Strengthening of the Germoplasm Banks within the National System of Genetic Resources for Agriculture and Feeding in Bolivia

The Republic of Bolivia is an important centre of genetic diversity. Despite all the efforts made by the government, the conservation of the vegetal genetic resources is far from being sufficient to avoid the disappearance of species and varieties.

It is necessary to adopt a new strategy to guarantee its conservation for the benefit of the farmers and the Bolivian society.

In 1996 the country adopted the Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture. The Global Plan of Action (GPA) represents an important contribution to the implementation of the Convention on Biological Diversity in the field of food and agriculture and is one of the supporting elements of the International Treaty on Plant Genetic Resources for Food and Agriculture.

In 2003, Bolivia participated together with other selected countries in a FAO pilot project, which culminated with the establishment of the National Information Sharing Mechanism on the implementation of the GPA.

The project consists on strengthening three active banks of conservation of germoplasm in Bolivia (Cereal Bank, Tubercle Bank and Bank of Andean Grain) and on constituting a national database to allow the conservation of duplicates of all existing collections. The banks are part of the National System of Genetic Resources for Food and Agriculture (Sistema nacional de recursos genéticos para la alimentación y la agricultura – SINARGEAA). Through FAO’s technical assistance and funding from the Government of Italy, the proposed project will improve SINARGEAA’s capacity in the conservation and evaluation of the native varieties of cultivated species and its capacity in developing higher scientific activities. It will also contribute to monitor the implementation of the GPA.

- **Beneficiaries**
  > The Plant Genetics Research Centre of Pairumani (CIFP)
  > The Foundation for the Promotion and Research of Andean Products (Promoción e investigación de productos andinos - PROIMPA)
  > The banks are part of the National System of Genetic Resources for Food and Agriculture (SINARGEAA)
  > Rural communities

- **Objectives**
  The overall objective is to strengthen three active banks of conservation of germoplasm...
in Bolivia (Cereal Bank, Tubercle Bank and Bank of Andean Grain) to constitute a national database to allow the conservation of duplicates of all existing collections.

The specific objectives are:
1. Strengthening the infrastructure and the activities of three active banks of germplasm
2. Reinforce the National Information Sharing Mechanism for the implementation of the GPA

Strategies
- Organization of two workshops for the establishment of the National Information Sharing Mechanism. Through this Mechanism, which is based on the participation of stakeholders at a national level, the project will promote information exchange and will strengthen stakeholder cooperation, thereby contributing to enhance the capacity of the National Programme for Conservation and Utilisation of Plant Germplasm and Agro-biodiversity.
- The project has acquired part of the necessary equipment to strengthen the national Cereal Bank, Tubercle Bank and Andean Bank, as foreseen in the project document.
- Capacity building activities envisaged, that concerns the support of three PhD courses in genetic resources and molecular biology for three staff members of the Counterpart Organizations.

Expected results
- Contribution to have better equipped laboratories and qualified personnel and it will foster the utilization of techniques on tissue culture and molecular biology to support different processes that imply the conservation of the genetic resources.
- Improve SINARGEAA’s capacity in the conservation and evaluation of the native varieties of cultivated species and its capacity in developing higher scientific activities. It will also contribute to monitor the implementation of the GPA.
- Promote information exchange
- Strengthen stakeholder cooperation, thereby contributing to enhance the capacity of the National Programme for Conservation and Utilisation of Plant Germplasm and Agro-biodiversity.

Ongoing results
- Strengthening the infrastructure and the activities of three active banks of germplasm.
- Reinforce the National Information Sharing Mechanism for the implementation of the GPA
- Improve food security
Support to the Water Control Component of the 'Fome Zero' Programme in the Area of Dois Irmaos, Brazil

The project identified by the joint mission responds to a situation of real need in the Dois Irmaos semi-arid areas of the North East. Food production is based on subsistence farming dependent on erratic rainfall and rural families often lack access to water to clean and cook, ensuring a minimum of food security and food safety. The result is unstable food production, high incidence of disease for lack of hygienic facilities and insufficient supply of nutritious elements for consumption in particular during the long periods of drought (6 to 9 months a year depending on the area).

The project aims at helping the vulnerable farmers in making better use of rain water in order to improve the access to drinking water and to increase on-farm food production. The project will attempt to utilize water availability at the household/farmer level as a powerful incentive for families to engage in agricultural activities by growing vegetables in their back gardens or initiating related income-earning activities such as poultry, small ruminants, food processing (jam and marmalade production) or apiculture.

