



Association ANDES

**Policy That Works For Biodiversity and Poverty Reduction:  
The ANDES Community Initiative Component of the Scoping Study  
on Biodiversity Governance in Peru**

Final Report

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## 1. INTRODUCTION

### 1.1 Problem:

A conventional approach to assessing poverty would employ definitions and measures of poverty based only on income levels or consumption levels, with the conjecture that the poverty line can be adequately drawn primarily according to the cost of food. National household surveys would follow with questions like: What is your primary job? Secondary job? How many family members are there? How many members work? How much do you spend daily? etc. Finally, the survey data would be compiled, analyzed, mapped out and used in the elaboration of national poverty alleviation strategies.

Conducting this type of poverty analysis with a fixed set of indicators and easy to compile survey answers would certainly be a very straightforward procedure with clear and manageable results, easily transformed into map form with color-coded zones that vary according to poverty level like the one generated by Peru's Ministry of Economy and Finances in 2001. Nevertheless, a relevant question that inevitably emerges is what does this kind of map mean? In particular, what relevance does this kind of map have to Peru's poor? Ideally, since poverty alleviation strategies derive directly from maps such as these, the zones indicated as most economically poor would correspond to populations most in need and deserving of social assistance. Ideally, maps such as these would reflect ground realities, accurately indicating which zones are characterized by the most sickness, hunger, cultural erosion, environmental destruction, lack of public infrastructure, lack of basic services, lack of civil and political rights, lack of food security, among other aspects of poverty. Ideally, low income levels and the oft-used "dollar a day" poverty indicator would somehow be fundamentally bound to all these aspects of poverty and thus render such a map useful.

The reality is that any poverty definition based on income alone suffers grave limitations. Not only do prices of essential goods and services vary among national regions rendering a single poverty line nonsensical, but, more significantly, a preoccupation with income alone leaves out a broad range of deprivations and their interconnections. At Association ANDES where we have supported local communities in the management and sustainable development of biodiverse resources since 1996 we appreciate the central role of biodiversity in local livelihoods and recognize that the best source of information regarding the complex range of interconnected components of poverty that afflict local peoples is the local peoples themselves. Accordingly, if efforts are to be made to assess poverty among Peru's rural poor and develop effective poverty alleviation strategies, the knowledge of local communities regarding their unique socioeconomic contexts and associated deprivations—precisely what conventional conceptions of poverty have tended to leave out—should be incorporated into new definitions and measurements of poverty. This study was underpinned and driven by the belief that the poor of all people know best how to help themselves.

### 1.2 Objectives of the community level scoping study:

With 84 lifezones and 11 natural ecoregions, Peru is one of the most biodiverse countries in the world. Meanwhile, the levels of rural poverty in Peru—whether measured narrowly according to income levels or more holistically taking into account various aspects of poverty—are persistently high. Considering that many of the poorest indigenous people depend on biodiversity resources for employment, income, agriculture, food, medicines, clothing, shelter and other goods and services essential for livelihoods, the erosion of biodiversity and/or the restriction of access to the many benefits arising from the use of biodiverse resources exacerbates rural poverty. Current national priorities to, on the one hand, conserve biodiversity and, on the other, combat poverty dictated by Peru's commitments to meeting the objectives of the Convention on Biological Diversity (CBD) and the Millennium Development Goals (MDG's) should be addressed together, recognizing the fundamentally inter-linked nature of biodiversity conservation and poverty reduction.

The community level scoping study had two main objectives:

1. To involve local groups defined as “poor” whose livelihoods depend on biodiversity in the defining and measuring of poverty.
2. Work together with local authorities and the local population in incorporating the output achieved through the first objective into the elaboration of poverty alleviation strategies.

## **2. METHODOLOGY:**

The methodology used by ANDES in its support of local indigenous communities is participatory, flexible, and adaptive. Currently it is under development and was last tweaked for the purposes of this and another study on customary law during an institutional workshop attended by ANDES staff and barefoot technicians in April. For a more in depth account of ANDES’ methodology see *Propuesta de la Metodología Emancipatoria (Proposal on the Emancipatory Methodology)* of ANDES.

