



Food and Agriculture  
Organization of the  
United Nations

COMMISSION ON  
GENETIC RESOURCES  
FOR FOOD AND  
AGRICULTURE



Voluntary Guidelines for Mainstreaming  
Biodiversity into Policies, Programmes  
and National and Regional Plans of  
Action on **Nutrition**



## Biodiversity and nutrition

Appropriate use of biodiversity for food and agriculture – including the wide range of different varieties, cultivars and breeds of plants and animals, as well as wild, neglected and underutilized species – in nutrition and agriculture programmes is a key means of addressing malnutrition in all its forms.

The Commission on Genetic Resources for Food and Agriculture, at its Fifteenth Regular Session in January 2015, endorsed the Voluntary Guidelines for Mainstreaming Biodiversity into Policies, Programmes and National and Regional Plans of Action on Nutrition with the aim of assisting countries to make the best use of biodiversity for food and agriculture in their nutrition programmes. The guidelines provide examples of how mainstreaming could be implemented, depending on countries' needs and capabilities, as appropriate. The Commission stressed that implementation should be based on scientific evidence and consistent with relevant international obligations. Governments and stakeholders are encouraged, where appropriate, to implement these guidelines.



# Voluntary Guidelines for Mainstreaming Biodiversity into Policies, Programmes and National and Regional Plans of Action on Nutrition

## Objective

The objective of these guidelines is to support countries in the integration of biodiversity into all relevant policies, programmes and national and regional plans of action addressing malnutrition in all its forms, and specifically to promote knowledge, conservation, development and use of varieties, cultivars and breeds of plants and animals used as food, as well as wild, neglected and underutilized species contributing to health and nutrition.

## Principles

The guidelines support the development of nutrition-sensitive agriculture that considers the nutrient composition of biodiversity for food and agriculture (in particular the varieties, cultivars and breeds of plants and animals used as food, as well as wild, neglected and underutilized species) to address malnutrition in all its forms.

The guidelines support the development of multisectoral strategies aimed at improving nutrition and food security through the involvement of actors and stakeholders at all levels, e.g. decision-makers, policy-makers and practitioners. Successful implementation of the guidelines will require the establishment of an appropriate institutional set-up at national level. The main actors should include ministries and institutions dealing with nutrition, health, agriculture (forestry, fisheries, livestock, horticulture and aquaculture), education, environment, trade, planning, poverty reduction, food security, rural development, economy and finance; UN organizations and other relevant international agencies; civil society organizations; and the private sector. Both the genetic resources for food and agriculture and the nutrition communities should be involved in and actively guide the process.

Key to the implementation of these guidelines is the need to work with the various institutions and individuals involved, at different levels, in the planning and implementation of relevant policies and programmes. This effort should involve not just the health sector and nutrition programmes but also the agriculture sector, as well as the environment, food security, education, trade, economy and social protection sectors and their relevant stakeholders. Policies and programmes need to be mutually reinforcing across government sectors and departments, and should take into account the potential contribution of biodiversity for food and agriculture. In order to be effective, strong political will and leadership are key, as are better cooperation between relevant sectors, building capacity and alliances, mobilizing resources, and enhancing motivation and convincing institutions and decision-makers of the crucial



role that biodiversity can play in nutrition outcomes if included in their respective policies and programmes.

The following key principles have been formulated with the aim of promoting the successful implementation of the guidelines, and need to be taken into account during the planning stage:

- Identify all relevant sectors and development goals into which concerns related to biodiversity for nutrition can be mainstreamed, including countries' follow up actions of the Second International Conference on Nutrition (ICN2);
- Establish an effective institutional set-up, along with dialogue and cooperation at all levels, and identify relevant entry points;
- Identify specific malnutrition issues and micronutrient deficiencies to be addressed;
- Develop a national action plan involving all relevant stakeholders and including resource mobilization, and design a monitoring and evaluation system;
- Strengthen the scientific evidence base demonstrating the value of biodiversity to nutrition outcomes and creating awareness of the importance of building more nutrition-sensitive agriculture;
- Raise awareness, at all levels, of the role of varieties, cultivars and breeds of plants and animals, as well as wild, neglected and underutilized species, and their unique nutrient composition, in addressing malnutrition issues;
- Strengthen individual and institutional capacity.

