Format for Proposals of Candidate Systems

For The Globally-important Ingenious Agricultural Heritage Systems (GIAHS) Programme

SUMMARY INFORMATION

a.	Country and location **Perú, (Cusco-Puno)**
b.	Project title / name of the system **"From Machupicchu to Lake Titicaca"**
c.	Funding requested **(five year project)**
d.	Requesting agency **GEF**
e.	Governmental counterparts and other partners **CONAM-(IMA-ANPE-ITDG-CARE)**
f.	Summary (max. 200 words)

The transect proposed as a site pilot under the GIAHS project, is located in the southern area of the Peruvian Andes and includes the environment around the sacred city of the Incas, Machu Picchu, (1900 m.), follows the whole Vilcanota river watershed up to the divortium aquarium in the Raya (4,300 m), crosses the northern part of the peruvian highplateau to reach lake Titicaca at 3,800 m (Map 1).

Actual presence of traditional agricultural knowledge includes terraces, ridges fields, local irrigation systems and traditional agricultural tools, crops and livestock spread at different altitudes that goes from mesothermic areas at 2400 m. altitude called "Quechua" agroecological zone, with maize as the main crop, to the coldest environment used for the marginal cultivation of a great number of native crops and varieties including frost resistant crops as quinua, kañiwa and high altitude tubers (Table 1). Mostly native livestock is grazing the native pastures with llamas and alpacas at high altitudes over 4,300 m, in the so called "Puna" agroecological zone.

Two main ethnic groups, the "quechuas" in Cuzco region and "aymaras" in southern Puno, have contributed to develop those endogenous local agriculture systems of production. Quechuas are located around the Cuzco area (the capital city of the former Inca empire) and the aymara of the former Tiahuanaco kingdom area around lake Titicaca.

In this transect (about 350 km. long) six communities out of about 300 native communities have been selected as specific sites of activities. These areas maintain most of the ancient traditional agricultural technologies, in spite of strong influences of the western agriculture which is eroding many of their old traditions. Therefore a continuous support and coordination with CONAM and local institutions participation will value the technologies proved for centuries, and maintain for the future this unique, culturally and biologically rich environment.

High quality seed production of main native crops will be an important activity to be implemented, in coordination with the peasants of the selected sites and local institutions. Communal fairs will be held to facilitate an equity market.

DESCRIPTION OF THE SYSTEM

1. Description of GIAHS

The transect includes three main agricultural systems, each one related to the altitude: the maize area (2800-3300 m.), the potato area (3,300-3800 m.) and the livestock area with high altitude crops (3,800-4500 m.) .

Biodiversity and functioning of agro-ecosystem

Richness in agrobiodiversity is the main characteristic of the zone, within the traditional agricultural systems of native communities (See table 1 in the annex).

The Central Andes is described by Vavilov (1936), as one of the eight centers of plant domestication in the world; the southern region of Peru and the Bolivian altiplano are one of the main "microgencenters" of native Andean crops such as potatoes, quinua, kañiwa, oca, olluco, mashua, lupine and different high altitude fruits (Tapia, 1980; In situ, 2001). More than 20 different food crop species and a large number of native varieties are still under cultivation.

Maize is the main crop in the lower parts of the Vilcanota Valley and one of the species, the "blanco gigante del Cusco" is considered as a high quality maize variety.

Potatoes and a variety of tuber species like oca, olluco and mashua, are cultivated on the hills in a intermediate altitudinal zone (3,300-3800). Those crops are the main local food resource in the region.

Crops as quinua, cañihua, and high frost resistant potatoes are cultivated mixed with livestock as llamas, alpaca, sheep and cattle at more than 3,800 m. in the Cusco Highlands and in the Puno highplateau.

At the present, an In Situ crop genetic conservation project (GEF-UNDP with the participation of six national institutions, 2001-2005), is concerned with the conservation of native food crops within the peasant plots; however more emphasis should be given to a holistic approach enhancing to preserve the local agricultural knowledge, the local quality seed production, as well as the market component and extension of the results obtained.

