UNEP

CBD

CONVENTION ON BIOLOGICAL DIVERSITY

Distr.
GENERAL

UNEP/CBD/IBFN-Consultation/2
4 March 2005

ORIGINAL: ENGLISH

CONSULTATION ON THE CROSS-CUTTING INITIATIVE ON BIODIVERSITY FOR FOOD AND NUTRITION
Brasilia, 12-13 March 2005

OPTIONS FOR A CROSS-CUTTING INITIATIVE ON BIODIVERSITY FOR FOOD AND NUTRITION

Draft prepared by the Executive Secretary

EXECUTIVE SUMMARY

In paragraph 7 of its decision VII/32, the Conference of the Parties to the Convention on Biological Diversity requested the Executive Secretary, in collaboration with the Food and Agriculture Organization of the United Nations (FAO) and the International Plant Genetic Resources Institute (IPGRI), and taking into account ongoing work, to undertake the necessary consultations and bring forward options for consideration by the Conference of the Parties at its eighth meeting for a cross-cutting initiative on biodiversity for food and nutrition within the existing programme of work on agricultural biodiversity, and to strengthen existing initiatives on food and nutrition, enhance synergies and fully integrate biodiversity concerns into their work, with a view to the achievement of target 2 of the Millennium Development Goal 1 and other relevant Millennium Development Goals.

At its tenth meeting, held in Bangkok in February 2005, the Convention's Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) requested the Executive Secretary, subject to the availability of the necessary resources, to organize a consultation on the scope of the proposed initiative in conjunction with the thirty-second session of the United Nations Standing Committee on Nutrition, to be held in Brasilia in March 2005. The present document is intended to provide relevant background information for the planned meeting.

There are multiple links between biodiversity, food and nutrition. Biodiversity at the genetic and species levels provides the basic components of nutrition, including energy, protein, fats, minerals and vitamins, as well as bioactive "non-nutrients" (e.g., antioxidant phytochemicals). The diversity of fruits, leafy vegetables and other plants and algae is particularly important in this respect, but fish and other animal products are also important. Cultivated species may be complemented by harvested wild species that can be of particular significance for indigenous communities and for poor and vulnerable communities, especially in times of shortage of the main staples (lean season or crisis situations – whether natural or man-made). Processing and marketing of wild species also contributes to the livelihoods of vulnerable households through income-generation, or easier access to affordable nutrient-rich foods or medicinal plants. In addition to its role in supporting and sustaining food production, biodiversity, by underpinning dietary diversity, has a role to play in addressing both under-nutrition associated with

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poverty, and obesity-related diseases associated with urbanization, in developed and developing countries.

In addition to FAO and IPGRI, partner organizations include the World Health Organization (WHO). Other forums could also have an interest in the initiative, such as the United Nations Standing Committee on Nutrition. Relevant existing international initiatives include, among others: the Global Plan of Action to Achieve the Millennium Development Goals (being prepared through the Secretary-General's Millennium Project) and in particular its action plan on hunger; the FAO World Food Summit Plan of Action; the WHO Global Strategy on Diet, Physical Activity and Health; and the International Assessment of Agricultural Science and Technology for Development.

It is proposed that the objectives of the initiative would be to promote the enhanced use of biodiversity in programmes contributing to food security and improved human nutrition, and, thereby to raise consciousness on the importance of biodiversity and its conservation. It is further proposed that the initiative would focus on a limited number of activities to raise awareness on the role of biodiversity in food and nutrition, and to integrate biodiversity issues in existing initiatives concerned with food, agriculture and nutrition, such as those referred to in the previous paragraph. The initiative would complement existing activities under the programme of work on agricultural biodiversity of the Convention on Biological Diversity, and other related existing initiatives.

