

# The challenge of the comprehensive approach of sustainable rural agriculture development actions

by Lizbeth Vega Gutiérrez<sup>1</sup>

In a country like **Bolivia**, with a variety of ecosystems, a complex territorial structure and a political system changing towards indigenous, municipal, departmental and regional autonomies, the challenge consists in getting the implementation of agricultural and rural development policy started so as to overcome the present conditions. Bolivian ecosystems are situated in three major ecological levels: the Andean Highlands (above 3000 m altitude), the Middle Valleys (between 1800 and 2500 m) and the tropical plains and the Amazon forest (below 1500 m). The majority of the population lives in the Andean highlands and the Valleys, although the tropical plains represent two thirds of the country's territory.

The Government pushes the implementation of measures promoting agricultural and forestry production in order to reduce poverty (according to the Economic and Social Policy Analysis Unit, extreme poverty in rural areas is at 63.9 %) They intend to reduce the growing rural exodus, face the climate change and to improve competitiveness in the global village where the neighboring countries with better conditions can export agro-industrial products more easily than Bolivia.

In addition to the economic situation mentioned, the clash between western values and native culture must be overcome. The first one prefers a neoliberal exporting policy as opposed to the second that favors basic food supply. Originally, native cultures focus on a holistic view, where people exchange with nature represented by the soil, the subsoil and the sky. In the case

of the Quechuas and Aymaras, the two main native cultures, the use of the land is ruled by the community in the Ayllus (territorial and social organization unit). The soil was managed a vertical control of ecological levels and a discontinued use of the land. Originally, the access to land was via preference, reciprocity and redistribution practices and was based on a harmonious coexistence with the environment. The animist view is based on a principle of parity, according to which the universe is made up of polarities: high and low; heaven and Earth, the feminine and the masculine; left and right<sup>2</sup>. Although the Andean Cosmo Vision kept especially by women is not "pure" anymore according to its initial state.

The need of an increased production and the population growth makes the discontinued use of the land and the ancient way of assigning the plots difficult. The lack of rain due to climatic changes and the



*Drought in Chaco*

<sup>1</sup> Lizbeth Vega Gutiérrez, sociologist, working as advisor in the Program of Sustainable Agricultural Development in Bolivia of the GTZ.

<sup>2</sup> MICHAUX Jacqueline, artículo: "Animismo: criar la vida". <http://lareciprocidad.blogspot.com/2009/09/2-animismo-criar-la-vida.html>

presence of new economic activities have shaken the existing equilibrium and lead now to poverty and a continuous exodus of the young people to the cities.

Scientific innovations have introduced many possibilities to face climatic risks, poverty and hunger with different strategies both in prevention and care. Native communities have to adopt and adapt these innovations. One of the main new topics is irrigation and another is watershed management. Aymaras and Quechuas live in the highlands and mountain valleys. People living upstream and those living downstream must cooperate. Water has to be collected in the higher areas so that irrigation below will be possible. Conflicts of interest arise among inhabitants of both areas and an agreement has to be found so that all participants do benefit of the innovation process. Social work must be added to the technical support in watershed management and irrigation systems in order to achieve an agreement between all participants. The agreements must include a common and integral plan of development for both communities.

The so called “Agricultural and Forestry Revolution” (of the Ministry of Rural Development, Agriculture and Environment) initiated by the current Government, aiming at food security and sovereignty in the context of a “Multinational and Community State” raises many questions. It includes the formation of a mixed state guaranteeing a private and a pluralistic economy and at the same time maintaining a harmonious relationship of the society with nature. The National Development Plan proposes to transform the existing pattern based on exporting natural resources towards a new comprehensive and diversified pattern, based on processing non-renewable and renewable natural resources<sup>3</sup>. The implementation of this plan started four years ago without reaching the objectives of this new economic and social vision. Among the Government sectors there are different priorities and planning systems that follow the needs of organized social movements. Hence there is common policy that



*Irrigation system in a small rural plot*

allows an efficient and innovating use of water, land use and animal husbandry preserving the soil and the environment.

