



What Role Did Edible Insects Play in the Traditional Practices and Nutrition in Sub-saharan Africa?



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Introduction

- Wild harvested insects are consumed traditionally in many parts of the world
- This cannot be sustained under the current population pressure
- Insect rearing is gaining popularity worldwide and is likely to contribute to increased nutrient intake
- This will be of particular importance in the malnourished population as a protein source, by boosting food security as an alternative to the current expensive animal protein source
- Insects can greatly contribute to providing high-quality animal protein in an ecologically sustainable way



Figure 1, Children eating raw termites



Figure 2, Health facility using insect powder to help malnourished children

Edible insects for food and feed

- Insects consumption is culturally ingrained in most communities and is a diminishing major food source
- The possible food safety hazards from edible insects are mainly; physical, biological, and chemical hazards
- Safety risks in edible insects depend on the species, the environment, feed, and processing methods.
- There is need to enforce hazard analysis critical control point (HACCP) in the edible insect industry.
- Automation of insect faming systems will help produce sufficient quantities required for the economic

Black soldier fly (BSF) larvae for feed



Figure 9, Training on BSF farming



Figure 10, Raising a colony/feeding larvae



Figure 11, Protein enriched feed

Crickets and dung beetle larvae for food



Figure 3, Rearing



Figure 4, Blanching



Figure 5, Deep frying



Figure 6, Dung beetle larvae collection



Figure 7, Solar dried larvae



Figure 8, Biscuits-10% insect powder

Community Intervention using insects products



Figure 12, School feeding with insect powder



Figure 13, Distribution of insect flour to children >2years



Figure 14, Child feeding using insect enriched porridge

Conclusion and outlook

- To ensure global market for insect products, processing to insect powder is key
- Using edible insect powder in complementary food, and baked products, can increase edible insect consumption
- There is the need to lobby for improved technology in rearing and processing of insects to ensure high quantity and quality

Edible insects as a traditional food

- In the African tradition, harvesting of insects was done by anyone, and children would harvest and eat raw termites (Figure 1)
- Long distance travelers used insects as a dense ready to eat snack
- Stored insects were used to save and sustain children during extreme drought
- During war and calamities in Africa, when people were forced to live in forests and jungles, insects were a source of proteins
- Most insects are still wild harvested
- Expectant mothers consumed them as a snack, and some would grind the insects into flour and sprinkled it in baby porridge

ContamInsect project scope

- Explore current utilization of edible insects for food and feed in Kenya
- Analysis of mycotoxins, dioxins, polycyclic aromatic hydrocarbons, and polychlorinated biphenyls
- Evaluate the possible reuse of mycotoxins contaminated grains in the food chain

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Why insects

Insects because	Commonly utilized	Wild harvested as food
<ul style="list-style-type: none">✓ Varied environmental conditions✓ Early maturing✓ Save on space✓ Low greenhouse gas emission✓ Can utilize organic waste✓ High protein content	<ul style="list-style-type: none">✓ Mealworms (for food and feed)✓ Crickets (for food and feed)✓ Black soldier fly – BSF (for feed)✓ Grasshoppers (for food)✓ Palm weevil larvae (for food)✓ Silk worm (for fibre and food)	<ul style="list-style-type: none">✓ Bees (for honey and food from bee larvae)✓ Termites✓ Locust✓ Caterpillars✓ Dung beetles