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Screening wild foods for reducing the cost of a nutritionally adequate diet in Kenya

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Determinants of poor nutrition are often rooted in poverty and inequity. Meeting nutrient needs while keeping costs to a minimum, improving resilience and respecting cultural traditions remains challenging. Traditional foods, including wild foods, play an important role as safety nets during difficult periods or complement diets with essential nutrients. However, wild food contributions to nutrition security have rarely been studied nor considered in nutrition or conservation programmes. The objective of this study was to innovatively combine ethnobiological methods with Save the Children’s Cost of Diet (CoD) linear programming tool to study the role of wild foods in achieving a cost reduction of a nutritionally adequate diet for women and young children in eastern Baringo District, Kenya. Available wild and cultivated foods as well as seasonal prices were documented and five wild foods selected for modeling. Using food prices as well as individual nutrient requirements, diets were modeled to minimize cost and maximize nutrient adequacy using the CoD tool. Modeling was carried out both with and without wild foods for the dry and the wet season. Modeled diets without wild species were iron deficient 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 minimal costs 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.

Key words: Cost of Diet, food biodiversity, linear programming, nutrition security, wild foods