru. Specific discussions on transgenic crops and on biotechnology policies and norms started towards the end of the 1990s. Early on, before signing the Cartagena Protocol on Biosafety, Peru already had in place a law and regulation on biotechnology.[69]

This debate allowed comparison of differences between types of agriculture in the country, one intensive and modern, versus a more traditional and extensive agriculture oriented toward self-consumption. The latter has been traditionally considered 'poor' and undeveloped, although it is very rich in terms of genetic diversity and culture. There has always been tension between these opposite poles although, recently, different actors have recognized that biotechnology can be a tool to improve agriculture oriented to export, but not to the exclusion of more traditional technologies and approaches.

In this context, discussions began in the National Convention of Peruvian Agriculture - CONVEAGRO, the Peruvian Centre for Social Studies (CEPES), the Potato Park, etc., on the possible impacts of biotechnology on small farming, particularly on biodiversity. An argument proposed by some institutions (such as SPDA) has been that, in the context of globalization, the comparative and competitive advantage of Peru is its diversity and the maintenance of an agricultural system that is free of transgenic crops,[70] and which targets market niches where certain crops and products can be commercialized with good returns for farmers and peasants.[71] However, at the same time, agro-industry and intensive agriculture are being consolidated, strengthened and privileged, through public policies and norms such as Sierra Exportadora, the new Seed Law, and the Free Trade Agreement with the USA.[72, 73]

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[69] Law 27104, Law for the Prevention of Risks Derived from the Use of Biotechnology issued 12 May 1999 and Supreme Decree 108-2002-PCM, Regulation on the Law for the Prevention of Risks Derived from the Use of Biotechnology of 28 October 2002.

[70] Lapeña, Isabel. *Semillas Transgénicas en Centros de Origen y Diversidad*. SPDA, Lima, Peru, 2007. Also from the same author see: *Transgenic Crops and Legislative Decrees 1059, 1060 and 1080 in Peru: The recent Legislative Decrees leave the doors wide open for transgenics to enter without control.* Available at: http://www.connuestroperu.com/index.php?option=com_content&task=view&id=3503&Itemid=32.

[71] On this subject see: Caillaux, Jorge. *Se requiere extrema cautela (transgénicos)*. In: El Comercio. Thursday, July 10, 2008.

[72] Sierra Exportadora is an emblematic case: its basic objective is to support poor farmers

The tension between two very different agricultural realities, each of which demands the promotion of distinctly different public policies has become very explicit. As a consequence, there has been a strong exchange of opinions between those proposing the free introduction of transgenic organisms in the country "to increase production and productivity" and those who, on the contrary, suggest the need for caution and consideration for cultural, social and environmental reasons, before allowing this introduction.[74] This has made the confrontation between the Ministry for the Environment and Ministry of Agriculture very evident. All of this is in a context where native gastronomy based on pesticide-free products and other elements are promoted as the main tourist attraction in the country.

3.5 Traditional medicine

Finally, and linked to the previous discussion, Peru is a country where the majority of people have, at some time, resorted to medicinal plants and natural products to alleviate certain illnesses and overcome basic health problems. This is not by chance but for two reasons. One is the biodiversity richness of the country, the other being indigenous peoples who have transmitted knowledge regarding the use and medicinal and healing applications of this biodiversity to a wide sector. These uses and applications have been recognized, based on the extensive use of medicinal plants and products by a large proportion of the national population, mainly in poor, marginal rural and urban sectors.

This can be explained by a migratory process that began in the 1960s, when many of the customs, practices and uses of medicinal plants were transferred from the fields to the cities, extending their use mainly among the less favoured

and peasants so that they can link to productive chains oriented to agro-industrial or export crops. This happens in parallel with a process where land markets are being made more flexible, biofuels are being promoted, new Seed Laws are promoting use of certified seed only, among other changes.

[73] Close to one third of the population in Peru live in rural areas and 50% of their income is from agriculture. Of the economically active population, 28.5% work in the agricultural sector and contribute nearly 8.4% to the national GDP. Traditional and non-traditional agricultural products represent 7% of Peruvian exports. (Source: Oficina de Estrategias y Políticas. Oficina General de Planificación Agraria. MINAG (2008) *Plan Estratégico Sectorial Multi-annual del Sector Agricultura 2007-2011.* Lima, Peru, July 2008).

[74] The Minister for the Environment, Antonio Brack and analysts such as Lapeña and Caillaux of SPDA, among others, suggest that biotechnology should be seen as a tool to develop the country according to national needs and not as an end in itself. In the short term, Peru could become one of the few countries free of genetically modified organisms, serving the growing market niches in Europe, USA and Asia, who demand ecological products free of pesticides and transgenes.

Source: Suplemento de Perú 21

immigrant sectors.[75] In the l980s, the growing interest of the urban sector in alternative health treatments gave medicinal plants a much higher profile, especially through interest shown by private business. Pharmaceutical company's like Hersil and Corporación Drokasa, were pioneers in the industrialization of products such as nutraceutic supplements derived from medicinal plants including maca, yacón, sangre de grado and others, and used for the medication of exposed wounds and for the treatment or prevention of ulcers, diabetes and even certain forms of cancer.

Another group of companies including Fitosana, Bionaturista, Santa Natura and Kaita have centred their efforts on creating a market of natural products for health and beauty. Television and radio programmes have also multiplied, praising the benefits and preventive, curative and food properties of natural products originating in Peru. Despite some companies being serious and others not, the fact is that, at present, natural products have become an important and profitable business.[76]

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[75] Peru has Law 27821: Law of Promotion of Nutritional Complements for Alternative Development (August 2002) and Law 27300, on the Sustainable Use of Medicinal Plants (July 2000).

[76] There are very critical positions on the role and potential of medicinal plants, especially on the effects of promotion and marketing practices, control and evaluation and verification policies. Agin, Dan. *Junk Science. How Politicians, Corporations and other Hucksters Betray Us*. Thomas Dunne Books. St Martins Press, New York, 2006.

The Peruvian Institute for Natural Products (IPPN), was established to represent companies that industrialize, commercialize and export products derived from biodiversity, mainly medicinal plants. In 2002, the National Institute of Traditional Medicine, now called the National Center of Intercultural Health was created as a public entity (under the Ministry of Health) responsible for the evaluation and validation of medicinal plants and non-traditional therapeutic methods, and the promotion of public policies on intercultural health.

The 'boom' in plants and natural products has also helped to generate more awareness of the importance of biodiversity and of its potential. The different companies, institutes and legal frameworks involved, seek to strengthen the applications and uses of biodiversity for health, food and beauty care purposes.

3.6 The national register of native crops

In simple terms, academics, politicians, farmers' movements, businessmen, and civil society sectors in general, are demanding that the Peruvian State defend native crops and products. This section focuses on the protection of native crops and the role of registers, as well as the policy and normative process released to guarantee their development and implementation.