Activities are implemented through the FAO/Italy Decentralize Cooperation Programme in partnership with local authorities and the regions of 'Toscana' and 'Piemonte'.

- **Beneficiaries**
  - Rural communities
  - Farmers

- **Objectives**
  - The overall objective is to help the vulnerable farmers in making better use of rain water in order to improve the access to drinking water and to increase on-farm food production.

  The specific objectives are:
  1. To attempt to utilize water availability at the household/farmer level as a powerful incentive for families
  2. To engage in agricultural activities by growing vegetables in their back gardens or initiating related income-earning activities such as poultry, small ruminants, food processing (jam and marmalade production) or apiculture

- **Strategies**
  - The project adopts a participatory approach and facilitate interaction among beneficiaries. An initial seminar on water harvesting techniques is organized to enhance ownership by

**Overall Objective:**
Helping the vulnerable farmers in making better use of rain water

**Donor:**
Government of Italy

**Contribution:**
US$300 000

**Participating countries:**
Brazil

**Duration:**
2 years
From 01 Mar 2005 to 28 Feb 2007
Local institutions, communities and farmers will be sensitized on the benefits of appropriate water management and conservation techniques with recurrent participatory training courses and workshops. Moreover, integration and interaction will be established between decentralized authorities in line with a strong people-to-people approach.

Identification and adoption of specific strategies to reduce poverty and to improve women empowerment.

Training in improved techniques for retention and efficient use of water.

Expected results:

- Target beneficiaries more aware of project’s goals and objectives and better trained to fully participate in project work.
- Improved cropping systems adopted by local farmers that will increase their food security; improved farmers’ livelihoods by being able to add extra value to their agricultural production by making simple on-farm processing/transformation of agricultural products and by improving their nutrition habits.
- Local institutions strengthened with improved planning skills and with a better understanding of the development alternatives for their communities in the semi-arid environment; farmers, communities and local institutions able to utilize their water resources in a productive and sustainable way.
- Make available at no cost at the community level other rainwater collection systems for irrigation and training purposes, such as barrages or other run-off water harvesting systems.

Ongoing results:

- Better standard of living of vulnerable farmers achieved.
- Improved access to drinking water and to increase on-farm food production.
- Use water availability at the household/farmer level as a powerful incentive for families to engage in agricultural activities by growing vegetables in their backgardens or initiating related income-earning activities such as poultry, small ruminants, food processing (jam and marmalade production) or apiculture.
- Collaboration with Brazilian non-governmental organizations (NGOs) and government institutions in enhancing the efficiency of water harvesting in rural areas in accordance to the needs of the beneficiaries.
In the recent past, municipalities in the Republic of Bolivia have been given the responsibility to promote agriculture, sustainable natural resources management (NRM) and rural development. Many of them have set up technical units to support municipal development plans and agricultural initiatives which meet the needs of rural communities. Within this framework, communication is central to improving traditional farming systems, facilitating access to information and training, and enhancing the participation of rural communities in local development plans. In this respect, the government felt the urgent need to strengthen the capacities of municipality staff, non-governmental organizations (NGOs) and farmer representatives in the design of agricultural development plans, as well as in information and communication, environment planning and participatory methods.

The present project builds on the achievements of two previously Italian funded projects in the Department of Santa Cruz, Bolivia, GCP/RLA/114/ITA ‘Communication for the Development in Latin America’, concluded in 1997 and project GCP/INT/542/ITA ‘Interregional Project for Participatory Upland Conservation and Development – Bolivia component’, concluded in 2002.

**Beneficiaries**
- Rural people
- Farmers associations
- NGOs
- Municipalities

**Objectives**
The overall objective is to implement a rural communication plan to promote sustainable natural management and rural development in an area comprising eleven municipalities. The specific objectives are:
1. Establish the Communication and Training Centre for Natural Resources Management and Sustainable Agriculture (CARENAS)
2. Promote the implementation of a multimedia information network, Rural Information and Communication System (SICOR)
3. Develop communication strategies and link up municipalities, NGOs, farmers associations, and communities

**Strategies**
- Strengthen the capacities of municipality staff, NGOs and farmer representatives in the design of agricultural development plans, as well as in information and communication, environment planning and participatory methods
- Using a participatory approach in defining a detailed work plan, through an in-depth communication needs assessment within the municipalities involved

**Overall Objective:**
Implement a rural communication plan to promote sustainable natural management and rural development

**Donor:**
Government of Italy

**Contribution:**
US$449 967

**Participating countries:**
Bolivia

**Duration:**
3 years
From 28 Apr 2003 to 30 Sep 2006
Three days intensive training sessions on information and communication methods and techniques were also conducted in the following municipalities: Santa Rosa, El Torno and La Guardia with over 60 participants from the 11 municipalities.

