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SUSTAINABLE USE OF THE COMPONENTS OF BIOLOGICAL DIVERSITY

Note by the Executive Secretary

EXECUTIVE SUMMARY

The present note describes the concept of sustainable use in the context of the objectives, definitions and other provisions of the Convention, and categorizes the various measures for sustainable use under the Convention. It reviews the development of this concept by the Conference of Parties and discusses the question of identifying sectoral biodiversity-friendly practices and technologies.

SUGGESTED RECOMMENDATIONS

The Subsidiary Body on Scientific, Technical and Technological Advice may wish to recommend that the Conference of the Parties:

1. Calls upon Parties to integrate the sustainable-use concept into their national biodiversity strategies and action plans and into ongoing biodiversity programmes, taking into account the guidance provided in the Convention, in particular Article 10, the decisions of the Conference of the Parties and the principles of the ecosystem approach;
2. Requests the Executive Secretary to develop, in collaboration with relevant organizations, practical descriptions of sustainability under each thematic area, with sets of criteria and indicators of sustainable use; and
3. Requests the Executive Secretary to gather and compile case studies on best practices and lessons learned from the use of biological diversity under each of the thematic areas addressed by the Convention, and taking into account lessons from other international and regional agreements, for dissemination through the clearing-house mechanism.

* UNEP/CBD/SBSTTA/5/1.

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I. INTRODUCTION

1. As provided for in its programme of work (decision IV/16, annex II), the Conference of the Parties will consider at its fifth meeting "sustainable use, including tourism" as one of the three themes for in-depth discussion. At its fourth meeting, SBSTTA considered the development of approaches and practices for the sustainable use of biological resources in the context of tourism, and decided that it would consider other aspects of sustainable use at its fifth meeting and identify sectoral activities that could adopt biodiversity-friendly practices and technologies (recommendation IV/7). The present document has been prepared by the Executive Secretary to assist SBSTTA in this task. 1/

2. This document draws upon the report of the Norway/United Nations Conference on the Ecosystem Approach for Sustainable Use of Biological Diversity, 2/ the IUCN Sustainable Use Initiative, 3/ and SBSTTA's assessment of the linkages between tourism and sustainable use of biological diversity (recommendation IV/7, annex).

3. The note describes the concept of sustainable use in the context of the objectives, definitions and other provisions of the Convention (section II), reviews the development of this concept by the Conference of Parties (section III), and discusses the question of identifying sectoral biodiversity-friendly practices and technologies (section IV).

II. THE CONCEPT OF SUSTAINABLE USE IN THE CONVENTION

A. Description of the concept

4. For the purposes of the Convention, "sustainable use means the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations" (Article 2 of the Convention).

5. Sustainable use of the components of biological diversity is one of the three objectives of the Convention. The three objectives are interlinked, mutually reinforcing and, to a large extent, interdependent. Conservation and sustainable use are considered together in many articles of the Convention and the link between the two objectives is explicit in the definition of sustainable use (not only should use not cause loss, but the potential of biological diversity to meet human needs should be maintained). The use of the goods and services that flow from biological diversity provides an incentive for its conservation. Thus, sustainable use can often be the best strategy to promote conservation, provided that there is fair and equitable sharing of benefits resulting from such uses. The definition of sustainable use also implies intergenerational equity. For the flow of benefits to continue, use must be sustainable.

1/ The assistance of the German Agency for Technical Cooperation (GTZ) in the preparation of this paper is gratefully acknowledged.

2/ The third Trondheim Conference, 6-10 September 1999 (see: <http://chm.naturforvaltning.no/Trondheimconf.htm>).

3/ See: <http://www.iucn.org/themes/sui/index.html>.

6. The components of biological diversity (Annex 1 to the Convention the three levels of biological organization: ecosystems and habitats; species and communities; and genes and genomes. As implied in the definition of sustainable use, biological diversity provides many goods and services of environmental, economic and social importance (see table 1 below). In the ecosystem approach, which the Conference of the Parties has adopted as the primary framework for action under the Convention (see paras. 24-25 below and UNEP/CBD/SBSTTA/5/11), particular emphasis is placed on managing the components of biodiversity in such as way as to reduce the risk of compromising key ecosystem functions, and ensuring that use remains within the limits of ecosystem functioning.

