



Migratory mountain caribou in summer range. Photo: Mark Bradley.

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Thoughts on the Food Crisis in the Andes

Judith Kuan Cubillas

In August 2008, CONDESAN, as a co-sponsor with the Secretary General of the Andean Community's office, the Andean Initiative of Alliance for the Mountains, FAO, and Swiss Agency for Development and Cooperation (COSUDE), held an online conference: "The Food Crisis: Challenges and Opportunities in the Andes".

This article presents some relevant notes and thoughts regarding the conclusions and recommendations from the conference. In this conference the concept of "food crisis" meant not only the 'increase in food prices' but also 'food safety and nutrition'.

Main conclusions

There is a consensus regarding the factors that influence the food crisis and the increase in the price of food at a global

level. The factors can be classified according to their nature: temporal and structural. Due to their recurrence and influence on the terms of trade, some temporal factors can ultimately be grouped together with repercussions of a structural nature.

Temporal factors

The increase in energy prices.

- The increase in the price of fuels has made the production, transport and commercialisation of food products more expensive. Although at some point in time the prices of fuels will go down, the costs of production and commerce will not decrease, neither in proportion to nor with the speed with which the prices of energy will drop, affecting most small-scale agricultural and livestock producers.

Reduction in the supply of food (production, reserves, and exports)

- The decrease in the production of food, when referring to temporal factors, is a result of the natural disasters that take place. Subsequently, the use of reserves and the prohibition of exportation by countries with surpluses have intensified the lack of availability of food, followed by the consequent pressure from a rise in prices.

Speculative and financial pressure and subsidies

- Speculative factors and non-transparent factors have also impacted the rise in the price of foods: speculative pressure regarding basic products, as a result of the global financial crisis; the increase in liquidity in certain parts of the world; and the interest shown by investment fund managers in the future market possibilities for 'commodities'.
- Additionally, the recurring continuity displayed by industrialised countries to maintain high levels of subsidy and protection for agricultural and livestock production continues to distort the transparency of market prices, forcing pressure for the increase in prices of basic products.

Structural factors

The most important factors of a structural nature that affect the global food crisis can be looked at from the standpoint of demand and supply.

Demand driven:

- The high rate of growth of the world's population within the last five decades and its projections for growth give a glimpse that, in general terms, 50 percent more food will need to be produced in order to satisfy the needs for food.
- There is a greater demand in quality and variety of foods derived from the increase in demand from middle class sectors of the population, given the economic development of emerging countries and the greater degree of migration to urban areas.

Supply driven:

- The development model for agriculture and livestock that has been applied has given a higher priority to production for export over that of support to rural economies for the production of items for the national food supply. Additionally there has been a drastic reduction of participation by the State in planning rural development and providing of services, leaving it to market forces.



Pampamarca community, Ayacucho, Peru. Photo: Sergio Leon.

- In the long run, natural disasters will form the frontrunner of structural factors. Weather-related catastrophes are every day more harsh and frequent, given the serious climate change that the planet is experiencing derived to a great degree from the pressure resulting from the population's consumption patterns.

Recommendations

1 Measures to face the increase in food prices

- The FAO recommends that measures be adopted immediately which aim to i) mitigate the impact of the elevated prices of food and fuel among the weaker sectors of the population by security networks and direct transactions; and ii) implement policies and programmes destined to promote rural and agricultural development on a short term and long term basis.
- While keeping in mind the medium and long term situation, UN economists recommend the development and launching of strategic interventions and public investments in the agricultural sector, in addition to a refocusing of the process of industrialisation and an improvement in the balance between economic and social policies.
- With reference to the short-term measures that are being taken by the Andean countries, it is recommended to be especially careful with the reduction of taxes on food imports; that social programmes that are carried out do not turn into "populist" measures, and finally, to avoid the use of food donated from abroad so as not to compete with national production.

2 Measures to be taken to take advantage of the opportunities created by the global food crisis and meet challenges it produces

- For small-scale farmers and producers to be able to take advantage of the opportunities resulting from the increase in the demand for food products, a substantial change in the focus of agricultural policies is recommended. These policies should involve the political will and tacit compromise of governments for the development of rural economies and strengthening of links to the market, especially local markets.
- Policies should be developed to address rural territorial development. These should result in structural changes that contribute to the following: to benefit a greater equality in the distribution of income; legal transparency regarding the ownership of land by communities, small-scale farmers and producers; the management and sustainable use of natural resources and rich biodiversity that these countries have at their disposal.
- Measures and active participation by the State and the private sector are recommended to achieve the reinforcement of the value of traditional knowledge; the development of infrastructure transportation, services local and regional communication; support for the organisation of small-scale farmers and producers for them to be able to access the market and services of loan extensions and financing.
- There should be common interest in the adoption of commercial protectionism and unequal measures by

Initiatives

countries. It is recommended, in general, that policies for the development of biofuels made from food products or that imply the displacement of food production should be avoided.

