



Conserving Mountain Lands: in Loja Province, Ecuador

In 1999, the Live Fences project was honored with the “Saving the Drylands” Award of the United Nations Environment Programme (UNEP) in Brazil. The Live Fences project is located in the Province of Loja in a mountainous coastal region in southern Ecuador. It was designed to achieve environmental recovery linked to social and economic development, by giving it an agro-economic focus. By cultivating the *Opuntia* cactus plant and tending to cochineal insects adapted to the region, the project recovered most of the destroyed areas and income generation for the rural dwellers.

In this region, soil fertility is low and deficient of water content, making only a quarter of the area suitable for agriculture and 40% for livestock. The rest early 35% resembles deforested soils. The project was implemented by the Department of Agriculture Sciences of the National University of Loja. They located a site for the farmers who planted opuntia in burrows following contour lines. They sought to promote the practice of leaving existing native bush vegetation between the burrows for exploitation as firewood source.

They expected the degraded hillsides to be rehabilitated through the cultivation of opuntia in association with other crops. Improved soil fertility was also expected to increase agricultural productivity. They also hoped to increase the income due to farmers during drought from the sale of opuntia fruits and cochineal, which is a vital element in food processing and dye. Lastly, the project sought to promote a new economic climate and sustainable development.

The project had a huge impact and was important for many reasons. The community recovered traditional knowledge, cultural values, ancestral skills and its deep-rooted attachment to communal properties. It was also important in determining the ecotones of the cactus for the production of cochineal fruits, forage, and live barriers. Areas eroded by overexploitation and inadequate management were recovered. Furthermore, political leaders became more aware about the problems of desertification and the need to support a second phase of the project.



Two main groups made the proposal viable. First, the involvement of different social actors, including the communal, academic, political, and governmental sectors. For example, technical schools and nongovernmental organizations (NGOs) adopted the technology as part of their educational curriculum, and taught students to implement pilot areas on their campuses. The Church became an important instrument for diffusing the technology among farmers.

This success story demonstrates that with scarce financial resources and support of agro-ecological research, it is possible to increase awareness about survival strategies among diverse social actors. And, it has become increasingly environmentally, economically, socio-culturally and politically sustainable.

Reference:

Matallo H., Casas- Castaneda F. and Migongo-Bake E.,(February 2002), Use of Live Fences of Nopal and associated Crops to Rehabilitate and Protect sloping Lands in Loja, Ecuador, Mountain Research and Development Vol. 22 No 1.