



*A mango farmer in Kitui County inspects her mango fruit fly trap. Her harvest doubled after adopting the various integrated pest management (IPM) technologies promoted by the Komesha Fruit Fly Campaign.
Photo Credit: Boniface Musembi/USAID-KCDMS.*

Revitalising the Kenyan mango sector through public-private partnerships

By Boniface Musembi and Geoffrey Kiganiri

HAVE you tasted a Kenyan mango recently? Chances are, unless you reside in Kenya, the answer is no. That's because despite being among the top 10 mango-producing countries in the world, Kenya has not exported any of the fruit to the European Union since 2014. While mango holds great potential to contribute to Kenya's economic security, particularly for smallholder farmers, that potential has remained untapped due to challenges along its value chain.

One of those challenges has been the dreaded *Bactrocera dorsalis*, commonly known as the fruit fly. Fruit flies cause KES 50 billion (US\$494

million) in losses annually throughout Kenya's horticulture industry. Fruit fly infestations decrease the quality and value of mangos. For the mango industry alone, fruit flies can destroy anywhere from 40 to 80 percent of farmers' crops. Faced with this daunting challenge, Kenyan officials eight years ago imposed a ban on exporting mangoes to the EU until the problem could be resolved. The ban resulted in annual revenue decline among mango farmers of more than US\$110 million.

"Fruit flies have destroyed our gold," said Phyllis Waema, Chairperson of the Makueni County Fruit Processors Cooperative Society. "We have been

investing a lot in taking care of our mango orchards only for fruit flies to destroy more than 50 percent of the produce."

The Campaign: A coordinated public-private effort to scale up technology adoption

On January 22, 2020, USAID's Feed the Future Kenya Crops and Dairy Market Systems Activity (USAID-KCDMS) launched a Fruit Fly Free Zone campaign dubbed Komesha Fruit Fly. The campaign aims to increase export market share for mangoes by 30 percent by 2023, create new jobs for 240 spray service providers and unlock



A KCDMS-trained service provider demonstrates how to instal a fruit fly trap to a mango farmer in Kitui County. Photo Credit: Boniface Musembi/USAID-KCDMS.

access to up to KES 10 billion (US\$98 million) through the export market by 2024.

“I am very happy that the Komesha Fruit Fly Campaign is going to eliminate the fruit fly that has cost us millions of shillings in post-harvest losses,” said Ms Waema. “The launch of this initiative is a day of rebirth of Makueni County. I’ll now be able to produce more mangoes and sell them at a better price.”

USAID-KCDMS partnered with five integrated pest management (IPM) technology providers to expand distribution networks and conduct training and technology demonstrations. At the same time, USAID-KCDMS is leveraging its commercial agro-dealer network to make IPM tools and technologies more accessible to rural smallholders. USAID-KCDMS also helped mango cooperatives raise awareness about fruit fly control and host technology demonstrations.

USAID is also supporting county governments to raise awareness through farmer training and provision of extension services for increased

productivity. Exporters and off-takers have been offering private sector embedded extension and procuring quality fruits for export and regional markets.

The national government, through the Kenya Plant Health Inspectorate Service (KEPHIS), established and enforced pest-free area regulations. KEPHIS played a critical role in designing Pest Free Areas (PFA) and Areas of Low Pest Prevalence (ALPP) protocol, monitoring and enforcement of the protocol, data collection, registration of mango exporters and production farms, regular farm audits, inspection of pack houses to ensure compliance, sampling and inspection at exit point, issuance of export documents at the point of exit and training of new inspectors on pest identification and management. Additionally, KEPHIS has been engaging the European Union regulatory body with updates on the efforts to create a PFA and ALPP.

Strengthening Sanitary and Phytosanitary (SPS) systems in the mango sub-sector

USAID-KCDMS has been working with interested stakeholders to strengthen stringent sanitary and phytosanitary (SPS) systems in the mango sub-sector to enhance the competitiveness of mango fruits in both the domestic and export markets. It has been promoting awareness of SPS regulations and standards and strengthening the capacity of private actors to comply with ISPM requirements and disseminate technologies necessary for SPS compliance.

The Technologies: Environmentally friendly methods to eliminate fruit flies

The establishment and certification of areas of low pest prevalence requires that most mango farmers adopt pest control measures and adhere to the PFA and ALPP protocol. The Komesha Fruit Fly Campaign is therefore working through multiple stakeholders to simultaneously raise awareness, promote behaviour change, expand access to technologies and create and manage pest free areas and areas of low pest prevalence.



*A mango farmer in Mavindini, Makueni County displays his fruit-fly-free mangoes.
Photo: Mwangi Kirubi for USAID.*

The Komesha Fruit Fly campaign promotes several integrated pest management (IPM) approaches that include pheromone traps (male annihilation technique); food bait-based sprays and traps; farm sanitation; biological controls such as parasitoids, predators and fungi; and solar bags. These practices complement one another to effectively eradicate the threat of fruit flies.

Working with over seven mango exporters, five IPM technology providers and two major mango cooperatives, USAID-KCDMS has supported more than 45,000 mango farmers to adopt integrated pest management technologies and good agricultural practices to reduce damage from fruit flies. The five IPM technology providers have sold over 200,000 fruit fly traps and 1,500 solar bags, earning an estimated KES 66.1 million. KEPHIS and the IPM companies have trained 109 spray service providers (47 percent of them youth) on the concept of pest free areas, fruit fly species identification, data collection and fly trap setting and servicing among other technologies.

This has resulted in the creation of two Pest Free Areas that are Certified Export Trade Zones in

Makueni County. These areas not only help farmers get higher prices for their mangoes, but also help exporters source high-quality produce that comply with export market requirements.

To complement these initiatives, an export protocol and draft mango dossier were developed and approved by the EU. USAID-KCDMS continues to lead sensitisation on the mango dossier and export protocols through the Mango TWG to ensure actors are aware of the contents of the dossier/protocol and commit to compliance to export market requirements.

In 2021, KEPHIS lifted the ban on the export of Kenyan mangoes to the EU. However, this can only take effect upon compliance with existing international and regional regulations and standards, including the establishment and operationalisation of hot water treatment facilities. USAID-KCDMS is working with a private sector company to install a hot water treatment facility in Nairobi before the 2022 mango harvesting season.

The first exports to the UK are expected to happen in October. USAID prioritises strong partnerships to

achieve locally sustained results. This achievement was only made possible through strong partnerships with the Makueni County Government, the private sector, farmers, exporters and public sector partners.

About the USAID- KCDMS Activity

The Feed the Future Kenya Crops & Dairy Market Systems Activity (KCDMS), implemented by RTI International, is a five-year USAID-funded effort that helps increase agricultural production and reduce poverty and malnutrition in Kenya, helping to spur a competitive, inclusive and resilient agricultural market system. KCDMS partners with actors in the horticulture and dairy sectors to transform agricultural market systems, create an enabling environment for businesses to thrive and encourage government-level reforms that encourage investment. KCDMS engages local partners to facilitate farmers' intensification and diversification into higher-value crops and support capacity building for farms and firms in value-addition and off-farm employment.

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