

**Food Security Program: A market oriented
approach, supported by a comprehensive
development for Bolivia**

SYSTEMATIZATION OF EXPERIENCES

ADRA BOLIVIA

**PRESERVED AREAS WITH A MICRO WATERSHED AND COMMUNITY PARTICIPATION
APPROACH**

Implementation of a work model with community participation

ACRONYMS:

ADRA	Adventist Development and Relief Agency
USAID	United States Agency for International Development
CRRNN	Natural Resources Committee (<i>Comité de Recursos Naturales</i>)
INE	Instituto Nacional de Estadística
NRM	Natural Resources Management
OTB	Grassroots Territorial Organization (<i>Organización Territorial de Base</i>)
FP	Field Professional
POP	Land Use Plan (<i>Plan de Ordenamiento Predial</i>)
POP-COM	Communal Land-Use Plan (<i>Plan de Ordenamiento Predial Comunal</i>)
SI-A	Agricultural Superintendence, Regional Office Chuquisaca
H.A.M.	Mayor's Office (<i>Honorable Alcaldía Municipal</i>)
UOTM	Municipal Land Zoning Units (<i>Unidad de Ordenamiento Territorial Municipal</i>)
SRRNN	Secretary of Natural Resources

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PRESENTATION

The present publication is product of the systematization of activities carried out in the implementation of Preserved Areas that the Natural Resources Management (NRM) component of the Adventist Development and Relief Agency (ADRA Bolivia) executed in the area of Saca Pampa of the community of Quirpini, municipality of San Lucas, Chuquisaca, as part of the Food Security Program, funded by the United States Agency for International Development (USAID).

Since 2002, ADRA, through its NRM component, executes a series of actions oriented to the improvement of sustainable management and use of natural resources in the Nor and Sud Cinti provinces of the department of Chuquisaca, within the implementation framework of a comprehensive natural resources planning and management process, which affects

environmental, social and economic aspects since the solutions to environmental problems are directly linked to how natural resources are managed in time, in the medium and/or long term.

To achieve good relations and coordination with the community it was necessary to establish a work methodology in order to have a critical analysis of their reality and advance systematically to a community development sustainable in time and space. The Communal Land-Use Plan (POP-COM) –elaborated with the participation of ADRA and technicians from the municipality and the communities– was the technical and legal instrument that regulated and planned the sustainable use and management of natural resources according to their capacity and aptitude of use; and from this emerged the need for implementation of preserved areas.

Also, as a result of the community work processes to improve the NR management, the inhabitants of Saca Pampa are characterized today by their independent and enterprising organizational capacity. They show their willingness to improve their living conditions and are open-minded to new projects.

The present document intends to be an origin of initiative for those who are involved in the rural development of Bolivia; a useful, practical and real tool that ensures the protection, conservation and sustainable use of natural resources with a view of optimizing the quality of life in regions with similar characteristics to those of the Cintis of Chuquisaca.

Víctor Hugo Salvatierra Miranda
Administrator
Natural Resources Management Component
ADRA BOLIVIA

1. BACKGROUND

1.1. Description of ADRA Bolivia's Food Security Program

ADRA Bolivia carries out its activities since 1986, initially with a welfare approach, later with emergency support and with the passing of years promoting development. Since 1990, ADRA also carries out comprehensive activities oriented to community development with the financial support of USAID's Title II.

ADRA Bolivia's Food Security Program considers the implementation of three components: Rural Income, Natural Resources Management, Health & Nutrition and Water & Sanitation. It works in the municipalities of San Lucas, Camargo, Culpina and Incahuasi in the Nor and Sud Cinti Provinces of the Department of Chuquisaca, with the main objective of **“Strengthening families and communities for a comprehensive and sustainable improvement in their lives by means of an increase in the rural income supported by an improvement in health and natural resources management”**.

To achieve this goal, each component has raised the following Strategic Objectives (SO):

Rural Income:

SO 1: Increase the productivity of the target families' commercial crops.

SO 2: Increase the target families' income related to agriculture.

Natural Resources Management:

SO 1: Improve the natural resources management in the target communities.

Health and Nutrition:

SO 1: Improve nutritional and health status of the target population.

SO 2: Increase water and sanitation facilities for the target families and communities.

Natural Resources Management (NRM) Component

The main objective of the NRM Component is: "improving the natural resources management in the selected communities, which shall result in the improvement and increase of areas with appropriate management of natural resources and soil conservation practices, in order to contribute to the productive capacity of soils".

Specific objectives:

- Reducing soil erosion
- Improving soil fertility
- Strengthening the capacities of the communities for an appropriate management of their natural resources
- Establishing sustainable and appropriate projects for the adequate use of their natural resources

Intervention strategies:**I. ELABORATION AND IMPLEMENTATION OF LAND USE PLANS (POP)**

Classification of lands according to their Greatest Use Capacity, that is, according to their productive aptitude.

II. COMMUNITY ORGANIZATION

A specific organization for the natural resources area is required to coordinate the activities, achieve self-management and promote local capacities.

