

Climate Change Impacts: Response Options for Family Farmers in Brazil

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Through the lens of the three dimensions of sustainable development—social, economic and environmental—it is possible to assess the options for family farming to respond to the adverse impacts of climate change in Brazil. As the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report indicates, climate change and/or extreme weather events such as severe droughts, heat waves and heavy rains could intensify the problems faced by family farmers.

The food and agriculture sector lies at the heart of the development process and is both a main cause of and solution to the world's environmental and social problems. Those countries that have achieved better results in this sector have done so by supporting family-based activities over agribusiness, while those countries that have separated management from labour have been faced with social inequalities. Nevertheless, small-scale food producers around the world face enormous challenges in meeting their food needs and contributing to the food security of their communities and countries.

Extreme weather events are becoming more frequent and severe, threatening the reliability and productivity of agriculture, exacerbating already existing extreme levels of poverty and reinforcing continuing inequality and chronic undernutrition. The more efforts are made to address and adapt to climate change, the less vulnerable small producers are to erratic weather—which results in, for instance, better chances to overcome yield losses for the basic staple grains (FAO 2014). Coping with the spreading global climate crisis requires focusing on small-scale food producers as a driving force towards socially fair and ecologically sustainable agricultural systems.

Brazil is often cited as an example of a country that has successfully implemented effective policies to reduce vulnerability and build resilience. Three factors are linked to the sharp decline in poverty and extreme poverty in Brazil: the increase in the number of formal jobs; income growth (especially for the lower classes); and the effects of cash transfers. However, there are still great regional disparities within the country, especially in the North and Northeast regions, where the rural areas have the lowest Human Development Index.

In Brazil, family farming is the main activity for generating the most food consumed domestically. In this sense, family farming is a way of minimising acute social problems. Thus, it is fundamental that producers increase their resilience so that they are able to face the adverse effects of climate change—whether through economic instruments or the diffusion of new technologies and programmes provided by the private and public sectors. The strengthening of family farming depends on the implementation of specific tools, of qualified public policy and the capacity of representative organisations to have effective control over implementation of the tools and to resist any takeover by large-scale farmers.

The perspectives of environmental and natural resource management introduce some strategies that explore adaptive response options.

As economic alternatives for the families, they can be encouraged by policies that promote technical assistance and economic empowerment of family farmers, such as incentives for cooperatives and access to credit and insurance. The adoption of managing practices and other technologies that improve natural resource management in the Semi-arid, Cerrado and Amazon biomes are an attractive alternative for the families.

Good examples of these strategies are: (i) agroforestry and integrated crop-livestock forestry (ICLF) systems, which present an effective control of insects, diseases and weeds, leading to lower pesticide use and a huge capacity to adapt to climate change; (ii) organic production, which forgoes the use of synthetic fertilisers, pesticides, growth regulators or synthetic additives in animal feed; and (iii) cisterns, which are a good option for managing water in dry ecosystems and biomes such as Caatinga and Cerrado—only during some seasons of the year for the latter. These strategies could help family farmers under different IPCC scenarios¹ for climate change. They are cheap, sustainable, viable and easy to incorporate into the realities of small producers and family farmers. Moreover, they represent sound strategies for climate change adaptation for the social and economic sectors of smallholder farmers.

Across Brazil's North and Northeast regions, the main difficulty affecting family farmers is how to access productive lands due to the unequal concentration of land tenure. Overcoming rural poverty in Brazil requires considering initiatives such as income generation transfers, productive inclusion and universal access to essential services, in combination with effective and serious land reform and supporting family farmers and traditional peoples, who should be a priority for all levels of government to foster sustainable and solidary rural development.

The adoption of the Sustainable Development Goals (SDGs) by all UN Member States provides a greater incentive for governments to build the resilience of small producers in Brazil. As the focus of the 2030 development agenda shifts to measures and means, discussion is mounting on innovative ways to address rural poverty, most notably regarding indicators for SDG2: "End hunger, achieve food security and improved nutrition and promote sustainable agriculture". With smart solutions increasingly sought by decision-makers, policies targeting family farmers have the potential to produce long-lasting effects on the economies of developing countries, by empowering people to invest in and steward the environment.

Reference:

FAO. 2014. *Deep Roots*. Rome: Food and Agriculture Organization of the United Nations and Tudor Rose.

Note:

1. For the IPCC's Fifth Assessment Report, AR5 (2013), the scientific community has defined a set of four new scenarios, denoted Representative Concentration Pathways (RCPs). For more information, see: <<https://www.ipcc.ch/report/ar5/>>.

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