

Conserving local biodiversity and improving diets in four mega-diverse countries

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Growing concern over the future of the global food supply bears the question: “How can we grow more food in a sustainable and nature-friendly manner while maintaining nutritional value?”



The focus of agriculture on producing larger quantities of only a few staples has driven many highly nutritious local species into neglect, causing them to disappear from people’s plates.

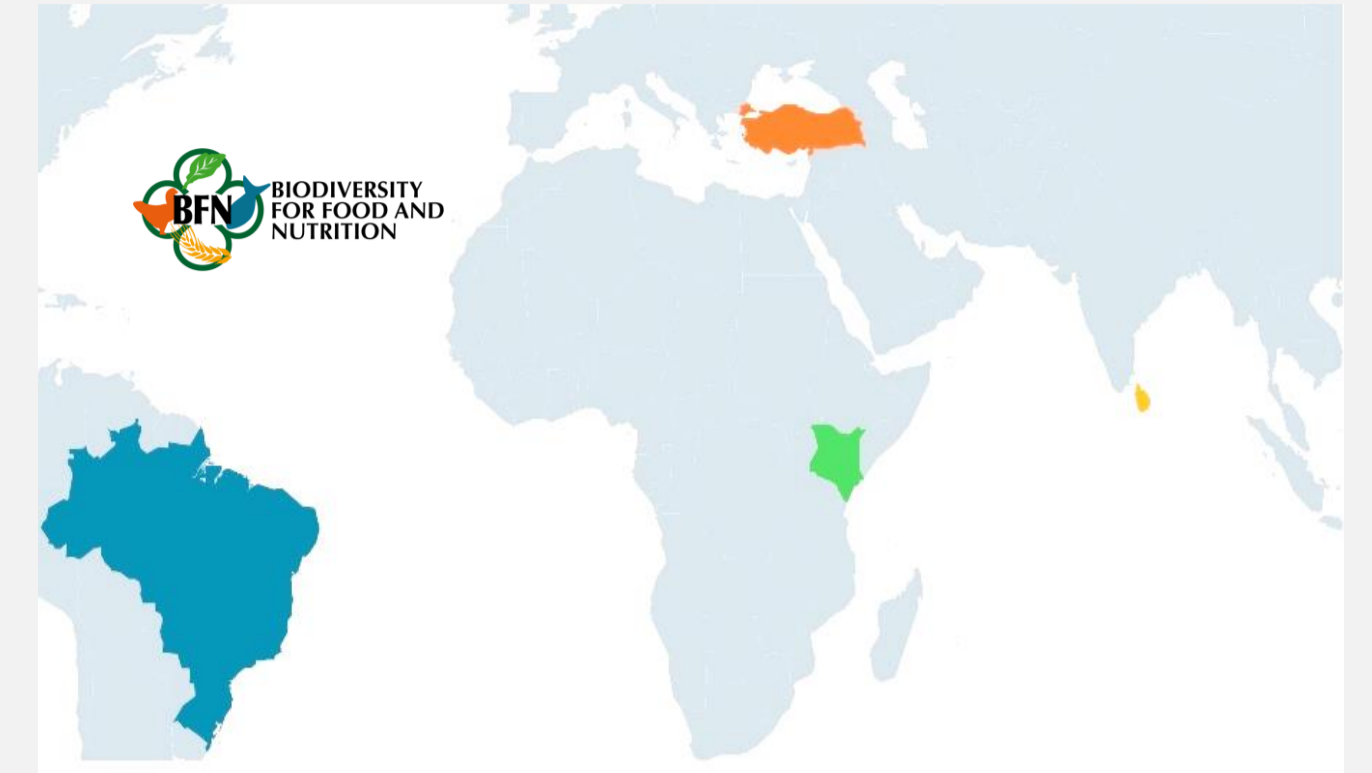


Local crops are resilient, need fewer external inputs to grow, and have the potential to provide ready access to key micronutrients for healthy, balanced diets.



Yet, lack of awareness of the nutritional value of biodiversity and poorly developed markets and value chains are leading to the disappearance of many local nutritionally-relevant species and a shift to unhealthy eating habits.

The *Biodiversity for Food and Nutrition (BFN) Initiative* is working with Brazil, Kenya, Sri Lanka and Turkey –four countries rich in indigenous vegetables and fruits yet burdened with malnutrition– to promote the conservation and sustainable use of local agrobiodiversity for inclusion in diversified diets and improvement of nutrition and health at the local, national and international level. The BFN initiative works along three key themes:



1. Provide Evidence

Samples of traditional, wild and cultivated edible plant species were collected from BFN selected regions in Kenya and Turkey. Three replicate samples of each species were collected and analyzed following AOAC protocols¹ for moisture, fat, fiber and ash content, the Kjeldahl method for total protein, and the NMKL method No. 186² for zinc, iron and calcium content. In Kenya, local landraces of finger millet were found to be higher in calcium and magnesium, and to contain on average 6 times more iron and twice as much fiber than common maize. In Turkey, cracked einkorn wheat (bulgur) from local landraces was found to contain on average 5 times more zinc, 4 times more iron and more calcium than commonly consumed wheat.