### 2.1 Theoretical Foundations:

Since its beginnings in 1995, Association ANDES has promoted conservation and sustainable development in the rural sector of the department of Cusco using an emancipatory methodology which counts on the full participation and decision making of Quechua communities. This methodology encompasses various lines of action including collaborative research, capacity building based on traditional educational techniques, and strengthening of local governance.

The methodology complements the central focus of ANDES which is the promotion of Areas of Biocultural Heritage based on *the conservation and sustainable development of the character of the mountain agricultural landscape, the alleviation of poverty and the strengthening of local livelihoods, as well as the safeguarding of the historic continuity of Quechua culture and associated collective indigenous knowledge and rights.*

The emancipatory methodology involves:

1. The direct inclusion and control by local indigenous populations regarding research, decision making, policy formulation and all governance processes.
2. The strengthening of cultural identity by validating traditional knowledge through the creation of a theoretical bridge between indigenous methods and technologies and contemporary participative methods of research that promote equity and social justice. Quechua methods include the use of prophecies y myths, techniques of seeing into the past and future; memory, writing, the recording of memory, the traditional methods of codifying information, etc. Contemporary participative methods of investigation include community-based evaluations, deliberative democratic evaluations, practical participative evaluations, and strengthening of decision making systems.
3. Working toward conflict resolution and the development of local platforms of self-governance, livelihoods and poverty alleviation mechanisms.

### 2.2 Methods and Procedures:

#### A. Review of definitions of poverty.

What definitions of poverty are the most influential and consequential globally? Certainly some definitions are most frequently implemented by countries around the world in the development of policies and strategies seeking to reduce poverty and improve the living conditions of their most disadvantaged citizens. Through an internet review of international development agencies and organizations as well as their current activity in the area of poverty alleviation there emerged key development programs and targets each with distinct definitions of poverty. Approaches to poverty analysis that currently lack sway on the global scene but highlight the inadequacies of conventional definitions of poverty—particularly for indigenous peoples with distinct values systems—were also considered. The work of the Spiritual Capital Research Program provided background information on the emerging concept of spiritual capital. In formulating local definitions of poverty it proved useful to

vindicate local barter practices as development strategies by highlighting the pervasiveness of barter worldwide, including on the world wide web. The internet was used as a source to research new developments in P2P technologies as well as barter experiences in Argentina and Germany.

#### B. Selection of study area.

The criterion for selecting the study area consisted of various factors that changed unexpectedly during the course of the study among which were knowledge base, suitability for the study objectives, and ability to address the most pressing concerns of the participants to the inter-institutional meeting organized by IIED and CONAM on Poverty and Biodiversity where the results of the study were to be presented in mid-May. It was important to have a sufficient knowledge base of the study area particularly regarding its bio-cultural resources and how traditional knowledge, practices, and innovation systems conserve biodiversity while simultaneously meeting development objectives. Out of Association ANDES' several programs and projects in sustainable development—its main strategy being the design and implementation of Community Conserved Areas (CCA'S)—the Potato Park is the most developed project with the most comprehensive research history. Accordingly, the Potato Park at first appeared to be the most fitting place to carry out the study. As it would happen, however, in April at around the same time that the study was first underway to investigate poverty and biodiversity linkages in the Potato Park, Neus Martí Sanz completed her doctoral thesis at the Universidad Autonoma de Barcelona on the barter market in Lares, another project area of ANDES. Considering that the barter market was such a clear manifestation of biodiversity-dependent local food systems and that Ms. Sanz's thesis would provide a sufficient knowledge base for the study, Association ANDES decided that Lares would be the study area most suitable for meeting the study objectives. The principal part of the study was carried out in Lares and in the nearby villages of Chuquecancha and Quchayuq, all of which depend on weekly visits to the barter market to meet livelihood objectives. During the latter part of the study, news from Lima informed ANDES that new developments in the construction of the transoceanic highway that is to connect the Atlantic with the Pacific by paving over culturally and environmentally precious regions of the Amazon between Peru and Brazil would be a priority issue for participants at the meeting in Lima. The planned route for the highway was slated to pass directly through one of ANDES's CCA initiatives, the Spiritual Parque of Vilcanota, an area that has been designated a Natural Spiritual Site for the rich spiritual heritage and associated environmentally friendly agricultural and cultural practices of the Q'eros indigenous communities. As ANDES is the only NGO with activity in this area we felt responsible for providing the Q'eros peoples with the opportunity to appear at the meeting in Lima to express their opinions about the construction of the highway and its likely impact on biodiversity and the social wellbeing of Q'eros communities. For this reason, the final presentation was given by representatives of both Lares and Q'eros communities in Lima and included a combination of experiences and responses from the two regions.

