

Suggestions to strengthen coffee farmers' adaptive capacities

In order to support and enhance the process of adaptation that farmers have been developing, the following actions should be considered:

- 1. Credit access:** Facilitate access to credit with affordable interest rates for smallholder farmers to enable them to finance agricultural and economic diversification projects. It is important that this type of project benefits younger farmers so that they have accessible financial options in the agricultural sector, and not only in micro-credit organizations.
- 2. Insurance:** There is a need for insurance against crop losses.
- 3. Technical assistance:** Expand assistance programs focusing on issues such as pest management, soil conservation practices, watershed protection, social organization, financial mechanisms and market access.
- 4. Organizational capacities:** There is a need to promote a legal framework to regulate producer associations in order to improve transparency, expedite financial services and minimize the possibility of anomalous activities.
- 5. Fair trade:** Fair trade networks may help farmers accrue benefits by directly marketing their product to the end consumer.
- 6. Organic production:** Organic farming reduces the cost of purchased inputs; in addition, it provides environmental benefits, lowering overall production costs and enabling farmers to pay better wages for farm workers.
- 7. Environmental services:** Recognize the contribution of coffee to environmental services through projects that allow the end consumer to pay farmers for the value of these services.
- 8. Climate information:** Improve the distribution and use of climate information by expanding access to weather forecasts and climate scenarios appropriate for farmers' use in their planning and farm activities.
- 9. Reforestation:** Develop local and municipal reforestation programs through community organizations and local governments. The integration of multiple-use shade trees in coffee plantations is one alternative that provides environmental benefits and longer-term economic security for households.
- 10. Disaster preparedness:** Invest in training in disaster preparedness and response. Whatever investment made in improving production and welfare in coffee communities may be lost if the communities are not prepared for disasters caused by climatic extremes. For this reason, it is critically important that governments prioritize disaster planning, invest in preventative activities, strengthen emergency responses and undertake all relevant activities in relation to regional land use planning, ecosystem management, reforestation, soil conservation and the development of early warning systems.

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Global Changes and Coffee Project Web Page

<http://www.uvg.edu.gt/instituto/centros/cea/cafe/>

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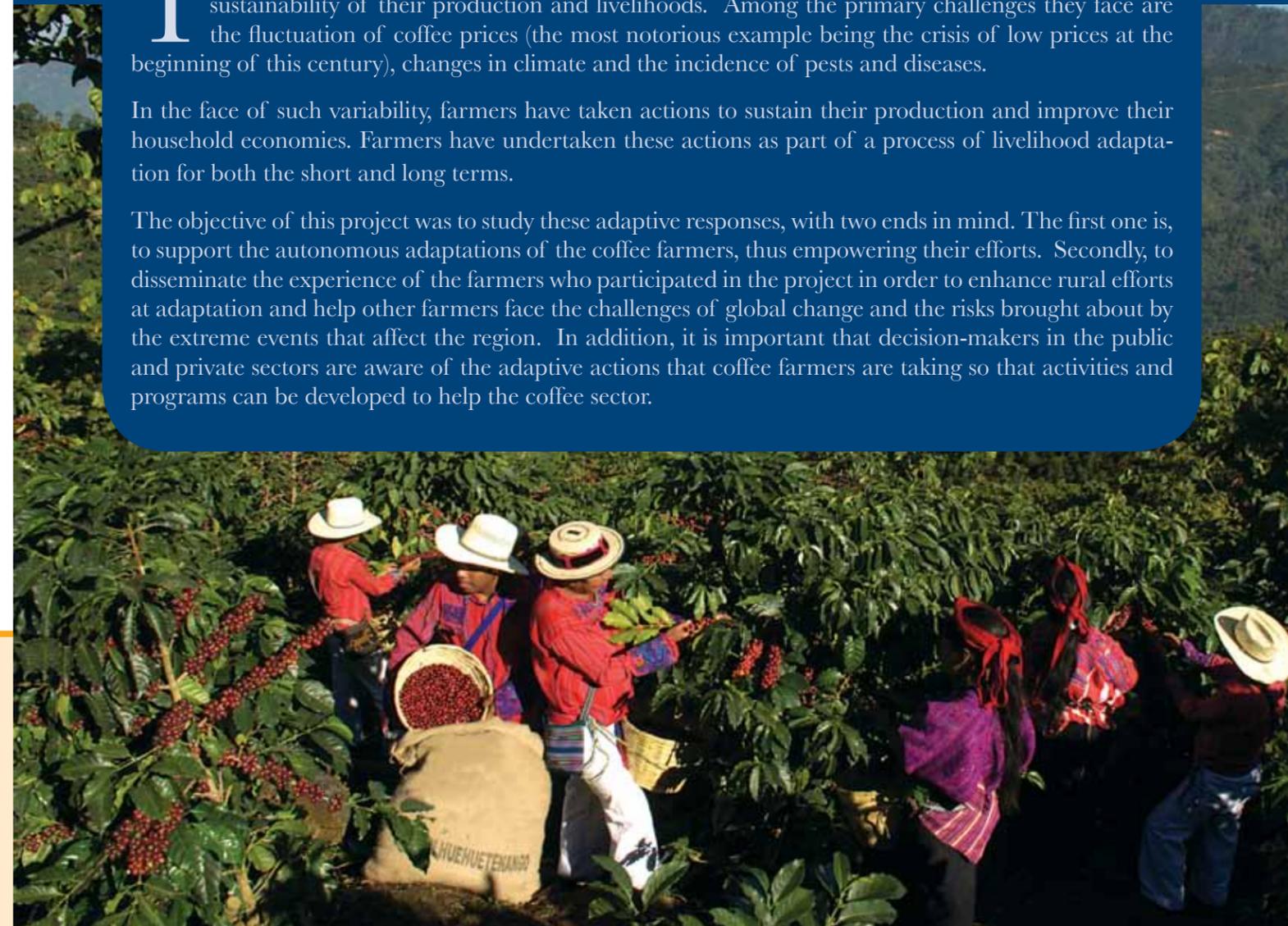
Global Change and Coffee Strategies for Effective Adaptation and Risk Reduction