## The guidelines are divided into three main elements:

**A RESEARCH:** aiming to improve knowledge of the benefits of using different varieties, cultivars and breeds of plants and animals, as well as wild, neglected and underutilized species, to address malnutrition; assess opportunities to address specific country nutrition issues through biodiversity for food and agriculture; and fill research gaps in relation to the composition of foods from the different sectors of genetic resources for food and agriculture, including through the meta-analysis of existing data;

**B IMPLEMENTATION:** aiming to put activities into action that integrate biodiversity for food and agriculture into nutritional and nutrition-related policies, programmes and action plans; and

**C AWARENESS:** aiming to increase the awareness of the general public and other stakeholders of the importance of foods from different varieties, cultivars and breeds of plants and animals, as well as wild, neglected and underutilized species, in addressing malnutrition.



The following are examples of how mainstreaming could be implemented, depending on each country's needs and capabilities, as appropriate. It is understood that implementation should be based on scientific evidence and consistent with relevant international obligations.

## ELEMENT

# A

## RESEARCH

- i. Support research on the nutrient contents of foods from different varieties, cultivars and breeds of plants and animals, as well as wild, neglected and underutilized species, including forest-derived foods and aquatic genetic resources.
  - a. This will involve the development of partnerships at national and international levels, the use of existing databases (e.g. FAO/INFOODS) and scientific literature, the generation of new data and their compilation into databases, and analysis of these data to determine the various impacts of biodiversity for food and agriculture on malnutrition prevention and treatment.
  - b. Research should also support the identification of the main malnutrition issues, at local or country level, that could be addressed by biodiversity-relevant nutritional and nutrition-related policies and programmes, as well as the species and/or foods that would most likely be of use in addressing these issues.
- ii. Collaborate with regional and international bodies in the funding and organization of regional courses on the development of food-composition databases on biodiversity that seek information on the influence of production systems, soil, seasons and feed, and integration of foods at levels below species (e.g. varieties, cultivars and breeds). Special emphasis should be given to analysing the vitamin and mineral content of foods, especially in animal products, as these data are still scarce.
- iii. Collaborate with relevant stakeholders to integrate biodiversity into food consumption surveys.
- iv. Support breeding of plant and animal species, based on existing biodiversity, in order to obtain the nutrient profile necessary to address existing malnutrition while maintaining positive agricultural characteristics.
- v. Support research related to nutrition-sensitive production systems on the identification, characterization, conservation, development and use of varieties and breeds, including of crops, livestock, forest-derived foods and aquatic genetic resources, potentially useful in addressing existing malnutrition issues.
- vi. Investigate mechanisms for improving the seed production system of plant varieties with appropriate nutrient profiles for their inclusion in large-scale production.
- vii. Support local research on the development of market systems for food from different



varieties and breeds with appropriate nutrient profiles in order to identify ways of promoting these products to consumers.

- viii. Devise mechanisms and regulations that support the presence of biodiversity even in highly competitive markets.
- ix. Encourage and support investments in research into the nutrition and health attributes of food from different varieties, cultivars and breeds of plants and animals, as well as wild, neglected and underutilized species, including the private sector and food industries, in order to generate data and information. This could also include meta-analysis and consumer research.