#### C. Investigation Modules and Study Groups:

ANDES' methodology outlines the following steps for the execution of investigative studies. They provided the procedural framework to carry out this study on biodiversity and poverty alleviation linkages:

1. Collaborative discussion and consensus regarding study objectives with ANDES staff and consenting study communities.

In this preliminary phase, the study objectives are thoroughly reviewed by ANDES staff with particular attention to the viability of fulfilling such objectives in the given community contexts. The study objectives are also reviewed by local communities as any further execution of the study is conditioned by community approval. During the last week of March, two ANDES barefoot technicians from Lares and representatives of the women's collective of the Lares barter market met with ANDES staff to come to a common understanding of the study objectives and approve its execution.

2. Discussion and design of research questions through the elaboration of modules.

This phase begins with discussion and identification of the information to be obtained from local communities through the investigation given the study objectives. For this study, three principle themes were agreed upon: local definitions of poverty, importance of biodiversity,

and impact of government conservation and development policies. Next comes the elaboration of the modules—one for each key theme to be addressed by the study—that are designed to be presented to community study groups formed specifically for the purposes of the study (see Study Groups below). Each module consists of:

- a. a brief introduction in very intelligible language explaining the topic for discussion, including key terms and definitions, followed by a short narration meant to capture the study group participants' interest thus galvanizing debate. This narration often takes dialogue form, such as a casual encounter between friends. For example, the dialogue of the second module of this study featured an outsider and a member of a local community as they discuss their eating habits, the importance of diverse foods, and the goods and services resulting from biodiverse ecosystems.
- b. A series of questions designed to get at the information of interest.

Once design of the module is complete—and only after collaboration with barefoot technicians to ensure the appropriateness and effectiveness of its contents—the module is translated into Quechua and dictated onto an audio cassette, ready for implementation by study groups.

### 3. Training of barefoot technicians and video collective

One of ANDES' priorities in working with indigenous communities is strengthening local governance systems with special focus on capacity building so that these governance systems remain autonomous and fit comfortably within the conceptual framework of the Community Conserved Area category as defined by the IUCN. One dimension of ANDES' work in capacity building is the training that barefoot technicians undergo to carry out the fieldwork phase of the study. Technicians learn research methods and the procedures involved to target and extract specific information of interest from their communities for the purpose of analysis. Training involves debriefing the technicians on the purposes and expected outputs of each module as well as reviewing the theme and associated questions to be debated. Technicians must also be acquainted with use of the cassette player and tape recorder (Although not done for this study, study group meetings are normally recorded and kept as audio records). The training is normally carried out by a Quechua-speaking member of ANDES who through the process of presenting the module to the barefoot technicians serves as a good model for emulation later on by the technicians during the actual study groups.

Key moments of the investigation, especially the study groups, are videotaped by community members who have received training from ANDES in use of video equipment and techniques for filming. For this study, short clips were taken in the barter market and at study groups in both Chuquecancha and Quchayok.