III. SELECTION AND CHARACTERIZATION OF MICRO WATERSHEDS

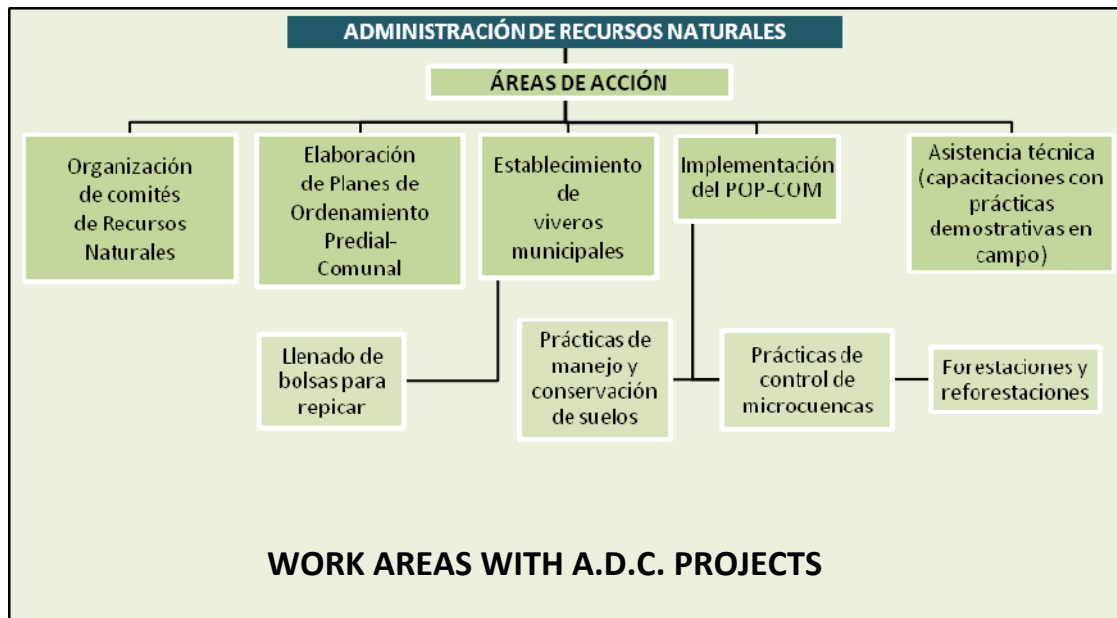
The cartographic and basic information of the micro watershed (soils, topography, crops, social, economic, cultural aspects, etc.) and geological, geomorphological, erosion and slope maps are inserted in a SIG.

IV. PLANNING

With the help of the SIG, the intervention areas with erosion risk or current erosion in the whole micro watershed are defined, and an intervention plan is elaborated.

V. TECHNICAL ASSISTANCE

Involves the implementation of Land Use Plans taking into account the Agricultural Calendar of the communities.



Lines of action:

a) Soil management and conservation

- A Level Management
- Dead barriers (stone and earth)
- Living barriers
- Construction of terraces
- Infiltration ditches
- Drainage ditches
- Crown ditches

Soil improvement

- Texture and structure of soils
- Deep cultivation or *tojeo*
- Organic fertilizers
- Improvement and construction of dunghills

b) Micro watersheds control

- Integrated watershed management
- Sedimentation traps
- Sedimentation dikes and walls
- Defensive walls

- Ravine dredging
- Row forest plantation for defensive walls

c) Afforestation and reforestation

- Implementation of tree nurseries
- Afforestation and reforestation
- Creation of preserved areas

d) Environmental education

- Training workshops with teachers
- School environmental projects
- School environmental fairs
- Appointment of ecological agents

To fulfill the proposed objective the NRM component is made up of one administrator, one assistant and six field professionals (FP) assigned to the municipalities of San Lucas (2), Camargo (2), Culpina (1) and Incahuasi (1).

1.2. Population and geographical area

The NRM Component develops its activities in the Nor and Sud Cinti Provinces of the Department of Chuquisaca, according to the following detail:

Department	Province	Municipality	Beneficiary communities	Total population	Number of beneficiaries
Chuquisaca	Nor Cinti Sud Cinti	Camargo	26	7790	3725
		San Lucas	24	10925	8285
		Incahuasi	17	8685	4330
		Culpina	11	9095	5815
TOTAL			78	36495	22155

Source: Fiscal year 2008 report

The topography in San Lucas is characterized by plains, low mountainous areas, low hills to the north (*altiplano*) and high mountainous areas with high peaks to the south (valleys). Its weather is temperate with an average temperature of 20°C and an average rainfall of 700 mm³. The mountain range of Tarachaca is located in the central part of the municipality. The main rivers are San Lucas, Huerta Mayu, Corma, Marcani, Acchilla and Huayni.

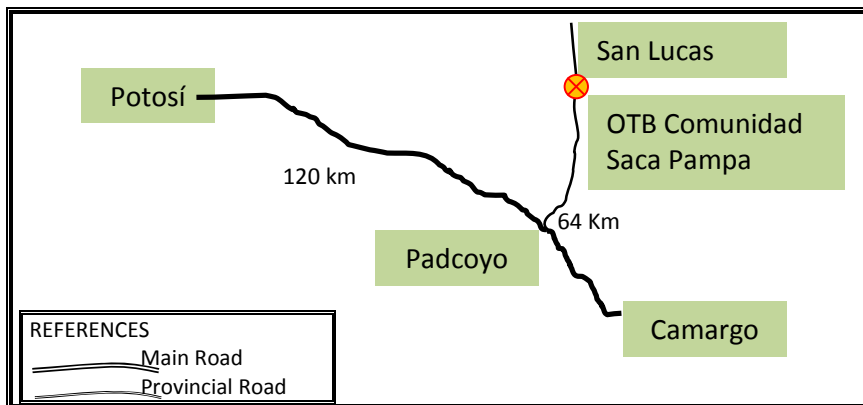
The Quirpini community OTB is located in the San Lucas canton, within the administrative area of the municipality of San Lucas, second section of the Nor Cinti province of the department of Chuquisaca, between the coordinates 20° 07' 30.34" and 20° 11' 35.23" South latitude and 65° 06' 10.03" and 65° 09' 58.64" West longitude. The altitude of the main village is 3510 m.a.s.l.

