

# The traditional vegetable and sweet potato research that's revolutionising the way we build food and nutrition security in Africa

Research focusing on traditional crops that are often ignored and known as "orphan crops" shows they contain minerals and vitamins that are essential for the body and are mostly consumed by rural African people. Various agricultural research institutions in Africa are currently carrying out research on these crops mainly to improve yields and controlling and lowering disease tolerance.

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This is because there is need to urgently match Africa's booming population with adequate food systems because if people are well nourished they become healthy and productive which is good for development. As the Food and Agricultural Organisation (FAO) puts it, "good nutrition begins with food and agriculture."

The continent is the second most populous after Asia with about 2.1 billion people. One in three people suffers from some form of malnutrition according to the 2016 Global Nutrition Report. Societal costs of malnutrition have resulted in 11 percent of gross domestic product (GDP) being lost every year in Africa.

Whereas the levels of stunting are generally on a decline over the past decade statistics are still unacceptably high with over 58 million of Africa's children stunted. Beyond the social cost, FAO notes that the cost to the global economy caused by malnutrition, as a result of lost productivity and direct health care costs, could account for as much as 5 percent of GDP, equivalent to \$3.5 trillion per year or \$500 per person.

At the Graça Machel Trust we believe that good nutrition must start at an early stage, for example, the first 1,000 days from conception to birth are very critical. We work with key regional partners to increase capacity and build up the institutional establishment of national civil society nutrition networks. Strengthening these national civil society nutrition networks helps keep nutrition advocacy in Africa on the global agenda.

## Focusing on orphan crops

Now new research is looking at innovative ways to boost agricultural production to feed the continent's booming population focusing on the orphan crops that have been used for many years by Africa's poor to relieve famine.

Agricultural research is mainly concerned at increasing yields, adding of essential nutrients otherwise known as crop

biofortification, and control and lowering of diseases. Research has particularly been targeted at traditional vegetables because there are highly nutritious.

The Water Research Commission has identified three inter-related challenges in sub-Saharan Africa which is water scarce population growth, and food and nutritional insecurity of essential micronutrients - one of it is vitamin A. This also means agricultural production needs to increase against a backdrop of issues such as climate change (extreme weather, flooding and droughts), soil fertility depletion, and land degradation. The majority of Africa's population live in areas with poor soil fertility, and in addition, there are problems of access to capital and agricultural inputs and farming methods used by most Africans, which affects yields.

Traditional vegetables are capable of providing more than 50 percent of the recommended daily requirements of vitamins such as iron, zinc and beta-carotene and they are also drought tolerant. Some of these vegetables are Chinese cabbage, pumpkin and watermelon leaves, cowpea leaves and spider flower, which are widely eaten by mostly rural Africans in combination with thick maize meal porridge. These species often grow in the wild or as weeds and collected for consumption as vegetables by African people. There are equally nutritious with iron, zinc and vitamins A and C and are also drought resistant.



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## Africa must re-adopt its orphan crops in the face of a changing environment

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The Water Research commission says: "The use of wild food forms part of the safety net that rural people use to cope with poverty, disaster and livelihood stress." And for many years researchers and policymakers have ignored these types of vegetables, but during the past two decades, this has changed, particularly in countries like Zambia, Malawi and South Africa. The Agricultural Research Council of South Africa, for example, is making an effort to promote the cultivation and utilisation of these vegetables by farmers, especially women and other vulnerable groups to mitigate malnutrition, effects of climate change and create wealth for all participants along the entire value chain.

### Sweet potato research

Researchers are also focusing on the sweet potato crop because it is the seventh most produced food crop in the world after maize, rice, wheat, potato, cassava and barley. That's according to FAO. And as a tuber crop, it is the third most important after potato and cassava. It is a staple food in Uganda, Rwanda and Burundi. It is also a common crop among poor farmers because it grows in marginal conditions with limited agricultural inputs and low labour requirements. And again, research is underway to improve sweet potato yield and make it more disease tolerant.

Sweet potato roots produce more edible energy per hectare per day than wheat, rice or cassava and contain considerable amounts of carbohydrates, protein, fibre, pro-vitamin A, Vitamin C, riboflavin, thiamine and niacin. It has been proven in many countries that orange-fleshed sweet potato variety, for instance, can be used to combat and alleviate vitamin A deficiency. This explains why crop biofortification of sweet potatoes is in progress in most sub-Saharan Africa including Kenya, Uganda, Tanzania, Rwanda, Ethiopia, Zambia, Mozambique, Ghana, Madagascar and South Africa.

*This article was compiled by Regional Coordinator Women in Media Network Millie Phiri with the assistance of the Gr Machel Trust scholarship PHD student Sonia Naidoo and alumni Nadia Ibraimo.*