### 4. Study Groups

This is the fieldwork phase of the investigation when the now trained barefoot technicians meet with study groups to discuss the theme treated by the module. Study groups are made up of members from the study area communities who have been selected according to criterion relevant to the study at hand. This study, for example, was sure to include people who are considered poor as well as those who are beneficiaries of government social assistance programs. In order to create an atmosphere conducive for discussion and debate, the study groups are kept to a maximum of 5 people. The number of study groups depends on the population of the study communities and is determined by statistical relevance. The study groups take place at a time of the day most convenient for the participants, usually at night so as not to conflict with agriculture working hours, and in the houses of the participants, discussing one module one day in one participant's house and then another module another day in another house. The study group session begins with the playing of the tape cassette for the relevant module. Discussion follows as the barefoot technician acts to both mediate and keep the debate alive. Study group members are compensated for their time with food subsidized by ANDES that is normally prepared by the household that is hosting the meeting.

## 5. Systematization of results

Following the completion of each module by the study groups, the barefoot technicians prepare a report, usually oral and written, of the conclusions reached by each study group for presentation during a meeting with ANDES staff. Together with the technicians, the information is systematized by ANDES for later analysis and interpretation. During this investigation, the study group meetings were not recorded as audio records and instead the results were documented on sheets of butcher paper during the course of the study groups. In other cases, the audio recording of the study group is translated into Spanish and reviewed by ANDES staff for more in-depth analysis.

## 6. Inter-study group workshop

Once all of the modules are complete and initial systematization and analysis for each has been carried out, all of the participants from every study group are convoked for a final inter-study group workshop. This workshop is an opportunity not only to feedback the results of the study to the communities involved, but also to gather additional opinions and suggestions for inclusion in the final report. Due to the expanded scope of this study to include the experiences of the Q'eros communities, this penultimate phase was largely substituted by an inter-community workshop between Q'eros and Lares technicians in order to synthesize recommendations to be presented at the meeting in Lima that drew on accounts from both regions.

## D. Conclusions and Final Report

Finally conclusions are drawn from the results and analysis of the modules with the aim of generating possible solutions to confront local problems. For this investigation, local definitions of poverty were elaborated to emphasize the inadequateness of conventional definitions and to provide the basis for effective, locally-designed poverty alleviation strategies. The results of this investigation which were presented in Lima in May had practical implications for the national debate surrounding the transoceanic highway that was slated to pass through the Q'eros communities.

## 3. ACTIVITIES EXECUTED WITH IIED MONEY:

The activities executed during the project period with IDRC money according to the methodology described in this report were the following:

### i) Workshops

- a. A workshop was organized in April 2005 to review a draft proposal for the emancipatory methodology that would be used by ANDES for this and future studies. Through constructive criticism and suggestions the methodology was modified for the purpose of this study and important ideas emerged for further research regarding participatory, culturally sensitive research techniques.
- b. An interim workshop was held during the last week of April to review the progress of the investigation and modify its scope to include the experiences of the Q'eros communities. During this workshop ANDES staff also discussed the emerging concept of Spiritual Capital and how it could be a useful tool to describe the interconnected nature of wealth, spirituality, and biodiversity in the worldview of Andean peoples. Discussion also focused on researching common (though perhaps overlooked) forms of barter, like the case of file sharing systems on the internet, as a way to highlight the legitimacy of local barter practices.

### ii) Workshops with barefoot technicians.

- a. Introductory Workshop

The first workshop was held in ANDES's office in Lares on April 11 preceding a preliminary visit to the Lares barter market early the next morning. During this workshop ANDES's barefoot technicians met with ANDES staff to be debriefed on the study objectives, the updated methodology and their responsibilities and obligations as technicians. During the same meeting the barefoot technicians reviewed the criterion for selecting participants to the study groups.

b. Training Workshops

1. April 15: Training for execution of Module 1 on local definitions of poverty.
2. April 22: Training for execution of Module 2 on the importance of biodiversity for local livelihoods.
3. April 29: Training for execution of Module 3 on the impact of government social assistance and conservation policies.

iii) Elaboration of Modules

Each module and its components needed to be elaborated prior to technician training and study group meetings.

iv) Study Group Meetings

- a. Module 1: 4 study group meetings (2 in Chuquecancha; 2 in Quchayuk): April 18-20, 05
- b. Module 2: 5 study group meetings (3 in Chuquecancha; 2 in Quchayuk): April 25-27, 05
- c. Module 3: 5 study group meetings (3 in Chuquecancha; 2 in Quchayuk): May 2-4, 05

v) Systematization meetings

- a. Module 1 systematization: April 22, 05
- b. Module 2 systematization: April 29, 05
- c. Module 3 systematization: May 6, 05

vi) Hiring a Quechua translator

In order to translate each module for recording onto the tape cassettes used by the study groups it was necessary to hire a Quechua/Spanish translator.