The inhabitants are of Quechua origin. The farmers have as social organization models the Ayllus and the agricultural union. Regarding cultural heritage, they have the Church with a colonial

architecture. Women participate in organizations like Mother-child Centers and communal and union works.

Quirpini is located in the banks of the San Lucas river, between two mountainous areas to the east and west. The highest hill, known as Paticonga, is to the west of the community at an altitude of 3825 m.a.s.l.; to the east is the Banderani Punta hill with an altitude of 3600 m.a.s.l.

The main access to Saca Pampa, independent community since November 2008, is the road to San Lucas from the town of Padcoyo (located on the Potosí - Tarija road), 120 Km away from Potosí to the south. Saca Pampa is 10 Km away from Padcoyo, 8 Km before arriving to San Lucas. The access to the community is possible over the whole year using buses that provide the daily service between Potosí and Tarija and stop in Padcoyo. From Padcoyo, the access is carried out in taxis that cover the section Padcoyo - San Lucas.



According to POP data, there are 54 families in Saca Pampa, however, 18 of them temporarily migrate to San Lucas, capital cities like Tarija or Sucre, or to Argentina to work. From the same source of information the conclusion is that the number of inhabitants in the area is approximately 175.

1.3. Socio-economic and cultural aspects

a) Language and customs

The predominant language in the community is Quechua. The young people and children that attend school are bilingual (Quechua - Spanish) as well as the adults that come back from towns or cities.

The customs are connected to traditions and the Ayllu system is still maintained. The descendants of the first inhabitants tell that the name of the region comes from an Aymara root: *S'aka* = rough plant with flowers, maybe because this kind of vegetation is plentiful in the area. The origin of many of their last names is also attributed to the Aymara culture, among them predominate Huarachi and Puma.

In Saca Pampa, ceremonies to worship the Pachamama (called *ch'alla*) are usually carried out at the beginning of agricultural activities, constructions or civil works. In other respects, most of the inhabitants practice the religious syncretism, they believe in God, Virgin Mary and saints, but they also believe in the Pachamama (Mother Earth), *jampiris*, hills, animals, sorcerers and diviners.

The historian Augusto Guzmán says: "We can attribute the ethnic origin of the inhabitants of San Lucas to the *colla* – inca culture. That is, the Quechua culture is based on the *colla* – Aymara culture". Saca Pampa belongs to that culture and it was part of the Quirpini Community OTB, as mentioned above, until October 2008. Its native *ayllu* name was *Jatun Khellaja* and *Yucasa*. After the Revolution of 1952, each family of the community has singular land property titles.

Most of the population works on extensive agriculture. The second economic activity is livestock. The main annual crops are corn, potato, wheat, barley, broad bean and chili. Among perennial crops are orange, cherimoya, peach and grape. The main cattles are goats and sheep.

The yield of the different activities is earmarked almost in its entirety for self-consumption, the surplus is sold and/or exchanged, although in minimum quantity. Fruit dehydration, especially peach dehydration, is carried out to sell products such as *pelón*. Corn and wheat are cultivated for then turn them into flour. Grape production is used for the elaboration of wine and *singani*.

The inhabitants migrate temporarily between April and September as part of their income generation activities. Other part of the population works entirely on the informal trade and the production and commercialization of handicrafts.

The migration rates are high especially of young population because of the current situation of the community, where work sources and economic income are scarce. This migration may be temporary, during low water seasons (6 to 8 months), long-term or definitive. Because of the little agricultural expectations in the community, many young people go out to more inhabited towns or cities.

They migrate to Argentina or inside the country to Santa Cruz, Tarija, Yacuiba or Sucre. The reasons for migration are the lack of work sources and the low agricultural production caused by natural disasters, low economic resources and drought. Already in the new places, the men from Saca Pampa work on agriculture, masonry, sugar cane harvest or laborer work. The women work as maids or dressmakers.

Feast days and holidays

The feasts are connected in many cases to holidays, which are:

Feast/holiday	Date	Description
New Year	January 1st	Ch'alla of the beginning of the year
San Sebastián	January 20th	In memory of the Saint
Candlemas	February 2nd and 3rd	Meeting of <i>ayllus</i>
Carnival	February	<i>Ch'alla</i> and other customs
Easter or Holy Week	March or April	Religious activities (with holiday)
Departmental Anniversary	May 25th	Civic events (with holiday)
Santa Vera Cruz	May 3rd	Religious activities (with holiday)

Mother's Day	May 27th	Celebration to the mothers (without holiday)
San Juan	June 24th	In memory of the Saint (without holiday)
Peasant's Day	August 2nd	Feast (without holiday)
Independence Day	August 6th	National anniversary and feast (with holiday)
Señor San Lucas	October 18th	Municipal Anniversary (with holiday)
All Saints' Day	November 2nd	Feast in memory of dead people (with holiday)
Christmas	December 25th	Religious feast (with holiday)

c) Education

In the community of Quirpini there is school where the children from Saca Pampa attend until the sixth grade of primary, and to continue their education they should go to San Lucas. There they attend the Eduardo Avaroa School or René Barrientos Ortuño School, 8 to 10 Km away from Saca Pampa. The school of Quirpini has approximately 60 students.

d) Health

Saca Pampa does not have a health post. People from the community go to the hospital of San Lucas, where emergency cases are attended. Regarding serious diseases, the people travel to Camargo, Potosí or Sucre.

