The impact of the fall armyworm pest on maize crops and communities in Sub-Saharan Africa were worsened by the COVID-19 pandemic, new study shows.

The CABI-led research published in the journal Environmental Sustainability by scientists from its regional centre for Africa in Nairobi, Kenya, highlights how it was responsible for up to 58 per cent of maize losses worth up to US $9.4 billion.

The researchers confirm that the fall armyworm (Spodoptera frugiperda) remains an important pest in Africa's farming systems and that more research and communication of low-cost options for sustainability are needed to manage it in the face of similar threats in the future.

The fall armyworm is arguably the most damaging invasive species to afflict all corners of the continent affecting major African crops – particularly maize, sorghum, millet and legumes.

Dr Monica Kansiime, lead author of the paper featured as part of the journal's themed issue on emerging pests and pathogens, said that the containment measures for COVID-19 created conditions for a major disruption to food system supply chains, giving rise to a dramatic increase in hunger.

The researchers highlight that, according to He and Krainer (2020), while 7.4 million people were infected by COVID-19 in 2020, up to 811 million people were undernourished, almost 10 percent of the world's population, most of whom are in Africa.

In addition, hunger-related fatalities reached four million in 2020, 10 times the number of COVID-19 fatalities, the paper states.

"COVID-19 revealed how agricultural systems are extremely vulnerable to crises. This underscores the need for a recovery effort that focuses on building back better for smallholder communities to overcome the impacts of the pandemic, and build resilience against similar threats in the future.

"Institutional strengthening and smallholder linkages to input and output markets, and microcredit support, for instance, will address immediate production challenges in the wake of COVID-19." Dr Kansiime adds.

The researchers, which also included Dr Ivan Rwomushana and Idah Mugambi, reviewed the invasion and impact of fall armyworm on the livelihoods of

smallholders in Sub-Saharan Africa and implications for community sustainability in the wake of COVID-19, drawing on a synthesis of peer-reviewed articles published between 2020 and 2022.

The scientists point out that since the declaration of COVID-19 as a global pandemic in January 2020, there has been a massive disruption of livelihoods due to the disease itself but also exacerbated by stringent measures put in place to try and curb the spread of the disease.

Agricultural workers in low- and middle-income countries that have labour-intensive farming systems suffered disruptions in their supply chains and outputs were compromised due to labour shortages, they stress.

Disruptions in the supply and availability of critical production inputs such as fertilizers, plant protection products, and seeds were apparent.

This contributed to limited crop protection interventions by farmers, including monitoring for the pest, weeding, and timely pesticide sprays, which have direct effects on both preventive and curative pest management actions, the researchers argue.

Ms Mugambi said, “Enhancing the technical capacities of smallholders to use Integrated Pest Management measures, and regional collaboration for multi-risk monitoring and early warning will inform prevention, preparedness, and coordinated actions for the sustainable management of emerging risks in the future.”