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“Bridging the gap between increasing knowledge and decreasing resources”

Screening Wild Foods for Reducing the Cost of a Nutritionally Adequate Diet in Kenya

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Abstract

The determinants of poor nutrition are often rooted in poverty and inequity. Meeting nutrient needs of families while keeping costs to a minimum, improving resilience and respecting cultural traditions remains a challenge. For many populations, local and traditional foods, including wild foods can play an important role as safety net during difficult periods or to complement diets with essential nutrients. However, wild foods and their actual and potential contributions to nutrition security have rarely been studied nor considered in nutrition and conservation programmes.

This study innovatively combined ethnobiological methods with Save the Children's Cost of Diet (CoD) linear programming tool to study the role of wild food biodiversity in achieving a cost reduction of a nutritionally adequate diet for women and young children (6–23 months) in eastern Baringo District, Kenya.

Available wild and cultivated food biodiversity was documented through focus group discussions and five wild foods selected for modelling. Market surveys assessed prices of all foods by season. Diets were modeled to minimise cost and maximise nutrient adequacy using the CoD tool. Modelling was done without and with wild foods for the dry and the wet season.

Modeled diets without wild species were deficient in iron for all age groups during the dry season; vitamin B6 and calcium deficient during dry season, iron and zinc deficient during all seasons for infants aged 6–8 months. Adding wild foods, especially Berchemia discolor, in the modeled diets resulted in a lower cost diet, while meeting recommended iron intakes for women and children between 12 and 23 months.

An application of linear programming to screen available wild food biodiversity for meeting recommended nutrient intakes at a minimal cost was illustrated. The analysis should be repeated in different agro-ecological zones to increase our understanding of the multiple links between biodiversity, nutrition and health. Scalable projects that aim to link the identified foods to both consumer and producer decisions to improve production systems with local and nutritious products should be developed and the impact on various livelihood, food security and nutrition outcomes measured.

Keywords: Cost of diet, food biodiversity, linear programming, nutrition security, wild foods