

In 2006, the Conference of the Parties to the Convention on Biological Diversity tasked Bioversity and the UN's Food and Agriculture Organization (FAO) with leading a global cross-cutting initiative on biodiversity and nutrition. One year later and much progress has been made.

The missing link: biodiversity and nutrition



Around the world, a trend is emerging that alarms nutritionists, health specialists and agricultural development workers alike. According to the International Journal of Obesity, in countries as diverse as Brazil, China, Indonesia, the USA and Vietnam between 22 and 66% of households are now considered dual burden households—families that include both overweight and underweight people. What is happening at the household level is symptomatic of a much larger, global trend.

At the heart of this trend is a simplification of people's diets. As the West increasingly looks to traditional diets for clues to better nutrition and health, developing countries are abandoning their local foods in favour of processed foods rich in sugar and fats. The consequences of this shift are now being felt in the developing world, with malnutrition and obesity existing side by side and diseases normally associated with the affluent West, such as heart disease, diabetes and cancer, on the rise.

"These problems can be seen in West Africa, where people are gradually abandoning their nutritious traditional foods," said Pablo Eyzaguirre, Senior Scientist and anthropologist at Bioversity International. "This is a problem that concerns the agriculture, health and trade sectors alike and that requires a multi-sectoral approach to solve."

It was to facilitate such a multi-sectoral approach that Bioversity and the West African Health Organization (WAHO)—a specialized agency of the Economic Community of West African States (ECOWAS)—organized a two-day workshop in Burkina Faso.



E. Achigan Dako/Bioversity International

In northern Benin, Solange Avondo serves a plate of Man-unsunu, a local dish made with ackee, a traditional fruit native to West Africa. Ackee is rich in protein, fibre and potassium.

For the first time, the workshop brought together the health and agriculture sectors to discuss issues of mutual concern: nutrition and the gradual abandonment of local traditional foods. The meeting took place in September 2007, with support from the Canadian International Development Agency, the International Development Research Centre, Canada, the Global Facilitation Unit for Underutilized Species, hosted at Bioversity, and the West African Economic and Monetary Union.

More than 40 representatives from national, regional and international institutions participated, including people from farmers' groups and internation-

ally renowned charitable organizations such as Helen Keller International. Participants shared experiences about the growing incidence of diet-related chronic diseases, malnutrition and food insecurity in the region and discussed the role that traditional foods could play in improving nutrition and health.

"Nutrition interventions often focus on supplementation and food fortification," said Francisca Smith, nutritionist and Honorary Research Fellow at Bioversity. Boosting the micronutrient content of staple foods such as rice and bananas is certainly a valid and medically effective approach to malnutrition, but it is expensive and normally a short-term solution to target a specific nutritional deficiency. In poorer rural areas a long-term, more cost-effective approach is needed. "Supplements can help address specific deficiencies in essential nutrients, but a diet that is diverse offers a more holistic approach to nutrition and health," said Smith.

"We don't know the full range of causes for the rise of diet-related diseases in West Africa," Eyzaguirre said. "But we do know that people have gradually moved away from their traditional food systems and that these foods were highly nutritious." A diverse diet based on traditional foods that are rich in micronutrients could offer a solution to malnutrition that is sustainable in the long-term, cost-effective and beneficial to the environment.

Chilli mix for sale at a market stall in Kunming, China. Condiments are an important element of people's diets but they have rarely been studied for their nutritional contribution.



J. Cherfas/Bioversity International

Participants identified several priority issues that need to be addressed jointly by the health and agricultural sectors. Foremost among these is the need to conduct an inventory of all the traditional and indigenous foods available in the region and to map their use. Research can then be carried out to identify how these can best be used to improve nutrition and health.

Participants made a strong plea for funds to carry out further research on the links between traditional foods, nutrition and health. "Collating existing information and evidence of the links between the consumption of traditional foods and better nutrition will help us to identify gaps and priority areas for further study," said Smith. Information about the nutritional benefits of these foods will also provide a powerful tool for raising awareness of and increasing demand for nutritious traditional crops (see *Back by popular demand*, page 10).

The workshop concluded with the adoption of national and regional advocacy action plans. Such was the impact of the meeting that shortly after, Benin convened a national stakeholder meeting involving representatives from agriculture, health and other development sectors with the aim of starting addressing some of the issues raised during the workshop. "Benin has already begun to implement its own national plan to improve the nutrition and health of the country through the use of agricultural biodiversity," said Raymond Vodouhe, regional coordinator of Bioversity's office in Benin, adding that Bioversity stands ready to help.

At the policy level, bringing a multi-sectoral approach to bear on the problem of malnutrition will help boost countries' efforts to use agricultural biodiversity for improving nutrition and health. On a technical level, however, more research is needed to solidify the links between biodiversity, nutrition and health. An important part of this involves broadening the scope of food composition data to include biodiversity. "By developing an indicator that can capture the nutritional differences of a diet rich in diversity, we can begin to assess the true value and contribution of diversity to human nutrition and health," said Eyzaguirre.

To address these and other issues relating to food composition and biodiversity, Bioversity and FAO organized an international food data conference in Brazil in October 2007. Researchers, nutritionists and health professionals gathered from all over the world to develop indicators for biodiversity in the diet and guidelines for activities relating to the study of food composition and biodiversity worldwide.

The indicators that nutritionists and health workers currently use to collect information about what people eat do not allow them to capture the diversity inherent in people's diets. "Ask a person what they eat in a day in the rural Andean region of Peru, for example, and you will most likely find that they consume at least two different varieties of potato in the same day, sometimes in the same meal," said Eyzaguirre. Different varieties may have different nutritional properties and yet, for most of the world's food crops, this kind of information does not exist at the varietal level. Similarly, condiments and spices are key elements of people's diets but the nutritional contributions of these too have only rarely been assessed, despite some evidence of their importance.

"Dietary assessment instruments have been developed to capture the usual or habitual intakes of foods as reported by people," explained Barbara Burlingame, nutritionist at FAO and keynote speaker at the workshop. "Until recently there was little demand to provide compositional data at the species or sub-species level." There was also a widely-held but erroneous belief that people were not able to identify the foods they were eating at the species or sub-species levels.

The new biodiversity indicators now under development as a result of the workshop will provide nutritionists with the tools they need to begin capturing information about diversity. "The workshop was an important first step that will help us gather the initial data we need to assess the contribution of biodiversity to nutrition and health," said Smith.

Further information
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