## ELEMENT

# B

## IMPLEMENTATION

- i. Support nutrition-sensitive agricultural extension services and agricultural innovation systems to establish genetic resources systems and banks for varieties with potentially useful nutrient profiles, in collaboration with national researchers, farmers and local communities. Provide support to strengthen production capabilities of small-scale producers of local foods with appropriate nutrient profiles through subsidized credits and technical support with production technologies.
- ii. Identify and put in place mechanisms to re-introduce and promote backyard/homestead gardening of local/traditional fruits and vegetables, and where possible, integrated homestead gardening with fish farms and small-animal management. Through agricultural extension services, ensure the availability of seeds/saplings of varieties with high nutritional value.
- iii. Promote and enhance urban agriculture, and the production of local/traditional vegetables in particular, and ensure easy availability of seeds to interested groups and individuals.
- iv. Promote the integration of genetic resources with appropriate nutrient profiles in large-scale agriculture policies and programmes at national and international levels, including the private sector, such as seed producers.
- v. Support and promote initiatives such as school gardens/farms as vehicles for educating young people about the benefit of foods from specific varieties and breeds, including considering their institutionalization, so as to ensure their viability and sustainability.
- vi. Promote the incorporation of foods from specific varieties, cultivars and breeds of plants and animals used as food, as well as wild, neglected and underutilized species, into relevant nutrition activities (e.g. food composition, food-based dietary guidelines, nutrition education, dietary assessment and nutrition policy development) and into relevant agricultural activities (e.g. research, breeding, seed selection and production, large-scale production).



- vii. Promote food-based approaches based on the use of different varieties, cultivars and breeds of plants and animals, as well as wild, neglected and underutilized species, to combat malnutrition.
- viii. Support the establishment of market infrastructure for wild foods or for specific varieties and breeds with appropriate nutrient profiles, in order to enable market access for these foods and thereby engender their easy availability to the population.
- ix. Align mainstreaming initiatives with government priorities, as well as international mainstreaming efforts, e.g. of the Convention on Biological Diversity and other relevant intergovernmental processes.

#### ELEMENT

## C

### AWARENESS

- i. Support the development of national awareness campaigns<sup>1</sup> that include elements such as the establishment of “know your foods” radio talk shows, and television programmes that present the nutrition and health attributes of using foods from different varieties, cultivars and breeds of plants and animals, as well as wild, neglected and underutilized species, and their possible uses in everyday meals.
- ii. Support the organization, at regular intervals, of initiatives such as policy advocacy workshops, round-table discussions and stakeholder meetings to increase the awareness of the public sector and of decision makers of the importance of food from different varieties, cultivars and breeds of plants and animals, as well as wild, neglected and underutilized species, and of its role in ensuring good nutrition and food security. Sectors related to agriculture, health, education, rural development, environment and finance are also important targets for these awareness initiatives.
- iii. In collaboration with partners such as the Food and Agriculture Organization of the United Nations (FAO), universities, research institutes and farmers groups and associations, organize national and regional workshops that target the promotion of biodiversity for food and agriculture.
- iv. Extend the existing FAO curriculum guide for nutrition education in primary schools to include a curriculum for teaching about biodiversity for food and agriculture from local/ traditional food systems, including aquatic and animal food resources, their uses in diets and their nutrition and health protecting and promoting attributes.
- v. As an educational tool for young children and the population at large, promote and encourage the display, on the cover of school textbooks, workbooks and exercise

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<sup>1</sup> FAO. 2011. “Let’s go local” guidelines for promoting Pacific Island food, by L. Englberger. Apia (available at <http://www.fao.org/docrep/015/an763e/an763e00.htm>).



books, of pictures of local plant and animal breeds and varieties, with short and easy to comprehend messages on their nutrition and health attributes, and arrange practical cooking and tasting sessions for children and their parents to promote their integration into food preparation and eating patterns.

- vi. Disseminate research results within the scientific communities of nutrition, agriculture, health and environment through, for example, conferences, web sites, scientific articles and guidance documents.
- vii. Organize special events related to biodiversity for food and agriculture, such as fairs, festivals or a national "Traditional Biodiversity Food Day". Often there are many organizations working on similar activities and initiatives, and synergies can be developed by facilitating collaboration and networking.

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