In the face of price volatility, climate change, pests and disease
Lessons from the Coffee Crisis in Mesoamerica

Today coffee producers in Mesoamerica face stresses from global change that directly affect the sustainability of their production and livelihoods. Among the primary challenges they face are the fluctuation of coffee prices (the most notorious example being the crisis of low prices at the beginning of this century), changes in climate and the incidence of pests and diseases.

In the face of such variability, farmers have taken actions to sustain their production and improve their household economies. Farmers have undertaken these actions as part of a process of livelihood adaptation for both the short and long terms.

The objective of this project was to study these adaptive responses, with two ends in mind. The first one is, to support the autonomous adaptations of the coffee farmers, thus empowering their efforts. Secondly, to disseminate the experience of the farmers who participated in the project in order to enhance rural efforts at adaptation and help other farmers face the challenges of global change and the risks brought about by the extreme events that affect the region. In addition, it is important that decision-makers in the public and private sectors are aware of the adaptive actions that coffee farmers are taking so that activities and programs can be developed to help the coffee sector.



Global Change and Coffee Project

The research that was carried out was a comparative analysis of coffee production in eight sites in specific regions of Chiapas (Mexico), Guatemala, Honduras and Costa Rica. The project lasted for four years and was funded by the Inter American Institute for Global Change Research (IAI).

What are the primary concerns of coffee farmers today?

Of the diverse sources of stress that were evaluated in the project, variability in coffee prices was what most worried farmers across the region, as illustrated in Figure 1. Price volatility has been the primary motive for why farmers have made changes to their practices.

Climate factors have been the second most frequent motive for changes in production practices. The losses experienced by extreme events such as Hurricane Mitch in Guatemala and Honduras (1998); Tropical Storm Stan in Guatemala and Mexico (2005); Hurricane Alma in Costa Rica (2008); and, most recently, Tropical Storm Agatha in Honduras and Guatemala (2010), have changed farmers' perceptions of the importance of climate change and climate variability for coffee production. Neverthe-

less, in contrast to problems such as the threat of price volatility or pests, farmers reported taking few actions in relation to climatic risk. Their lack of specific response to the challenge of climate can be attributed to the magnitude and scale at which such events occur. Farmers perceive climatic change to be beyond human control and consequently out of reach of their actions.

Pests and coffee disease are the third most frequent cause of change in farmers' strategies, provoking actions to prevent and control these threats. However, of all the threats to production considered, pests and disease were the least worrisome to farmers, despite the fact that in several sites, their impact was significant. The relative confidence and lack of concern expressed by farmers can be attributed to their knowledge and familiarity of the threat as well as the availability of technical assistance.

What strategies have helped farmers address these challenges?

Coffee farmers have developed distinct strategies to address the challenges of price volatility, climatic changes, and pests and diseases both in the short and long terms. Some of these activities appear to have had greater success than others, and are therefore frequently recommended among farmers.

Economic diversification: To complement income from coffee, farmers recommend seeking alternative income sources, such as those derived from wage employment or small-scale commerce.

Change in farming practices. Farmers recommend reducing the use of agrochemicals to lower the cost of production. In several cases, farmers have also abandoned the use of these products for reasons of environmental sustainability, leading to their conversion to organic farming. Another practice that has been widely adopted has been soil conservation with the goal of reducing erosion from climate events.