Traditional livestock production of domesticated south American camelids (llamas and alpacas) is still very common and is an important source of meat, fibre and manure. There is very little done on the marketing of those products at the communal level, therefore the fairs will include it.

- **Landscape and land and water resource management characteristics.**

The transect includes small flat areas, hills, and high mountain conditions as the prevalent conditions, however agriculture is practised mostly under slopes conditions. Some irrigated fields are located specially in the bottom of the valleys and dry farming system under rain fall is the most common, with variable yields.

Small irrigations systems have been practised during centuries. Tipón, near Cuzco is one of the most spectacular place with ancient channels and use of agricultural terraces.

- **Indigenous and Local knowledge systems**

Examples of traditional local agriculture technologies still in use are the ancient terraces to convert the steep slopes in crop productive zones, the "camellones" ridges fields and the "cochas" small lagoons used as rain fall humidity reserves in the high plateau of Puno. Those lands have been cultivated for centuries with native crops and the use of a large number of native varieties is a strategy to reduce climatic risks (Sánchez and Cosio, 2000).

In relation to native livestock production, camelids (alpacas, llamas) have been promoted by the Conacs, the National Camelids Council, in all the Peruvian highlands; however low prices for the fiber and meat affect this production system.

The national decentralization process started in Peru, searches to strengthen local governments concerned with the agriculture production and care of the environment. A recently created official institute, the National Environment Council (CONAM) offers a lot of advantages to undertake a project related to the conservation and better use of traditional agricultural technologies.

- **Cultural and social aspects of agro-ecological management and conservation strategies.**

Traditional communities selected in the transect have shown a strong social organization with their own norms and cultural rituals as the tribute to the *Pachamama* (mother earth) and the *apus* (local gods represented by hills, mountains, rivers and atmospheric phenomena).

Land tenure in the region includes private, small and medium size farms, cooperatives, as well as communities. The community lands varies in size according to the agroecological zone, the largest are pasture areas located at high altitude.

In the agricultural lands of the communities some private family parcels are found, also very variable in size, as well as communal lands (called laymes in quechua region and aynokas in the aymara region).

The communities are protected by laws which prevent the selling of their lands, but there is an intensive market within the families. Land is usually divided within the sons and daughters, therefore a continuous reduction of the "chacras" size is taking place, being a factor which is affecting production efficiency.

Communities selected in Cusco

Machu Picchu is the former sacred city of the Incas and is located northeast of Cuzco city, on the way to the jungle, at 1900 m. It is the countries most known tourist location. Therefore a small museum about the prehispanic Andean agriculture could be organized in coordination with the National Culture Institute (Instituto Nacional de Cultura).

The three communities suggested in Cusco are located between the lowest point at 3000 m and the high altitude territory of the Vilcanota river watershed, at 4,200 m. The communities are:

1. The small watershed valley of **Patacancha** in the Ollantaytambo district includes in fact several communities. **Huilloc** is one of them covering lands from the valley to the Puna zone. The population is composed by 160 families, mostly dedicated to a self-subsistent agriculture. Terraces are used for maize, potatoes and small grains production as well as medicinal plants.

Camelids are raised in the upper part of the community. More than 40 % of the young man help to carry the bags and food of tourists (porters) on the so called **Inca road to Machu Picchu.** During the last ten years, the **NGO Arariwa** has conducted a rural development project in the zone**.**

2. Two communities have been selected in the province of Lares. Peasants in the zone grow a large number of native varieties of potatoes and other tubers. Most of the agriculture fields are cultivated by ecological systems of production with a minimum use of external inputs.

   Some peasants of this community (about 240 families) are involved in a national movement called Asociación Nacional de Productores Ecológicos **ANPE** (National Ecologists Producer Association). This national association has reached a membership of more than 3,000 associates in 12 departments of the country.