The main prevalent diseases are the Acute Respiratory Infections (ARI) and diarrheas. While the main causes of death are lung diseases, rheumatism and Chagas' disease.

2. METHODOLOGY

A systematization process requires the construction of the experience through a critical analysis based on primary and secondary information. The methodology used in the present document is called FIDAMERICA-PREVAL and consists of eight steps and considers three main analysis moments.

A first moment is the initial situation, corresponding to the organization at community level; a second moment is referred to the implementation of the Preserved Area; and the third moment analyses that implementation and the experience results. Finally, the lessons learned arise, important for future interventions.

The stages of field work and analysis of the systematization process of the experience in the Saca Pampa community, in regard to the organization and implementation of the Preserved Area, were developed in February 2009.

The actors involved in the organization, elaboration and implementation of the Preserved Area of Saca Pampa (adult villagers, members of the CRRNN, technicians from the Mayor's Office of San Lucas and ADRA's FP) were interviewed to draw their opinion about the process, in such a way that a valuable document may be obtained to allow future successful interventions.

3. CENTRAL POINT OF SYSTEMATIZATION

This experience is part of the work of ADRA's NRM Component, carried out with the strong participation of the organization at community level and as a result of the POP implementation in Saca Pampa, between 2002 and 2006.

It is considered a successful experience because it allowed an attitude and behavior change in the community in relation to the appropriate management of natural resources, and promoted the inhabitants' interest for a better community organization, formal and responsible, which resulted in the need for independence and consolidation as a community, in order to stop being considered as just one more area of Quirpini.

On request of Saca Pampa, the prefecture of the department of Chuquisaca conferred it the so long desired Legal Status in November 2008. This new community has today a solid organization that includes among its main positions a natural resources secretariat, a clear sign of the view change in the villagers, as Miguel Huarachi says: *"there is always support and economic investment for organized communities"*.

For all the aspects mentioned, the central points of systematization were defined as:

Organization

Knowledge of the awareness raising and organization process at community level for the creation and implementation of the Preserved Area with a micro watershed approach, which consists of:

- Socialization and planning based on the POP-COM of Quirpini.
- Identification of sectors for the creation and implementation of Preserved Areas based on the criterion of degraded areas within a micro watershed.
- Constitution of work groups on the part of the CRRNN, in coordination with ADRA.

Elaboration

Count of the activities developed with community participation during the intervention for the implementation of the Preserved Area with a micro watershed approach, which includes:

- Declaration of preserved areas in the minutes book of the trade union.
- Identification of control practices of micro watersheds, vegetation, soil conservation and use of rainwater.

Implementation

Execution results of the technical recommendations on natural resources management according to their natural capacity of use, which ensure the sustainable use and conservation of the Preserved Area in the long term. That involves:

- Construction of perimeter enclosures for the preserved area.
- Construction of rainwater harvesting basins.
- Construction of infiltration ditches.
- Construction of sedimentation dikes.

- Forest plantations with water harvesting practices.
- Creation of a natural resources secretariat inside the organic structure of the communities.
- Counterpart management and internal organization of the communities for the implementation of natural resources management practices in preserved areas with micro watershed approach.

4. ACTORS INVOLVED IN THE EXPERIENCE

ADRA Bolivia has a FP in the community of Sacapampa, who is in charge of promoting the fulfillment of the planned activities through training and technical assistance. The villagers have also the support of Natural Resources promoters from the same community, who turn out to be the Natural Resources Secretaries, trained and provided with the didactic material needed to train their fellow villagers.

The municipality, through the Land Zoning Unit, participates supporting the implementation process of the land zoning plans to the communities.

For the systematization the experience was reconstructed gathering primary information. Individual and focal group interviews were carried out, according to the following table:

Direct Actors from the Experience		
Group or type	Representative	Methodology of Information gathering
Quirpini community, area of Sacapampa	1. Miguel Guarachi, NR secretary 2. Rosendo Guarachi, NR secretary 3. Community in general	In-depth interviews Focal Groups
Municipality	4. Hortencia Zeballos, UOTM technician	In-depth interviews
ADRA	5. Javier Cerezo, FP assigned to the community of Sacapampa	In-depth interviews
Quirpini community	6. Agricultural Unit of the Mayor's Office of San Lucas 7. Town Council	In-depth interviews

5. DESCRIPTION OF THE INITIAL SITUATION

The Quirpini community was made up of two *ayllus* (Llajta Yucasa and Jatun Khellaja) and comprised four zones: Ibarro, Quirpini, Villcasana and Sacapampa, this last one belonging to Llajta Yucasa.

By decision of the inhabitants of the then Sacapampa zone and faced with the little willingness and interest of the other three zones, the elaboration of the Quirpini – Sacapampa community POP-COM was carried out without the participation of them.

