

How insects can help fight hunger in the world

October 16 2018, by Esther Ndumi Ngumbi



Roasted mopane caterpillars are eaten in Livingstone, Zambia. Credit: Rainer Lesniewski/Flickr

Insects could be a game changer in the race to combat food insecurity and achieve zero hunger – the theme of this year's [World Food Day](#).

Eating [insects](#) can help [fight hunger and food insecurity](#). They are a fantastic source of nutrients – like protein – and [food](#) at times when the production of commonly eaten staple African food crops, like maize, fails due to the changing climate, droughts, or insect pest damage.

Eating insects [is an](#) ancient practice which is still prevalent today. About [two billion](#) people, more than a quarter of the world's population, eat insects. Most live in Africa, Asia and Latin America.

Insects should be [tapped](#) into as an excellent tool to fight hunger and malnutrition because they are abundant, healthy, have less of a carbon footprint to produce and can offer a range of business opportunities.

Why eat insects

Abundant: Insects are abundant in Africa. The continent [is home](#) to over 1900 edible insect species – mostly beetles, caterpillars, grasshoppers, wasps and ants.

And insects reproduce quickly and have high growth rates. Insects can attain maturity in less than a month. Most insects take three weeks or less to complete their life cycle. At the same time, farming insects doesn't require much land and water as traditional agriculture does.

Insect farming is already happening in Africa. In Kenya, for example, crickets [are produced](#) in buckets and crates where female adults lay fertilised eggs under a wet cotton wool. After a month, the eggs hatch into nymphs that feed on vegetables, soy flour and water. It takes three months for crickets to mature into adult stage. In Zimbabwe, [Mopane Worm Enterprises](#) grow trees on to which the moth lays its eggs. These then hatch and the larvae feed on the leaves. It's at this stage that the Mopane worm is harvested.

Healthy : Insects can serve as sustainable alternative sources of proteins and other nutrients. Insects [are rich](#) in essential amino acids and protein. They are sometimes [superior](#) per ounce, to traditional protein sources including beef, chicken, goats and sheep. Nutritional benefits [can vary](#) from one insect species to another. For example, the Orthoptera group of insects, that contains grasshoppers, [yields the](#) highest protein content.

Better for environment: Agriculture and livestock, [are major](#) sources of greenhouse gas emissions. Unlike agriculture, insects produce [far fewer](#) greenhouse gases: one-tenth the methane and one-three-hundredth of nitrous oxide.

Money makers: Insects, provide an opportunity for entrepreneurs to think outside the box. Millions of Africans are already eating them and new businesses could be developed. They can be eaten as they are, or processed – for instance into protein powders to serve as supplements. [Several](#) start-up businesses have been launched focusing solely on producing insects for human food and animal feed. These range from countries like [Netherlands](#) to [South Africa](#) and [Kenya](#).

Evidence

Insect eating is widespread in Africa.

In [Cote d'Ivoire](#), a recent survey reported that over 59% of the surveyed respondents were eating insects. Similarly, in [Zimbabwe](#), a recent survey reported most of the people surveyed had eaten insects. Consumption happens mainly in rural areas, rather than in the cities.

In South Africa, insect eating is normal. Topping the list is the Mopane caterpillar – a delicacy that's [eaten](#) in other African countries too, such as Zimbabwe and Namibia.

In Kenya, farmers and entrepreneurs are increasingly [turning to eating insects to fight hunger](#). Termites, for instance, are being eaten by small-holder farming families to supplement meals due to failed harvests. Farmers are also rearing insects to sell in local markets. A [recent survey](#) in Kenya, showed that over [80% of respondents](#) said they ate insects, with [termites, and lake flies topping the list](#). Others eaten include grasshoppers, locusts, ants and crickets.

Rolling it out

Tapping into insects to fight hunger, [food insecurity](#) and malnutrition doesn't come without some challenges.

As an entomologist – that has maintained insect colonies in the laboratory – I know firsthand about what these are. Managing insects needs careful attention and management. This includes regulating temperature, humidity and observing high hygiene standards, since insects are highly susceptible to microbial and bacterial infections. At the moment there aren't any laws governing this. New legislation must also be put in place to ensure that entrepreneurs that decide to venture into insect farming maintain proper food and hygiene standards.

As challenges, like droughts linked to climate challenge, continue to exacerbate food security challenges, [insects](#) provide an opportunity for innovation.

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Provided by The Conversation

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