3. Near to Sicuani city, capital of the Canchis province, four communities (including about 320 families) have been selected: two are located at the valley (3,400 m) and two at the Puna zone (over 4,200m.) The district is San Pablo where the **NGO ITDG** (Intermediate Technology Development Group) has promoted several changes in agriculture technology based on a participatory research project including the conservation of native potatoes varieties, appropriated water management for pasture production, and also internal parasite control on alpacas and grazing rotation alternative. More than 80 peasants have been trained as agriculture leaders, at the present they are working in the area in different institutions and projects.

Eventually, and as a complementary location the community members of Cay Cay, working with the NGO Pro Cusco could also be considered as local extension site. Also an area dedicated to alpaca production could be included in close coordination with local authorities in the Chumbivilca area in Cusco.

Communities selected in Puno

Three localities have been selected in the Altiplano, one in the middle of the Suni B zone (see table 2 about agroecological zonification in annex), other in the Suni A zone and the third in the Lakeshore (circunlacustre) zone, but also close to the hills around the lake.

1) The community of Umasuyo (4,000-4200 m) in the Melgar province has been chosen as an area representative of mostly livestock rising (80 families). Cattle and sheep are the most common species, however some camelids are also raised in the upper parts. Agriculture production includes species quite well adapted to high altitude and low temperatures such as quinua, kañiwa and native potatoes. Laimes as a sectorial rotation system and different seeding times are used to reduce the climatic risks.

2) In the Suni A agroecological zone (with some thermal regulation influence of lake Titicaca) two communities (140 families) from the San Jose community in Azángaro province have been included, since they practice different land management technologies (camellones and qochas) to reduce the effects of drought periods and low temperatures

   Farmers from the area maintain a great number of diverse crops, they have also a good social organization to manage their micro watershed. **CARE,** a well known NGO is working with special emphasis on water management alternatives**.**

3) A representative community from the lakeshore zone is the community of Karitamaya (82 families) in the Acora province, 30 km. south of Puno city. This is an Aymara group of peasants quite well organized. They maintain the aynokas system of sectorial crop rotation. Aynoka is a very important way to improve food security as well as agrobiodiversity conservation. They have similar characteristics as the Laymes in the quechua region..

   Several institutions have been participating in the area, as the National project for the titillation of the land PET , the **University of Puno**, and partially the NGO CARE.

2. Goods and Services Provided by the System

Livelihood services

Food security

All native crops and livestock are mostly used for self consumption so the population nutrition is very depending on the local food production. Dehydrated potatoes, called chuño, can be conserved for several years and are used as the main source of alimentation specially in dry years.

Housing, fuel/energy, health and related needs provided

Most of the houses are constructed with local materials. It is quite common to use the manure, few available trees and bushes as a fuel. A large number of medicinal plants are used in health care.

Social and cultural services (equity, cohesion, security, identity, art, values, etc.)

Identity fortification is probably one of the main goals to be achieved with this type of activities, communities will revalidate their own resources and culture.

Quality of life (opportunities, leisure, education and arts, ethics)

Education will be influenced by the results obtained; hopefully the schools in the area will benefit from information, as well as with the physical results obtained by the communities.

Environmental services

Biodiversity and ecosystem services (conservation, functioning and regulation)

The proper use of the agrobiodiversity (crops and native livestock) will include the use of the variability and its potential to reduce the risks proper of a mountain environment. Special emphasis will be done on the production of high quality seed of native varieties to increase the food production and hopefully to improve the peasants economy.

Soil and water conservation and restoration.

The increase of areas with terraces, and other soil conservation practices will reduce the soil erosion; the introduction of modern irrigation systems should bring a better water use.

Climate regulation (micro and macro) and carbon sequestration.

The native rangelands must be included as a way to reduce the effect of CO2 increase in the

atmosphere. We must consider that in the Peruvian Andes there are more than 18 millions has. of native pasture being an important component to reduce the carbon effect.

3. Threats and Challenges

Soil erosion

Population pressure has forced to use steep hills so soils are becoming eroded due to bad agriculture practice.

Water contamination

The water in the rivers are being contaminated, mostly due to the use of chemical fertilisers.

