



## Farm to school networks embrace biodiversity for food and nutrition



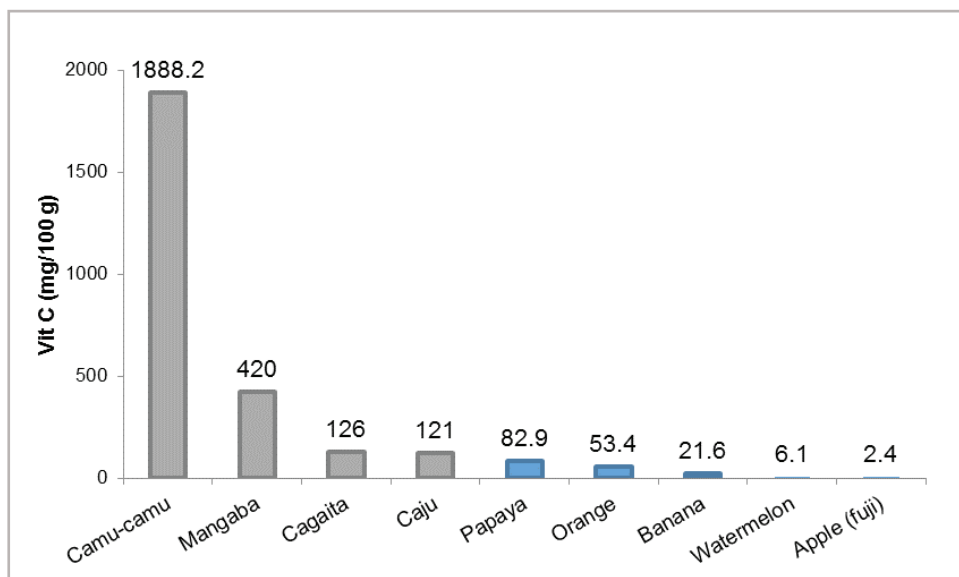
Finding ways to better link school feeding, local farmers and biodiversity for food and nutrition

### The challenge

Successes and evidence from around the world demonstrate the multiple potential benefits of locally-sourced school meals. The purchasing of food for schools from local farmers can support farming households and livelihoods, and promote sustainable local markets for diverse, nutritious foods. In addition, approaches that integrate and promote underutilized, nutrient-dense fruits, vegetables and pulses as well as animal-source products can help to diversify diets, enhance educational outcomes and promote environmental sustainability as well as climate change adaptation and resilience. While initiatives such as home-grown school feeding (HGSF) have been around for some years now and actively link to the local procurement of food, efforts to encourage the integration of underutilized, nutrient-dense food biodiversity have been limited. This is predictable given the many barriers and challenges that need to be tackled to achieve this. These include barriers around farmer organization; capacity to produce; food procurement; transport and storage; processing and distribution to schools; knowledge of food preparation; negative attitudes of youth to underutilized crops. The challenge remains: how can we better link school feeding, local farmers and food biodiversity?

### Our solution

The Biodiversity for Food and Nutrition (BFN) project, coordinated by Bioversity International, illustrates that progress can be made to better include underutilized nutrient-dense food biodiversity into public food procurement and school feeding. In Brazil, interventions targeted existing federal public initiatives such as the National School Feeding Program (PNAE) and Food Procurement Program (PAA), which already include regulations favourable to the promotion of underutilized, nutrient-dense foods. The PNAE includes a law that stresses that 30% of food procured for school feeding must be sourced from local family farmers while the PAA pays a premium of 30% for agroecology and organic products. Strengthening the knowledge base and enabling environment – including demonstrating the nutritional value of these foods, new supportive policies such as an ordinance on ‘sociobiodiversity’, and ongoing advocacy and awareness raising – provided a stronger platform for mainstreaming underutilized nutrient-rich food biodiversity into these policies and programmes. A similar, but more decentralized approach in Kenya has demonstrated that it is possible to diversify school meals and raise demand for local foods by linking entrepreneurial farmers to nearby schools. The majority of countries around the world already provide school meals of one kind or another, feeding an estimated 368



million children daily and representing an annual investment of roughly US\$75 billion.

## Results

Across Brazil and Kenya, food composition data was generated for around 60 locally important, underutilized fruit and vegetables. In Brazil, some native fruits – camu-camu (*Myrciaria dubia*), mangaba (*Hancornia speciosa*), cagaita (*Eugenia dysenterica*) and cashew (*Anacardium occidentale*) – contained higher amounts of dietary fibre, calcium, iron, magnesium, vitamin E and vitamin C than common varieties of papaya, orange, banana, watermelon and apple (Fig. 1).

Similarly, in Kenya African Leafy Vegetables (ALVs) and other indigenous foods can provide ready and affordable access to key macro- and micro-nutrients. For instance, local landraces of finger millet (*Eleusine coracana*) were found to be higher in calcium and magnesium and to contain on average six times more iron and twice as much fibre than maize. These native, nutrient-dense species are now being promoted at the local level in Kenya and at the federal level in Brazil for inclusion in existing and emerging school meal programmes to help meet immediate

food demands, but also provide sustainable, long-term support and empowerment to family farmers who generally collect, manage or grow the species on farm.

## Potential for impact

In Brazil institutional expenditures for local biodiversity are increasing. In PAA, for example, spending for biodiversity products has risen from 5.36% in 2012 to 10.99% in 2015. Although investments for the purchase of native biodiversity remain small compared to overall food purchases, targeted initiatives were able to include native biodiversity in the diets of their beneficiaries, thus becoming strategic tools to promote the conservation and sustainable use of food diversity and offering a glimpse of the market potential for expanding the number and amount of native food species and products in all three policies and in other institutional markets. In Kenya, a workable procurement model was tested and validated where farmer groups were linked to a school for the supply of ALVs at a negotiated price. Early projections for the dry season, when market prices for leafy greens are higher, show that the school can save up to US\$360 per year while the farmer group who supplies

Figure 1 – Vitamin C content (mg/100g of edible portion) in underutilized native fruits (grey) and in the most consumed fruits in Brazil (blue). Source: Mendes, 2015.

91kg of ALVs per week can make up to \$540 a year. By demonstrating durable demand at known and fair prices, ALVs are increasingly appearing in markets and school meals and would likely lead to scaling up in more places over time. The success of this approach is raising the interest of neighbouring schools and administrations proving that healthy and balanced diets need not be expensive and that they can be introduced in school feeding programmes at little or no additional cost.

## References and further reading

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