### **How can all the above stipulated aspects be integrated?**

Considering different ways of managing the land, be it in agriculture, or in other activities linked to the market (in some communities barter or exchange still exist), it is more or less organized, but very exposed to climatic risks or natural disaster. Distinct measures should be implemented always considering an approach including watershed management, irrigation and agricultural innovation.

The different sectors of the Government, located in different ministries, with sometimes contrasting criteria for prioritization and selection, are trying to manage the policies related to the National Watershed Plan (the National Development Plan of Irrigation from the Ministry of Environment and Water, the Vice Ministry of Agriculture and Rural Development, former MDRT) and offer each their own agricultural development policies. The Government plan considers an institutional setting composed by the National Institute for Agricultural and Forestry Innovation (INIAF), by CRIAR (aimed at food security and by EMPODERAR PAR (consisting of alliances between

<sup>3</sup> *Ministerio de Desarrollo Rural, Agropecuario y Medio Ambiente, Plan: “Revolución Rural, Agraria y Forestal”, 2007, La Paz, Bolivia.*

associated producers and buyers based on a cost-effective business plan). According to these plans Rural and Agricultural development should address factors related to culture, community, climate, economy and environment to achieve a sustainable improvement of social and economical welfare, preserving the environment as well.

However, this cooperation suffers by a lack of communication between the involved sectors. At National level the Ministry of Water and the Ministry of Rural Development deal with water management. At a local level, integration requires a watershed management in the highlands that provides water, sets rules for proper use and initiates the construction of water reservoirs and dams of different dimensions, Water must be collected, distributed through coated channels to the family plots so as to allow an increased production and protect the crops against drought.

Land distribution and the use of the soil represent a special issue in this policy. An agreement between the involved social sectors: unions of rural workers, large landowners and smallholders is necessary and has not yet been achieved.

Water is one of the most important assets in rural development. Families cultivating small plots have some access to water by rain or an irrigation system. But water and soil management and at the same time preserving the genetic diversity of the native flora are a constant challenge especially for women (men migrate). The access to water, according to customary uses is getting more and more difficult. With the changing climate, erosion and the bad practices of soil management due to cultural alienation and a loss of the original cosmogony, the communal and family land deteriorate. Families are forced to learn more efficient techniques for water and land use and they demand innovation and technical assistance from public institutions which are still under construction.

Development policies are planned in Bolivia at three levels: National, by the central Government, Local, by



*Erosion in the Highlands*

the Departmental Governments and for small communities by the Municipal Government. Nationwide, the National Irrigation Plan has established that the Local Government should install irrigation plans for surfaces larger than 100 hectares and the Municipal Government for surfaces smaller than 100 hectares. Up to now financial resources for watershed management are lacking or are insufficient since the infrastructure is very costly.

Technical assistance from the Central Government is not performing well. Several International Cooperation Agencies are working together with Municipal Governments providing technical assistance or financial resources for various forms of irrigation and for watershed management. The assistance is mainly going to small farmers by helping them to complete the construction of their irrigation infrastructure. In some areas efforts have been made by the National Government to provide farmers with mechanization tools such as tractors and trucks but the poorest regions don't profit from these efforts.

The individual measures must be implemented in an integrated way. The following proposals indicate how it could be done:

- Including agricultural innovation in the design of watershed management and irrigation projects.
- In order to improve ecological productivity the investment for irrigation infrastructure should be integrated in the innovative measures be it in small plots or in the management of basins.

- Transferring the public resources, intended for technical assistance to families, to the community level. This can be done through an exchange of expertise and experience among communal projects financed by the Government.
- Providing production credits for certified technical assistance.

In all the above mentioned options subsidies or State donations should be accompanied both by contributions from the beneficiaries (locally available material, tools or labor); and financial means from the market (credit).

Finally, this integrated management of soil, water, and bio-diversity, between people living at higher and lower altitude of the same watershed, needs local planning. With an investment of both private and public resources a better and efficient use of water, soil and animal husbandry can be achieved. Public resources should come from the central and local Government as well as from the departments on the basis of legal security regarding land ownership and use. The involved governmental sectors should plan together and establish policies that allow a harmonic development taking into account the social and cultural realities of the inhabitants of the different ecosystems.

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