Plants can be protected in different ways. In this case, the concept of 'protection' is used broadly and could include granting exclusive rights (control), economic compensation, maintenance and the promotion of crops and plants (see below and footnote 80). The first form of protection implies a system granting exclusive rights to the holder of the title. This is the protection provided by the breeders' rights system, established in CAN Decision 345. In this case, a new variety may be registered with INDECOPI who will grant a breeders' certificate. These exclusive rights are granted on crops (seeds or any breeding material) that are new, homogeneous, stable and distinguishable. This system is designed mainly to protect the intellectual rights and economic interests of plant breeders.

The breeders' rights system is not a system that is 'amicable' to innovation by small, conservationist farmers of the Peruvian Andes. This is not because of deliberate exclusion or discrimination, but simply because the purpose of the breeders' rights system is to promote the generation of crops with a commercial potential oriented exclusively to modern and intensive agriculture. These are not the main objectives of small farmers' seed development activities, which focus rather on subsistence, self-consumption, conservation and cultural revaluation, and on mainly local and regional markets.

On the other hand, the requirements to protect new varieties (novelty, distinctness, homogeneity and stability) are not always met by native or local

varieties or 'landraces'. This certainly does not make them less important. Furthermore, it could be suggested that these requirements are not of interest for traditional small farmers who do not seek homogeneity, stability or distinctness. These farmers seek other characteristics linked more closely to their local livelihoods, such as resistance, good flavour, colour, etc.

The breeders' rights system implies administrative procedures and costs that are prohibitive for communities and peasants whose incomes are extremely low and are, generally, well into the poverty bracket. Finally, conservationist or 'curious' farmers have a sense of pride and 'ownership' in relation to their more valuable varieties, but they do not aspire to *property* or *appropriation* as such. On the contrary, these forms of agriculture and social recognition become apparent and expressed in traditional barter practices and free exchange of seeds.

From a review of the background of Decision 345, it is clear that those who promoted its adoption in the Andean sub-region were agro-industrial interests from the horticulture sector of Colombia and Ecuador, who needed to protect their varieties of flowers and create a sub-regional system to meet obligations under the UPOV Convention, to which both these countries became parties shortly after.[77]

A second form of protection, is provided by the patent system, for plants that are developed and are new, have an inventive step and industrial application. In Peru, patents are not accepted on plants, although after ratifying the Free Trade Agreement with the USA, best efforts need to be made to provide protection to plants through patents.

A third form of protection, understood in a broader sense, refers to promoting the use of certain seeds as provided by the General Law on Seeds and its Regulation.[78] The Law and its Regulation seek to promote the production, development, research and commercialization of quality seeds within national territory. Seeds will need to pass through a registration procedure (in a Register

[77] Both countries adhered to the 1978 Act of the UPOV Convention. Colombia adhered on 13 September 1996 and Ecuador on 8 August 1997.

[78] Law 27262. General Law on Seeds of 13 May 2000. The Regulation of the Law is Supreme Decree 040-2001-AG of 9 July 2001. These norms have recently been modified by Legislative Decree 1080, under which the Government seeks to adapt national laws to commitments under the Free Trade Agreement with the USA. This Decree alters the seed system substantially; changes include opening up the possibility of introducing genetically modified seeds, eliminating some regulatory and control faculties from SENASA, and granting INIA the authority over the national seed system (which is a problem given that INIA also produces improved seeds). For a critique of this Decree, see Lapeña, Isabel. Ibid at 70.

of Commercial Cultivars) that will authorize the holder the right to their commercialization, distribution and extended use among seed producers.

These norms seek to regulate activities mostly associated with the production of seeds for intensive agricultural activities, for commercial purposes. This legal regime has little to do with conservation, the maintenance of diversity or the protection of culture associated with the use of seeds. To the contrary, some argue that the national seed system has a perverse effect on small farmers by only promoting and authorizing the distribution and use of seeds registered or certified by the authority, in this case, the National Agricultural Health Service (SENASA). During discussions in Peru, modifications to the 'classical' seed system have been proposed to allow seeds of native crops that do not comply with the requirements provided in seed legislation to be exchanged and commercialized, at least at some level.[79]

In the context of these legal frameworks and registers, it is valid to question how *native* crops and their wild relatives can be protected if they lack significant commercial potential or immediate export potential, or do not fit as part of an intensive agricultural model – in fact, quite the opposite. How can crops of a historical, cultural, ecological and social value, and certainly with an economic potential, be protected? Even though they may have a limited market niche (for the moment), they are nevertheless interesting or attractive. As mentioned earlier, these crops are important for 'food security'. They are 'Peruvian' crops in the most colloquial sense and in the least legalistic of terms.

It is due to these questions and limitations in the legal frameworks that, since around the 1990s, the question on how to protect certain crops and what this protection implies is being debated in some circles. Although there is a consensus on the need to conceive and develop a protection regime, there have been limited conceptual reflections on the significance of 'legally protecting' these native crops.[80]

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[79] It is also true that informality predominates in a good part of national agriculture (except maybe in agro-industrial complexes on the coast). In this regard, there is no supervision and control by the State on the commercialization and use of seeds throughout the national territory. This can be explained due to the extreme topographic complexity of Peru and the practical difficulties in monitoring the activities of small farmer producers in isolated zones of the Andes and the Amazon.

[80] A 'protection' norm demands a clearly defined subject matter or objective. In the case of the former, it is evident that the subject matter is native crops and their wild relatives. By extension, genetic resources and genetic components of these crops could be included. As to the latter, the concept of 'protection' may have different meanings that should be specified. This may include: guaranteeing levels of control on the access and flow of the crops; economic compensation for their use; maintaining them in *in situ* or *ex situ* conditions; subjecting them to research and development processes for a better

An important advance occurred in 2005, when the Peruvian Congress enacted Law 28477, which declares "Crops, Native Breeds and Wild Species the Natural Patrimony of the Nation"[81, 82] (see Box 14). This Law reaffirms the provision of Article 66 of the Constitution of 1993 and declares that natural resources (renewable and non-renewable) are the patrimony of the nation. Article 5 of the General Law of the Environment, also establishes that natural resources are part of the patrimony of the nation.[83] Law 28477 goes even further, by creating a definitive list of these crops, breeds and wild relatives.

Through a formal declaration, the Law seeks to establish a kind of protection or safeguard with regard to certain crops (breeds and wild relatives) that, for different social, cultural and economic reasons, are deemed particularly important for the country. Although the Law does not identify the *specific* type of protection, it does determine that the Ministry of Agriculture and other entities have the responsibility to register, disseminate, conserve and promote the use of genetic material of these crops, and promote the production, commercialization and consumption of these products and breeds. It is clear that, behind these different objectives, there is the notion of 'protection'. In this regard, the protection suggested is expressed at the level of *policy recognition* of the importance of resources included in the list. It also implies a protection in terms of restating or reclaiming the origin of these resources in international fora regarding this official recognition. Finally, protection is stated indirectly in terms of *sensitizing sectors of the population* on the particular importance of these crops and resources.

This Law was not subject to major consultations or debates in the Commission of the Environment of Congress. Periodically, there are initiatives by Members of Congress to protect crops that are believed to be Peruvian and introduce laws that individually protect native crops.

