

ENABLING VEGETABLE BUSINESS DEVELOPMENT IN EAST AFRICA

Locations	Ethiopia, Kenya
Dates	16/01/2023 - 15/11/2023

Summary

Consuming vegetables as part of a daily diet is extremely beneficial to the health and wellbeing of individuals. A healthy diet can help prevent non-communicable diseases. However, in sub-Saharan Africa, vegetable consumption is the lowest of any region in the world. Problems within the vegetable supply and value chain, including pests and the use of harmful pesticides, are causing losses and high levels of residues. CABI worked with the 'Veggies 4 Planet & People' project to help increase healthy vegetable production and consumption in Kenya and Ethiopia.

The problem

A healthy diet rich in fruit and vegetables provides a source of vitamins and minerals needed to maintain the overall health of people but also prevents health problems and common non-communicable diseases such as obesity, heart disease and cancers.

But, in sub-Saharan Africa, vegetable consumption is very low. One of the lowest of any region in the world.

Some factors that contribute to the low intake include inadequate levels of production, limited marketing opportunities, poor access to inputs (such as seeds, soil, and fertilizers), and limited knowledge of soil and plant health management.

Crop pests are particularly responsible for causing significant pre and post-harvest losses. To control pests, farmers often rely on conventional synthetic pesticides.

Empirical evidence from Kenya and Ethiopia shows the use of harmful pesticides that pose a risk to humans and the environment with limited application of mitigation measures.

Past studies on pesticide residues on tomatoes, onions, and Traditional African Vegetables (TAV) found evidence of residues of pesticides that are not registered for use in Kenya. They also showed exceedances of the maximum residue level (MRL) in both domestic and export crops (PlantwisePlus study of pesticide residues in domestic and exported food crops in Kenya, 2022, unpublished).

Furthermore, measurements of pesticide residues on crops and feedback from key informants indicate that tomato, leafy vegetables, onion and fruits (such as mango, tree tomato and watermelon) are among the crops causing the greatest concern regarding exceedances of pesticide residues. For example, acephate residues on tomato have been observed to exceed MRLs by 700%.

To help improve livelihoods, there is a need to increase the production of healthier and safer vegetables.

What we are doing

CABI worked on the World Vegetable Center-led project ‘Veggies 4 Planet and Planet’ (V4P&P) which aimed to create employment and increase incomes, particularly for women and youth in Ethiopia and Kenya, and to improve environmental and human health through safe production of vegetables.

The V4P&P project placed a special emphasis on regenerative agricultural technologies through the application of crop production practices such as composting, green manures, crop rotation, botanicals and beneficial microbes to nourish the soil and reduce or eliminate the use of chemical fertilizers and pesticides.

The project sought to reduce risks from pesticides by reducing reliance on chemical pesticides and ensuring that only low-risk pesticides that are compatible with regenerative agriculture are selected and used responsibly.

The use of biopesticides and natural pesticides is one of the key performance indicators for the regenerative agriculture component of the V4P&P project.

CABI’s role was to provide expert advice and insights into pest and disease management. CABI’s main objective was to gather information from its pest distribution databases (including the Plantwise plant clinic network data), V4P&P project reports, experiences from the field in V4P&P and other sources in order to:

- Identify and provide insight on pest problems project farmers will likely face
- Accumulate evidence on specific pest management solutions (or combinations) smallholder farmers in Kenya and Ethiopia use to manage pest problems on priority vegetables for V4P&P, including pesticides commonly used and associated hazards
- Profile the pest management practices to determine their compatibility with regenerative agriculture

- Identify information gaps and pending questions concerning pests and their management in the priority vegetables, followed by data collection with farmers and key informants
- Identify risk mitigation practices
- Recommend regenerative approaches and the steps needed to introduce further low-risk solutions that are not yet available in Kenya and Ethiopia

Results so far	Desk reviews to consolidate and document information from CABI's pest distribution databases and other sources on vegetable pest problems were completed, together with field studies. An assessment of farmer practices in Kenya and Ethiopia and the development of study tools was also delivered. Information gathered from the various sources has been analyzed and used to draw insights into the major pest problems on vegetables. It has also been used to recommend management practices compatible with regenerative agriculture and outline the steps needed to introduce low-risk solutions that are not yet available in the project countries. A range of recommendations was presented at the first International Conference for Veggies 4 Planet & People where the project team also shared insights and research findings from the project.
Donors	IKEA Foundation
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