Organization of studies on information and communication technology (ICT)

Cooperation with the autonomous University ‘Gabriel Renè Moreno’ and University ‘La Sapienza’ of Rome. The project has carried out research studies on the information and communication technology applications to provide agricultural information to the rural communities.

Organization of a training course for 16 agencies and local institutions working in the field of radio broadcasting companies to improve radio programmes quality in the Pirai river basin area.

Training of 21 specialists on communication methodologies.

Expected results

- Promote agriculture, sustainable natural resources management (NRM) and rural development
- Improve traditional farming systems
- Facilitate access to information and training, and enhancing the participation of rural communities in local development plans. In this respect, the government felt the urgent need
- Enhance the capability of local institutions, communication facilities, local experts and farmers in implementing efficient rural communication activities integrating different media such as video, radio and the Internet
- The CARENAS will be a self-sufficient institution operating with the participation of local institutions including the Municipality of Santa Cruz and the Autonomous University ‘Gabriel Renè Moreno (UAGRM)’

Ongoing results

- A number of videos concerning local issues have been distributed to 25 communities of the eleven municipalities
- The CARENAS become a self-sufficient institution operating with the participation of local institutions including the Municipality of Santa Cruz and the Autonomous University ‘Gabriel Renè Moreno (UAGRM)’
- An initial proposal for the CARENAS website has been presented, explaining institutional framework of the training centre, activities, capacity building programmes, information and events
- Improve the quality of radio broadcasts
Micro-garden Technologies for Improved Food Security in Selected Districts of the City of Teresina in the State of Piauí, Brazil

The project aims to introduce microgarden technologies to selected areas of the city of Teresina, the capital of the State of Piauí, in Brazil. Besides improving food security, growing fresh vegetables will be of immediate economic advantage to the community as they will be less dependent on the purchase of supplies on the local market and be able to make savings on their contributions to the cost of the meals. Microgarden technologies (including hydroponic cultivation) will also enable them to engage in micro-entrepreneurial activity, producing their own quality vegetables and selling surplus production on the local market. Activities are implemented through the FAO/Italy Decentralized Cooperation Programme in partnership with local authorities and the region of 'Veneto'.

**Beneficiaries**
- 13 Women associations
- Children
- Technical staff of the Federal University of Teresina
- Students of the Federal University of Teresina
- Graduates from the Faculty of Agriculture of Teresina

**Objectives**
The overall objective is to improve food security in selected districts of the city of Teresina. The specific objectives are:
1. Incentive families to engage in agricultural activities by growing vegetables in their backyards or initiating related income-earning activities such as poultry, small ruminants, food processing (jam and marmalade production) or apiculture.
2. Use waste material or inexpensive local by-products (rice husk, gravel, coconut fiber, dried moss) as substrates for microgardens.
3. Avoid nutrient deficiencies through better plant nutrition chemical contamination of the soil and groundwater.
4. Increase water use efficiency (optimized consumption with reduced loss from evaporation and no leaching).

**Strategies**
- Organizing seminars for public authorities and staff from partner institutions to create awareness about the microgarden systems (including hydroponic cultivation) in urban and periurban agriculture.
- Training workshops for 20 young graduates who will provide training and follow-up technical advisory services to the Mother clubs.

**Overall Objective:**
Promote the expansion of micro garden technologies to improve food security in the city of Teresina.

**Donor:**
Government of Italy

**Contribution:**
US$150,000

**Participating countries:**
Brasil

**Duration:**
2 years
From 01 Jun 2005 to 31 May 2007
A study tour to Italy for four young graduates from the Faculty of agriculture of the Federal university of Teresina to participate in a training course organized by the University of Padova, Italy.

Utilizing microgarden technologies to raise the number of growing cycles, repeatedly growing the same crop and obtaining higher output.

Providing the children’s canteens in the Mothers’ Clubs with fresh vegetables of guaranteed origin and quality.

**Expected results**

- Centre(s) for demonstration and training on microgarden technologies will be established.
- Beneficiaries will be trained to practice microgardens at their homestead.
- Scientific and technical capabilities will be strengthened to monitor and implement the microgarden programme for Teresina.
- A range of vegetables will be produced, consumed and marketed to the benefit of the Mother clubs.
- New cultivars and production technologies have been experimented.
- Training and advocacy materials will be available.