[1] Latimer, G.W. (2012) Official Methods of Analysis of AOAC International. AOAC International.
[2] NMKL (2007) Trace Elements-As, Cd, Hg and Pb. Determination by ICP-MS After Pressure Digestion. Nordic Committee on Food Analysis. Protocol No. 186.

Figure 1: Nutrient comparison between local Kenyan landraces of finger millet and common maize varieties for micronutrients (mg/100g) and macronutrients (g/100g)

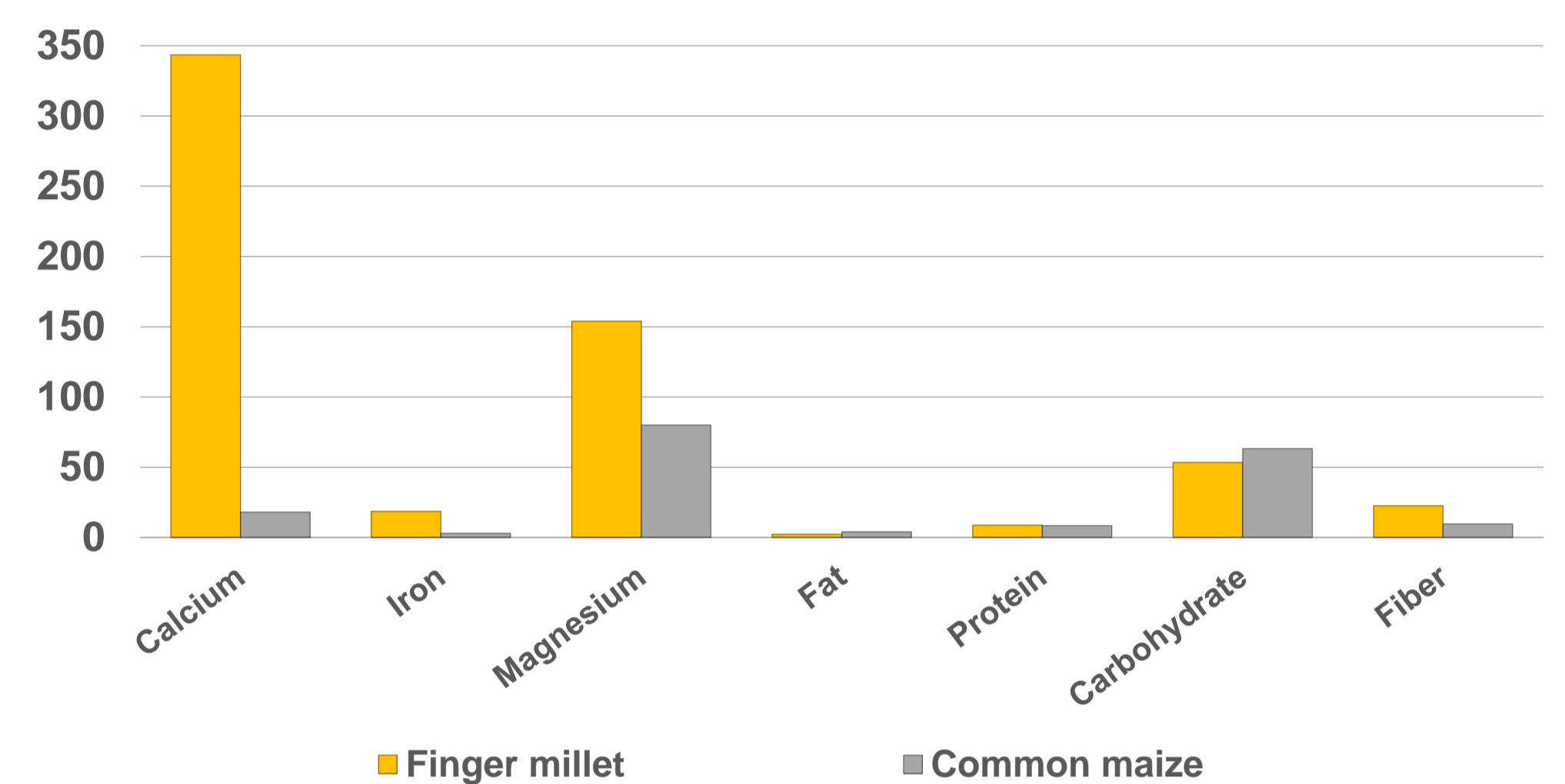
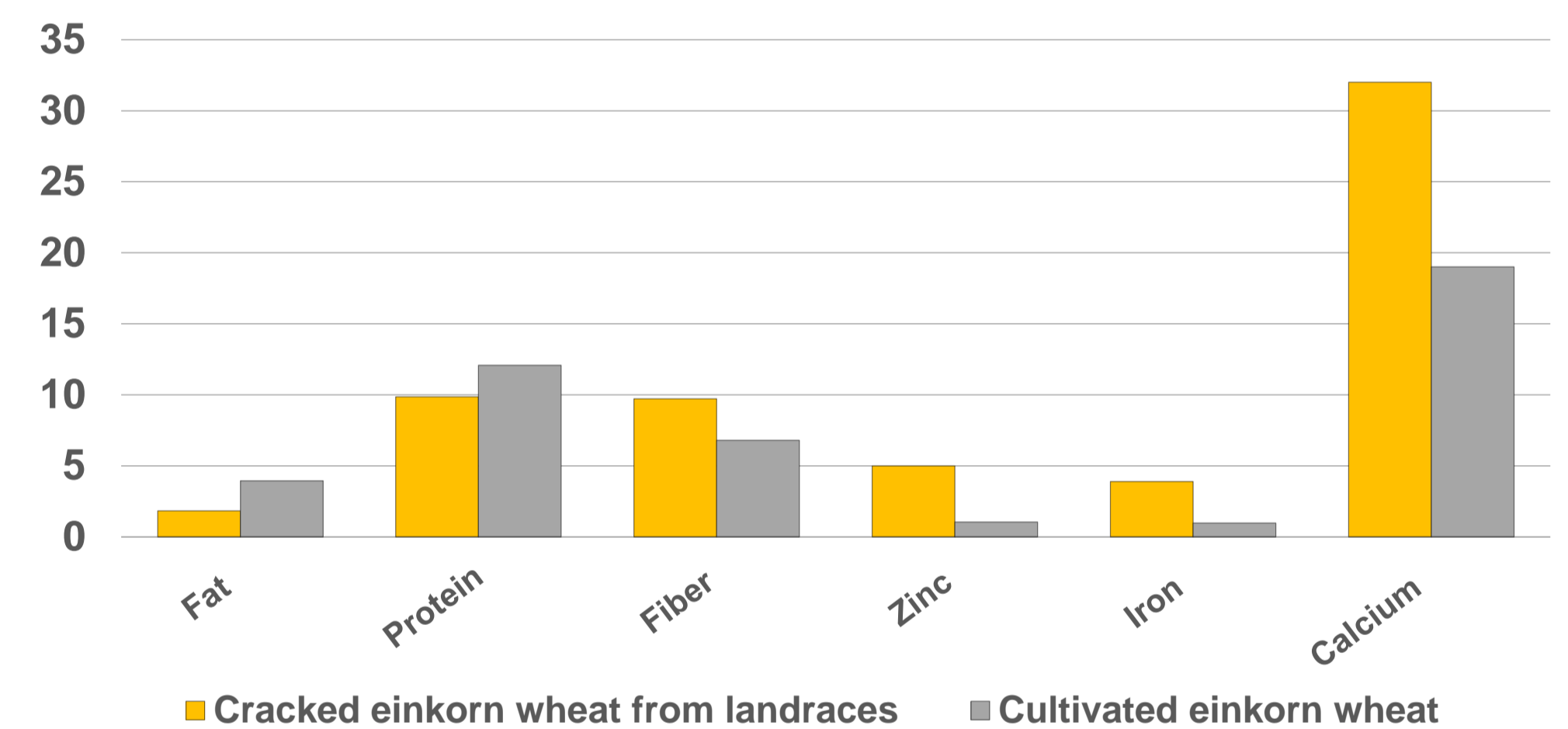


Figure 2: Nutrient comparison between local Turkish landraces and cultivated varieties of einkorn wheat for macronutrients (g/100g) and micronutrients (mg/100g)



2. Influence Policies

In Brazil, BFN helped with the revision of the country’s National Biodiversity Strategy and Action Plan (NBSAP) to comply with the targets of the Convention on Biological Diversity to halt biodiversity loss. ‘Number of species from the Brazilian native biodiversity included in food and nutritional security policies’ was suggested as an indicator for monitoring target implementation.



3. Raise Awareness

BFN Sri Lanka has facilitated the opening of food outlets selling diverse traditional local foods. “True Sri Lankan Taste” market outlets are also being run by women farmers trained in nutrition, healthy recipe production, food safety and business skills by the Women Farmers Extension Program of the Department of Agriculture, a national BFN partner. These outlets play a vital role in successfully marketing diverse local foods, empowering women, and reviving interest in traditional food culture.

