The farmer is literally hedging their bets in Eastern and Southern Africa

Building a food system that is good for the planet, the body, and the farmer in the face of climate change is what the Smart Food Initiative at the International Center for Research in the Semi-Arid Tropics (ICRISAT) is all about. Food Tank had the chance to speak to its director for Eastern and Southern Africa (ESA), Dr. Moses Siambi, about improving long-term food sustainability by promoting diverse, drought tolerant crops in the region. “Resilience is quite a challenge,” says Dr. Siambi to Food Tank. “The way we approach it is to provide enough options for the farmers so that if there is a bad season, they still produce something and do not completely lose their agricultural enterprise.”

Siambi is also ESA’s Research Program Director for ICRISAT, which develops varieties of legumes and cereals that are not only drought tolerant, but also contribute to balanced diets and create economic benefits. “In addition to nutrition security, there has to be some income,” Dr. Siambi tells Food Tank. “To have that production, you need better yielding materials.” ICRISAT works with farmers to improve their livelihoods through many avenues. Their efforts on this front have been in the form of soil moisture conservation, expanding farmers’ access to a variety of high-quality seeds, and developing specialized crop breeds to tolerate extreme weather.

Improving the food system in ESA may ultimately prove more challenging than offering alternative foods to choose from. Crops such as millet and sorghum can provide substantial yields and sound nutrition in drought conditions and high temperatures, but fell out of fashion when other staples such as rice, wheat, and maize disrupted their market value. The Smart Food Initiative aims to make these forgotten foods attractive again while educating consumers of their various benefits. Redeveloping the whole value chain of these crops may present a large economic opportunity, but Siambi warns that shifting farmers’ taste preferences can be an obstacle. “It is not easy changing people’s food habits. You may have a variety that is very tasty, but low yielding.”

Getting farmers on board with using many crops at a time could be key to maintaining food and income security and may also be their best chance at adapting to environmental changes. Research published by Global Change Biology found that creating opportunities for agricultural diversification in sub-Saharan Africa may be crucial in responding to climate change, and that monoculture for higher yields (growing a single crop) can be risky. Siambi tells Food Tank, “The farmer is literally hedging their bets. At the beginning of the season, they have no idea which crop will make it to the end. Depending on what climate change impacts will be, the most immediate effect is the limited options that the farmers will have.”

Sub-Saharan Africa is one of the areas set to be most affected by climate change through disruption in its food security and agricultural markets, according to a report by the U.N. Food and Agriculture Organization. Last year, ICRISAT celebrated its 46th anniversary of fighting to improve food security, and it still has much to look forward to. “The first 20 years we focused a lot on drought tolerance, making sure we have crops that would withstand this dry environment,” says Dr. Siambi to Food Tank. “We have achieved that and are now moving into seed systems and nutrition. For me, that is what I think is exciting.”

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