Agrobiodiversity erosion

Recent studies show that some native varieties of maize and potatoes are being lost and other are reduced on their area of cultivation, also as a result of the introduction of commercial species.

Cultural erosion.

In most communities the average population includes farmers over 50 years old, small children and few women. Most of the young people are in the process of migration to large cities in the coast or to the jungle. Many traditional agricultural practices are getting lost.

Effects on poverty

Some of the traditional practices require a high amount of hand work and in some cases they have become inefficient. A good combination of those traditional practice with the use of modern systems of irrigation, biological control of pests and post harvest practices could increase food availability and benefit the peasant economy.

Organisation to practice more socialised systems of marketing agriculture products also could improve the actual low cash income per family (it is estimated to be no more than US $ 100 per month per family).

4. Policy and Development Relevance

Agricultural policies at the national level have payed little attention to use traditional technologies in the field extension work as a priority, this is due to the influence of the green revolution proposal introduced in the 60th. The increased pressure to export introduced crops such as asparagus, sugar cane, coffee and fruits mostly from the costal region is also affecting the ecological agriculture proposal based on traditional technologies.

5. Global Importance

A high number of communities in the Andes (Ecuador, Peru and Bolivia) with a population of about 2 million families depending on mountain agriculture production, could adopt results from this project.

Technologies developed within mountain agriculture conditions in the Andes could be easily adopted by other mountain societies in the world, especially in Asia and Africa.

6. Justification of candidature according to the Criteria for GIAHS Selection

The transect site selected includes all the criteria mentioned to be selected as.

This a unique area with traditional agriculture systems that survive even under negative national policy conditions.

Include the participation of local indigenous people descending from ancient civilisations of south America with their own norms as well as their own languages.

The Andes Tropical Mountains are quite representative of various ecosystems in the world.

The use of a transect site approach and selected communities permits to include the implementation of various strategies and alternatives to develop a potential agricultural system, using local knowledge and resources.

Some of the threats found in the area are common to other ecosystems and mountain societies

The selection of specific communities representative could be used as demonstration areas of success for future implementation of national or regional agriculture policies.

The project will include three activities additional to the ones already in implementation on land and water management by other projects in the region. Those specific components are:

1.Improve the production of **high quality seed** of the most important crops and varieties in the region according to the agroecological zones.

2.Organization of **communal fairs** to link the agriculture production to the regional market, also as a potential attraction to agro tourism.

3.Organize **networks within peasants communities** through the exchange of experiences in a living participatory way ("pasantias")

7. Outline of activities during project

One of the first steps before proposing a better use of natural resources, land and water use in the Andes, is to recognize that the mountains do not present the homogeneity of the lowlands and flat areas.

At household level this heterogeneity is reflected and does not respond arbitrary to variability in food supply. People who live in conditions that put their main source of income (labor) under recurrent risk, will develop self-insurance strategies to minimize risk to their food security and livelihood (Mayer, 1986; Corbett, 1988).

In the selected transect, families practice different alternative use of land, as different crops, time of seeding, as well as local climate protection practices to reduce the risk of production. These practices will be incremented by the use of alternative technologies as irrigation systems, use of organic fertilizers (compost, boil), integrated biological pest control and also introduction of simple machinery to facilitate the harvest of different crops.

Actual practices to be implemented in coordination with other institutions will include

Land management

Terraces

The topographic conditions in the mountainous area of the Andes, under mostly steep topography, influences agriculture to be adapted to this conditions. For centuries terraces were build in the Vilcanota Valley as well as around lake Titicaca. However there are terraces to be found in all the Andean region, including Bolivia. The Colca valley in the department of Arequipa alone has more than 6,000 has. of irrigated terraces still in use. A study financed by UNESCO defined that in the Peruvian Andes more than 600,000 has. of terraces were build before the XVI century.