**Ongoing results**

- Improving of food security in terms of food availability, stability of supplies across time, meeting the demand and nutrition.
- Raising of the number of growing cycles, repeatedly growing the same crop and obtaining higher output.
- Increasing water use efficiency (optimized consumption with reduced loss from evaporation and no leaching).

Geographic area: Latin America and the Caribbean.
Promotion of Food Security in the CARICOM¹/CARIFORUM² Region - Dominican Republic

The project has been formulated within the framework of the Special Programme for Food Security (SPFS), with the aim of supporting the Government of the Dominican Republic in strengthening and building its capacities to address food insecurity. It is part of the vertical component of the Italian funded Regional Project for Food Security in CARICOM/CARIFORUM countries. This project is the first phase of the SPFS and is being implemented in an area bordering Haiti, in the rural communities of El Estero and El Tamarindo, where the population is facing food insecurity and extreme poverty. The project will be co-funded through a unilateral trust fund of the Government of the Dominican Republic of about US$300 000.

**Beneficiaries**
- El Estero and El Tamarindo rural communities
- 525 Families (2375 people)
- Producers, organised in groups and associations
- Consumers

**Objectives**
The overall objective is to support the Dominican Republic to reinforce and improve its capacity to increase food security.

The specific objectives are:
1. Promote and facilitate investments and sustainable management of water resources in the communities of El Estero and El Tamarindo
2. Contribute to the identification of adequate production systems based on organic farming and farm irrigation requirements
3. Assist communities to introduce new techniques of commodities processing and improve production, commercialization and trade efficiency

**Strategies**
- Building systems to improve the management of water resources at household level
- Finalizing a topographical study to identify best areas for potential use of irrigation
- Supporting small holder farmers to identify, select and manage production and irrigation systems
- Ensuring efficiency in planning and implementing project activities
- Supporting decentralization and community involvement through a participatory approach

**Expected results**
- Increased agricultural production through improved use of water resources
- Decreased agricultural losses
- Improved access to markets for small holders
- Strengthened associations for post-harvest activities

**Ongoing results**
- Development of competence on food consumption, family nutrition, and food conservation

**Overall Objective:**
Improve food security of vulnerable groups

**Donor:**
Government of Italy

**Contribution:**
US$300 000

**Participating countries:**
Dominican Republic

**Duration:**
1 year and 5 months
From 01 May 2006 to 31 Oct 2007
Since the mid 1990s, successive Guatemalan governments have concentrated efforts on improving the economic and social situation in the country to comply with commitments to which they subscribed in the Peace Agreements and, more recently, in international conferences on food security and poverty alleviation. The government has promoted several actions to overcome situations of extreme poverty, inequality and social and political marginalization, making it clear that rural development needs to become the country's highest priority.

**Beneficiaries**
- Coffee producers
- Farmers
- Rural communities

**Objectives**
The overall objective is to provide assistance to the Government of Guatemala in reducing poverty and increasing national and households' food security.

The specific objectives are:
1. Provide technical assistance to local entities in the preparation and implementation of activities within the Special Programme for Food Security (SPFS)
2. Promote linkages between the FAO ordinary programme and field activities
3. Support the Government of Guatemala in the fight against hunger providing assistance in the formulation and application of food security policies and national plans
4. Support the creation of a national alliance against hunger (NAAH) and ensuring that this will be strongly linked with national institutions, United Nations agencies, potential donors, Development Banks, non-governmental organizations (NGOs) and Civil Society
5. Participate in regional and sub-regional conferences on rural development, food security and poverty alleviation
6. Strengthen FAO's role in the country by selecting an FAO official in charge of the inception of the project activities

**Strategies**
- Implementation of a NAAH, a Regional Food Security Strategy and a National Programme for Food Security
- A Ministerial Technical Committee nominated by the Vice-Ministry of Food Security to introduce seven agricultural good practices elaborated and tested within the framework of the SPFS for all on-going food security field projects in the country
- Strategic alliances and agreements with national government institutions (e.g. NBAH and the Vice Ministry of Food Security of the Ministry of Agriculture)
bilateral donors and multilateral agencies (United Nations Children’s Fund, United Nations Office for Project Services, United Nations Volunteers, World Food Programme, etc.), national and international NGOs, farmers’ organizations and the private sector.