I. INTRODUCTION

1. At its seventh meeting the Conference of the Parties examined the relationship between the Convention on Biological Diversity and the Millennium Development Goals and adopted decision VII/32. As part of this decision (paragraph 7), the Conference of the Parties requested the Executive Secretary, in collaboration with the Food and Agriculture Organization of the United Nations (FAO) and the International Plant Genetic Resources Institute (IPGRI), and taking into account ongoing work:

(a) To undertake the necessary consultations and bring forward options for consideration by the Conference of the Parties at its eighth meeting for a cross-cutting initiative on biodiversity for food and nutrition within the existing programme of work on agricultural biodiversity of the Convention on Biological Diversity; and

(b) To work together with relevant organizations, in order to strengthen existing initiatives on food and nutrition, enhance synergies and fully integrate biodiversity concerns into their work;

with a view to the achievement of target 2 of the Millennium Development Goal 1 (To halve by 2015 the proportion of people who suffer from hunger), and other relevant Millennium Development Goals. The initiative may contribute indirectly to the achievement of goals 4 (To reduce child mortality), 5 (To improve maternal health) and 6 (to combat HIV/AIDS, malaria and other diseases).

2. In response to this request, the Executive Secretary has written to FAO, the World Health Organization (WHO), IPGRI and the Chair of the United Nations Standing Committee on Nutrition informing them of the decision, and has held informal discussions with representatives of FAO and IPGRI. The Executive Secretary also participated in the celebration of World Food Day 2004 on the theme of biodiversity for food and agriculture, making a presentation on the role of biodiversity in food, nutrition and health.

3. As a basis for consideration of this matter by SBSTTA, and subsequently for further consultation with relevant organizations, the Executive Secretary prepared a note (UNEP/CBD/SBSTTA/10/13) reviewing the linkages between biodiversity, food, nutrition and health; listing various relevant existing initiatives; and discussing the potential scope of the initiative.

4. At its tenth meeting SBSTTA requested the Executive Secretary to continue to develop this cross-cutting initiative with FAO and IPGRI, and to hold consultations with other organizations, including those involved in relevant existing initiatives. Subject to the availability of resources, SBSTTA further

requested the Executive Secretary to organize a consultation on the scope of the proposed initiative in conjunction with the thirty-second session of the United Nations Standing Committee on Nutrition (SCN), Brasilia (Brazil) in March 2005. The SCN brings together many relevant stakeholders.

5. Other events may also provide opportunities for consultations to develop the initiative. These might include the "International Consultation on the Importance of Biodiversity in Achieving Freedom from Hunger and Poverty", in April 2005, in Chennai (India). The Chennai meeting will serve as an assessment of progress to date towards achieving the MDGs through the use of plant biodiversity, and will suggest actions for the next five years.

6. The proposed initiative offers an opportunity to contribute to the achievement of the MDGs, especially target 2 of goal 1. At the same time, the initiative can serve to promote greater awareness among policy makers and the general public as to the importance of biodiversity in contributing to food security, nutrition and health.

II. THE LINKS BETWEEN BIODIVERSITY, FOOD AND NUTRITION

7. There are multiple links between biodiversity, food and nutrition. All of these also have direct or indirect linkages to human health, for which adequate food and proper nutrition are a basic prerequisite.

8. Biodiversity provides a diverse range of edible plant and animal species that have been and continue to be used as sources of food, including plants (leafy vegetables, fruits, nuts, roots and tubers), algae, fungi, bushmeat, insects and other arthropods, birds and fisheries products (including molluscs, crustaceans and other invertebrates, as well as finfish). About 7,000 species of plants and several thousand species of animals have been used for human food at one time or another. Some indigenous and traditional communities use 200 or more species for food.

9. Cultivated species are often complemented by harvested wild species that can be of particular significance in nutritional terms. Wild sources of food in general remain particularly important for the poor and landless, and are especially important during times of famine and insecurity or conflict where normal food supply mechanisms are disrupted and local or displaced populations have limited access to other forms of food. Even at normal times wild foods are often important in complementing staple foods to provide a balanced diet.

10. Thus, biodiversity at the genetic and species levels including diversity within and among species of plants, fish and other animals, provides the basic components of nutrition, including energy, protein, fats, minerals and vitamins. In addition, many bioactive non-nutrient components of foods have been shown to reduce the risk of chronic disease, and to possess immunomodulatory, anti-inflammatory, antioxidant and other functional properties.

11. A handful of epidemiological studies from the United States of America and Europe, along with a few case-studies from Africa and Asia, uphold the conventional wisdom concerning the benefits of a varied diet, particularly in fruits and vegetables. Nutritional status and child growth improve with consumption of greater food diversity. Considering the difficulty in precisely identifying optimal diets, a diverse and balanced diet, including legumes, fruits, vegetables, and animal-source foods, provides an intrinsic buffer against the uncertainties of dependency on a less varied diet and remains the preferred choice for human health.