Laimes or Aynokas

Those are the lands for a crop sectorial rotation system used by the traditional communities. Communal land is used annually for a defined crop rotation that takes from 5 to 20 years. Work is done communally but the benefits are individual. Additionally some plots are seeded to support those community families or persons such as widows, sick, orphans, which do not have resources.

In this area each individual brings the seed, but manure and all the agronomic work is done by communal participatory work. These areas are ideal fields to study the *in situ* conservation of the agrobiodiversity specially of potatoes, other tubers as oca, olluco, mashua, and quinua, as well as to improve **high quality seed production.**

Canchones (Stone walls plots)

Specially in Puno the tradition is to build a wall made of stones or adobes to protect the crops or mark the individual properties limits. In Puno the walls could be from 1.0 to 1.5 m. high and they are also used as protection against the invasion of foreign livestock .

The main crops used in these “canchones” are potatoes and alfalfa.

Water Management

Camellones

This ancient technology locally called “waru waru” was abandoned due to regional climate changes, however nowadays there is quite an interest to recover this practice. More than 1,000 has. are now under production. Some strips of land 3 to 10 m. width are being elevated and channels around could be filled with rainfall water or the deviation of rivers, so the water is heated during the day and permits to maintain a more stable temperature at night. These ridges fields in the high plateau of Puno are the best alternative to protect the crops from temporal drought, as well as extreme low temperatures.

One limitation to extend this type of soil-water management is the amount of work required (more than 500 working days for one ha.), also non-favorable market conditions for the surplus produced**.**

Qochas

Natural depressions in the soil on flat areas were used as reservoir of rainfall water, channels were build to distribute the humidity between several of them linked together; the surrounding areas around this small pounds can be used as intensive agriculture fields at 3,900 m. of altitude.

Bofedales (humid areas)

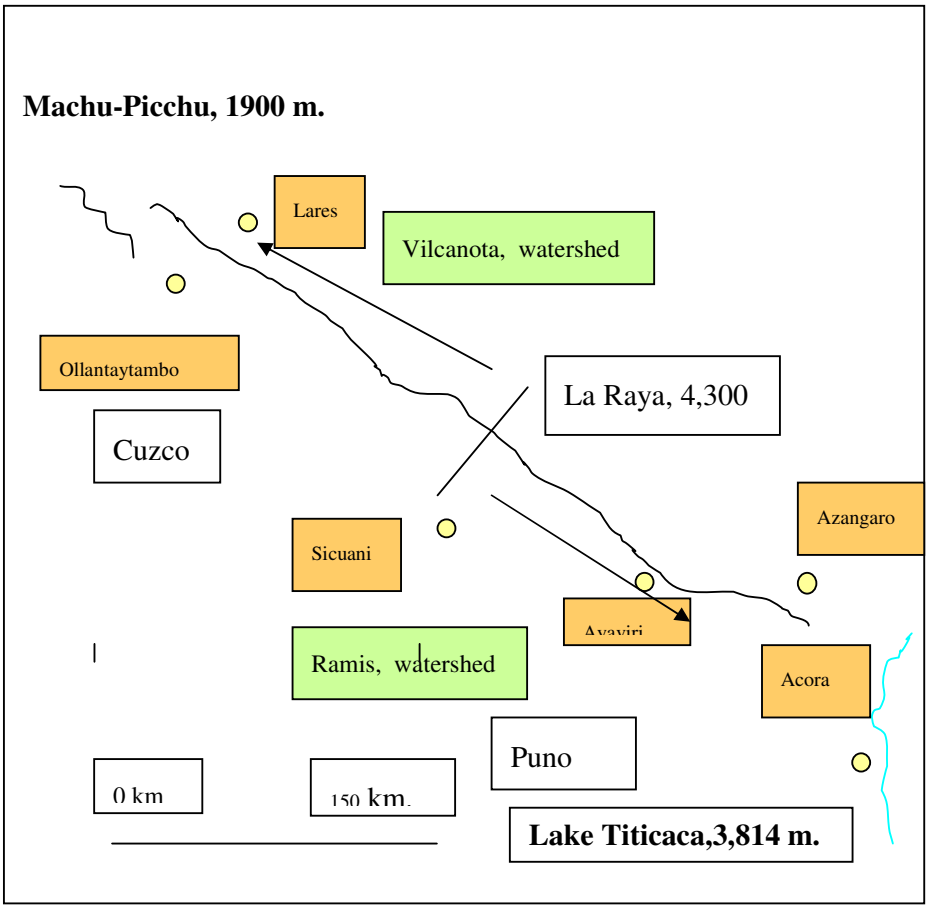
At the highest altitude (Puna) the small rivers are canalized and the water used to irrigate pasture fields in a way that those are banks of forage for the dry period of the years. Alpacas use to graze on these areas and with this additional forage they maintain a better level of nutrition

