

Climate Change & Food Security

More than one billion people will go hungry today. More than 60 per cent of hungry people are women. The number of hungry people around the world has reached dire proportions as the result of the food price crisis in 2008 and the global financial crisis that followed swiftly behind. Hunger and poverty is overwhelmingly concentrated in rural areas – 70 to 80 percent – and is expected to remain so for decades to come.

Climate change is already adding potentially devastating impacts to this already difficult situation, by creating erratic weather, sea level rise and increasing the frequency and intensity of floods, droughts, hurricanes. The result for agriculture, food security, and rural livelihoods is failed harvests, disappearing islands, destroyed homes, water scarcity, and deepening health crises, all of which can reverse the advances made towards poverty alleviation in the last half century.

Resources to build the resilience and adaptive capacity of vulnerable countries and communities to climate impacts on agriculture and food security are essential. Equally, with 15% of global greenhouse gases estimated to come from the agriculture sector, poor farmers around the world can be key allies in the effort to reduce greenhouse gas emissions.

Climate change hurts food security

We are seeing profound changes in the seasons. There is less rain, and the rainy seasons are less reliable. In the past we would always expect the long rains and the short rains, and other periods when the seasons changed. The Gabra used to count five seasons, but now we count only two, and even they fail. The seasons seem to get worse and worse each year.” Molu Elema, Marsabit district, Kenya

Worldwide, 1.7 billion small-scale farmers and pastoralists are highly vulnerable to climate change impacts. While higher average temperatures may lead to yield increases in northern countries in the short term, southern countries — mostly poor— will experience the greatest negative impacts.

Projected increases in the frequency and severity of extreme weather events and water scarcity will undoubtedly affect food production.

Agricultural production accounts for an astounding 70% of fresh-water use. Five hundred million people already live in water-stressed zones, and the number is projected to increase to four billion by 2050 as unsustainable water-use practices and climate change leave many agricultural areas vulnerable to conflict over scarce water resources.

According to the Intergovernmental Panel on Climate Change (IPCC), climate change could reduce yields from rain-fed crops in parts of Africa by 50 per cent as early as 2020, putting between 40 and 170 million more people at risk of hunger worldwide.

In the Andes too, climate-related pressures are worsening. Most of the world's tropical glaciers are found in the mountains of Peru, Bolivia, and Ecuador are melting rapidly, leading to changes in the rates and timing of water discharge from mountain rivers. In turn, this will destabilize slopes, creating natural hazards like landslides, worsen water stress during dry seasons, and reduce water availability for food preparation and power generation.

Adapting to climate change and building resiliency reduces hunger and poverty

Many farmers in developing countries live on marginal rural lands characterized by conditions such as low rainfall, sloping terrain, fragile soils, and poor market access. Their poverty is often exacerbated by social exclusion. Such farmers are vulnerable because they depend directly on rainfall and temperature, yet they often have little savings, little government or family support and few alternative options if their crops fail or livestock die.

Given existing hunger and looming climate change, donors and national governments must take immediate action by committing to new money to help build vulnerable farmers resilience to climate shocks and adapt to a changing climate. The International Food Policy Research Institute (IFPRI) has assessed that, just to prevent any increase in already high levels of child malnutrition, at least \$7 billion annually in climate adaptation funding will be needed over the next 40 years. This figure only addresses agriculture directly, and doesn't include the other essential needs of poor farmers affected by climate change, including water availability and diseases.

Achieving resilience requires improving the resources, skills, expertise and voice of vulnerable farmers. In many case, farming practices that use ecological approaches and restore natural resources, including agro forestry, are the key strategies needed to build climate resilience.

Poor farmers are key allies in the fight against climate change

As stewards of some of the world's most degraded soils, poor farmers are key allies in the fight against climate change. Agro-ecological approaches such as restoring degraded soils and planting trees can store carbon from the atmosphere as well as increasing the resilience of agriculture to climate shocks.

Building up soil organic matter can be done by fertilizing fields with animal manure or compost, using crop residues as mulch, and employing conservation tillage methods. Increasing soil organic matter content makes soils more fertile, better able to hold water, and more resistant to erosion. The end result is farms that are both more productive and more resistant to climate shocks.

For instance, farmers in Adamitullu village in Ethiopia are working with an Oxfam partner to restore their degraded land, which produces little and leaves them vulnerable to increasingly erratic rains. They now use manure as a fertiliser and plant trees. The land has been restored and newly planted trees and improved soils act to store carbon.

Any efforts to include agriculture mitigation in the UNFCCC should focus on poor farmers and enhance their capacity to respond to climate impacts through win-win practices for adaptation and mitigation, especially in ways that promote food security. Agriculture mitigation efforts – including in Reducing Emissions from Deforestation and Degradation (REDD+) policies – should ensure that the rights and interests of these farmers are protected, and not promote large-scale industrial approaches to solving the climate mitigation challenge.

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