

CABI's support to food and nutrition security: ensuring sufficient, safe and nutritious food in the current crisis and over the long term

The global food security crisis

Even before the current food security crisis, lack of equal access to sufficient nutritious, affordable, safe food was a major problem worldwide: 850 million people were going hungry every day and healthy diets were out of reach for 3 billion people.

Three global crises have added to the challenge of feeding the world. First, climate change is reducing farmers' ability to grow produce, by causing unpredictable weather patterns and pest migrations, and diminishing critical resources such as water and healthy soil. Second, the COVID-19 pandemic imposed a massive shock to global supply chains and limited farmers' ability to produce food and supply local and international markets. Third, the war in Ukraine initially severed supply chains for critical staple crops and continues to constrain availability of chemical-based fertilisers, affecting locally grown crops around the world. Access to affordable food for many people worldwide has been further compromised by exceptionally high and widespread inflation in food and fuel prices.

According to the World Bank, every percentage point increase in food prices will tip 10 million more people into extreme poverty, while FAO estimates that the number of undernourished people globally could increase by between 8 and 13 million in 2022/23, and by up to 19 million people in 2023.

Hunger is a problem that disproportionately affects people living in poor rural communities. Such communities are also home to many of the world's 500 million smallholder farmers. These farmers produce over 80% of the food consumed in developing regions and thus have a vital role to play in addressing the current food security crisis, as well as feeding the world over the long term, but they are particularly vulnerable to climate and market-related shocks. They also face major production challenges, including crop pests – responsible for the loss of up to 40 per cent of their crops – and lack of access to agricultural best practices. Now they cannot get their hands on the inputs they need to grow their crops.

There has never been a more urgent need for better ways of growing crops.

CABI's practical action on food security: helping farmers to lose less and feed more

We help smallholder farmers in low and low-middle-income countries to protect and improve their crop yields while promoting resilience. We do this by facilitating access to agronomic advice, technologies and capital that allow farmers and value chain stakeholders to better respond to production and market related shocks, so they can improve compliance with market requirements and reduce their dependency on chemical-based inputs. In short, we help farmers grow more and lose less, which increases food and nutrition security worldwide.

To achieve this, we leverage the core strengths we have developed over the last century, which include applying science to agricultural approaches, providing relevant high-quality, evidence-based information, developing and implementing scientifically proven innovations, technologies and interventions, and sharing knowledge and information about food and nutrition with the people who need it. Using these strengths, we work with smallholder farmers, governments and private stakeholders to contribute to sustainable increases in farmers' incomes and improve global food security in the short, medium and long term.

Some examples of our work on food security

Feeding more

Our Plantwise programme has established a network of over 5,000 'plant clinics', which provide smallholder farmers with advice on how to solve their pest problems – importantly, with less reliance on hazardous pesticides. This leads to improved farmer yields and incomes, and lower use of pesticides, increasing the supply of safer food in agricultural value chains and trade. PlantwisePlus, the next generation of the programme, is helping countries better predict, prevent and prepare for plant health threats, as well as providing climate resilience and adaptation information to help farmers adapt to climate shocks and stresses. Through Plantwise, we and our partners have reached over 50 million farmers in more than 30 countries in the last 10 years, growing crop yields by 20 per cent and incomes by over 30 per cent.

Losing less

The Pest Risk Information Service (PRISE) is an early warning system that combines earth observation technology, pest models and real-time field observations to deliver tailored pest alerts and actionable advice to farmers. Based on environmental data, PRISE models the risk to crops from insect pests and plant diseases. Tailored messages are then created and made available through our Plantwise network and other local extension (farmer advisory) services, giving clear advice on how and when to apply appropriate practices to minimize crop damage. PRISE has helped over 1.8 million farmers in Africa to reduce crop losses and bring down chemical pesticide applications, leading to higher yields, increased incomes and a healthier environment.

Increasing trade

Increasing safer food supply along agricultural value chains and trade is essential to address the food security crisis. Through our work with partners, smallholder farmers around the world have been able to produce and trade more and safer food. For example, CABI and its partners implemented a project that improved Ghana's food safety and phytosanitary systems, which made it possible to restart vegetable exports to the EU worth US\$15 million a year, following an earlier European ban.

Protecting biodiversity

Protecting biodiversity is vital to ensure healthy environments and resilient food production. In East Africa our Woody Weeds Plus project is supporting a National Prosopis Strategy for Kenya to manage the invasive weed *Prosopis juliflora* – considered one of the world's most threatening non-native tree species. The three-year project builds on an earlier project which assessed the effects of prosopis on the environment and rural livelihoods in Kenya, Ethiopia and Tanzania, as well as ways to manage it. Woody Weeds Plus will strengthen livelihood security and environmental integrity in areas affected by prosopis, including grazing lands on which pastoralists depend.

Driving global investment

CABI is the lead partner for evidence generation and investor engagement in the Commercial Agriculture for Smallholders and Agribusiness (CASA) programme, which makes the case for capital providers to invest in climate resilient agri-food systems that increase smallholder incomes and global food security. CABI uses a double approach to evidence generation and the promotion of food security: in the short term it addresses the more immediate impacts of the current food security crisis, particularly on effective use of fertilisers and increased food production; and in the medium and long term, it produces evidence on the key opportunities for tipping the climate finance balance towards climate adaptation in agriculture, to secure and improve resilience of food systems.

These are some of the ways that CABI is working with our partners to improve global food security and resilience to food crises. CABI has been protecting crops from pests and diseases for over a century, and works closely with its 49 Member Countries, representing the majority of the world's population. We will continue to work at regional, national and farm levels to support sustainable food production, using innovative long-term solutions that increase agricultural productivity, while protecting and enhancing natural assets, helping farmers through the current crisis, and preparing for the next one.

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