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application and use; granting exclusive rights to those who develop and improve these crops; granting intellectual rights (brands and other distinctive signs) that would guarantee commercial advantages; guarantee property rights on land or areas where these crops are cultivated; etc. For more details on the issue of 'protection' see the results of the *'Workshop on Protecting Native Crops in Peru'*, organized as part of the GRPI project by SPDA and SENASA in February 2005.

81 Law enacted on 24 March 2005.

82 'Crops' are plant species used by people mainly to satisfy their food needs, but can also be used in other commercial or industrial activities. 'Native breeds' are native animal species (generally only found in these areas) domesticated by people. The 'wild relatives' (of native crops) are common ancestors of domesticated species that remain in the proximity (in general) where agricultural activities with native crops are carried out. Personal communication: Manuel Sigueñas, INIA, 30 April 2008.

83 Law 28611. The General Law of the Environment was enacted on 13 October 2005.

Other interesting initiatives include the national and international recognition of potato as a very important crop for agriculture and food. The United Nations decided to recognize the year 2008 as the 'International Year of the Potato', due to its contribution to agriculture and food worldwide. Peru, by an initiative of the Potato Park Association together with CONAM and the Ministry of Agriculture, decided to declare a National Potato Day to celebrate the 'goodness' of the tuber and its contribution to food security, the cultural diversity of the Peruvian Andes, and national pride.[84]

On this day, a number of cultural and gastronomic activities are carried out around the country, to raise awareness among the population of the importance of potato as food and an integrating element of national pride. Seed fair activities and special menus in restaurants, official ceremonies, television programmes and mentions in the media contribute to this objective. They also contribute to promoting a better understanding in society of the social, cultural and economic importance of the country's genetic resources in general (see Box 11).[85]

Debates have continued since. According to work carried out by the National Commission for the Prevention of Biopiracy (see Box 2), it is clear that there are still cases in which genetic material obtained in Peru is being researched in other countries, generally without Peru having recognized and authorized its export from national territory.[86]

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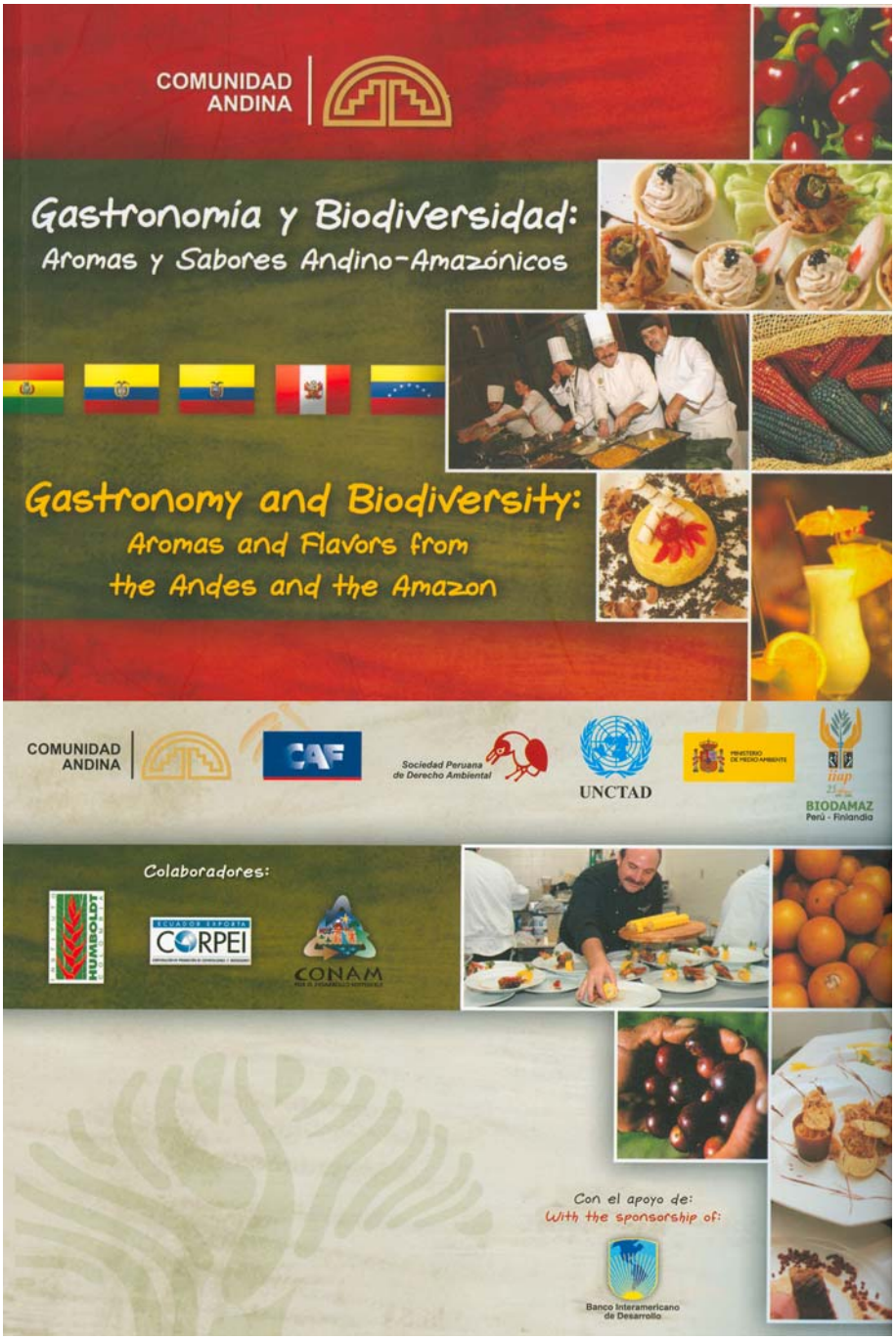
[84] 'National Potato Day' was established on 30 May by Supreme Decree 009-2005-AG. The United Nations declared 2008 as the 'International Year of the Potato'.

[85] A very important event was organized by a number of institutions (CAN, SPDA, the Andean Development Corporation (CAF), the Biodiversity Project in Amazonia (BIODAMAZ) the National Environmental Council (CONAM), and the Humboldt Institute) for the occasion of the VII Conference of the Parties to the CBD, in Curitiba, Brazil in 2006. The event was called '*Gastronomy and Biodiversity: Aromas and Flavours from the Andes and the Amazon*' and the objective was to attract attention to the relationship between biodiversity and gastronomy, and the huge potential for countries in the region to generate incentives for conservation and sustainable use. More than 150 representatives attended a buffet dinner, with typical dishes based on native biodiversity from countries in the Andean Amazon region – mainly Peru.

[86] For cases in which biopiracy problems are suspected in relation to resources of Peruvian origin, see the publication: National Commission for Biopiracy. *Analysis of Potential Biopiracy Cases in Peru. Andean Amazon Initiative against Biopiracy*. Series of Research Documents. Initiative against Biopiracy, SPDA, Year I, No. 3, September 2005. A document with a more specific and detailed analysis of patents granted on inventions related to the genetic components South American camelids (in this case vicuñas, alpacas, llamas and guanacos of Peruvian origin) is: Pastor, Santiago and Fuentealba, Beatriz. *Camelids, New Technological Advances and Patents: Possibilities and Concerns for the Andean Region*. Series of Research Documents. Initiative against Biopiracy, SPDA, Year II, No. 4, January 2006. Available at http://www.biopirateria.org.