To carry out the diagnosis only Sacapampa was taken into account and as a result of the elaboration of the above mentioned POP-COM the land use was categorized, planning activities for

the conservation of water, soil and vegetation with the purpose of obtaining greater benefits in time, without deteriorating the productive potential and improving the production levels; from that arose the necessity of reducing the degradation of community lands through the creation of a Preserved Area.

The community had a communal agent before, but he only watched over crop damages and he did not have knowledge or organic responsibilities to promote the comprehensive conservation of all the natural resources of the community.

"The communal agent took a little care of plants. We were organized at trade union level and the agent only took care of smallholdings. He did not give importance to natural plants and only took care of fruit trees" (Miguel Huarachi, Sacca Pampa community)

Photo MIGUEL HUARACHI

"We did not have any post in the NR area, the local authorities only took care of fruit trees like peach or some exotic plants like eucalyptus, notifying those who caused damages" (Miguel Huarachi, SRRNN, Sacca Pampa community)

Photo ROSENDO HUARACHI

Technicians from the Mayor's Office of San Lucas remember that the coordination of the natural resources management was little and in most of the cases inexistent before the intervention of ADRA in the area.

"Sometimes, without any reason, they cut down trees contributing to the degradation... in other communities this type of management still continues" (Hortencia Zeballos, UOTM technician of the municipality of San Lucas).

To meet their feeding needs, the inhabitants of Sacca Pampa used the land in a way that is not in agreement with the natural aptitude, without taking into account protection or conservation regulations due to economic, social and cultural factors. This resulted in the over-exploitation of natural resources, loss of soil fertility, reduction of yield and generalized impoverishment of agricultural production systems and native vegetation. They did not have preserved areas either.

There was not knowledge about the impact of the degradation processes on the production and family income and on the reduction and impoverishment of production areas. Soil conservation practices were not carried out either.

"We were not organized before, we worked individually... the natural resources management was rustic, we only knew native trees like molle, churqui and carob tree.

Besides, when there was a rise in waters, we protected our plots with stones or rustic gabions... year after year corn was cultivated without crop rotation” (Rosendo Huarachi)

The rise in waters in the ravines during the rainy season turned into a risk of floods and losses of crop areas, which harmed the production and feeding. Facing this situation, defensive walls were constructed in a rustic way to protect their lands, without considering that the problem was the lack of an appropriate management of the watershed high parts and the lack of Preserved Areas.

“We did not know about preserved areas or micro watersheds, before ADRA we knew nothing, nor even the names” (Rosendo Huarachi)

6. CRITICAL REFLECTION ON THE INTERVENTION PROCESS

With the purpose of improving the natural resources management in the target communities, ADRA Bolivia starts the creation of preserved areas as part of the implementation of the land use plans elaborated in 2002. Begin by the organization of a CRRNN in Quirpini was a true challenge for the NRM component, because it was a community divided in zones.

Attempts were made to contact the leaders of the zones within Quirpini, but only in Saca Pampa awareness and willingness to improve the situation of the natural resources management were found.

“We did not know or do this kind of work in the zone, we did not manage well the natural resources. We did just like each person knew, we did not work as the engineer told us” (Gabino Puma, Saca Pampa community)

Through periodic meetings with the inhabitants of Saca Pampa, the necessities regarding the natural resources management and the intervention needed to improve this management were determined.

In these first meetings participative and reflective talks were carried out with the “before and now” technique recognizing in a participative way the NR problems. These meetings were also useful to promote the community undertaking and organization with the participation of about 30 families willing to improve their situation.

“When I arrived in the community, they did not have knowledge about the value of natural resources. Through the trainings they acquired understanding and knowledge of what is natural resources management. The POP at communal level was elaborated and as a result of it arose the initiative of declaring preserved areas” (Javier Cerezo, technician from ADRA)

6.1. Organization of the community

The community of Saca Pampa is constituted based on the Grassroots Territorial Organization (OTB), a model created by governmental institutions and assimilated by indigenous organizations, before organized in *ayllus*, as a community organization system. In these type of organizations there is not a natural resources post or secretariat because it is not considered as a priority due to the lack of knowledge on the subject.

As one of the program strategies the constitution of a natural resources committee was promoted, and the functions of this committee included the coordination of activities with FPs, training leaders, calling to the training meetings and organizing and executing the works at community level.

“We have organized ourselves to preserve and do some afforestation, little by little with the support of the institution. We have visited places where we could implement a preserved area. There was an empty place ideal to attract the rain and humidity and to plant” (Miguel Huarachi)

“We had to look for a place without owner, we found a place with 5 hectares but it was not of impact, so we had to organize ourselves. Then, the authorities went to identify a place. We also carried out a workshop with the technician. Once we identified the area, it was introduced in the POP” (Rosendo Huarachi)

6.2. Selection of a place for the Preserved Area

The basic criterion to choose the preserved area is in the POP, the determination of the place falls to the Silvopastoral Unit and it should be located in a community land, without conflict of land tenure and be part of a micro watershed.

Miguel Huarachi, member of the CRRNN and current natural resources secretary of Saca Pampa, remembers that in the meetings between the community and the FP of ADRA, they determined the place where a preserved area would be implemented. *“This place was vacant to attract the rain, it was an empty place to plant and attract humidity”* recalls him while observing the pond formed by rainwater accumulated thanks to the rainwater harvesting basin [*atajado*] they constructed.