## 4. RESULTS

### 4.1 Review of Definitions of Poverty

For the purposes of a cursory examination into conventional definitions of poverty, the development initiatives of the World Bank, United Nations Development Program (UNDP), and Millennium Development Goals were used as reference. These definitions were reviewed primarily to inform indigenous communities about global trends and to stimulate debate in the study groups regarding other possible ways of looking at poverty.

According to World Bank guidelines, poverty lines can be established based on measures of aggregate income, consumption or non-monetary values, where non-monetary values include measures of education, health, and assets.<sup>1</sup> In practice, the World Bank's discourse on poverty focuses heavily on monetary measures of well-being (income and consumption) and shies away from non-monetary values. For example, the World Bank's country brief on Peru describes poverty as increasing in Peru between 1997 and 2001 due to the number of people living on less than \$1 a day (extreme poverty) increasing to 24.4 percent and the number of people living on \$2 a day (poverty) increasing to 54.8 percent.

Similarly, the first of the Millennium Development Goals proposes to advance toward the eradication of extreme poverty and hunger by halving the proportion of people living on less than a

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<sup>1</sup><http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPOVERTY/EXTPA/0,,contentMDK:20242879~menuPK:492130~pagePK:148956~piPK:216618~theSitePK:430367,00.html>

dollar a day and those who suffer from hunger by 2015. As a whole, the Millennium Development Goals are heavily concerned with measurable outcomes and give less priority to development impacts that are less easily measurable like accountable local governance or the protection of marginalized groups' civil and political rights. Such priorities are largely the result of the exclusion of poor groups from the decision-making process. External "experts" determine priorities, define poverty and propose solutions.

The United Nations Development Program's approach to poverty analysis is perhaps the most multi-dimensional of those reviewed. Featured in UNDP's Human Development Reports, the Human Development Index (HDI) and the Human Poverty Index (HPI) measure deprivations in three aspects of development—longevity, life expectancy and a decent standard of living—using indicators such as infant mortality, illiteracy, access to safe water and health services. Still, as the coordinating body for global and national efforts to reach the MDG's and with its newest unit, the International Poverty Center (IPC), specially structured to assist countries in their effort to achieve the MDG's, the UNDP and its poverty alleviation efforts are largely guided by the indicators outlined by the MDG's.

## 2.2 Results of Modules

### A. Module 1:

#### i) Results of Study Groups for Module 1: What is Poverty?

In this module, barefoot technicians were trained to understand the role of international agencies and organizations in determining definitions of poverty that are widely accepted by national governments worldwide, including the dollar a day indicator. Technicians then shared this knowledge with study group participants with the aim of stimulating debate over what it means to be poor for local communities. In discussing what it means to be poor, a lack of money was just one among a diverse array of deprivations proposed by the study groups participants including: lack of land, lack of education, lack of animals, lack of work ethic, lack of knowledge, lack of products that hold value in the market, lack of respect, lack of social harmony with family and the community, lack of community support (solidarity with community members), lack of parents or family, lack of literacy, among others. Study groups also discussed their basic necessities which included water, shelter, tribute to the Pachamama, fire, land, food, agricultural knowledge, praying to god, barter, medicinal plants, women (according to a man), and community relations. Finally, study groups considered the role of money in their daily lives and what they would do with a dollar a day. These responses included noodles, salt, sugar, medicines, synthetic and natural wool for weaving, matches, rice, milk, kerosene for houses where there is no electricity and whatever else that is not exchanged in the barter market. *In other words, except for a few non-traditional food items and matches which are used to create fire, local communities on a daily basis do not depend on money to fulfill any of their basic necessities.* See Annex 1 for Module 1 and associated Study Group Results.

