



Building Resilience to Global Change for Coffee Farmers in Mesoamerica

Strengthening adaptive capacity for Coffee Farmers in Mesoamerica

There are approximately 300,000 coffee producers in Central America, and an additional 280,000 in Mexico. The vast majority of these farmers are smallholders, producing on less than 5 hectares of land and relying principally on family labor. This fragile but important productive sector has been significantly affected by global processes such as the dramatic drop in coffee prices and extreme climatic events. The climatic and environmental shocks have highlighted the vulnerability of the region, and not only have challenged the livelihoods of coffee producers but also have challenged the public and private agencies responsible for supporting these farmers. These challenges reveal the need for a systematic regional assessment of the coffee sector and an analysis of the sector's response to the recent market crisis and to new and potentially unexpected changes in the global economy and environmental conditions due to climate change.

What are the problems that farmers currently face?

Coffee farmers are directly implicated in value chains that expose them to significant producer price volatility. A dramatic drop in producer prices over the period 2000-2003 resulted in a 44% decline of earnings from coffee in the region, and the loss of employment of half a million households. The consequences for food security and poverty in rural areas were severe. Yet coffee production is not only linked to social welfare outcomes in rural areas, but also regional ecosystem services: traditional shade-grown coffee plantations offer opportunities for enhancing biodiversity, sequestering atmospheric carbon, and inhibiting soil degradation. These ecological services are not only being threatened by socio-economic stressors, but also by global climate change and extreme meteorological events that are becoming more frequent in the region.



Maintaining viable and sustainable livelihoods from coffee requires that farmers engage in market processes that are highly intensive in information and that demand significant organization, involving complex institutional arrangements between households, civil society organizations, private sector, and government agencies.

What have been the principal drivers of change in the sector?

The primary driver of change in the Mesoamerican coffee sector has been new market opportunities that have arisen from the transformation of a sector initially characterized by a relatively heavy state involvement, to one in which a plethora of non-governmental and private sector actors are collaborating and competing in the formation of new coffee value chains. In addition to a steady increase in farmers' participation in organic and fair-trade coffee production, the presence of new actors in the sector and new market opportunities have led to improved prices and greater attention to coffee quality, and in general, a greater diversity of services and support programs for coffee producing households across the region.

Nevertheless the sector has also been hit by a series of negative shocks and stressors including extreme climatic events (hurricanes, droughts, and landslides), declining soil quality, and price volatility. As a whole, these factors have created a high risk and uncertain environment for coffee farmers in the region.

What have been the principal responses of farmers to these changes?

Successful farm-level responses to these changes appear to be concentrated in the three main categories:

- 2. Changes in agricultural practices** directed at reducing costs, improving soil fertility, or meeting sustainability criteria for new markets
- 2. Social organization** necessary for small producers to access new markets, technologies or support programs, and to help farmers recover or respond to global changes
- 3. Participation in new marketing strategies** which help them identify and develop the social and environmental value of their products.

Coffee farmers have also engaged in a number of other responses, including diversification to non-agricultural activities, adoption of more profitable crops, decreasing the area dedicated to coffee, lessening labor and input use, and migration to urban centers or developed countries.

What capacities in the sector are required to facilitate these adaptations?

The challenge across the region is to develop policies that increase the sustainability of the coffee sector through:

- 1. Support for maintaining livelihood viability:** ensuring that households are not seriously affected by the negative tendencies of the sector.
- 2. Investment in farm-level capacities:** allow producers to take advantage of new opportunities that may present themselves to face climate change.
- 3. Improved resource management:** support the social, economic, and natural resource base that provides for the sustainability of the household, while strengthening their adaptive capacity to financial crisis and environmental changes.



Adaptation strategies developed by small-scale farmers

	Less Important	Important	More Important
Changes in agricultural practices			
Social organization			
Participation in new marketing strategies			
New economic activities			
New cash crops			

What farm-level capacities have enabled adaptation?

Households rely on a diversity of assets and institutions in forming their responses to both short-term and long-term changes. The most critical assets are human capital (e.g. knowledge, experience), financial resources, and social capital.

- 1. Human capital** is the knowledge and experience of producers to respond to new demands of the market and to use this knowledge to enhance the natural capital of their production systems, and to improve their capacity to adapt to natural disasters.
- 2. Financial resources** such as the availability of credit, the receipt of government transfers, and having diverse sources of income, enable households to alter practices and invest in new opportunities, and, where necessary, recover lost infrastructure and natural resources.

- 3. Social capital**, and specifically organizational capacity, is vital given the small-scale of production and the information-intensive nature of the market, and enables smallholders to access technical services, financing, and new markets.

What should be the focus of new policies for the coffee sector?

Our research shows that many coffee households still see the public sector as a support system for maintaining price stability and providing technical support, regardless of the fact that the role of the public sector has been significantly reduced since the early 1990s. Regardless of this diminished role, there is a need to strengthen public sector leadership in establishing a policy framework that enables better governance of the coffee sector.



There is a need for policies that can strengthen capacities to adapt to global change that link local knowledge on adaptation to the financial instruments and social organization necessary for implementation.

Improved access to information, through a combination of public and private technical assistance, is necessary in order to improve farmers' capacities to access and interpret market information, and to help them develop soil conservation practices, shade management and selection of alternative crops in such a way that they can adapt their production systems to new market demands and a changing climate. Field research also shows the importance of supporting local knowledge through investing in the youth of coffee communities.

Financial mechanisms to enhance the financial stability and liquidity of farmers, including marketing and climate insurance mechanisms to buffer climatic and price related shocks are also necessary. Micro-credit programs should be targeted to help farmers manage the economic risk of experimenting with alternative crops, new coffee varieties or investing in organic production methods.

Social capital is needed to build organizations that enable rural families to access the resources and knowledge necessary for them to adapt. Social organization provides the structures through which the government can more effectively deliver support. It is also important to construct a strong social network of producers, agronomists, and market specialists with whom to develop new opportunities for production, provision of environmental services and adaptation to climate change.

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How was this research undertaken?

The identification of the primary drivers of change and farm-level responses in face of global change was accomplished through an expert consultation workshop in which researchers involved in projects associated with coffee in Mexico, Guatemala, Honduras, Nicaragua and Costa Rica shared experiences and knowledge. The workshop resulted in a multi-criteria decision analysis in which the experts identified and ranked the primary drivers of change in the Mesoamerican coffee sector and identified which farm-level responses appeared to have been most effective in face of both problems and opportunities posed by global change.

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