“We had to look for a place without owner, we found a place with 5 hectares but it was not of impact, so we had to organize ourselves. Then, the authorities went to identify a place. (Rosendo Huarachi)

This place was selected to construct a rainwater harvesting basin in the low part and because the area was part of the micro watershed, so it could be protected and managed in such a way that the sedimentation of the reservoir can be avoided.

“We have appointed a natural resources secretary... we were a group of 40 people (heads of households) who wanted to improve” (Women from Saca Pampa)

6.3. Creation and implementation of the preserved area

When the organization of the CRRNN was established and the place was identified (the area was part of a micro watershed), the Preserved Area was declared and established in a formal and legal way through a minutes in the minutes book of the community in accordance with the recommendations of the POP-COM previously carried out.

“It was not that easy to start, we had to organize ourselves, elaborate commitment minutes, have all the beneficiaries sign them and fulfill the work” (Rosendo Huarachi)

With the formal declaration this area should be respected by all the villagers, who have the obligation to contribute with social control and works in order to achieve the objectives of preserving and improving the area with different activities.

Construction of the rainwater harvesting basin to store rainwater

The major need of Saca Pampa was having water available for irrigation during the seasons of agricultural activity, for that reason the implementation of the preserved area was initiated with the construction of the rainwater harvesting basin to collect water from the ravines.

The work started with a preliminary design and continued with the negotiation before the municipality, ADRA and the community. Gabino Puma, villager of Saca Pampa, explains that they started collecting stones.

“We have carried a lot of stones, the engineer told us that the same work was done in other communities, so we did the same here” (Gabino Puma)

The municipality of San Lucas sent machinery and heavy-duty equipment to construct the reservoir, the community contributed the fuel and the heads of households continued contributing their time. Since then, the organized Board of Saca Pampa maintains permanent contact with the municipality. Gabino Puma declares: *“the municipality contributed with machinery and we bought fuel... it always helps us in all respects, not much, but it always helps”*.

Enclosure, dikes and infiltration ditches

After the construction of the rainwater harvesting basin and before the rainy season arrived, and with knowledge about the dynamic of a watershed, the FP together with the villagers prioritized and planned different works: perimeter enclosure of all the area, management of the degraded areas and control of watercourses to avoid the accumulation of sediments in the bottom of the reservoir.

With this purpose, the FP of ADRA guided and trained men and women on how to make infiltration ditches and sedimentation dikes within the micro watershed. The villagers obtained posts and barbed wire. In each meeting with the organized villagers, the technician set periods for the community to work fulfilling the implementation stages of the preserved area.

“We made infiltration ditches and sedimentation dikes and we also planted timber and fruit trees. We had continuous counseling, but some plants were lost anyway (Miguel Huarachi)

“The rainwater brings a lot of sand, to stop the sand from reaching the rainwater harvesting basin we made this sedimentation dike, and the plantations to generate more humidity and attract the rain. The preserved area is enclosed with wire to prevent the animals from digging up the soil and to allow pasture to grow. The infiltration ditches are useful to trap rain runoff. (Gabino Puma)

The women of the community remember how the technician taught them how to make the rainwater harvesting basins and the terraces. *“He also taught us how to carry out a common pot”*, they remember as an anecdote; that practice was a useful way of approach to the community.

Afforestation and reforestation of the preserved area

When the rainy season arrived (January - February) the work was fulfilled with forest plantations.

“We decided the place, the distance between plants and the depth of plantation”
(Gabino Puma)

This activity is part of the management of areas without vegetation and was accompanied with water harvesting practices and soil erosion control (infiltration ditches, small individual terraces and crescents) All these activities were led by the FP of ADRA, who conducted the design, the plantation techniques, the appropriate watering and the post plantation cares and management.

Thanks to the formal and committed organization of the inhabitants of Saca Pampa, the Municipality gave its support selling *molle*, eucalyptus, pine and *tara* seedlings at a low price for the implementation of the Preserved Area.

7. REPERCUSSIONS OF THE IMPLEMENTATION OF THE PRESERVED AREA IN SACA PAMPA

The support ADRA gave to the community of Saca Pampa had a positive influence on the attitude of the villagers, who declare that they have achieved an important change in their collective and individual life with a view of a sustainable use of their natural resources: water, soil and vegetation, essential elements to meet their feeding and economic needs.

Change of view about natural resources

The villagers are also committed to advance and implement the tasks for the continuation of the two preserved areas they have, one –whose experience was told in the present publication– with an area of 17 hectares and the other with an area of approximately 3 hectares. Both are protected by the natural resources secretaries appointed by the community. There are plans to declare these sites as tourist areas with the support of the Mayor's Office in the future.

The implementation of the Preserved Area and the social and organizational activities that accompanied the process changed the view of the inhabitants of Saca Pampa, who now value the power of the community organization. They are strongly convinced that “there is always support for an organized community”. They want to grow and improve their quality of life, they value the richness of the nature and they protect the work of their hands for it to last in time.

Each inhabitant, specially the leaders, sees the future with optimism. They declare that thanks to the preserved area, the rainwater harvesting basin and the afforestation, their community is now more inhabitable.