3 Measures to take advantage of the potential of Andean crops

- Innovation is vital in the exploitation of the commercial potential of Andean crops. It is recommended that innovative ideas should be exploited to access niches in the market that value biodiversity.
- Likewise, conference participants recommended the creation of measures and mechanisms to allow the local population to have access to Andean products at reasonable prices, which would in turn help to reduce the indices of chronic malnutrition.
- It is recommended that a programme of education be developed to provide information on the appropriate use of food products, including adequate combinations and quantities of food, nutritious recipes and the use of medicinal plants.
- There needs to be the creation of mechanisms for the protection of property rights and patents for natural resources that originate from Andean ways of life, forms of use and customs as well as for the protection of intellectual property, especially in the area of plants that have nutritious and medicinal value.
- It is recommended that governments from Andean countries prioritise the development of strategies on various levels to counteract climate change, to guarantee the preservation of the biodiversity of food and food sovereignty in the towns of the sub-region, and to urge the countries to contribute towards reversing the process of climate change.

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Invertebrate Monitoring at GLORIA Target Regions: The First Results From the Urals and Need for Global Networking

Yuri Mikhailov

Vascular plants remain the key objects in the research of alpine biodiversity and prime indicators for biological monitoring of climate change in alpine habitats. However, other organisms have clear potential as biosensors as well. For example, insect herbivores appear to be more sensitive to climate change than their host plants (Hodkinson and Bird 1998). In general, animal species diversity may exceed plants by factors of five to ten (Körner 2001). Therefore zoologists are able to provide an important contribution in our understanding of alpine biodiversity patterns in general. Unfortunately only very few of us participate in European or global networking activities as actively as botanists do.

GLORIA (Global Observation Research Initiative in Alpine Environments) is a long-term international observation network

studying climate change impacts on mountain biodiversity (www.gloria.ac.at). The basic attempt of GLORIA is the 'Multi-Summit approach'. Providing the data on the different altitudes on species richness, composition and distribution patterns along vertical and horizontal gradients are among the main aims of this approach (Pauli et al. 2004). This makes it possible to assess the potential risks for biodiversity losses due to climate change.

Although the 'Multi-Summit approach' focuses on vascular plant diversity in exact target regions, other organism groups are integrated on an optional basis as additional indicators. Taking into account the high indicator value of invertebrates, the decision was made to add them to the monitoring of the summits of the Urals as the target regions (RU-SUR and RU-PUR) during a re-recording campaign in 2008. As there has been no specific research protocol for invertebrate monitoring, the original one for this purpose was developed by myself (www.gloria.ac.at).

As most typical alpine insects are wingless and crawl or run on the surface of the soil like spiders and millipedes, pitfall trapping (Barber's traps) is the best way for intercepting invertebrates. The standard plastic cups (75 mm) proved to be the best kind of containers for sinking into ground. Three percent water solution of acetic acid was used and strongly recommended as a fixative for the traps left for less than a week as the most ecologically safe and easily available means to trap the insects.

For GLORIA research, a so called "cross-pattern" of two lines with 10 traps each (20 traps per pattern) was first proposed and approved (Figure 1). For this purpose the main line (10 traps) of each "cross-pattern" follows one of the principal measurement lines: North, South, West, East (Figure 2) and another 10 traps form a perpendicular line to the first one. The "cross patterns" are established between the principal corner points p5m and p10m (see Multi-Summit sampling design in Pauli et al. 2004). If the summit area is very small, it is possible to establish traps between HSP and p5m, but in both cases their situation is fixed in connection with the corner of respective quadrant cluster. The "ideal case" for the "ideal summit" is shown on Figure 1. However, the complexity of the summit landscape and large number of stones always causes a different actual pattern.

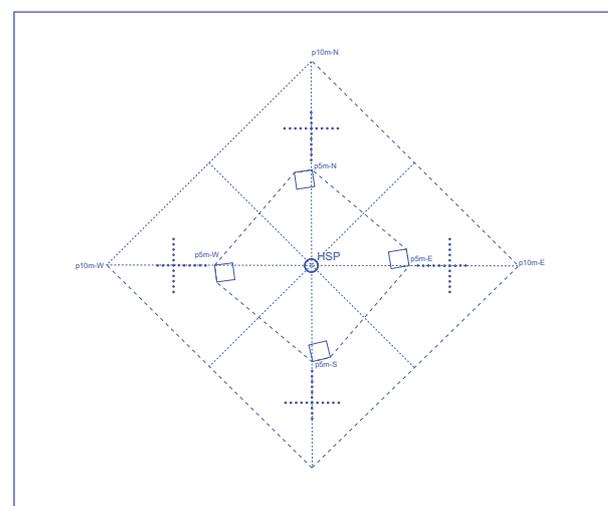


Figure 1: Cross pattern trap - ideal case for "ideal summit".