# The Agrobiodiversity Diet Diagnosis Interventions Toolkit (ADD-IT)

The Agrobiodiversity Diet Diagnosis Interventions Toolkit will improve nutrition intervention programmes by facilitating reliable data collection, management, and more informed decision-making. The distinct feature of the tool is that it promotes sustainable use of locally available agrobiodiversity to improve nutrition, health and livelihoods.

*Photo: Nutrition data collection using the 24-hour recall method. Credit: Bioversity International/Y. Morimoto*

In February 2018, Bioversity International and partners officially launched the Agrobiodiversity Diet Diagnosis Interventions Toolkit (ADD-IT) during the Initiative for Food and Nutrition Security in Africa Country Strategy for Actions meeting. ADD-IT is a mobile phone application that will speed up and improve collection, processing, use and integration of food consumption data including the lesser known foods. The participants install the ADD-IT application and input all of their food intakes, including fruits and snacks, acquired from both the farm and the wild. The app then sends the data to a database where it is analyzed in relation to the recommended daily nutrient intakes. This analysis will clearly reveal any dietary deficiencies, and subsequently identify the locally available foods that can make up for the deficiencies; thereby offering immediate feedback for action by the user.

Often research activities focus on quality data collection and overlook the important aspect of feedback. Bioversity International and partners are thus not only working to incorporate quality data to the tool and

make it easy to use, but to provide feedback that users can easily interpret and apply to diversify their diets, and improve their nutrition and livelihoods.

The ADD-IT tool includes information on local food systems like market data of available foods, a food calendar indicating foods available in the various seasons and the nutritional value of the different food groups. It shows food options that are wild, cultivated and available in local markets.

## Progress made

Kenta Hara, from the Tokyo University of Agriculture (TUA), is tasked with developing the ADD-IT application. He visited the two sites from where Bioversity International collected the data for the app's database in order to meet the communities and verify what he has learned through data. He observed that the local diets are inadequate and marked by a high consumption of staples. The two sites – Kitui and Vihiga counties – would thus benefit from greater use and diversification of available traditional foods, and from a

Progress report

Photo: Examples of a high staple diet (above) and a diversified diet (below). Credit: Bioversity International/Y. Morimoto

nutrition education on the sustainable and beneficial use of the available agrobiodiversity.

After having met with the community members, the Bioversity International Kenya staff and Professor Carl Lachat of Ghent University, who is working on a similar tool, Hara intends to structure the tool so that the information provided is easily understandable to the Community Health Volunteers (CHVs), who will administer it.

## Determinants of food choices

Numerous factors – such as cultural beliefs and practices, income, agrobiodiversity, accessibility, availability and preference, among many others – can influence dietary patterns. The tool seeks to bring together all these factors by collecting data in four key areas: (1) food consumption data using diet records, and food frequency data to assess feeding habits; (2) socio-demographic data to determine socioeconomic factors that may influence food choices; (3) agrobiodiversity data to determine available flora and fauna, both cultivated and wild; and (4) environmental data to assess its influence on food availability and consumption. These will form the integrated database that will generate feedback to the users.

## Implementation

A prototype will be ready within the first quarter of 2019 and the CHVs will pilot it in both Kitui and Vihiga counties with technical assistance from Japan International Cooperation Agency Volunteers (JICAV).

