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Global Alliance for Improved Nutrition

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OPINION BRIEF

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# HAVE WE ORPHANED THE FOODS THAT ONCE SUSTAINED US?

## KEY MESSAGES

- Orphaned crops refer to a diverse group of foods, including cereals, legumes, vegetables, and fruits, that have been largely overlooked by mainstream agricultural research, breeding programs, and markets.
- Many orphan crops contain higher concentrations of vitamins, minerals, and protein than major cereals. In societies facing a double burden of undernutrition and rising diet-related diseases, orphaned crops provide a crucial bridge. They nourish without harming.
- Nutrition education in schools and public health programs can normalize the consumption of traditional foods, while media and culinary initiatives can make them fashionable. Changing perception is just as critical as changing production.

# What Are Orphaned Crops?

The term refers to grains, roots, legumes, and vegetables that have been neglected by mainstream research and policy despite their cultural, nutritional, and ecological value. They are called “orphans” not because they lack worth, but because they have been abandoned by those setting research priorities and funding systems in favour of a small number of high yielding staples.

Finger millet, teff, bambara groundnut, pigeon pea, amaranth, spider plant, and African nightshade are all examples of orphaned crops; foods that sustained communities long before maize and rice ascended. These crops are typically well adapted to local conditions, requiring fewer inputs, tolerating drought, and thriving in soils where other crops struggle.

They are the quiet backbone of local food systems, sustaining rural communities, preserving cultural heritage and the environment, and offering nutritional diversity where industrial agriculture offers sameness.

# Nutritional Riches Hidden in Plain Sight

Their nutritional richness is really what makes “orphaned crops” remarkable. Many are far superior to major cereals in vitamins, minerals, and protein content. Finger millet is packed with calcium and iron, nutrients essential for bone health and combating anaemia.[1] Amaranth leaves contain more iron and vitamin A than spinach, while bambara groundnut provides a nearly complete plant protein that thrives in dry conditions.[2] Teff, the ancient Ethiopian grain, is rich in iron, fibre, and resistant starch, which supports gut health and helps regulate blood sugar.[3]

These crops are often consumed whole, meaning their nutrients remain intact, unlike refined staples that dominate modern diets. In societies facing a double burden of undernutrition and rising diet-related diseases, orphaned crops provide a crucial bridge. They nourish without harming. By promoting the production and consumption of orphaned crops, countries can reduce micronutrient deficiencies, diversify diets, and build healthier populations. Indeed, these are not just forgotten foods; they are nutritional goldmines.

> *I often think back to my childhood on the gentle slopes of Mt. Kenya, where food was more than nourishment. It was an expression of love and community. In my grandmother’s smoky kitchen, mornings came alive with the earthy scent of roasted yams and red sweet potatoes, the soft crackle of groundnuts in the fire, and a large pot of sour porridge bubbling quietly, usually a blend of millet and sorghum. Steamed amaranth, cassava, and arrowroots graced the breakfast spread, and we gathered around to share laughter, stories, and steaming bowls of porridge. It was, in every sense, heaven’s kitchen, though a bit smoky. Those mornings remain vivid in my memory, a symbol of abundance drawn from our own soil. Yet today, I wonder if such scenes still exist. Fast foods and refined staples now dominate our diets, while yams, sweet potatoes, and millet are dismissed as “village food.” Somewhere along the way, my breakfast became orphaned.* – **Mark Gachagua**

1 Padulosi, S., et al. (2020). Harnessing Neglected and Underutilized Species for Food System Transformation. Global Food Security, 26, 100410.

2 Adegboyega, T. T., et al. (2022). Bambara Groundnut: A Climate-Resilient Crop for Food and Nutrition Security. Frontiers in Plant Science.

3 FAO. (2021). The State of the World’s Biodiversity for Food and Agriculture. https://www.fao.org/3/cb6492en/cb6492en.pdf

# Strengthening Food Systems Through Diversity

Our global food system relies on a dangerously small handful of crops. Just three – h maize, rice, and wheat – supply more than half of the world's calories. Such overdependence invites fragility. Drought, pests, disease outbreaks, or disruptions in trade can send shockwaves through the food system, threatening livelihoods and nutrition alike.

Orphaned crops offer a remedy. They are genetically diverse and adapted to harsh conditions, consequently bringing resilience to farming systems. In Kenya, for instance, the revival of sorghum and millet in arid and semi-arid regions is helping farmers cope with erratic rainfall. Similarly, cowpea and bambara groundnut continue to provide food security in areas where maize frequently fails.

Beyond the farm, orphaned crops can drive economic resilience by creating new value chains, from nutritious flours and porridges to snacks, beverages, and health foods that appeal to urban consumers. Supporting these value chains not only improves farmer incomes but also strengthens local economies and encourages pride in indigenous foods.

# How Can Policy Promote the Uptake of Orphaned Crops

Despite their immense potential, orphaned crops remain on the periphery of agricultural investment. Changing that requires deliberate policy action. Governments need to recognize that food security is not just about producing more of the same, but about producing better and more diverse foods. Five key actions to take include:

1. Orphaned crops should be integrated into national agricultural and nutrition strategies. Ethiopia's inclusion of teff in its national nutrition strategy, for instance, has boosted both local production and export opportunities[4].

2. Policy must support research and development. Decades of neglect have left orphaned crops with low yields and limited agronomic data. Investments in breeding programs, genomic research, and extension services are essential to improve productivity and farmer adoption. The African Orphan Crops Consortium (AOCC) is an excellent model, sequencing the genomes of over 100 traditional African crops to enhance their breeding potential[5].

3. Governments should help build market linkages, incentives and consumer demand. Orphaned crops can be included in school feeding programs, public procurement, and social protection schemes, ensuring steady markets and stable demand. Farmers are more likely to grow what they can sell. Incentives such as tax breaks for processors, support for cooperatives, and public-private partnerships can drive investment in processing and marketing. At the same time, awareness campaigns can reposition orphaned crops as modern, healthy, and desirable, not *"poor man's food."*

4 Berhane, Guush. (2018). Teff and its role in the agricultural and food economy. https://doi.org/10.2499/9780896292833_02

5 AOCC. (2024). African Orphan Crops Consortium Initiative. https://www.plantsciences.ucdavis.edu/news/african-orphan-crops-movement

4. Improve access to finance. Access to finance is required for both seed systems and scaling up production more broadly. Smallholders taking on the risk of diversifying need tailored credit, insurance, and climate-smart financing. Strengthening seed systems by supporting community seed banks, farmer cooperatives, and quality certification, ensures that farmers have access to improved varieties while preserving genetic diversity.

5. Nutrition education in schools and public health programs can encourage and normalize the consumption of orphaned crops, while media and culinary initiatives can make them fashionable. Changing perception is just as critical as changing production.

Reviving orphaned crops will not be without challenges. Many varieties remain low-yielding, processing infrastructure is limited, and consumer tastes have shifted toward refined, imported staples. Policy inertia also persists; agriculture budgets and research institutions remain heavily skewed toward popular staples. However, these are not insurmountable barriers. With the right mix of science, policy reform, and market incentives, orphaned crops can become pillars of food and nutrition security.

## A Call for a More Diverse Food Future

The story of orphaned crops is a reminder that resilience lies in diversity. For too long, the global food system has traded variety for volume, tradition for uniformity. As climate change intensifies and nutritional challenges deepen, the path forward must be broader and more inclusive. Investing in orphaned crops is sound economic and ecological sense. It strengthens food systems, uplifts farmers, enhances nutrition, and preserves culture.



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