- Formulation of sensitization and empowerment campaigns
- Organization of appropriate training courses on Poverty and Food Security, organized in collaboration with three local universities

**Expected results**

- Reducing poverty and increasing national and households’ food security
- Enhance the agricultural production
- Enhance the access to formal markets

**Ongoing results**

- Involvement of over 10,000 families in 14 departments and 130 communities in project activities
- Scaling up of the SPFS through a coordination unit to reach national coverage
- Establishment of Food Banks
- Organization of awareness campaigns on food security and related issues
- Organization, in collaboration with local universities, of an advanced academic course on legislation for food security
- A series of publications and information material on food security and nutrition has been published and distributed, such as food security booklets, posters and a leaflet, and a drawing competition for children has been organized on the subject ‘forests, water and food’
Promotion of Food Security in the CARICOM¹/CARIFORUM² Region – Haiti

Overall Objective: Improve food security of vulnerable groups

Donor: Government of Italy

Contribution: US$500 000

Participating countries: Haiti

Duration: 1 year
From 01 Apr 2005 to 31 Oct 2007

Haiti is a rural society where 90 percent of the population is employed in agriculture. This project ensures liaison between the ongoing Special Programme for Food Security implemented in 1997, the new National Programme for Food Security and the Regional Programme for Food Security in the Caribbean region financed by the extraordinary Italian Contribution to the Trust Fund for Food Security and Food Safety. The project launches an important activity at national level aimed at increasing sweet potato productivity, strengthening irrigation associations’ capacities through the use of new technologies as well as encouraging the adoption of effective food security policies.

Beneficiaries
- Vulnerable and food insecure producers, organised into groups and associations
- Consumers
- Women
- Rural communities

Objectives
The overall objective is to improve food security within vulnerable groups.

The specific objectives are:
1. Improve food security, nutritional status and health of rural communities
2. Increase sustainable agricultural production and diversification

Strategies
- Improving irrigation systems, traditional technologies and rural infrastructures
- Strengthening irrigation associations’ capacities and skills
- Promoting improved low-cost technology related to sweet potatoes, rice, beans, poultry and aquaculture among others
- Training of producers, farmers, groups and associations
- Facilitating access to credit by small holders

Expected results
- Improvement of 12 irrigation systems and strengthening water management capacity in 12 associations
- Production systems diversified by introduction of small-scale livestock units and aquaculture
- Additional production of 48,000 tonnes of sweet potatoes
- Farmers trained through participatory capacity building methodologies
- Simplified access to credit for producers
- Additional incomes for 4,000 rural families

Ongoing results
- Increased sweet potato productivity
- Strengthen irrigation associations’ capacities through the use of new technologies as well as encouraging the adoption of effective food security policies
- Farmers trained through participatory building methodologies
- Simplified access to credit for producers

1. Caribbean community and common market – CARICOM
2. Forum of the Caribbean ACP States – CARIFORUM
Regional Programme for the Promotion of Food Security in the CARICOM¹/CARIFORUM² Region

Caribbean Community states are small, dependent, vulnerable, and primarily single sectored. This leads to low productivity and production, decline in earnings from traditional crops, inadequate trade policy, high dependence on imported food, increasing poverty, and growing food related diseases such as obesity, hypertension, cancer and diabetes. The present project, financed by the extraordinary Italian Contribution to FAO Trust Fund for Food Security and Food Safety, assists CARIFORUM member countries with regards to food security and poverty eradication, environment protection and sustainable natural resources management, disaster mitigation, and sector policy strengthening.

- **Beneficiaries**
  - Poorest rural communities
  - Farmers
  - Young
  - Women

- **Objectives**
  The overall objective is to improve the food security situation in CARIFORUM³ states.
  The specific objectives are:
  1. Strengthen policy, trade, planning and service capacity of the different regional, national and community institutions and organizations working to promote food security
  2. Improve production and marketing systems accessible to small farmers in food insecure communities

- **Strategies**
  - Improving water use to produce food crops for consumption and sale on domestic and international markets
  - Transferring and adopting improved technology to increase production and quality of produce
  - Providing information and marketing system support in order to facilitate market access
  - Strengthening the Food insecurity and vulnerability information and mapping system (FIVIMS)
  - Facilitate the access of communities to natural resources

- **Expected results**
  - Improvement of children, women and farmers’ nutrition education
  - Creation of a food security monitoring system
  - Improvement of food security information
  - Improved small farmers’ marketing capacity

1. Caribbean community and common market – CARICOM
2. Forum of the Caribbean ACP States – CARIFORUM
3. The countries participating to the project are: Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname and Trinidad and Tobago
Geographic area: Latin America and the Caribbean

Ongoing results

- Development of the integration process of agricultural policies
- Creation of National Steering Committees
- Institution of training courses for local staff
- Preparation of an instrument to evaluate food security and vulnerability