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On Peru's Highland Farms

by Juan Gargurevich

"Anyone who knows a Peruvian peasant cannot be pessimistic...."

The words of Andean writer José María Arguedas allow Carlos León-Velarde to express his admiration for the peasant farmers of Peru's altiplano, or highland plateau, in the Andes Mountains. There, a sudden drop in temperature can produce an unexpected frost, wiping out crops and the expectations of entire communities. Such extreme climatic changes are an enemy that could drive anyone but a Peruvian *comunero* (member of a peasant community), or León-Velarde himself, to despair.

Carlos León-Velarde heads an interdisciplinary team in the Sustainable Highland Agriculture Project (or PRODASA, the Spanish acronym) in Puno, southeastern Peru. The team has made notable achievements in alternative proposals for the improvement of agriculture and alpaca raising in the high plateaus near Lake Titicaca, one of the most difficult farming regions in the world. At four thousand metres, in a cold and cutting wind, hundreds of communities contend against the unpredictability of nature.

León-Velarde says the project will help small farmers emerge from their current survival economy and build a base for sustainable agricultural production, which will allow them to sell their surpluses.

It was only a few years ago that León-Velarde decided to join his knowledge and experience with that of the Puno peasants, among whom he is now held in considerable esteem. He is not a native Andean, but was born some 45 years ago in the warm city of Iquitos, the major Amazon city in Peru.

León-Velarde enjoyed a childhood on an Amazon farm among bulls, cows, hens, and pigs. It seemed inevitable that he would follow the path of his father, an engineer and farmer. In 1969, León-Velarde graduated from the National Agrarian University in Lima as a specialist in animal husbandry. Then came the opportunity of obtaining a Master's degree in animal production at the Interamerican Institute of Agricultural Science of the Organization of American States in Costa Rica. León-Velarde stayed with the Institute in Costa Rica as a professor of the Costa Rica University, then served at another project of the InterAmerican Institute of Agricultural Science in the Dominican Republic.

He returned later to the CATIE (Centro Agronomico Tropical de Investigacion y Ensenanza) in Costa Rica. León-Velarde went abroad once more in 1987 to begin a doctoral program at the University of Guelph, in Canada, under IDRC sponsorship. Again the focus was animal production, with an emphasis on genetics and analysis systems, simulation of models and the application of recent developments in agriculture systems.

After graduating he began work as liaison officer between IDRC, the Canadian International Development Agency (CIDA) and the Andean Agricultural Research Systems Project. Both IDRC and CIDA had been involved in projects in southern Peru, particularly in Puno. IDRC wished to join forces with other institutions such as the International Potato Centre and the National Institute of Agricultural Research

(INIA) in order to maximize benefits by sharing experiences and, above all, research.

This collaboration was the beginning of the Sustainable Highland Agriculture project. For León-Velarde, one of the major challenges has been establishing good working relations with local farmers. "Relations with the Andean comuneros are not easy. A big cultural gap separates us, and both sides put up obstacles that are difficult to eradicate. But sharing the work, everyday life, and living in the same community most of the time helps to overcome such barriers", he says.

Three peasant communities located in the province of Ilave in Puno were chosen for the project: Jiscuani, Santa Maria and Apopata. The challenge is to take the methodology and the results obtained and use them elsewhere in the Andean area to prevent the perpetuation of poverty. A Puno peasant has an average annual income of about \$220 and without cooperation the production levels will continue to decline with effects to be seen in the long run. "We should not let them depend on the project, but rather stimulate sustainable growth so that the work may be continued when I and the other technicians leave."

The initial objective of PRODASA was to gather information and data, identify problems, then offer alternatives to peasants in close collaboration with professionals, technicians, and representatives of local organizations. The project also aimed to train technicians, and finally, to disseminate the results in the Andean area and other regions with similar ecological problems.

In this process, León-Velarde is conscious of the value of the farmer's indigenous knowledge. "We cannot disregard the wisdom acquired by these peasants over the years. We have figures on rains, on floods, but they observe that the birds that build their nests on the banks, always do it in places that cannot be reached by the water. It is necessary to harmonize what they already have with the alternatives we propose", says León-Velarde.

"The alternatives must also take into account the age of the comuneros and their strength to carry out the work", says León-Velarde. "Owing to very complex national problems, very few peasants are aged between 15 and 35. Young people leave the country for better opportunities in big cities, thus reducing the capacity required to work a unit. Great attention should be put on peasant women as a major element in the development process of a community."

The complex mix of animal husbandry and crop production in the region has prompted León-Velarde and his team to pursue a range of strategies for raising the productivity of small farmers. These include the use of manure mud in potato cultivation, rustic greenhouses made of locally available materials, raising trout in artificial ponds, as well as guinea pigs and poultry, improved methods for raising alpaca, and developing markets for alpaca meat and wool.

Not everything runs smoothly in the project. Beginning some 13 years ago Peru, and particularly Andean peasants, had to face the threat of the Shining Path guerrilla movement. In addition, there are factors from the world beyond the altiplano to consider. "We cannot restrict our work to the internal problems of the producer or the community, ignoring external issues. We are studying the characteristics of the free market because we have to provide advice to the peasants on the market, on prices", says León-Velarde.

When in Lima, León-Velarde works in a small office at the International Potato Centre. He prepares reports, plans trips and lectures for seminars, participates in electronic computer conferences, and writes articles for journals. He is constantly asked for information on PRODASA because the success of the project has transcended frontiers and it is likely that similar alternatives can be applied in Ecuador and Bolivia, and in other parts of the Andean zones of Peru.

"I try to spend most of the time in Puno, near the work. I fly into Juliaca and then travel by road to the communities. I have to share my time between the project activities, the comuneros and my family", says León-Velarde. In some ways, León-Velarde appears himself to have acquired some of the qualities he so admires in the Peruvian peasant. He observes that in this type of research patience, a long-term horizon and understanding are what are needed.

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