Data will be collected from the individuals within the communities, who will also be the immediate beneficiaries, while the cumulative feedback will be useful at the community, county and national level for policy and other related development activities.
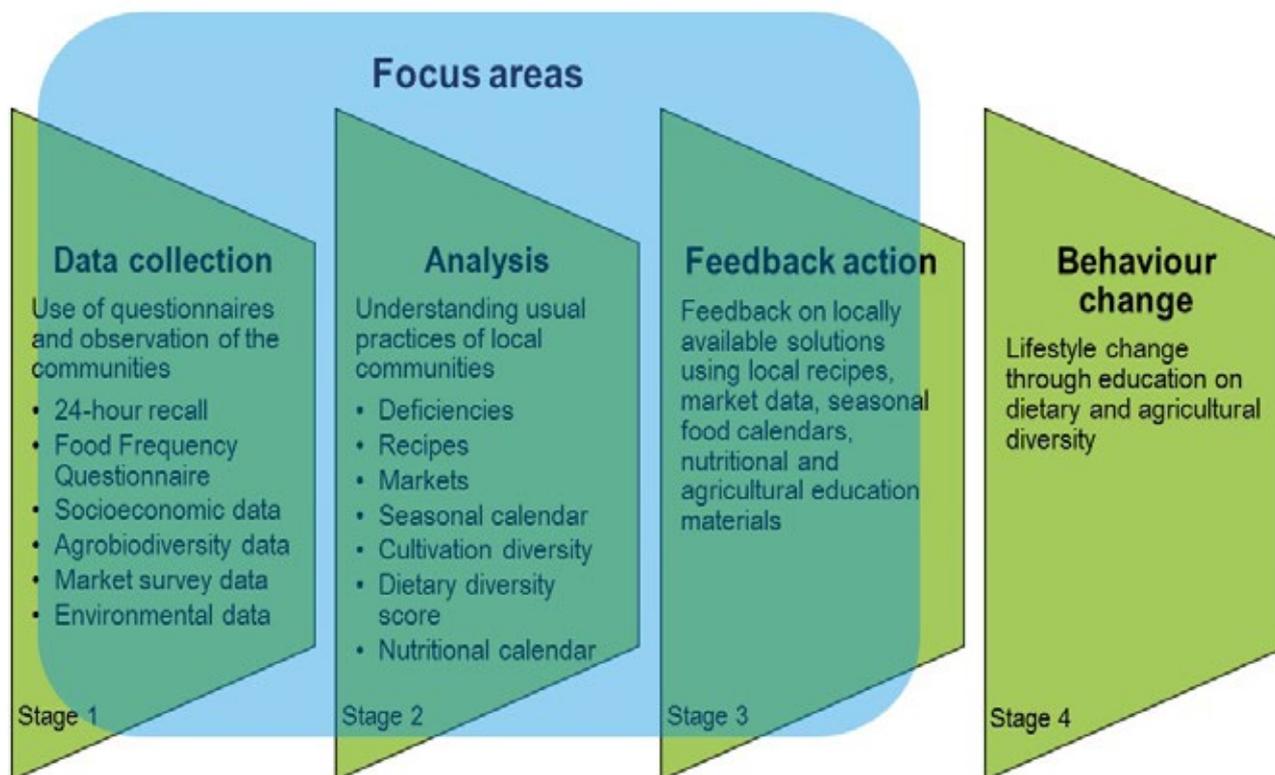
The development of the tool is undergoing a rigorous process made up of four steps to ensure all factors relevant to the beneficiaries are taken into account. The process entails data collection, data analysis, feedback and action plan; all geared towards behaviour change.

## Project steps

As indicated in the following figure, the project consists of four stages: data collection, data analysis, feedback and behaviour change. Bioversity



Photo: Hara exchanging ideas on the tool structure with the Bioversity International Kenyan team. Credit: Bioversity International/H. Kenta

## Focus areas

**Data collection**

Use of questionnaires and observation of the communities

- 24-hour recall
- Food Frequency Questionnaire
- Socioeconomic data
- Agrobiodiversity data
- Market survey data
- Environmental data

Stage 1

**Analysis**

Understanding usual practices of local communities

- Deficiencies
- Recipes
- Markets
- Seasonal calendar
- Cultivation diversity
- Dietary diversity score
- Nutritional calendar

Stage 2

**Feedback action**

Feedback on locally available solutions using local recipes, market data, seasonal food calendars, nutritional and agricultural education materials

Stage 3

**Behaviour change**

Lifestyle change through education on dietary and agricultural diversity

Stage 4

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International's focus is on data collection, data analysis and feedback. The research team is currently cleaning up the data while identifying any gaps that may hinder accuracy. At the analysis stage, the team will come up with indicators that will help provide feedback and promote behaviour change among users. The government and other development agencies will facilitate the process of behaviour change through community sensitization seminars and trainings.

Expected outcomes:

- Improved nutritional status achieved through dietary diversification
- Improved eating habits facilitated by the local recipes

- Nutrition education using locally applicable audio and visual materials
- Knowledge on locally relevant agricultural practices.

In order to be more relevant and applicable, the tool will be region specific. It will also comprise data on food seasonality, market diversity and accessibility, income, and education levels – factors which directly determine food choice and consumption.

## Achievements and foresight

Milestones achieved in the first year of the project include the establishment of key partnerships with the National Museums of Kenya, JICAV and TUA.

The National Museums of Kenya is providing scientific and genetic expert knowledge of plants and animal species, and TUA is providing technical expertise through Hara. A group of consultant experts in data collection and analysis to take care of the database, and a communications officer to share the project's activities and progress, complete the team for this year.

In the second year, the aim is to undertake a nutrition assessment of various foods. The research team will collect food samples that will be distributed to selected labs for assessment of their nutrient content.

In the future, the intent will be to expand the network to other countries in which to test the ADD-IT.

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