#### ii) Introducing the Concept of Spiritual Capital:

The fact that "paying tributes to the Pachamama" and "praying to God" were among the basic necessities proposed during the Study Group meetings for Module 1 suggests that any locally determined definition of poverty should take into account the considerable value that indigenous peoples place in their spiritual well being. The work of the Spiritual Capital Research Center (SCRC) of the Metanexus Institute based in Philadelphia, USA recognizes and seeks to explore the strong connections between religion and the economic world. Such connections, as explained on the SCRC website, are most famously argued in Max Weber's *The Protestant Ethic and the Spirit of Capitalism* in which Weber contends that the religious ideas of groups such as the Calvinists played a role in creating the capitalist spirit. Believing in predestination—that God has already decided who is saved and damned—the Calvinists came to value profit and material success as signs of God's favor, the same spirit that has come to characterize capitalism.

As we proceed into the 21 century at a time when capitalism has spread well beyond the reach of Protestantism and as a consequence is penetrating societies that are

characterized by very different value systems and very different conceptions of wellbeing, the importance of studying the nature of spiritual capital—that is, the effects of spiritual and religious practices, beliefs, networks and institutions that have an impact on individuals, communities and societies—becomes all the more paramount.<sup>2</sup> Based on the responses from the study groups for module 1, spiritual capital is highly valued in Andean society. Moreover, the fact that the basic necessities listed by the participants could for the most part be attained without money and that a lack of money was considered only one among many aspects of poverty suggests that Andean spirituality brings a very different system of values with profound economic, social and political consequences to Andean society than those that are embedded in capitalism. Accordingly, a recognition of the value of spiritual capital in Andean society inspires the creation of definitions of poverty that can accommodate this valuation and exposes the inadequacies of definitions based on measurements of income and consumption alone that come from an ethical system that is entirely foreign to traditional Andean society.

In promoting the creation of areas for the protection of Andean Biocultural Heritage, Association ANDES recognizes that in the Andean world the spiritual is inextricable from the natural and the social and the concept of wellbeing is conceived as an integration of the three. Consequently, definitions of poverty that focus on material well-being leaving out immaterial values might make for easy measurement of poverty but are inevitably incomplete and flawed.

#### B. Module 2:

##### i) Results of the study groups for Module 2: How does biodiversity fulfill basic needs?

Whereas in the first module, discussion focused on what exactly are considered the basic necessities in local communities, this module was concerned with how these basic necessities are acquired with particular emphasis on the role of the barter market in providing a source of diverse foods. Study group participants explained that besides depending on crops from their own land they rely on weekly visits to the barter market to acquire goods from other ecological zones to complement their diet. Occasionally, they travel to other ecological zones to trade work for crops, and even less frequently they buy foods for money from the market. The study groups also discussed what would happen if the barter market were to disappear. There was unanimous agreement that this would lead to increased poverty and malnutrition. People would leave the communities in search of work and simultaneously leave behind their traditional agricultural lifestyles. Participants emphasized that the barter market was also an important place to exchange medicinal plants between different ecological zones. Crucial for the functioning of the barter market are the customary norms that determine trade practices. Exchange values are customarily fixed to establish reciprocity according to the amount of work and time invested in the products being exchanged or, in the case of some products, the rarity or spiritual significance that they exhibit. The study groups described three different ecological zones that supply the barter market with a diverse array of foods. From the low altitude agricultural zone of the Amazon jungle come pineapples, tangerines, lemons, limes, oranges, papaya, yucca, coca beans, avocodos, mangos, bananas, coffee beans, and peanuts. From the mid-level agricultural zone called the Keshua come native potatoes, olluco, carrots, tomatoes, pumpkins, gourds, turnips, onions, garlic, cabbage, peppers, corn, freeze-dried potatoes, broad beans, quinoa, and green beans. From the high-level agricultural zone called the Puna come native potatoes, olluco, oca, mashua, freeze-dried potatoes, qaya, moraya, and alpaca. Local dependence on the existence of diverse crops both within and across ecological zones all of which appear in the barter market suggested a high local dependence on biodiversity for sustaining local livelihoods.