Table 1

Provisional classification of goods and services provided by biodiversity

| Goods and services | | Examples | Major challenge for sustainability of use | |
|--------------------|----------|---|---|---|
| 1 | Goods | Products derived directly from biological resources hunted or gathered from natural or semi-natural systems | Most fish, wildlife, gathered wild foods and medicinal plants etc. | To avoid over-exploitation of resources |
| 2 | | Products derived directly from biological resources hunted or gathered from managed systems through agriculture | Crop and livestock production, timber from plantation forestry, and fish from aquaculture | To ensure sustainability of the managed ecosystem itself (see item 4 below); To avoid negative externalities on other ecosystems |
| 3 | | Products derived indirectly (i.e. from the information content) of collected genetic resources | Pharmaceutical derivatives and new plant varieties | To ensure continued provision of genetic resources by incentives and fair and equitable sharing of benefits derived. |
| 4 | Services | Essential processes to ensure continued functioning, resilience and productivity of ecosystems which provide the goods 1, 2 and 3 | Nutrient cycling, pest and disease control, pollination | To maintain ecosystem integrity; to prevent pollution |
| 5 | | Wider ecosystem functions | Watershed protection, carbon sequestration | To maintain ecosystem integrity; to prevent pollution and habitat conversion |
| 6 | | Cultural, aesthetic functions derived from species and landscapes | | To prevent damage from excessive or inappropriate tourism; prevention of habitat conversion |
| 7 | | Insurance against risk and uncertainty | Use of multiple species, breeds and varieties | To maintain incentives for their use |

7. As noted by SBSTTA at its fourth meeting, the Convention definition of sustainable use is consistent with the concept of sustainable development as elaborated in the Rio Declaration on Environment and Development and

Agenda 21. This concept is now widely accepted and guides the work of many organizations of the United Nations, the international agricultural research centres, and other international and non-governmental organizations. The concept is also consistent with the concept of "wise use" in the Convention on Wetlands of International Importance, especially as Waterfowl Habitat, and the "non-detriment requirement" of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (see the annex to the present note).

8. Sustainable use of biological diversity and its components is mentioned in most of the substantive articles of the Convention (Articles 5, 6, 7, 8, 10, 11, 12, 13, 16, 17, 18, 19, 21, 25), as well as annex I and several preambular paragraphs. Together, these provide guidance for implementing the concept. Of particular relevance are Article 10 ("Sustainable use of components of biological diversity"), Article 6 ("General measures for conservation and sustainable use"), Article 7 ("Identification and monitoring"), Article 8 ("In situ conservation") and Article 11 ("Incentive measures"). They are described in the following paragraphs and summarized in table 2 below.

B. Integrating sustainable use of biodiversity into national decision-making

9. Through its different articles, sustainable use is addressed in the Convention in various ways. Article 10(a), requires Parties, as far as possible and as appropriate, to integrate consideration of sustainable use into national decision-making. This is further elaborated in Article 6, which calls for the development of national strategies, plans or programmes for the conservation and sustainable use of biological diversity (Article 6(a)), and the integration of conservation and sustainable use into relevant sectoral or cross-sectoral plans, programmes and policies (Article 6(b)). This "mainstreaming" of biodiversity concerns has been a major focus of the Convention. It is reflected in the various thematic work programmes of the Convention and was the focus of the first reports from parties on the implementation of the Convention. It is also highlighted within the ecosystem approach, which requires inter-sectoral cooperation. This holistic approach of the Convention distinguishes it from the other biodiversity-related conventions, which may promote more specific measures but have more limited scope.

10. As provided for in Article 8(i), Parties shall endeavour to provide the conditions necessary to reconcile present uses with the conservation and sustainable use of biodiversity. This echoes a number of points in the preambular paragraph, where, on the one hand, Parties note the need to anticipate, prevent and attack the causes of biodiversity loss at source, and, on the other hand, they recognize the overriding priorities of developing countries as being of socio-economic development and poverty eradication. In noting that conservation and sustainable use of biological diversity is of critical importance for meeting the food, health, and other needs of the growing world population, Parties implicitly recognize that the objective of protecting biodiversity must be carried out in the context of wider societal choices. This idea has been developed further in the context of the ecosystem approach (see UNEP/CBD/SBSTTA/5/11), which is anticipated in Article 8(d) of the Convention.