Introduced technologies

The tools used in growing crops and processing food in the region reflect both indigenous and western traditions. Local tools are considered inefficient by standards of modern western agriculture, but technological advances are regarded with caution and often rejected.

Some innovations have never been introduced to the valley conditions, for example the scythe, which could cut grasses or cereal crops four times faster than a sickle, nor is the true flail which can trash more efficiently than the simple pole now used.

A decade ago, a petrol motor threshing machine was tested by different NGO´s with the support of the Swiss technical cooperation. This engine can accomplish the same amount of work as a sickle in 1/100th of the time, but is beyond the economic reach of a typical Vilcanota or altiplano small farmer.



Map 1. Limits of the Vilcanota valley (Cuzco) and the High plateau in Puno with the selected communities( ) in that two watersheds

TABLE 1

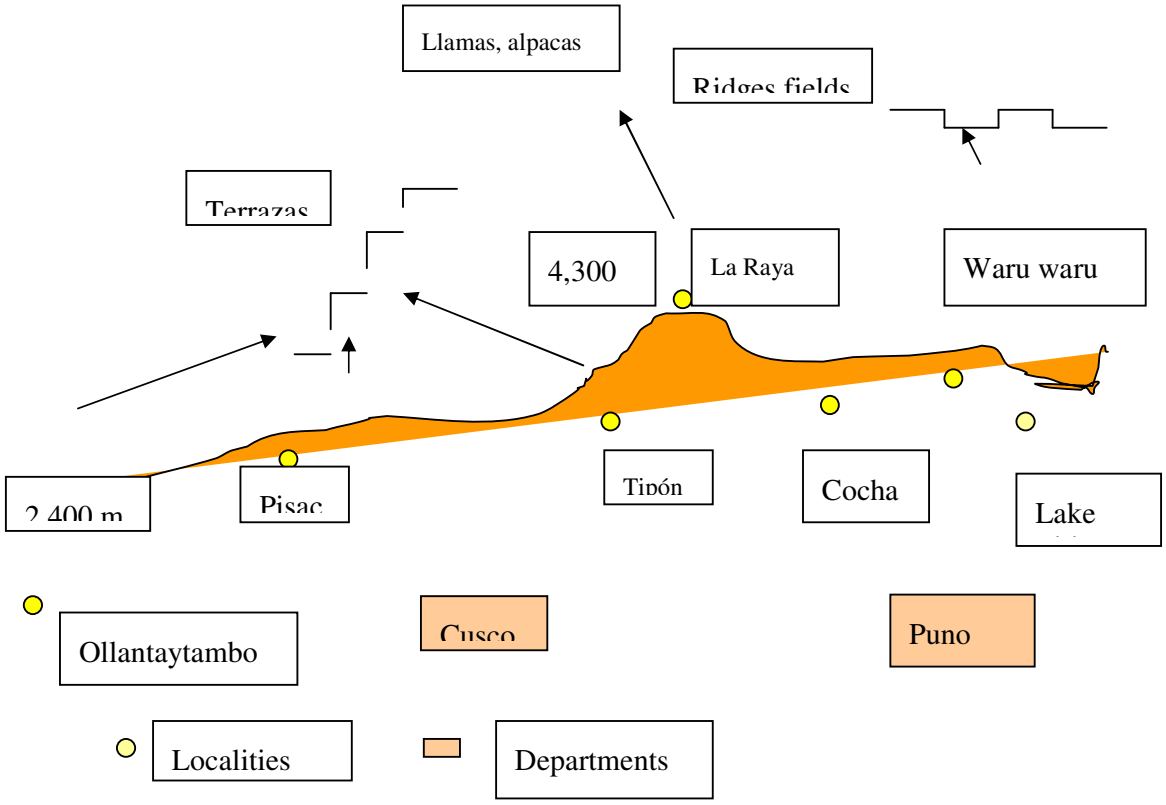
ANDEAN NATIVE CROPS AND THEIR ALTITUDE OF ADAPTATION

Crop	***Scientific name***	**Edible part**	**Altitude, meters**
Maize	*Zea mays*	Grain	0 - 3000
Potato	*Solanum tuberosum*	Tuber	0 - 3900
Amaranth	*Amaranthus caudatus*	Grain	0 - 3200
Quinoa, valley	*Chenopodium quinoa*	Grain	1500 - 3500
Arracacha	*Arracacia xanthorriza*	Root	1500 - 3200
Yacón	*Polymnia sonchifolia*	Root	1500 - 3200
Olluco	*Ullucus tuberosus*	Tuber	1500 - 3800
Aguaymanto	*Physalis peruviana*	Fruit	1500 - 3000
Tree tomato	*Cyphomandra betacea*	Fruit	1500 - 3000
Tarwi, chocho	*Lupinus mutabilis*	Grain	2000 - 3500
Mashwa	*Tropaeolum tuberosum*	Tuber	3300 - 3900
Oca	*Oxalis tuberosa*	Tuber	3300 - 3800
Quinoa, altitude	*Chenopodium quinoa*	Grain	3800 - 3900
Tarwi, highplateau	*Lupinus mutabilis*	Grain	3800 - 3900
Bitter potato	*Solanum juzepczukii*	Tuber	3900 - 4200
Qañiwa	*Chenopodium pallidicaule*	Grain	3900 - 4300