See Annex 2 for Module 2 and associated study group results.

##### ii) Other examples of Barter

The study groups for module 2 revealed the importance of the barter market and ecosystemic biodiversity for meeting livelihood objectives in the Lares valley. Nevertheless, the

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<sup>2</sup> [http://www.metanexus.net/spiritual\\_capital/What\\_is.asp](http://www.metanexus.net/spiritual_capital/What_is.asp)

effectiveness and high efficiency of the barter market is not acknowledged as indigenous people's markets are dismissed out of hand as "primitive" or "traditional". Meanwhile, urban (non-indigenous) markets are seen as more complex with monetarization providing a greater and "freer" circulation of goods. Whatever merit these assumptions may have, such categorizing of trade manifestations unjustly minimizes the importance that indigenous economies have for the interactions between urban and rural areas, export and domestic trade, and their importance in relation to the conservation and sustainable use of biodiversity, economic self reliance, food sovereignty and human rights.

With the aim of vindicating the practice of barter as a legitimate and highly efficient strategy that meets the needs of complex systems of supply and demand, ANDES emphasized the existence of other examples of barter that have proven both popular and successful. Perhaps the most widespread form of barter—internet file sharing systems—is hardly recognized as barter at all. The new internet technology known as "Peer to Peer" (P2P) became famous in 1999 when an 18-year-old college drop out named Shawn Fanning created a software, Napster, that made it possible for users from personal computers (PC's) to connect directly with other users using the same software to exchange information—usually music or movies—without connecting to intermediaries (which in today's internet are strong centralized servers). Despite the legal controversy surrounding its use, P2P technology has continued to grow and evolve and today is the basis for a wide array of popular post-Napster file sharing programs--Morpheus, Kazaa, Limewire, Bit Torrent—that are estimated to account for 60-80% of today's internet traffic. The success of the latter (Bit Torrent) that accounts for an estimated 36% of total internet traffic can supposedly be linked to the way it creates incentives for its users to share information at the same time that they download. A study in 2000 on one of the P2P networks showed that 70% of users never provide files for sharing while only 1% do. The design of Bittorrent seeks to solve this problem by awarding faster download privileges to users who are most generous in sharing files. Also, the network of users as a whole is better off when more people share. More reciprocity means there are more potential places where copies of any particular file exist which makes for faster access to everyone. In this way, P2P networks are spitting electronic images of the highly efficient, reciprocal barter practices that are meeting the livelihood needs of communities all throughout the Lares valley.

Today, large US companies recognize the possibility of increased robustness and security offered by P2P technology. For this reason, there are an increasing number of companies like Onsystems Inc. that in January 2001 released the "first" secure software (Tijit Pro) based on P2P technology for business corporations. As soon as these emerging softwares become more practical and reliable for big companies, we will see that the flow of information in the corporate world will be based entirely on barter practices.

### C. Results of Module 3:

i) Results of the study groups for Module 3: Critique of Government social assistance and conservation initiatives.

For the final module, the study groups discussed the impact of two major government programs in the area—one focusing on social assistance and the other on conservation—with the aim of not only formulating policy recommendations to better these programs but also to learn lessons for the design of locally-devised poverty alleviation strategies based on holistic, locally-informed definitions of poverty that reach beyond income or consumption measurements. The two programs reviewed were El Programa Nacional de Asistencia Alimentaria (PRONAA) and El Programa Nacional de Manejo de Cuencas Hidrograficas y Conservación de Suelos (PRONAMACHCS). PRONAA is a national food assistance program whose objective is to better the nutritional health of Peru's infant population, focusing on girls and boys under the age of five. In general, study group opinions toward PRONAA's programs were negative. Insatisfaction was expressed regarding the origin of the food provided through the programs. Participants argued that the food supplies should be bought from the region itself instead of brought from outside sources. Some participants also shared experiences about certain beneficiaries of PRONAA's programs who had practically stopped working their land due to laziness resulting from dependence on PRONAA's assistance. PRONAMACHCS received better reviews.