COMUNIDAD ANDINA
Gastronomía y Biodiversidad:
Aromas y Sabores Andino-Amazónicos
Gastronomy and Biodiversity:
Aromas and Flavors from
the Andes and the Amazon
COMUNIDAD ANDINA
CAF
Sociedad Peruana de Derecho Ambiental
UNCTAD
BIODAMAZ
Perú - Finlandia
Colaboradores:
HUMBOLDT
CORPEI
CONAM
Con el apoyo de:
With the sponsorship of:
Banco Interamericano de Desarrollo

Box 14. Law 28477 which declares Crops, Native Breeds and Wild Species the Natural Patrimony of the Nation

Article 1 - On the objectives of the Law

Declare crops, native breeds and wild species the Natural Patrimony of the Nation.

Article 2 - On the crops, native breeds and wild species which are the Natural Patrimony of the Nation

Declare crops, native breeds and wild species indicated in the present Law the Natural Patrimony of the Nation and those subsequently approved by the Ministry of Agriculture under a ministerial resolution.

Article 3 - On dissemination, conservation and promotion

Entrust the Ministry of Agriculture, in coordination with Regional and Local Governments and other public and private entities, the responsibility of the registration, dissemination, conservation and promotion of genetic material; promoting the production, industrialization, commercialization and consumption of crops and wild breeds and use wild relatives detailed in the Annex of the present Law, within a sustainability approach. This shall be undertaken by the Ministry of Agriculture and added to their Budget of the corresponding fiscal year.

Final Provisions

First - Derogate the legal provisions that oppose the present Law.

Second - The present Law shall enter into force the day following its publication in the Official Gazette El Peruano.

Therefore:

Having been considered a Law by the Peruvian Congress, accepting the observations formulated by the President of the Republic, in accordance with that provided in Article 108 of the Political Constitution of Peru, I order it to be published and complied with.

Lima, March twenty-second of two thousand and five.

Ántero Flores-Aráoz
President of the Congress of the Republic

Natale Amprimo Plá
First Vice-President of the Congress of the Republic

Annex:

Crops, native breeds and wild species which constitute the natural patrimony of the nation

a) NATIVE CROPS

COMMON NAME	SCIENTIFIC NAME
1. Achiote	*Bixa orellana*
2. Achira	*Canna indica*
3. Aguaymanto	*Physalis peruviana*
4. Ají amarillo	*Capsicum baccatum*
5. Ají pimentón	*Capsicum annuum*
6. Caigua	*Cyclanthera pedata*
7. Camote	*Ipomoea batatas*
8. Camu camu	*Myrciaria dubia*
9. Cañihua	*Chenopodium pallidicaule*
10. Cascarilla or quinua	*Cinchona officinalis* (distribution: high Amazon up to 3,500 m);*Cinchona pubescens* (distribution: low Amazon up to 3500 m); *Cinchona spp.*
11. Faique or Huarango	*Acacia huarango*
12. Frijol ñuña	*Phaseolus vulgaris*
13. Gatupa	*Passiflora pinnatistipula*
14. Huacatay	*Tagetes minuta*
15. Kiwicha	*Amaranthus caudatus*
16. Llacón	*Smallanthus sochifolius*
17. Loche	*Cucurbita moschata*
18. Maca	*Lepidium meyenii*
19. Maíz blanco gigante	*Zea mays*
20. Maíz morado	*Zea mays*
21. Mashua	*Tropaeolum tuberosum*
22. Mauca	*Mirabilis expansa*
23. Oca	*Oxalis tuberosa*
24. Olluco	*Ullucus tuberosus*
25. Paico	*Chenopodium ambrosioides*
26. Papa común	*Solanum tuberosum*
27. Papa amarga	*Solanum juzepczukii*
28. Papa amarilla	*Solanum goniocalyx*
29. Papa ayanhuiri	*Solanum ajanhuiri*
30. Papa fureja	*Solanum phureja*
31. Papa huayro	*Solanum* x *chaucha*
32. Papa patiquiña	*Solanum stenotomum*
33. Papa rucki	*Solanum curtilobum*
34. Papa tropical	*Solanum hygrothermicum*
35. Quinua	*Chenopodium quinoa*
36. Rocoto	*Capsicum pubescens*

37. Sacha inchi	*Plukenetia volúbilis*
38. Sacha mango	*Grias peruviana*
39. Sacha oca	*Maranta arundinacea*
40. Sachapapa	*Dioscorea trifida*
41. Saúco peruano	*Sambucus peruviana*
42. Tuna	*Opuntia ficus-indica*
43. Uña de gato	*Uncaria tomentosa, Uncaria guianensis*
44. Yuca	*Manihot esculenta*
45. Zinnia	*Zinnia peruviana*

b) NATIVE BREEDS

COMMON NAME	SCIENTIFIC NAME
1. Cuy	*Cavia porcellus*
2. Alpaca	*Lama pacos*
3. Llama	*Lama glama*

c) WILD FAUNA SPECIES

COMMON NAME	SCIENTIFIC NAME
1. Chinchilla	*Chinchilla lanigera*
2. Guanaco	*Lama guanicoe*
3. Huangana	*Tayassu pecari*
4. Majaz	*Agouti paca*
5. Oso de anteojos	*Tremarctos omatus*
6. Pecarí	*Pecarí tajacu*
7. Venado Rojo	*Mazama americana*
8. Vicuña	*Vicugna vicugna*
9. Viscacha	*Lagidium peruanum*
10. Zorro de Sierra	*Pseudalopex culpaeus*
11. Taruca	*Hippocamelus antisensis*

As a result of this, and given the circumstances explained in this section, as part of the GRPI Project, SPDA has developed a preliminary law proposal that establishes the 'Official National Register of Native Crops and their Wild Relatives in Peru'. This proposal (see Box 15) is the subject of consultations within the academic sector, civil society and in governmental institutions such as INIA, INRENA and some Regional Governments.

The main objectives of this proposal refer to identifying native crops of Peruvian origin and their official denomination, emphasizing and revaluating their existence and conservation, identifying the principal users or 'conservationist' farmers of these crops, and the systematization of information on typically Peruvian resources. Hopefully, awareness will at least be raised among society on the social, cultural and economic importance of these crops.

