

POLICY BRIEF

OCTOBER 2025



INSECT FARMING FOR HEALTH AND LIVELIHOOD IN AFRICA

HEALTHYINSECT PROJECT IN KENYA, UGANDA AND GHANA 2020-2024 (DFC 19-08 KU)

WHY INSECT FARMING MATTERS FOR AFRICA?

Edible insects are part of traditional diets across Africa and are recognized as sources of high-quality animal protein and important micronutrients. Over the past decade, insect farming has emerged as an option for novel animal-production in resource limited food systems. Only insect species with certain biological characteristics (short life cycles, efficient growth rate, thriving in colonies) are suited being domesticated for farming.

Among species traditionally consumed, only some are suited for farming, if appropriately developed and domesticated for feasible production and value adding to the food system.

The GREEiNSECT project (2014-2018, DFC 13-06 KU) were among pioneering research in introducing cricket farming in Kenya. The World Bank identified in 2021 insect farming as a frontier agriculture practice for circular food economy in Africa

[LINK](#)

PROJECT PARTNERS

Ghana - Department of Horticulture and Crop Production, University of Energy and Natural Resources **Kenya** - Department of Agricultural Economics & Agribusiness Management, Jaramogi Oginga Odinga University of Science and Technology; Department of Food Science and Technology, Jomo Kenyatta University of Agriculture and Technology; Biomedical Sciences & Technology, Masinde Muliro University of Science and Technology, **Uganda** - Department of Forestry, Biodiversity and Tourism, Makerere University **Denmark** - Department of Nutrition, Exercise and Sports/Department of Food and Resource Economics/ Department of Plant and Environmental Sciences, University of Copenhagen. **International** - International Centre for Insect Physiology and Ecology (icipe), Nairobi, Kenya

KEY ACTIVITIES

HEALTHYINSECT findings compiles results from complementary and collaborative research activities in Kenya, Uganda and Ghana.

- A multi-site randomized intervention study with baseline from 10,000 farmers of which 2800 were receiving training in insect farming, across Kenya, Uganda and Ghana
- Entomological research in grasshopper (*Ruspolia difference*) and African Palm Weevil (*Rhynchophorus phoenicis*) in Uganda and Ghana, respectively;
- Food science research in processing insects to infant foods
- Acceptability studies in target populations of products processed from the different insect species
- Nutrition and health research by conducting a randomized factorial intervention trial (RCT) enrolling 282 mother-infant dyads to receive daily infant food supplement, with/without insect (cricket), and with/without nutrition education.
- We disseminated to national and regional stakeholder
- The collaborative research supported the education and graduation of 5 PhD students (3 in Kenya, 1 in Uganda and 1 in Ghana)
- We published +30 peer-reviewed articles





Picture: Farmers training in Nyabeda village, 2023. The blue buckets are equipped with egg trays to provide hide for the crickets

KEY FINDING

- Across the sites, the strongest determinants of farmers' willingness to adopt insect farming were initial perceptions, attitudes toward risk, and expected benefits, rather than lack of technical skills alone. Farmers' view of insect farming as risky and uncertain remained a major barrier to uptake, even after training.
- Contrary to expectations, nutrition education and cooking demonstrations did not significantly increase adoption or willingness to farm insects.
- Culturally familiar and locally consumed species — crickets (Kenya), edible grasshoppers (Uganda), and African palm weevil (Ghana) — can be farmed successfully using low-cost, locally available substrates.
- Improved palm weevil rearing protocols developed in Ghana were adopted by a local enterprise, leading to production increases and reported profit gains of over 25%.
- Cricket-enriched complementary foods for infants were nutritionally adequate, safe, and well accepted, supporting child growth comparable to conventional milk- or cereal-based products.
- Acceptability of cricket-enriched porridge increased over time, eventually matching or exceeding that of conventional products.
- Food science studies documented that each insect species has distinct functional and processing characteristics, requiring species-specific formulation

THE HEALTHYINSECT PROJECT

- The HEALTHYINSECT project brings together research partners from Ghana, Uganda, Kenya, and Denmark with the aim of accelerating rural insect farming for food and nutrition in Africa.
- The project is supported by Danida, Ministry of Foreign Affairs, Denmark (grant 19-06-KU, 2020–2024).
- HEALTHYINSECT aims to fill critical knowledge gaps in understanding drivers and barriers for insect production.
- We investigated incentives for insect farming by providing farmers with start-up kits and training, and by promoting insect consumption by educating caregivers of young children about the nutritional benefits of insects.
- We conducted entomological studies to identify local feed resources, optimal temperature conditions, and improved breeding protocols for grasshoppers and palm weevils.
- We investigated food technological characteristics and developed porridge products of each of the insect species for infant complementary feeding,
- We assessed acceptability, impacts on infant growth and gut health over 8 months feeding, and possible breastmilk substitution, of daily feeding of cricket enhanced porridge
- We communicated to stakeholders nationally and by hosting the [Insect for Green Economy Conference, Nairobi, February 2022](#)
- Project link: [HEALTHYINSECT](#)

POLICY RECOMMENDATIONS

Recognize insect farming as part of the livestock and food system

- Explicitly include edible insects in national livestock, agriculture, and food safety policies.
- Develop proportionate food safety and quality standards that support, rather than hinder, small-scale producers.

Invest in insect research, extension, and training

- Long-term support to continued adaptive research to refine all steps of production for optimal rearing protocols under diverse agro-ecological conditions.
- Integrate insect farming into public extension services, vocational training, and farmer field schools.
- Promote peer learning and farmer networks to reduce real and perceived risk.

Invest in food processing innovation

- Insect products and powders must be formulated to ensure good taste and texture
- Different insect species have distinct functional properties, requiring species-specific product development.

Recognize insects as beneficial animal-source food

- Policies on infant and young child feeding (IYCF) should explicitly recognize relevant insect species when properly farmed and processed.
- Long-term outcomes beyond linear growth (e.g. morbidity, cognition) remain under-studied.

IMPLICATIONS

Scaling insect farming requires risk-reducing strategies, trust-building, and social learning, beyond training manuals or technology transfer.

Technological feasibility is not always the primary bottleneck; successful adoption hinges on whether benefits are visible and reliable.

Investments should support R&D on insect-based foods to ensure safety and quality, including public-private partnerships with local processors

The diversity of edible insects should be recognized and locally familiar and valued species should be prioritized to facilitate uptake in diets.

The longer-term health effects of insect consumption remain to be studied for making stronger claims beyond dietary adequacy and acceptability

Insect farming should be recognized as a nutrition-sensitive agricultural strategy, coordinated between agriculture, health, and food authorities.

Food safety regulations and standards for insects and insect-based products should be coordinated and harmonized by Africa Food Safety Agency to promote a continental market, benefiting insect producers



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