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“Competition for Resources in a Changing World:
New Drive for Rural Development”

Overview of ICIPE Research Activities

CHRISTIAN BORGEMEISTER

International Centre of Insect Physiology and Ecology (ICIPE), Kenya

Abstract

Over two-thirds of Africa's population comprises small-scale farmers, on whose productivity their own socio-economic development, as well as the nutritional security of the urban dwellers, relies. Moreover, smallholders contribute up to 50% of the fruits and vegetables exported from Africa. Therefore, the management of arthropods, which greatly constrain the growth and output of small-scale farmers, is a major factor in enhancing Africa's development.

A complex of indigenous and invasive borers species ruins between 20–40% of cereal yields, an amount that would be enough to feed 27 million people in the continent. Storage pests, such as the larger grain borer, can inflict losses of up to 90% in maize. The horticultural industry, one of the fastest, and most dynamically growing businesses in Africa falls prey to a plethora of pests, including fruit flies, which ruin up to 50% out of some fruit varieties. In addition, disease vectors, in particular blood-feeding insects and ticks, which transmit debilitating or fatal diseases, threaten livestock, on which many people in the continent rely for their every day survival.

Bearing in mind that majority of small-scale farmers cannot afford synthetic pesticides, which are in any case often harmful to people and the environment, icipe addresses the complex arthropod-related challenges through the development of affordable, environmentally-friendly, and sustainable strategies. icipe's regional stemborer biocontrol project has brought down the pest populations by as much as 70%. The Centre's programmes to control pests of beans, brassicas, tomatoes and a range of horticultural crops, is helping to improve the nutrition and health of smallholders, while at the same time supporting them to comply with strict export regulations for their produce.

In the case of livestock, ICIPE's has focused on the control of the tsetse menace through the development of repellents, attractants and traps, tailor-made for different African communities including pastoralists such as the Maasai. In pilot field studies, these approaches have shown a 70% reduction in the prevalence of trypanosomiasis, the deadly tsetse-transmitted disease. icipe's research is designed to harness indigenous knowledge, build institutional capabilities and empower communities to exploit the continent's tremendous potential.

Keywords: cereal, fruit, ICIPE, indigenous and invasive pests, livestock, management of arthropods, vegetable