Box 15. SPDA draft Law (Decree-Resolution) which creates the Official National Register of Native Crops and their Wild Relatives

Considering that Peru is a centre of origin and diversification of a multiplicity of crops and their wild relatives of critical importance for agriculture and global and national food security,

Recognizing that native crops and their wild relatives are part of an ancestral legacy which has been and is part of the cultural identity of the country, building on the conservation and development efforts of small farmers, who many times are the descendents of the country's indigenous peoples,

Aware that crop species such as yacón (*Smallanthus sonchifolius*), hercampuri (*Gentianella alborosea*), camu camu (*Myrciaria dubia*), sacha inchi (*Plukenetia volubilis*), potato (*Solanum tuberosum*), caigua (*Clylanthera pedata*), achiote (*Bixa orellana*), among others, are very important from a social, cultural and economic point of view and offer interesting opportunities for the development of activities in the field of agriculture, processing and industrialization, research and development,

Aware that in a globalized world and society, measures need to be taken with regard to the protection of interests of the country, in relation to the origin of these crops and species, and guarantee their recognition through a unique and centralized instrument,

Aware that Law 28477 is a step forward by declaring crops, breeds and wild species the natural patrimony of the Nation, and that the Ministry of Agriculture in coordination with Local and Regional Governments are responsible for their register, dissemination, conservation and promotion of the genetic material of these crops and species,

The Congress of the Republic has passed the following Law:

Article - Native crops and their wild relatives are part of the natural patrimony of the Nation.

The State recognizes the ancestral contribution of peasant and native communities to the conservation, maintenance and development of native crops.

Article - Access to, and conservation and use of these crops and their wild relatives, are undertaken in accordance to legislation and traditional practices.

Article - The Official National Register of Native Crops and their Wild Relatives does not grant specific rights to those who are applicants to the register. The register only identifies and recognizes the individuals, institutions or communities who maintain, conserve and work with these crops.

Article - The social, environmental, cultural and economic importance of crops and their wild relatives should be emphasized in all official ceremonies, where appropriate.

PROMPEX, PROINVERSION and other governmental and private agencies dedicated to promoting investment and commercial activities in agriculture, in

collaboration with farmers, peasants and civil society organizations, are required to seek mechanisms to sustainably promote and develop activities related to these crops and their wild relatives, including conservation and recognition, research and development.

Objective

Article - Create the Official National Register of Native Crops and their Wild Relatives under management of the National Program for Genetic Resources and Biotechnology of the National Institute for Agricultural Innovation (INIA).

Article - The objectives of the Official National Register of Native Crops and their Wild Relatives are:

a) Maintain an official register of native crops and their wild relatives, and their main agronomic, agroecological and taxonomic characteristics, among others,
b) Clearly identify the origin and diversification centres of native crops and their wild relatives, and raise awareness about their origin at the national, regional and international levels, through duly verified technical/scientific official information,
c) Identify communities, groups of farmers, individuals and institutions that carry out activities on conservation, promotion, research and use of native crops and their wild relatives,
d) Identify conservationist or curious farmers that have been instrumental in the ancestral efforts of conservation,
e) Contribute to preventing acts of biopiracy as provided in Law 28216.

Article - The Official National Register of Native Crops and their Wild Relatives is a public register, maintained as a data base in INIA and accessible to all individuals or interested institutions. Access to the register implies compliance of minimum requirements, mainly the acceptance of conditions to access and use information.

Requirements to register

Article - The National Program for Genetic Resources and Biotechnology of the National Institute for Agricultural Innovation administrates and updates the Official National Register of Native Crops and their Wild Relatives.

Article - The list of native crops and their wild relatives shall be completed by including Annexes based on specific species. For the effects of this Law, Annexes 1 and 2 include native crops and their wild relatives of species/families *Solanum* and *Zea.*

Article - The Official National Register of Native Crops and their Wild Relatives shall be completed based on activities of the National Programme for Genetic Resources and Biotechnology and by people, institutions or communities who wish to register native crops and their wild relatives.

Article - The application to register is presented before the National Program for

Genetic Resources and Biotechnology, who will verify and complement the information provided and proceed to the official registration.

Article - To register native crops, the following information needs to be provided:

- Geographic origin of the crop
- Taxonomic information (including taxonomic data provided by indigenous, native or local communities)
- Agronomic and agricultural value
- Technologies used to farm and harvest (including traditional practices)
- Cultural and social importance
- Traditional knowledge associated to crops, including traditional uses
- Economic and commercial potential

This information shall be validated by INIA prior to the formal registration

Benefits derived from the registration of native crops

Article - Conservation, research and development activities in public institutions including INIA, are prioritized based on the registered native crops. Part of INIA's institutional budget shall be dedicated to financing these activities, working directly with farmers who conserve and maintain these resources.

Article - The commercialization or economic activities that imply processing or semi-processing and which generate benefits from the access and use of these crops, shall assign a percentage of these benefits to a research fund administrated by INIA.

These benefits exclude those derived from the traditional activities of peasant and native communities such as exchange and barter or commercialization.

Article - All products developed from these crops should indicate their origin and the fact that the original material is registered.

Final Provisions

1. Create a research fund for native crops in INIA, which will seek resources from international cooperation, the budget assigned to INIA and benefits mentioned in Article (*see above*).

This is not a proposal *exclusively* for farmers nor does it grant exclusive rights to any one actor in particular.

The main issue under discussions is the type of protection that a national register for native crops can provide. The simple fact of having an *official* register of native crops, duly recognized by all sectors, grants these crops a special status.

Secondly, although protection cannot be extended *outside* national jurisdiction (due to the limited effect of national laws), it does allow the State to invoke

the duly recognized public national register, to confirm that crops given a right are undoubtedly crops registered in Peru.

Finally, the register does not grant a property right similar to that of the register of protected varieties or national register of cultivars, but does reinforce the rights of the State and specific actors in relation to the recognition of their existence and use. The latter could be important in terms of a register that offers useful information for examination of novelty and inventive level and other criteria in the patent system and breeders' rights system.

Box 16 offers a preliminary approach on the meaning of a register of native crops, based on INIA's perspective. Although this is still a working document, it does allow the orientation of this initiative to be understood, and how public authorities (in this case INIA) perceive certain issues.

Box 16. INIA Manual for the registration of native maize and potato

National Institute for Agricultural Innovation

Directorate of Agrarian Research
Sub-Directorate of Genetic Resources and Biotechnology

User's manual (working document)

REGISTER OF NATIVE CROPS – MAIZE AND POTATO VARIETIES

Project: Genetic Resource Policies Initiative (GRPI)

Sponsored by: Peruvian Society for Environmental Law – SPDA
Bioversity International

October, 2007

1. GENERAL CONCEPTS

What is an accession?

It is a technical word used to denominate seeds (reproductive parts) of native varieties collected and held in germplasm banks, properly identified and with the information on their origin and geographical localization.

What is *ex situ* conservation?

The conservation in germplasm or seed banks of plant genetic resources (varieties, clones, ecotypes, etc.) outside of their original or natural habitat.

What is *in situ* conservation?

The conservation of plant genetic resources in areas where they have developed naturally and, in the case of species or varieties cultivated in the surrounding areas, where they have acquired their distinctive properties.

What is a cultivar?

It is a term used to name the populations of cultivated plants that are genetically homogeneous as they (1) share characteristics of agricultural relevance allowing them to be clearly distinguished from other populations of species, and (2) transmit these characteristics from generation to generation, in a sexual or asexual manner.

What is a collection?

A collection is a group of variants (varieties) of a species held in a germplasm bank.

What is a native crop?