“In this moment the community has two preserved areas declared in the books of the OTB with a total area of 20 hectares. There are 150 sedimentation dikes and a forest plantation of 3000 plants of different species” (Javier Cerezo, technician of ADRA in Saca Pampa)

Changes in the community organization

As one indication of sustainability, the organization of the natural resources committee has been legally recognized according to customs and ways in the general assemblies of the community by means of a document in the minutes book of the OTB, and since 2007 it is part of the organic structure of the OTB with the creation of the Natural Resources Secretariat (SRRNN).

Currently the organization of the OTB is made up of:

- The President of the OTB, in charge of watching over the general development of the community, managing, making decisions and representing the community before the Municipality and other institutions.
- Vice President of the OTB, replaces the president and fulfils his duties in his absence.
- Natural Resources Secretary, in charge of watching over the organization, management and protection of Natural Resources projects and implementing the Land Use Plan.
- Secretariat of minutes, in charge of elaborating the meeting minutes and keep the record of beneficiary participants.
- Treasurer, in charge of handling the money.
- Spokespeople, in charge of calling the people to the meetings.

“Everybody should hold office, men and women... we all will have to take care of natural resources” (Women from Saca Pampa)

This post and its functions shall be maintained permanently within the community organization.

Changes in the Municipality – Community relation

The current responsible of the UOTM of San Lucas, Hortencia Zeballos, explains that the work carried out between the inhabitants of Saca Pampa and ADRA had a positive influence on other

communities and on the Municipality itself since the natural resources management was given with its respective value, neglected in the past.

Zeballos declares that *“the Mayor’s Office does not work yet in a coordinated and close way with 100% of the communities”* and that there are plans to work with the natural resources secretaries *“who were trained and now know more about the subject”*. She is convinced that *“through the NR secretaries a good work can be done in the communities”*.

The coordination between ADRA and the villagers of Saca Pampa was very important for the municipality of San Lucas, that is why the support continues through the provision of materials on the part of ADRA and the provision of seedlings or the disposal of heavy-duty equipment on the part of the Municipality.

The creation and implementation of the Land Zoning Unit as a municipal policy shall allow giving continuity to the program activities through the support given for the elaboration and implementation of POPs in the communities under intervention and other communities, and for the elaboration and management of projects framed within the recommendations of the Communal Land Use Plans and the Municipal Land Zoning Plan.

8. LESSONS LEARNED

This experience leaves many lessons learned about technical aspects of the implementation of preserved areas, important elements of organization or simply about the social interaction that should exist between technicians and inhabitants of a community. That is why, some important points are summarized in three scopes:

a) About the community organization

To commit the participation of the beneficiaries and ensure the creation and execution of the preserved areas, the community should have a specific and recognized formal organization, or have the complete support of the central organization (OTB).

“Since they saw us working, they are always supporting us, they have the view of supporting the organized communities” (Miguel Huarachi)

The areas of common grazing use are preferable for the selection of a preserved area. After reaching agreements and specifying objectives and restrictions they should be declared as such in the minutes books.

“We plan to continue implementing more plants. 400 eucalyptus plants have arrived. The Mayor has declared that the preserved area may become a tourist area” (Rosendo Huarachi)

Following the recommendations of a previous POP-COM is effective because this instrument is elaborated in a participative and agreed way. Together with the formal organization, the implementation of the preserved areas and its activities are easily materialized.

“We continue organized and moving forward, we are now working in the afforestation. Our community has a NR secretary and each member of the community should hold office, both men and women” (Miguel Huarachi)

The villager Miguel Huarachi suggests bringing more people to work in the preserved areas if it was organized again. On their part, women declare that they have changed in regard to the care of natural resources, because they realized that water, soil and plants are essential to meet practically all their needs.

“In comparison to the past, the situation has changed, we did not know how to organize ourselves but now we take the lead of the projects. We take more care of the plants now and know how to manage the soil, we do it because it will be a great help for us in time” (Women from Sacá Pampa)

b) About the implementation works

Women remember as an anecdote:

“At the beginning we did all wrong, the rainwater harvesting basin in other place... all wrong. We started the work without indications, then we had to do all again and follow the technician’s recommendations... we should have paid attention to the technician from the beginning”

They also suggest to carry out the afforestation in the appropriate season. Miguel Huarachi says: *“that mistake was made and then our plants died”*. In regard to the molle, they point out that is better to plant it than to transplant it.

The villagers are now searching another communal sector to carry out the same implementation works, following the steps they already know constructing the enclosure, infiltration ditches, sedimentation dikes, afforestation and reforestations.

The FP of ADRA assigned to Sacá Pampa, Javier Cerezo, offers his contribution to the summary of the lessons learned asserting that *“it is important to raise the awareness of people through workshops, courses and exchange of experiences”* and declares *“I would not carry out the work separate from the municipality”* The approach with the municipality allows greater coordination and support to the community.

Cerezo declares that when the projects are economically attractive and of collective interest for the communities, the people show interest to develop them.

c) About the sustainability works

The creation of the SRRNN post, the rotation of each member of the community in that post, having rules to punish those people who harm plants or neglect the protection of the area from the animals, are aspects that allow the sustainability of the Preserved Area.

The community, with the support of ADRA, has created the rules with punishments according to the damage caused, and the NR secretary is in charge of putting them into force and watching over the natural resources for one year.

The knowledge left to the villagers will therefore have influence on the implementation of other preserved areas and the afforestation to create a good microclimate, tasks that they affirm they are able to achieve by themselves to contribute to the sustainability of a project that directly has an effect on the improvement of their production.

