

Is climate change an opportunity or a threat in the mountains? An evaluation of the Central Andean region of Peru

by Luis Suarez



Glaciers in the Junin region, Peru (Luis Suarez)

The various documents prepared by the Intergovernmental Panel of Climatic Changes (IPCC) indicates that for the coming years there will be an increase in temperature of some degrees, a rise between 1.8 to 4° C, as a best estimate. This rise could cause an increase in different climatic phenomenon that would cause severe loss of human materials around the world. Developing countries are more vulnerable. Nevertheless, it is also possible that this warming brings some important benefits in some locations of the planet. This article considers these aspects within the context of the social, economic and environmental reality of the department of Junin, in the central Andean region of Peru. It also emphasizes the key role played by the actual optimal management of natural resources in some cities located in the mountains.

Reduction of child mortality

The various statistics of morbidity and mortality, especially in children are associated with the cold season in the region, from May to August. It is enough to see the statistics of the terrible year of 2007, with nearly 100 dead children and thousands affected by the cold spell covering all the Andean region of Peru. The same is registered in previous years where it is seen that the greatest cause of disease is related to respiratory system being children the most vulnerable. The Regional Health Direction of Junin indicated that during 2005 respiratory diseases occupied the first place with 41.4% of cases related to children from 0 to 9 years. It is not a recent invent, it is also mentioned in the last IPCC report.

In the Andean region every year there will be children dying because of respiratory diseases like pneumonia, in spite of the “great knowledge” that every year we have very low temperatures. The newspapers bring the bad news of the death of children, but this does not have anything to do with any climate change, only with a lack of resources in the health sector. The death of a single child as a consequence of the cold is a clear sign of failure of any health campaign. Unfortunately, this is something that happens every year.

Reduction of frost

One of the greatest threats identified by farmers of the region is frost. It is a serious threat considering that it can impact hundreds of hectares, also affecting many types of crops. This year was especially disastrous causing about \$4.5 million dollars in the agricultural sector in the provinces of Junin, according to the Agrarian Information Bureau. Nearly 6.487 hectares of different crops were affected. The anomaly was that this frost appeared outside the cold season, in February, when the plants were still growing. The aid offered by the Government to those affected by this frost still has not arrived yet.

Although, the IPCC has indicated that some extreme events will be increased, is not possible to maintain in a warmer environment the increase of seasons of lower temperatures and/or frosts. A recent work presented in a conference on climate in Huancayo by Lourdes Menis of the National Meteorological and Hydrological Service of Peru SENAMHI, showed that there has been a reduction of frosts periods in the Andean region of Peru. Also, in a recent study using the data of the Observatory of Huancayo, the researchers of the Geophysical Institute of Peru showed that there has been an increase of 1°C in the last 50 years.

Reduction of water resources

Important data sets indicate that the disappearance of tropical glaciers, including the Peruvian glaciers, is very likely, for the next 50 years because the projected increase of temperature. Water resource is a key element for the Valley of the Mantaro that is the heart of Junin, where agriculture is the most important activity, and also is essential for the human subsistence and energy production, about 40% of national hydropower production. This accelerated melting of water reserves contained in glaciers will cause future conflicts of interest by its use.

Nevertheless, at the moment, problems derived by water shortages already exist for agricultural irrigation as well as for human consumption. It is considered to be of critical importance to improve water management from now onwards. Even now when there must have been an abundance of water due to the accelerated rate of melting, there exists a problem of water availability, with 35% of the population in the region without access to drinking water. Water management needs to be harmonized with the use of the reserves of the lagoons that are available in the region. The projects Mark I, II, III and IV, literally, have taken water reserves in the mountains from Junin to Lima, the capital of Peru. The Andean lagoons of Junin cover more than 100 km² and contain thousands of cubic meters of water, but due to bad management this water is taken to another region, to Lima, leaving us without future reserves.

Rio Shullcas that is provided by water directly from the main glacier of the region, Huaytapallana, is a river that is contaminated and useless for consumption by the time it arrives at the city of Huancayo. This is also happening to the most important river of the region, the Mantaro, along its 724 km, severely polluted by wastewaters from urban settlements, mining and metallurgic companies. This means that its value for agriculture is almost null. It is clear, then, that these conditions are more important to modulate the actual and future use of the water resource in the region than any signal related to climate change or changes in the neighboring forests of the Amazon. These are problems that have clearer solutions that are easier to solve than the complex terrestrial climate.

It is true that climatic change is an important subject at a global level, but is important to put it in the right context within local mountain ecosystems. Also, from this preliminary evaluation, it is possible to consider that it is important that policies should be oriented by an efficient promote effective coordination among the diverse statements of the local government in order to be able to manage the threats and opportunities satisfactorily. This it is a crucial aspect, because there are some plans that are under development for directing the economic and human resources. For example in the Andean region of Junin, the Strategic Plan of Regional Development for Junín 2008-2015 is available. In this document, regional government emphasizes the importance of the climatic change stating "... it is a reality and it will affect with greater intensity the department (of Junin). In this sense it is necessary to get prepared to confront the possible natural disasters that will occur like the increase of rains in the jungle, the frosts and drought in the mountain, among others." However, this topic is "so important" that in the investment schedule, projects related to adaptation to climate change are budgeted just for the years 2013 and 2014.

Thus, these are some considerations to have in account to confront adequately both climate change and adequate natural resources management of our Andean regions.

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