It is a crop that that has developed in centres of origin and diversification and is maintained by farmers through generations.

What is a variety?

A group of individual plants with similar characteristics amongst them.

What is a register?

It is a written, mechanical or informatic medium as a result of a detailed descriptive analysis of objects or individuals, regarding their external or internal characteristics that establishes the difference between such units or individuals.

What is biopiracy?

The practice by which researchers or companies illegally using the biodiversity components of developing countries and the collective knowledge of indigenous peoples or peasants to conduct products and services that are exploited commercially and/or industrially without the authorization of their original innovators and creators.

What is germplasm?

A collection of plant material or 'genetic material' or material used for the vegetative reproduction or propagation of plants. It includes the native cultivar of the species, improved cultivars, populations in the process of breeding, related wild species and related cultivated species.

What is characterization?

The systematic description of a variety, through the application of tool called a 'descriptor', that determines the difference between varieties and shows the diversity of native crops.

What is a genetic resource?

Material or germplasm of a biological nature with genetic information of real or potential value. It is considered basic for mankind and substitutes basic needs, helping to resolve poverty and hunger problems.

What is a clone?

The result of an asexual reproduction of an individual identical to the original (in the case of potato, banana, yuca, sweet potato, etc.).

What are native varieties (traditional or autochthonous)?

Those collected in regions where the crops originated or diversified, or those used by farmers traditionally, that have not gone through a controlled systematic and scientific improvement process.

What is the national register of native crops?

A database where the names (list) of native crop varieties, their most important characteristics, main use and properties, *in situ* distribution and/or zones where they are conserved under *ex situ* conditions are registered.

2. FUNCTIONS OF THE REGISTER

What is the objective of the register of native crops?

To officially have the proof of the main varieties of native crops, linked to an entity of the Peruvian State and to a group of fields with data belonging to a unique variety, in order to maintain the variability identified.

What should one register?

The common name of the variety as known by farmers and the plant's most visible characteristics (colour of stem, fruits, flowers, seeds, forms and uses), *in situ* distribution and zones where they are conserved in *ex situ* conditions.

Why is it good to register a native crop?

In order for our native crops to be recognized as native to Peru, to promote their use and because it constitutes for the competent authorities a tool of defence of the property rights of peasant and/or farming communities and the Peruvian State. Also to officially have information made available on the varieties of native crops and their existing diversity.

Who registers the native crops?

The registration of native crop varieties is carried out by the competent authority defined by the Peruvian State, in this case the National Institute for Agricultural Innovation (INIA).

How to register native crops?

The registration process of native crop varieties is undertaken by the appointed competent authority. An application should be by either a natural or legal person (researcher, farmer, community, research institution, university, non-governmental organization, etc.) interested in registering the variety. The native crop varieties shall be entered into a database with information containing their names, particular characteristics of each variety, location, name of farmers, name of communities, main uses, etc.

What should be registered?

All the varieties of endemic and native crops or those that have diversified in Peru. The minimum information required to register a native variety in the register of native crops is:

- Technical and common name of the variety and crop it belongs to
- Name of farmers, researcher, etc., who conserve the variety and the knowledge associated to its traditional management
- Name of the distribution and dissemination areas of the variety
- Institutions involved in the conservation and management of the variety
- Germplasm banks that hold the varieties of native crops *ex situ*
- Description and characteristics of the variety
- Uses and properties
- Documents and scientific literature available
- Wild relatives.

What is a register of native crops for?

This national register of native crops fulfils various functions:

- It allows to establish the identity of native crop varieties in general
- Recognizes native crops as originating in Peru and the communities and farmers who have developed and conserved them
- Can be used by the patent offices of countries around the world in evaluations of applications for intellectual property rights
- Contributes to prevent acts of biopiracy of native crops
- Supports the implementation of the International Treaty on Plant Genetic Resources for Food and Agriculture
- Shows the world in an orderly manner the native resources of Peruvian territory.

Who can register native crops?

Public or private institutions in charge of conserving and managing germplasm of genetic resources (universities, agricultural institutes, NGOs, organized communities, farmers, researchers, etc.), that comply with the requirements of characterization and useful and necessary information.

Can the same variety be registered various times?

No, unless the varieties are proved to be really morphologically similar, whether from different regions or areas distant from one another. In this case, the different names of the same variety shall be considered as synonyms and all the regions, areas, etc., that are the scope of distribution of the variety shall be listed.

Source: INIA, 2008.

Box 17 includes the resolution under which a National Register of Peruvian Native Potato is created. This norm creates the official register (exclusively for potato), where different varieties of native potato will be listed, based on recognized genetic, morphological and anatomical indicators. The norm does not exactly specify the type of protection to be granted through this register, but its Preamble determines that the register will facilitate access to and use of information relative to Peruvian native potato, based on entries that include the recognized genetic, morphological and anatomical indicators of such products, and which can represent adequate technical support for their protection at the international level.

In due time, the precise objectives of this register will be specified in the complementary provisions that INIA will develop. In any case, it is possible to infer and determine some of the potential objectives, based on multi-disciplinary meetings that have already taken place among national experts (not only applicable to native potato, but to a national register for a wider range of crops).[87]

The objectives of this register can be summarized as:

- Identifying the native crops (applicable in the case of the National Register of Peruvian Native Potato).
- Recognizing the special character of these crops (applicable in the case of the National Register of Peruvian Native Potato).
- Recognizing the origin (communal, local or individual of a determined variety).
- Creating an official register (applicable in the case of the National Register of Peruvian Native Potato).
- Protecting the rights (of property possession, and use) of farmers over these crops.
- Preventing the irregular and illegal use of these crops.
- Guaranteeing that these crops shall be recognized if used by third parties for improvement purposes.

[87] Workshop report. *Creación y Reconocimiento del Registro de Cultivos Nativos*. INIA (Subdirección de Recursos Genéticos y Biotecnología), SPDA, IPGRI. Lima, September 2006. Available on file with SPDA.

Box 17. Resolution creating the National Register of Peruvian Native Potato (RNPNP)

Ministerial Resolution No. 0533-2008-AG

Lima, July 1, 2008

Considering:

That Article 88 of the Political Constitution of Peru provides that the State must preferentially support agricultural development;

That Article 3 of Legislative Decree No. 997 – Ley de Organización y Funciones del Ministerio de Agricultura provides that the objective of the Ministry of Agriculture is to design, establish, carry out and supervise the State's National Agricultural Policy, assuming the rectory in accordance to attributions conferred by the Political Constitution of Peru and other laws.

Likewise, Paragraph number 6.1.5 of Article 6 of the cited Legislative Decree provides that the Ministry of Agriculture is to oversee the National Agricultural Information System.

That the United Nations – UN has officially announced the year 2008 as the International Year of the Potato, which constitutes an excellent opportunity to raise awareness on the benefits of this product, offering multiple opportunities to highlight the role of potato as a basic food benefit of the world.

That Peru, according to different historical documents, scientific and technical studies, is the first centre of origin of potato, a tuber that dates back more than 7,000 years and became the basic food in the development of Inca and Pre-Inca cultures, making Peru the largest genetic diversity centre of wild and cultivated potato, with 91 of the 187 wild potato species recognized and nearly 2,000 native varieties of all existing species.