Maca	*Lepidium meyenii*	Root	4100 - 4300

- An schematic cross section/catena of the landscape indicating the biophysical elements/process/flows.

Fig. 2

The transect and the traditional agricultural systems of production



- **Historical and archaeological description of the system or site.**

Agricultural history in the area has more than 5,000 years of continuous development, since the Andes were habituated; since then, several improvements for beter use of the resources have taken place.

There are strong evidences that the Inca empire (centuries XIV-XVI) organized the agricultural food production in a way that there was no under-nutrition problem, due to the strong social organization and policy to store the agricultural surplus during the good years.

The capital city of the Incas, Cusco, as well as many surrounding cities show indices of concentration of people that reach a fairly good standard of living

Prehispanic ruins are found throughout the Transect, but the most impressive ones are at:

Machu Picchu (120 Km north of Cuzco)

Pisac (in the Vilcanota or Urubamba valley)

Cuzco (there are several Inca buildings)

Tipon (terraces with of irrigation channels functioning, near Cuzco on the way to Puno)

Racche (Temple of Wiracocha, near Sicuani)

Pucara (near Pucara village in Puno)

Sillustani (near Puno)

This locations are very important tourist attractions and in the future should be considered as important components to attract the eco-tourism with the participation of the local people.

Proyecto (Globally Important Ingenious Agricultural Heritage Systems -GIAHS)
Sistemas Agrícolas Ingeniosos y Heredables de Importancia Global

De Machu Picchu al Lago Titicaca

Peru, Cusco-Puno

Strategies and principal activities

Territorial Strategy

There will be two zones of intervention

- Direct zone of intervention
- Zone of influence or irradiation.