12. A global epidemic of obesity and its associated diseases is emerging as increasingly urbanized people adopt diets which are higher in energy, and lower in diversity of fruits and vegetables than those consumed traditionally (i.e., the nutrition transition). Many countries now face the so-called "double burden of malnutrition": the simultaneous challenges of high prevalence of undernourishment and underweight, and the increasing prevalence of overweight/obesity with its accompanying chronic diseases. In both groups, high prevalences of micronutrient deficiencies are found. By underpinning dietary diversity, biodiversity has a role to play in addressing micronutrient deficiencies particularly, and also the poverty- and urbanization-related problems of undernutrition and obesity, in both developed and developing countries.

13. In addition to providing the components of food, biodiversity is important in supporting agricultural production and sustainability. Genetic diversity provides for adaptation to existing varied needs and conditions as well as adaptability to changing needs and conditions. "Associated biodiversity" supports agricultural production through nutrient cycling, pest control, pollination and other symbiotic relationships.

14. Biodiversity is also important to food transformation and processing. For example, a variety of yeasts contribute to the diversity of alcoholic beverages and to the production of breads. Similarly, other fungi and bacteria play an important role in the production, for example, of yoghurts, cheeses and fermented (preserved) foods.

15. Food preferences, besides influencing nutrition and human health, are important drivers of food provision and its implications for biodiversity and ecosystems, through impacts on land, use of nitrogen and other fertilizers, and exploitation of wild stocks. Similarly, cultural preferences and traditions are important to maintaining knowledge of the advantages of varied diets, or individual foods, as well as for how to obtain, prepare and consume them. Therefore, there are significant linkages between food, nutrition and health and Article 8(j) and related provisions of the Convention.

III. RELEVANT EXISTING INTERNATIONAL INITIATIVES, FORUMS, AND POSSIBLE PARTNERS

16. Decision VII/32, paragraph 7, of the Conference of the Parties calls for biodiversity concerns to be fully integrated into existing initiatives on food and nutrition with a view to the achievement of target 2 of the Millennium Development Goal 1 and other relevant Millennium Development Goals. Besides the global efforts to achieve the MDGs, relevant existing initiatives include initiatives in the agricultural and rural development sectors as well as those in the food, nutrition and health sectors.

17. There are a significant number of projects and programmes, at both the international and national levels, that deal directly with the subject matter. These include many implemented by the FAO and the International Fund for Agricultural Development (IFAD). The following are examples of some relevant initiatives to give an indication of the scope of involvement in this field. A more thorough analysis of relevant ongoing initiatives will be undertaken during the further development of the initiative on biodiversity, food and nutrition.

A. Global Plan of Action to Achieve the Millennium Development Goals

18. Goal 1, in particular its target 2, of the Millennium Development Goals reflects the objective of the 1996 World Food Summit Plan of Action (see below). Good nutrition plays an essential role in achieving this goal and target, as well as the aforementioned related MDG goals and their relevant targets. The proposed initiative on food and nutrition therefore has obvious relevance to the MDGs.

19. Indicators for the relevant goals and targets include the prevalence of underweight children, and the proportion of population below minimum level of dietary energy consumption, as well as the incidence of dietary related disease.

20. A Global Plan of Action to Achieve the Millennium Development Goals is being prepared through the Millennium Project, an independent advisory project commissioned by the Secretary-General of the United Nations. The specific task force action on hunger (goal 1, target 2) includes a recommendation to promote local production and consumption of affordable and culturally appropriate micronutrient-rich foods through social marketing campaigns on the importance of nutritional diversity.

B. The World Food Summit Plan of Action and related initiatives

21. The World Food Summit agreed a target to reduce the number of undernourished people to half of the 1996 level no later than 2015 (consistent with MDG1, target 2).

22. The World Food Summit Plan of Action includes commitments for access to a nutritionally adequate diet, and refers specifically both to genetic resources (and the FAO Global Plan of Action, see below), and biodiversity more broadly (including a reference to the Convention on Biological Diversity).

23. FAO has developed an anti-hunger programme and established an International Alliance Against Hunger to spearhead efforts towards the aforementioned 2015 target. Additionally, in cooperation with the United Nations and other agencies, FAO has established a Food Insecurity and Vulnerability Information and Mapping System (FIVIMS).