That the majority of these crops are identified in national statistics as they are cultivated in 19 departments, from sea level to 4,500 above sea level, the average surface of harvest is 260,000 hectares, which produces 30 million tons of the product, generating approximately 110,000 permanent jobs and 30 million daily jobs, representing 13% of the Agricultural GDP; this means the highest index with respect to any other national food crop.

That Law No. 28477 – Law Declaring Crops, Native Breeds and Wild Relatives the Natural Patrimony of the Nation, incorporates a list of crops and native breeds that include among others, nine (9) species of Peruvian native potato, entrusting the Ministry of Agriculture the register of their genetic material, among other crops.

That under the framework of the Ministry of Agriculture, there is the need to establish mechanisms that would facilitate access to information related to Peruvian native potato, based on registers that include the recognized genetic, morphological and anatomical indicators of such products, and which could represent the adequate technical support for their protection at the international level.

In accordance with Law Nº 29158 – Ley Orgánica del Poder Ejecutivo, Legislative Decree Nº 997 – Ley de Organización y Funciones del Ministerio de Agricultura and Reglamento de Organización approved through Supreme Decree Nº 017-2001-AG.

It is decided:

Article 1 - Establish in the Ministry of Agriculture, the National Register of Peruvian Native Potato – RNPNP, where the different varieties of Peruvian native potato will be registered based on recognized genetic, morphological and anatomical indicators.

Article 2 - The Ministry of Agriculture through the National Institute of Agricultural Innovation – INIA shall be in charge of the implementation, maintenance and update of the National Register of Peruvian Native Potato – RNPNP, issuing the necessary complementary norms and gui**delines.**

Article 3 - Authorize the National Institute of Agricultural Innovation – INIA, on behalf of the Ministry of Agriculture to subscribe Interinstitutional Cooperation Agreements with the Universidad Nacional Agraria de la Molina, International Potato Center or any other public or private institution whose activities are related to the diffusion or study of potato, with the purpose of consolidating relevant information that would make possible the permanent implementation and update of the National Register of Peruvian Native Potato – RNPNP.

Register, communicate and publish

Ismael Benavides Ferreyros
Minister of Agriculture

4. Final reflections

1. In the case of Peru (and various other countries), the generation of public policies and normative efforts regarding agrobiodiversity, native crops and other matters, responds to a number of circumstances, institutional relations, state interests, economic interests and other pressures that have contributed to force the initiation of these processes. They are not necessarily processes that have been planned beforehand, but are reactions to favourable circumstances and situations, adequately directed and streamlined by different social actors.
2. There is no standardized formula or methodology that can be proposed to replicate these processes in other places. However, there are elements and circumstances as mentioned above, that could, to a certain degree and intensity, influence when and how these policy and normative processes are initiated. From such diverse matters as gastronomy or intellectual property, there is the possibility to catalyze processes and revalue biodiversity activities. The existence of a significant biodiversity or cultural element (e.g., peasant communities or traditional farmers) could also be an important trigger mechanism for processes and actions.
3. In general, these processes start from isolated (public and private) institutional initiatives that need to be disseminated in order to encourage other actors to contribute. In the case of Peru, it is still a challenge to ensure that closer coordination, especially among public institutions, takes place. Therefore, time and effort need to be invested in order for different institutions with common interests to cooperate and collaborate in an active and open manner. 'Making the process theirs' is applicable to all actors and stakeholders.
4. With regard to agrobiodiversity and native crops, there is a multiplicity of variables and matters – social, economic, cultural, political, legal and environmental – that make the policy and normative processes very complex. Therefore, they require multi-disciplinary and coordinated efforts. In this regard, GRPI's '3M' (multi-disciplinary, multi-sectorial and multi-stakeholder) approach is a methodological alternative that could ensure

successful results of efforts to generate awareness, public policies and the appropriate norms.

5. Agrobiodiversity zones are an interesting alternative to conserve and maintain cultures and areas that interact with domesticated biodiversity. This is especially important in countries such as Peru (and many megadiverse countries), where similar rural structures are shared with ancestral communities, where crops are oriented to self-consumption and food security, and where there are extensive agricultural systems. There is no internationally recognized category to protect this type of area. The concept of 'agrobiodiversity zone' has only been raised formally and as a legal norm in Peru. In this regard, the establishment and recognition of agrobiodiversity 'hotspots' that would coincide with countries that occupy geographical zones that are centres of origin and diversification, could be important in terms of promoting the conservation of domesticated genetic diversity and associated cultural diversity.
6. To create an agrobiodiversity zone and establish a national register of native crops (or a specific register for species), there is the need to generate a participatory process, taking into account the direct and immediate interests of communities in relation to these matters, and place them at the centre of efforts to create zones and registers. An interesting point is that, due to this participatory approach, international obligations are being complied with as part of the FAO International Treaty, specifically in relation to the implementation of Farmers' Rights. The participation of farmers is essential to legitimize processes and ensure sustainability.
7. It is important to determine the *objectives* pursued by the agrobiodiversity zones and register of native crops, as elements that will orient a policy or specific norm. It is complicated to think of proposals that would have a positive practical impact without clearly defined objectives. In the case of agrobiodiversity zones and the register of native crops in Peru, there are elements in their objectives that could be the subject of major reflection.
8. In the context of an accelerated change in climate patterns around the world, certain 'natural deposits' of *in situ* genetic diversity of important crops for food and agriculture require priority policy attention regarding their conservation and maintenance. This can be done through public policies and adaptation strategies, with the support and promotion of activities carried out by farmers themselves, based on identified zones or areas recognized as critical, to benefit from conservation budgets and funds. In the framework of FAO and activities of the Global Crop Diversity Trust, it would interesting to explore support and funding lines for identified geographical areas that are scientifically and technically proved to be important centres of diversity.

9. National laws that establish a normative and institutional framework for agrobiodiversity zones and the national register of native crops will give a certain clarity in the face of the enthusiasm and initiatives proposed on different fronts: Local and Regional Governments, NGOs and interested communities. The laws should offer an appropriate legal foundation to support the performance of these actors at different stages of the creation and development of these tools.
10. Legal policies and norms are ways to obtain and support (positive) social changes. They do not mean anything unless they are accompanied by their implementation and effective compliance. These are important matters for countries like Peru, where norms are in abundance but compliance is limited – in all fields. Public policies on agrobiodiversity require adequate incentives to promote their compliance and enforcement.
11. Finally, the experience in Peru regarding agrobiodiversity zones and the register of native crops allows two important elements to be integrated: elements of science (data and information) with policy and normative processes. A large part of these processes are based substantially on scientific research and evidence. As they are participative processes, they include cultural and traditional perceptions that should be incorporated and evaluated carefully and respectfully. Ultimately, these perceptions shall give legitimacy to the results in terms of specific public policies and norms.

Bibliography

1. Agin, Dan. *Junk Science. How Politicians, Corporations and other Hucksters Betray Us*. Thomas Dunne Books. St. Martins Press, New York, USA, 2006.