Direct zone of intervention

1. Ollantaytambo **Patacancha** microwatershed
2. Lares CC. de **Choquecancha, Cachin, Lares**
3. Sicuani CC **San Pablo**,
4. Ayaviri Comunidad de **Umasuyo**
5. Azangaro Comunidad de **San Jose**
6. Acora Comunidad de **Karitamaya**

Zone of influence or irradiation

Includes the Vilcanota (Cusco) and Ramis (Puno) watershed area

Cusco

OLLANTAYTAMBO

Traditional agriculture activities :

- Organic agriculture
- Soil management on slopes (terraces) .
- Water management (traditional channels).
- Production of high quality seeds of native crops.
- Fairs of andean products.

LARES

- Agrobiodiversity management and conservation

- Production of high quality seeds of native crops
- Organization of agriculture fairs.

SAN PABLO

- Water management in relation to crop and livestock production
- Production and exchange of high quality seeds**.**
- Promotion of agriculture fairs

AYAVIRI

- High altitude agriculture alternative on potatoes, quinua and kañiwa seed production
- Alternatives to reduce the climatic effect on agriculture production.
- Post harvest local food products transformation alternatives.
- Promotion of agriculture fairs

AZANGARO

- Water management alternatives as camellones and cochas to be improved
- Production and exchange of high quality seeds**.**
- Promotion of agriculture fairs.

ACORA

- Use of lake shore resources as totora and lacho
- Post harvest local food products transformation alternatives
- Production and exchange of high quality seeds**.**
- Promotion of agriculture fairs

Institutional Strategies

Coordination with institutions already in the sites will include

Cusco

Asociacion Arariwa

Asociación Nacional de Agricultores Ecológicos, ANPE

Intermediate Technology Group, ITDG

Manejo de Agua y suelos en laderas, MASAL

Instituto Nacional de Cultura

Proyecto Corredor Puno-Cusco.

Puno

CARE

Instituto Superior Agrícola de Ayaviri.

Biodiversity Proyect, Puno.

CIRNMA

LOGIC FRAME WORK

Objective	**Logic of intervention**	**Indicators**	**Ways of verification**	**Assumed conditions**
Strength the traditional agricultural systems in the Southern Sierra of Perú	The actual traditional agricultural systems become sustainable through the proper and ecological use of local resources. .	The peasants of six pilot sites (communities) have their agricultural systems sustainable	The agricultural systems from the Quechua, Suni and Puna zones have competitive index of productivity.	Climatic, political and market conditions have been favourable..
Specific objectives				
1. Obtain a sound and ecological management of the soils in the six pilot sites..	Appropriate agricultural systems reduce soil erosion	There are terraces, camellones and cochas with appropriate soil management. Associated crops and improved forestry permit to reduce soil erosion.	Old and new terraces, camellones and cochas are on competitive production activity	Participation and interest of peasant has been obtained. Ways of terraces use have been proposed and approved by the INC.
3. Improve the production and marketing of high quality seeds from the local agrobiodiversity at regional level.	In situ conservation of the genetic resources is supported. High quality seed of the main native varieties is produced with the participation of selected peasants. Better marketing of quality seed is pursued through local fairs .	Traditional seed conservation metho-dologies are registered and evaluated. Uses of the traditional crops is evaluated. Communal fairs are enhanced to obtain better marketing channels.	List with the description of traditional conservation and uses of the local crops. Seeds are produced in adequate quality and quantity. A number of fairs is organized.	Intensive peasant participation in the conservation activities as well as in the organization of the fairs. There is a demand for high quality seed.

4. Post harvest methods are improved	Seed storing as well as modules of food transformation are established.	Six seed stores and six pilot modules for food transformation are build in each site.	Six modules are under operation	Local participation There is a need to get better seed stores.
5. Socialization of the results and peasant pro active training	Identification of the main subjects to be diffused	Four peasants workshops have been organized with final conclusions of the results. Publication of 5 technical bulletins. Peasant to peasant training is proposed	Proceedings of the peasant workshops. Bulletins Six peasant visits to other experiences are organized and implemented.	There is a need to exchange local experiences on natural resource management.

On the first stage of 10 months, PDF-B, soil and water management will be proposed. However, high quality seed production will be the main objective and goal.