24. A Special Forum of the FAO Committee on Food Security has been proposed for October 2006 to review progress towards the 2015 target. This could provide an important opportunity to ensure that biodiversity-related issues are fully integrated into efforts to attain the target.

25. A related initiative is the adoption by the FAO Council of voluntary guidelines on the Right to Adequate Food. The guidelines acknowledge the importance of biodiversity and recommend: "if necessary, States should take measures to maintain, adapt or strengthen dietary diversity …".

26. The FAO Global Plan of Action for the Conservation and Sustainable Use of Genetic Resources for Food and Agriculture, adopted at the Leipzig International Technical Conference in 1996 and subsequently endorsed by the FAO Conference and the Conference of the Parties to the Convention on Biological Diversity (decision III/11), contains two activities that are directly relevant to the cross-cutting initiative:

(a) *Activity 12*: promoting development and commercialization of under-utilized crops and species; and

(b) *Activity 14*: developing new markets for local varieties and "diversity-rich" products.

27. The State of the World's Animal Genetic Resources and the second report on the State of the World's Plant Genetic Resources will make a valuable contribution to the initiative.

C. The WHO Global Strategy on Diet, Physical Activity and Health.

28. The WHO Global Strategy on Diet, Physical Activity and Health was adopted at the World Health Assembly on 22 May 2004. While the role of diet in health is one of its two main areas of focus, there are no specific references to dietary diversity as such. The Strategy does however recognize the potential health benefits of traditional dietary practices, including those of indigenous peoples. The Strategy is based on a WHO/FAO report on diet, physical activity and health, issued in 2003.

D. The United Nations Standing Committee on Nutrition

29. The United Nations Standing Committee on Nutrition is an interdisciplinary committee of professionals from relevant United Nations agencies, bilateral agencies and civil society that provides advice and recommendations to the United Nations system and wider development community.

E. The FAO International Rice Commission

30. The FAO International Rice Commission, at its 20th session, provided important directions for food composition data generators and compilers by recommending that: (i) existing biodiversity of rice varieties and their nutritional composition need to be explored before engaging in transgenics; (ii) nutrient content needs to be among the criteria in cultivar promotion; and (iii) cultivar-specific nutrient analysis and data dissemination should be systematically undertaken. This recommendation has been brought to other forums of the FAO.

F. Agricultural research and assessment

31. The Strategy of the International Plant Genetic Resources Institute-"Diversity for Development"- explicitly recognizes the contribution of biodiversity to livelihoods, including through nutrition.

32. The Consultative Group on Agricultural Research has invested in a research programme to breed nutrient dense staple foods following the example of vitamin-A enriched "golden rice" ("biofortification"). There are opportunities to complement this approach with others that make enhanced use of the nutritional attributes of a diversity of plant food sources, in addition to ongoing initiatives by the CGIAR to use biological diversity to enhance food production.

33. The World Bank, in collaboration with UNEP, FAO, WHO and UNESCO, has recently launched an International Assessment of Agricultural Science and Technology for Development. The value of diversity-based approaches to nutrition and health could be evaluated as part of this assessment.

G. Relevant initiatives within the process of the Convention on Biological Diversity

34. The cross-cutting initiative on biodiversity for food and nutrition is intended to be developed within the context of the existing programme of work on agricultural biodiversity of the Convention on Biological Diversity. The programme of work has four elements: (i) assessment; (ii) adaptive management (to identify management practices, technologies and policies that promote the positive and mitigate the negative impacts of agriculture on biodiversity, and enhance productivity and the capacity to sustain livelihoods, by expanding knowledge, understanding and awareness of the multiple goods and services provided by the different levels and functions of agricultural biodiversity); (iii) capacity-building; and (iv) mainstreaming. Within the context of the programme of work on agricultural biodiversity, the initiative does not necessarily need to be linked to all of its elements but it would appear on preliminary assessment to be relevant to most.

35. The initiative would also be relevant to the other programmes of work and cross-cutting themes of the Convention, in particular those on the biological diversity of inland water ecosystems and marine and coastal biodiversity (especially regarding fisheries and aquaculture), and forestry and dry and sub-humid lands (regarding bushmeat and non-timber forest products). Further elaboration of the initiative will consider such linkages in more depth.