2. Andersen, Regine. *Governing Agrobiodiversity: Plant Genetics and Developing Countries*. Ashgate, Aldershot, UK, 2007.

3. Ascoytía, Carlos. *Historia de la Gastronomía Peruana*. Available at: http://www.historiacocina.com/paises/articulos/peru/peru.htm, September, 2008.

4. Asociación Regional para Políticas de Conservación en América Latina y el Caribe. *Definiendo Herramientas para la Influencia en Políticas Orientadas al Desarrollo Sostenible. Análisis de Experiencias de Influencia Política de Organizaciones en América Latina.* The Nature Conservancy, John D and Catherine T MacArthur Foundation, Costa Rica, 2000.

5. Asociación Rural Pradera. *Vigorización de la Chacra Campesina del Bajo Mayo*. Tarapoto, Peru, August, 1993.

6. Caillaux, Jorge, Ruiz Muller, Manuel, Tobin, Brendan. *El Régimen Andino de Acceso a los Recursos Genéticos. Lecciones y Experiencias.* World Resources Institute and SPDA, Lima, Peru, 1999.

7. Caillaux, Jorge. *Se requiere extrema cautela (transgénicos).* El Comercio, Thursday 10 July, 2008.

8. Chevarria, Marco, Santana, Raúl, Torres, Juan. *Conservación* In Situ *de la Agrobiodiversidad Andino-Amazónica.* AMECA: Base Técnica para su Reconocimiento Oficial. Lima, Peru. 2006.

9. Comisión Nacional de Biopiratería. *Análisis de Potenciales Casos de Biopiratería en el Perú. Iniciativa Andino Amazónica contra la Biopiratería.* Serie de Documentos de Investigación. Iniciativa contra la Biopiratería, SPDA, Año 1, No. 3, September 2005.

10. Chumpitaz, Marcos. *Tierra Prometida. Perú, Cuna de la Agricultura en el Nuevo Mundo.* In: *Somos. Revista Semanal del Diario El Comercio*. Año XX, No. 1074, 2008.

11. Diamond, Jarred. *Guns, Germs and Steel. The Fates of Human Societies.* WW Norton, New York, USA, 1997.

12. Work document No. 003-1999, Area de Estudios Económicos de INDECOPI. *Propuesta de Régimen de Protección de los Conocimientos Colectivos de los Pueblos Indígenas y Acceso a los Recursos Genéticos.* Normas Legales, Diario Oficial El Peruano, Thursday 21 October 1999. Special Working Paper.

13. EDELNOR, ENDESA. *Todo sobre la Papa: Historia, Secretos y Recetas.* Lima, Peru, 2008.

14. Hobbhouse, Henry. *Seeds of Change: Five Plants that Transformed Mankind*. Papermac, UK, 1999.

15. IIAP, PNUD, FMAM, Cooperazione Italiana (2002). *Conservación* In Situ *de los Cultivos Nativos y sus Parientes Silvestres,* PER/98/G33. Lima, Peru, 2002.

16. IIED. *Traditional Resource Rights and Indigenous People in the Andes. Sustaining Local Food Systems, Agricultural Biodiversity and Livelihoods.* IIED, November, 2005. Available at: http.//www.iied.org

17. INIA (Sub Dirección de Recursos Genéticos y Biotecnología), SPDA, IPGRI. Informe de Taller. *Creación y Reconocimiento del Registro de Cultivos Nativos.* Lima, Peru, September 2006.

18. Lapeña, Isabel. *Semillas Transgénicas en Centros de Origen y Diversidad*. SPDA, Lima, Peru, 2007.

19. McMannis, Charles (Ed). *Biodiversity and the Law. Intellectual property, Biotechnology and Traditional Knowledge.* Earthscan, UK/USA, 2007.

20. Pasco Font, Alberto, Saavedra, Jaime. *Reformas Estructurales y Bienestar. Una Mirada al Perú de los Noventa.* GRADE, CEPAL. Lima, Peru, 2001.

21. Pastor, Santiago, Fuentealba, Beatriz. *Camélidos, Nuevos Avance Tecnológicos y Patentes: Posibilidades y Preocupaciones para la Región Andina.* Iniciativa contra la Biopiratería, Documentos de Investigación. SPDA, Año 2, No. 4, January 2006.

22. Pastor, Santiago, Fuentealba, Beatriz, Ruiz Muller, Manuel. *Cultivos Sub-Utilizados en el Perú. Análisis de las Políticas Públicas Relativas a su Conservación y Uso Sostenible.* SPDA, GFU, ProUsoDiversitas. Lima, Peru, June 2006.

23. PRATEC. *Los Caminos Andinos de las Semillas. Nucleos de Vigorización de la Chacra Andina.* Lima, Peru, January 1997.

24. Revilla, Luis. *Organizaciones Tradicionales para la Conservación de los Cultivo Nativos. Proyecto de Conservación* In Situ *de los Cultivos Nativos y sus Parientes Silvestres.* PER98/G33. INIA, IIAP, PNUD, Lima, Peru, 2006.

25. Ruiz Muller, Manuel. *Los Derechos del Agricultor y su implementación en el Perú en el contexto del Tratado Internacional.* Serie Ocasional de Políticas y Legislación. GTZ, SPDA, FNI, Yanapai, Peru, No. 4, November, 2008.

26. Ruiz Muller, Manuel. *¿Cómo Prevenir la biopiratería? Una aproximación desde Latinoamérica.* Iniciativa para la Prevención de la Biopiratería. Documento de Investigación. SPDA, Año 1, No. 1, January 2005.

27. Ruiz Muller, Manuel. *Origen y propiedad de la papa: ni chilena ni peruana.* In: Peru 21, Monday 24 April 2006. Available at: http://www.spda.org.pe

28. Ruiz Muller, Manuel. *Farmers' Rights in Peru. A Case Study*. The Farmers' Rights Project. GTZ, FNI. FNI Report 5/2006. Available at: http://www.fni.no/doc&pdf/FNI-R0506.pdf

29. Ruiz Muller, Manuel. *El Tratado Internacional de la FAO sobre Recursos Fitogenéticos para la Alimentación y la Agricultura: Aportes para su Aplicación e Implementación en el Perú*. Serie ocasional de políticas y legislación. GTZ, SPDA, FNI, Yanapai, Lima, Año 1, No. 1, May 2007.

30. Solano, Pedro. *La Esperanza es Verde.* Sociedad Peruana de Derecho Ambiental. Lima, Peru. 2005.

31. Solton, Sue, Maxted, Nigel, Ford-Lloyd, Brian, Kell, Shelagh, Dudley, Nigel. *Arguments for Protection. Food Stores: Using Protected Areas to Secure Crop Genetic Diversity.* A research report by WWF, Equilibrium and the University of Birmingham. WWF, August, 2006.

32. Scurrah, Maria, Andersen, Regine, Winge, Tone. *Farmers Rights in Peru from a Farmer's Perspective.* Draft Document. On file with SPDA, Lima, Peru, 2008

33. Wilson, EO. *Biodiversity*. National Academy Press, USA, 1988.