
Latin America Regional Program

Introduction

Vast arid areas of Latin America (LA) share the sequel of water scarcity and prolonged droughts, which affects the livelihood of the most marginalized sector of small-scale producers of the region. Largely neglected by research and development (R&D), these areas are also affected by land degradation exacerbated by monoculture and overgrazing, and poor insertion of farmers to markets resulting often in production stagnation which compounds in a depressed economy and high rates of rural migration and poverty. In 1984, ICARDA started a modest regional activity focusing on barley breeding through the posting of a senior barley breeder at CIMMYT for the joint ICARDA-CIMMYT barley improvement program. This agenda expanded to involve all barley-producing countries in the region. Significant progress was made in the release of varieties of barley having an important niche in the Andean region. Needs of LA NARS for improvement in lentil, kabuli chickpea and faba bean were serviced from the headquarters. From 1999 to 2002 ICARDA posted a full-time Regional Coordinator at the International Potato Center, Peru to broaden our Latin America program into other themes. During the last four years ICARDA in collaboration with local NARS, NGOs and farmers is also addressing key issues of small ruminant production to capitalize on the existing market opportunities without a full-time LA Coordinator. These activities are capturing the attention and interest of more NARS, ARIs and development projects in furthering collaborative research.

Achievements

Partnerships for barley research-for-development

ICARDA collaborated with NARS in Argentina, Brazil, Mexico and Uruguay; NGOs (e.g. Hidalgo Foundation, ICAMEX, Sonora Foundation and Guanajuato Foundation in Mexico) and ARIs (e.g. BARI Inc., Oregon State University, Colorado State University, University of Alberta, United States Wheat and Barley Scab Initiative, PBI University of Sydney and the Alberta Agriculture, Food and Rural Development, Canada) to enhance barley germplasm and production in the region. Approximately 37 high-yielding and multiple-disease resistant barley varieties were released following the distribution of 270-320 international nurseries per year in 35-55 countries. The rust-resistant elite barley varieties contributed to increased barley production and reduced food insecurity in the rural poor communities in the Andes.

Partnerships for small ruminant research

ICARDA and partners in Argentina, Brazil, Mexico and Venezuela in the last four years developed and/or promoted improved production of small ruminants, and processing

and marketing of small ruminants (SR) products (meat, milk, wool). The major partners included: EMBRAPA centers, NGO's and a large Development Project in northeast Brazil; INIFAP, the University of San Luis Potosi (UASLP), and the Government of San Luis Potosi in Mexico, INIA and PROSALAFSA Development Project in Venezuela; and INTA in Argentina. The partnership enhanced South-South and South-North knowledge exchange and interactions among scientists, and formation of critical mass of scientists to work on issues affecting small ruminant production across production systems. For example, EMBRAPA recently allocated funds to ICARDA to initiate joint activities on water management and crop production, whilst INIFAP-Mexico and PROSALAFSA-Venezuela are interested in allocating bilateral funding to pilot-test a new research-for-development model that expands the benefits of community-based research, often conducted with a few farmers, to a large number of communities.

An approach to assess market opportunities for SR producers and use this information to re-orient production as well as select key technological options was successfully implemented in the dry areas of Mexico and Brazil.

Four community-based participatory research sites representing SR production systems with different market opportunities were established in the dry areas of Brazil and Mexico to demonstrate proven technologies from the dry areas of WANA (e.g. feeding of cactus pear to small ruminants) to Latin American farmers. Limited farmer access to improved animals was identified as a major constraint to increased animal production. Therefore, ICARDA and the Austrian University of Natural Resources and Life Sciences (BOKU) jointly developed and submitted to the Austrian Government, a proposal to test different participatory and community-based breeding systems in LA.

Capacity building in small ruminant research-for-development

Six scientists from Mexico, Brazil and Venezuela visited SR production in some countries in WANA to see and learn about the technological changes promoted by community-based research using innovative crop-livestock technologies. The exposure significantly enhanced knowledge exchanged and diversified the options/tools to address production constraints. Three regional methodological workshops on participatory research methods, improved feeding and breeding systems were organized for more than 30 scientists from Mexico, Brazil and Venezuela.

A Virtual Information and Communication Center (VICC) was established in Mexico to support and channel the livestock research plans of ICARDA in Latin America.

Current Activities

- Generation of a germplasm base through a network of nurseries targeting malting barley and a suite of production characteristics required in the region.
- Data analysis and publication of results from on-going IFAD-funded market-oriented small ruminant projects in Mexico, Brazil and Venezuela.

- Development of community-based micro-enterprises managed entirely by woman for the processing of milk into dairy products for income generation in the community of Panuco, Zacatecas, Mexico.

Future Plans

- Continue developing barley varieties with improved malting quality and disease resistance, and address the other production constraints of poor farmers using decentralized and participatory breeding.
- Research on water productivity and integrated crop-livestock production, and market-oriented barley and faba bean production in the high Andean sub region.
- The valuation of livestock breeds through differentiation by the means of denomination of origin (and other mechanisms) to diversify and improve production, and to conserve the traditional production systems and the animal genetic resources of the region.
- Promotion of South-South interactions among scientists to enhance knowledge exchange and to form a critical mass of scientist to tackle regional and/or global research issues.
- Participatory and community-owned SR breeding options to improve farmer access to improved breeds of small ruminants.