Social organization. Farmers recognize organization as one of the more important strategies by which to address global change, at the same time recognizing that the organization process poses its own challenges. On the positive side, organization facilitates access to better



Economic diversification in activities complementary to coffee has been a successful strategy in various places across the region. A few interesting examples are the promotion of agro-tourism, such as the 'coffee tour' (Diria Coffee Tour of Coopepilangosta, Hojancha, Costa Rica¹ and Coffee Tour of ASUVIM, Sololá, Guatemala²) and the creation of eco-parks (Ecological Park of San Pedro Volcano, Sololá, Guatemala³). Other examples include the commercialization of potted flowers (Women's Cooperative of Belavista, Caahotán, Mexico⁴), handicrafts such as pottery (Micro-Enterprise of Pottery of Lencas Pala, Lempira, Honduras⁵), textiles and beads (Women's Association Ix Luna, Sololá, Guatemala).

markets and thus fairer prices. Organization is also perceived as having a social benefit, and farmers report having improved access to technical assistance and training, as well as greater ease in the certification of their harvests and in acquiring official geographic origin labeling. However, farm organizations are often challenged by a lack of transparency and legal support to help them achieve a more solid and credible status.

Management of shade. This is the primary strategy that farmers implemented to combat the negative effects of climate variability. In addition, improved shade management may provide biomass energy in the form of wood for household use.

Changing coffee variety. Farmers have selected varieties that are better adapted to climate conditions, produce better cherries, yield more profit and/or are more pest resistant. The selection of coffee variety may also imply access to new markets.

Reduction in household expenditures and reliance on family labor. Farmers have found such actions necessary in order to cover their investment in coffee. As a result of these coping strategies, farmers have been forced to reduce expenditures on food, health and education. Reliance on family labor has involved the participation of all the household in the traditional activities of coffee production in order to reduce expenditures on hired labor.

Migration of one or more family members. Migration has emerged as a result of adverse regional economic circumstances, and the coffee industry, as a primary or secondary activity across the region, has been considered to be one of several drivers of migration.

It is important to recognize that although migration has been an adaptive response of many coffee farmers, and has been effective in sustaining household economies in the short term, it is a high-risk strategy that puts the migrant in danger – and, in the worst cases, can be life-threatening. In the long-term, migration has important social repercussions. For this reason, while migration is an important means of obtaining income, the associated problems of social disintegration, threats to cultural values and loss of social identity represent a significant concern for households.

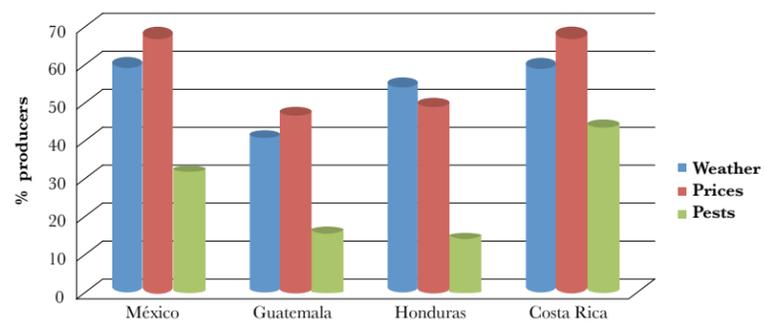


Figure 1: Global changes that affect coffee producers and drive to them to take action.

Price variability is what worries farmers the most, and is what has provoked the most changes in farmers' economic activities and agricultural practices, with the exception of Honduras, where the topic of climate change is very important. Climate change increasingly threatens the means of production and livelihoods of coffee households, largely as a result of the natural disasters that have recently occurred in the region. Pest problems are least worrisome to farmers, although they continue to have a significant impact on coffee production.

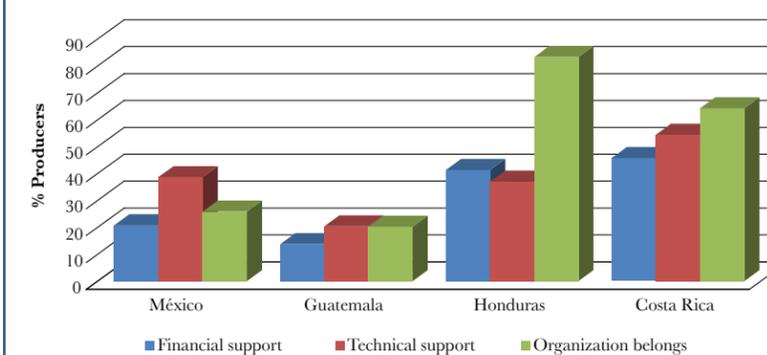


Figure 2: Technical support, financial support and organization of coffee producers.

Illustrates that social organization is associated with access to credit and technical assistance. However, the history of coffee institutions in each country creates distinct circumstances in which organizations are established. Honduras has the highest level of participation in organizations, while Costa Rica surpasses Honduras in access to credit and technical assistance. Mexico, on the other hand, has a relatively high level of technical assistance despite the fact that participation in organizations is relatively low.