36. Other relevant initiatives from the Convention on Biological Diversity include the Global Strategy for Plant Conservation, in particular in the context of the following targets:

(a) *Target 13*: The decline of plant resources, and associated indigenous and local knowledge, innovations and practices that support sustainable livelihoods, local food security and health care, halted; and

(b) *Target 14*: The importance of plant diversity and the need for its conservation incorporated into communication, educational and public-awareness programmes.

37. The mission of the Strategic Plan of the Convention on Biological Diversity -"to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on Earth" -explicitly links biodiversity to poverty alleviation, a link that was reflected also in the Johannesburg Plan of Implementation of the World Summit on Sustainable Development. The framework to assess progress towards the 2010 target includes, as an indicator for development "biodiversity for food and agriculture".

H. FAO/UNU International Network of Food Data Systems (INFOODS)

38. INFOODS, through its network of Regional Data Centres and the Journal of Food Composition and Analysis, promotes the need for identifying and disseminating the cultivar-specific nutrient profiles of food plants and animals. Recent compositional research has provided data to confirm the micronutrient superiority of some lesser known or wild cultivars over some of the more widely utilized cultivars. Absence of compositional data is a technical barrier to trade for many markets. The ability to assess ''substantial equivalence'' in genetically modified organisms (GMOs) also requires compositional data on the existing biodiversity of non-genetically modified food plants and animals. Analyses can serve to identify cultivars with superior nutrient content that are less expensive and less likely to meet with consumer resistance than are genetically modified food products, while also assisting in valuing and preserving biodiversity.

IV. ELEMENTS FOR AN INTERNATIONAL INITIATIVE ON BIODIVERSITY FOR FOOD AND NUTRITION

39. The objective of the initiative should be to promote the enhanced sustainable use of biodiversity in programmes contributing to food security and improved human nutrition, as a contribution to the achievement of Millennium Development Goal 1 (target 2), Goal 7 and related goals and targets, and, thereby, to raise awareness of the importance of biodiversity, its conservation and sustainable use.

40. The initiative would complement existing activities under the programme of work on agricultural biodiversity of the Convention on Biological Diversity (and others where relevant), and other existing initiatives, and focus on a limited number of activities to raise awareness on the role of biodiversity and integrate biodiversity issues into existing initiatives concerned with food, agriculture, nutrition and health. The initiative should take note of existing work addressing biodiversity for food and nutrition and avoid duplication of effort.

41. Hence, within the context of the programme of work on agricultural biodiversity, the following are potential elements of the initiative:

(a) Describe and assess the links between biodiversity, food and nutrition, in particular clarifying the relationship between biodiversity and dietary diversity (and the relevant links between human health and ecosystem health);

(b) Integrate the conservation and sustainable use of biodiversity into nutrition agendas and programmes, and agriculture agendas by promoting awareness of the links between biodiversity, food and nutrition, including by promoting public awareness of the links between biodiversity, food and nutrition (This activity would be linked to target 14 of the Global Strategy for Plant Conservation.);

(c) Develop an indicator or indicators of biodiversity used in food, consistent with decision VII/30;

(d) Within the context of the programme of work on agricultural biodiversity, and taking into account the ecosystem approach, promote activities that contribute to improving food security and human nutrition through enhanced sustainable use of biodiversity including, *inter alia*:

(i) Conservation and sustainable use of crop and livestock genetic diversity, including wild relatives of domesticated animals and plants;

(ii) Conservation and sustainable use of neglected and underutilized species;

(iii) Promotion of genetically diverse home gardens, agro-forests and other production systems that promote the *in situ* conservation of germplasm;

(iv) Conservation and sustainable use of wild resources, including those that support bushmeat and fisheries, including maintaining viable stocks of wild species for sustainable consumption by local and indigenous communities;

(v) Promotion, conservation and sustainable use of important biodiversity associated with agricultural, forestry and aquaculture systems at all levels;

(vi) Poverty alleviation through livelihood diversification, involving the conservation and sustainable use of biodiversity; and

(vii) Species currently underutilized or of potential value to human food and nutrition; and

(e) Integrate food and nutrition issues into the programme of work on Article 8(j) and related provisions of the Convention.
