



A new initiative for better decision-making in nutrition interventions

Bioversity International, with support from the Japanese Ministry of Agriculture, Forestry and Fisheries, is launching a unique initiative to improve nutrition intervention programmes by providing reliable and quality food consumption data for better-informed decision-making. The initiative also aims to enrich national food composition tables, improve local nutritional guidelines, promote local foods and their conservation, and improve the local foods market.



Overview

The diversity of ecosystems, landscapes and habitats in Kenya has helped to endow the country with rich biodiversity including many cultivated and wild species and varieties with the potential to contribute to improved nutrition through diversified diets. However, despite the richness of biodiversity, Kenya remains a food-insecure country.

While, on average, the prevalence of malnutrition has declined, it remains a serious concern in many parts of Kenya, particularly in the arid and semi-arid regions. In these regions, around 369,000 children less than five years old suffer from acute malnutrition – around a third of children in the most affected areas – and undernutrition is a leading cause of death among children under five. A quarter of Kenyan children are stunted, with one of the highest proportions being in Kitui County (46 percent).

Effective nutrition intervention programmes depend largely on the availability of reliable and quality data on food consumption of the target population. To complicate matters, the country's food systems are diverse and subject to great seasonal variation. Much of the local nutrition and health still requires further exploration, and the nutrient profiles for a large number of local foods are either inadequate or unavailable.

Conventional methodologies used in dietary assessment, such as the 24-hour recall or food frequency questionnaire among others, produce data by way of interviews. The information captured generally includes what was consumed, how much and when it was consumed and how it was prepared. Such tools have allowed researchers to gather good amounts of relevant information and share it among local non-governmental organizations, research groups and ministries.

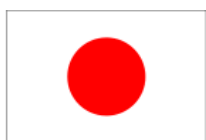
The challenge

The conventional dietary assessment methods are often expensive (due to associated travel), difficult to administer, time-consuming, and the data collected is subject to error, based on people's memory and not always representative of the long-term dietary intake. Some of them involve a high respondent burden and require reliable food composition data, which is often unavailable for African foods.

The overarching challenge, however, is to effectively use the gathered scientific information to benefit the community.

Manually recording information on paper makes integrating, analyzing and reporting a lengthy, unreliable and cumbersome process.

Researchers are thus unable to access the collected data in a timely manner in order to provide feedback promptly to respondents. Understanding people's dietary patterns also requires an understanding of the determinants of consumer food choice, which are often not based on physiological or nutritional needs, such as seasonal availability, and cultural, environmental and socio-economic drivers. Such factors would normally not be considered in current nutrition assessment protocols.



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African Leafy Vegetables can contribute to a diversified diet, and are extremely nutritious containing high levels of folic acid, iron, calcium and magnesium among other nutrients. Credit: Bioversity International/Y.Morimoto

Bioversity International's research approach

Bioversity International is committed to working with communities to address poor nutrition and, with support from the Japanese Ministry of Agriculture, Forestry and Fisheries, has launched a unique initiative that aims to contribute to improved nutrition by facilitating the provision of reliable and quality food consumption data for

better-informed decision-making in nutrition intervention programmes.

A primary goal of this initiative is to contribute to establishing a new tool (Agrobiodiversity and Diet Diagnosis for Interventions Toolkit [ADD-IT]) using information and communications technology for assessing food consumption more accurately and conveniently.

Underpinning this goal is the notion that timely and integrated data – which is not subject to misreporting, is cost effective and practical to gather – is critical to the functioning of nutrition intervention programmes.

The specific objectives are to:

- Analyze the nutritional value of local food resources, enrich the national food composition table and facilitate functional foods research
- Document, preserve and evaluate local foods, food names and food-processing methods
- Develop improved local nutrition guidelines/recommendations that take into account the local food culture
- Promote use of diverse local foods, taking advantage of seasonality and diverse production landscapes/ ecosystems and contribute to sustainable food production and conservation of agricultural biodiversity and landscapes.



A local dish in Kitui County: boiled maize, beans and gourd. Credit: Bioversity International/Y.Morimoto



The new tool will improve data collection, management, and inform and facilitate decision-making. It will also be possible to isolate specific populations based on factors such as rural/ urban location, gender, age group and culture. Credit: Bioversity International/Y.Morimoto

The ADD-IT tool will provide a secure electronic, integrated database that will speed up and improve data collection, processing, use and integration with variables such as photos and consumer choice drivers. The clear, reliable, timely and integrated information will enable researchers, entrepreneurs and development workers to make better decisions in nutrition intervention programmes and policy formulation. Food entrepreneurs will be able to identify niche markets more easily and develop new food products that address specific nutrition gaps, and plant genetic resource conservationists will be able to identify and prioritize underutilized food resources and endangered food varieties.

The tool will also permit researchers to provide on-the-spot feedback to respondents based on their food intake, and allow the respondents to conduct their own dietary assessments.

For this initiative, Bioversity International is partnering with the National Museum of Kenya, Kenya's Ministry of Agriculture, Livestock and Fisheries, the Ministry of Health, the Tokyo University of Agriculture, the Ghent University in Belgium, Japan International Cooperation Agency and the Initiative for Food and Nutrition Security in Africa.

The prototype will rely on data already collected in Kitui and Vihiga communities, but can be adapted to be used anywhere in the world.

This electronic method contributes to a more secure and efficient system that will provide the information and services required for the nutrition intervention programmes to better address malnutrition in communities.

Expected outcomes

- Tool adapted by partners and used in nutrition and health intervention activities and for improvement of local nutrition guidelines
- Increased partnerships between development organizations, public institutions and private companies in nutrition interventions
- Updated national food composition tables thanks to the additional data on local food resources
- More informed decisions in nutrition interventions, policy and food business enterprises
- Strengthened participation of Japanese research institutes towards nutrition improvement in Africa.