“Our production has also changed. We have improved the fertilizing methods carrying sand to the clayey plots and fine soil to the sandy ones so that the fertilizer may not penetrate much. We have also improved farmyards. We are fine now and we are only concerned about pests. We have visited other communities to exchange ideas and we saw better views and a total change in those communities” (Rosendo Huarachi, president of the CRRNN).

9. REFLECTIONS ON THE EXPERIENCE

The experience had the participation of the beneficiaries in the whole process of organization, elaboration and implementation of the Preserved Area in the community of Saca Pampa. Its testimony is indispensable for those communities that need an improvement in their natural resources management.

Currently, as a result of the organization reached, they obtained their legal status. This new step allows them to request and house projects without being subject to the decisions of the community they belonged to. They are enterprising people that hope for a better future for their production and for the economy of their families. They are also open to receive other people who want to be part of their view of natural resources management.

Because of the geomorphological characteristics and the agricultural, livestock and domestic activities of the people of Saca Pampa, the common use lands are in evident process of degradation, which directly has an effect on the farmers' quality of life.

To stop or avoid this process, the creation and implementation of preserved areas are undoubtedly practical strategies with the greatest impact and effectiveness to control and manage meadows and watershed heads for the reclamation, conservation and improvement of soils, plants, water and biodiversity in the rural communities of these regions.

ANNEXES

IDENTIFICATION AND PRIORITIZATION OF KEY ACTORS

Direct Actors from the Experience
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Group or type	Representative	Priority level	Methodology of Information gathering
Quirpini community, area of Saca Pampa	1. Miguel Guarachi, NR secretary	A	In-depth interviews Focal Groups
	2. Rosendo Guarachi, NR secretary	A	
	3. Community in general	B	
Municipality	1. Hortencia Zeballos, Municipal Land Zoning Unit (UOTM)	A	In-depth interviews
ADRA.	1. Javier Cerezo	A	In-depth interviews

Indirect Actors from the Experience		
Group or type	Representative	Priority level
Quirpini community	1. Carlos Mario Zelaya, Director of the agricultural unit of the Municipality	C
	2. Gustavo Díaz O., President of the Council	C

FIELD GUIDELINE No. 3: ANALYSIS OF AVAILABLE DOCUMENTATION

Complementary Information Available			
Description of the Information	What for it may be useful?	Where is it and who has it?	Responsible of obtaining and analyzing it
POP -COM	A. Description and analysis of the initial situation and its context	Community	Wilson Colodro
PDC	A. Description and analysis of the initial situation and its context	Community (to confirm)	
Communal folder	A. Description and analysis of the initial situation and its context	Community	Javier Cerezo
Certificate of declaration of preserved area	B. Intervention process	NRM	Javier Cerezo
Certificate of creation of the NR secretary post	B. Intervention process	NRM	Javier Cerezo
Profile of intervention project	B. Intervention process	NRM	Javier Cerezo - Wilson Colodro

FIELD GUIDELINE No. 4: PLAN OF INTERVIEWS

PLAN FOR GROUP INTERVIEWS	
Actors:	
Pollster name:	
Date: 11 / 02 / 09	Place: Saca Pampa community
Case:	IMPLEMENTATION OF PRESERVED AREAS WITH A MICRO WATERSHED AND COMMUNITY PARTICIPATION APPROACH
Subject	Questions
Initial situation:	ORGANIZATION
	1. Before the intervention of ADRA in the zone, how were natural resources (water, soil and vegetation) managed in your community?
	2. Before the intervention of ADRA in the zone, did you have knowledge about preserved areas? Yes No Was the preserved area declared in the minutes books?
	ELABORATION
	3. Did you know what a micro watershed is?
	4. TECHNICIAN. In your opinion, how was the situation of the community before the intervention?
	5. Did they have a specific organization or post to take care of NR? Yes No Which?
	IMPLEMENTATION
	6. How many hectares of preserved areas did your community have?
	7. Did your community apply infiltration ditches, sedimentation dikes, forest plantations, rainwater harvesting basins, defensive walls or other NR management practices?
Intervention process	ORGANIZATION
	8. How did you identify the preserved areas within the micro watershed?
	9. How did you get organized for the implementation of the preserved areas?
	ELABORATION
	10. How was the process of creation and declaration of preserved areas?
	11. Why and what for did you decide to carry out management practices of preserved areas in the micro watersheds?
	IMPLEMENTATION
	12. What was the support of the municipality in the implementation process of these works?
	13. TECHNICIAN. What activities did you carry out as a technician for the implementation of the preserved areas?
	14. MUNICIPALITY. What was the support of the municipality in the process of implementation of preserved areas and micro watershed management?
Current or final situation	ORGANIZATION
	15. How are you organized now to manage and preserve your natural resources?
	ELABORATION
	16. Currently, how is the support of the municipality in the management of preserved areas?
	IMPLEMENTATION
	17. How many hectares of preserved areas does your community currently have?
	18. What practices have you carried out in those preserved areas?
19. How has the micro watershed improved in relation to the past?	
	SUSTAINABILITY
	20. MUNICIPALITY. How do you evaluate the work of ADRA in regard to natural resources management?
Lessons Learned	21. If you could start again with the implementation of preserved areas, what things would you do in a different way?
	22. If you could start again with the implementation of preserved areas, what things would you do in the same way?
	23. What things would you never do again?