Its objective is to promote the sustainable management of natural resources in mountain watersheds resulting in improved quality of life for rural populations and the preservation of the environment. Participants held an overall positive outlook regarding the provision of tools and seeds. The only negative comments were with regard to the provision of genetically modified seeds and fertilizers that bring “sickness and poverty to the land.”

See Annex 3 for Model 3 and associated study group results

#### D. Results of the Systematization of All Module Outputs:

##### i) Local Concept of Poverty

Collaboration with barefoot technicians to systematize the results of the modules and formulate definitions of poverty to encompass the concerns and suggestions of the study groups resulted in the following proposal for a local definition of poverty:

Poverty is the erosion of the Pachamama which includes:

- the loss of biological diversity and ecosystem goods and services
- the loss of cultural diversity including (knowledge, practices, innovations and associated rights of indigenous peoples)

##### ii) Local Strategies for Poverty Alleviation

The following contributions of the barter market toward alleviating poverty in the Lares valley provided valuable lessons for the formulation of locally-devised poverty alleviation strategies and recommendations for strengthening the linkages between biodiversity conservation and poverty alleviation.

- Generation of local employment
- Conservation and sustainable use of biodiversity and associated natural, social and cultural capital
- Provision of food security
- Maintenance of ecosystem goods and services
- Local control over production and consumption

ANDES staff in collaboration with technicians from the Lares valley and Q'eros reviewed the lessons learned from the Lares barter market as well as the results obtained for each module. This inter-community workshop resulted in renewed enthusiasm and support to fight poverty in the Andes through the creation of Andean **Community Conserved Areas** that:

- Maintain the holistic and interconnected nature of Andean landscapes by implementing conservation strategies and promoting the sustainable use of biodiversity and ecosystem goods and services, by putting traditional knowledge to use in the creation of local economy, and by developing poverty alleviation strategies based on local definitions of wellbeing.
- Prioritize the generation of local economy based on the sustainable use of biodiversity, with particular emphasis on food production among other livelihood necessities.
- Recognize and reinforce traditional institutions and local juridical systems in order to establish a system of natural resource governance—with particular focus on biodiversity conservation—that is equitable and inclusive.

The input of Q'eros barefoot technicians regarding the creation of a Community Conserved Area in the Eastern Cordillera of Vilcanota emphasized the continued development of the Spiritual Park of Vilcanota a **Natural Sacred Site** that:

- Protects the spiritual capital associated with Andean peoples and its influence on the character and dynamic of local (Ayni) and global economies (tourism, biotechnologies)
- Promotes the sustainable development of the mountain ecosystem based on the sustainable use the Andean landscape, the strengthening of Andean knowledge, practices and innovation systems, and the generation of poverty alleviation strategies based on local definitions of poverty

- Maintains the continuity of the cultural practices and values of the Quechua peoples associated with the conservation and sustainable use of biodiversity from gene to ecosystem level.
- Draws on emerging conservation strategies of the IUCN, CBD, FAO, and UNESCO

### **3. CONCLUSIONS**

#### 3.1 Recommendations for Linking Biodiversity Conservation and Poverty Alleviation Strategies:

- Improve coordination between local, regional and national policies and communication between local, regional and national authorities
- Financial support for local projects and strategies based on definitions of poverty determined by the poor themselves
- Respect and protect the civil and political rights of the poorest sectors of society, reduce existing discrimination, and promote equity
- Support existing local livelihood systems that depend on biodiversity (for example, barter markets)
- Support measures to secure property rights for those whose livelihoods depend on biodiversity
- Provision of services to “invisible” sectors with guaranteed access to all community members and special standards for women and children of the poorest sectors.

#### 3.2 Regarding the Interoceanic Highway and the Vilcanota Spiritual Park:

- Environmental impacts should be evaluated; and in this case due to the presence of a Natural Sacred Site, social and cultural impact assessments should be also carried out.
- The Akwe:Kon guidelines of the CBD that call for social, cultural and environmental impact assessments prior to development projects in places considered sacred/spiritual to indigenous peoples should be applied.
- Proceedings should involve the direct participation of local communities.