11. Sustainable use should be compatible with sustaining the livelihoods of local communities, the farmers, fishers, livestock rearers, foresters, and

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others who rely on the natural resources and who have nurtured and developed the world's biological resources. This is recognized in Article 10(c) which calls upon Parties to "protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements". It is further developed in Article 8(j) which, subject to national legislation, calls for the protection, respect and maintenance of the knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles, the promotion of their wider application and the equitable sharing of benefits arising from their use.

12. The focus on the primary resource-user should be complemented by a parallel effort to promote sustainable use by other stakeholders, including the private sector, in particular the agricultural, fisheries and forestry industries. This need is recognized in Article 10(e), under which Parties are to encourage cooperation between their governmental authorities and their private sector in developing methods for sustainable use of biological resources. This sets the stage for partnerships and cooperation as elaborated in Articles 11 and 14-19 regarding: incentive measures; research and training; impact assessment and minimizing adverse effects; access to genetic resources; access to and transfer of technology; exchange of information; technical and scientific cooperation as well as handling of biotechnology and distribution of its benefits. In addition, Article 13 aims at the promotion of education and public awareness with respect to the conservation and sustainable use of biological diversity. Education and public awareness can be important in sustaining political support for the necessary measures and in stimulating consumption patterns in favour of biodiversity-friendly products and services.

13. Sustainable use can be promoted by economically and socially sound incentive measures, as provided for in Article 11 of the Convention. ^{4/} These might include:

(a) Benefit-sharing arrangements, including, but not limited to, those developed under Article 15 on access to genetic resources, and under Article 16 on access to and transfer of biodiversity-friendly technologies;

(b) Tenurial rights, and other access and use rights, including those of traditional property rights regimes, which provide incentives for sustainable use by providing the right-holder with a long term interest;

(c) User fees, and charges related to damage to biodiversity such as that caused by pollution;

(d) Incorporation of the values of biological diversity into national accounting systems and investment strategies;

(e) Marketing and labelling schemes that promote products produced using biodiversity-friendly practices;

(f) The removal of perverse incentives (such as those that subsidize the over-harvesting of resources or the over-use of external inputs, such as pesticides, which may damage biodiversity); and

^{4/} In decision III/18, The Conference of the Parties affirmed the central importance of incentive measures in the realization of the three objectives of the Convention, and resolved that they be integrated into the sectoral and thematic items.

(g) Other measures to counterbalance unfavourable economic and other forces.

C. Measures to avoid or minimize adverse impacts on biological diversity

14. Complementary to the "mainstreaming" of the sustainable use of biodiversity, the Convention, in Article 10(b), calls on Parties to "adopt measures relating to the use of biological resources to avoid or minimize adverse impacts on biological diversity". This includes regulation or management of biological resources themselves, as provided for in Article 8(c), and, through Article 8(l), and its reference to Article 7, it is extended to all processes and activities which have or are likely to have significant adverse impacts on the conservation and sustainable use of biological diversity. SBSTTA adopted this wider approach at its fourth meeting, in its treatment of tourism, and in its decision to identify sectoral activities that could adopt biodiversity-friendly practices and technologies.

15. Specific measures for regulating or managing biological resources can include, for example, the setting of limits on the exploitation of biological resources through hunting and gathering, including limits on the quantity of the biological resources for which harvest is permitted (quotas), limits of the areas from which harvesting is permitted (reserves, protected areas), limits of the seasons in which harvesting is permitted, (close seasons), and/or controls on who is allowed to harvest such materials (though permits and other access controls). These types of measures are often used in controlling the exploitation of wildlife and fishery resources, for example. Such controls may be underwritten through legislation as is provided for in Article 8(k), and/or by controls on import and export of goods derived from biological resources, as in the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (see the annex to the present note).

16. The Convention on Biological Diversity provides for the establishment and management of protected areas (Article 8(a) and (b)). Increasingly, protected area management integrates sustainable use objectives, in addition to more traditional conservation goals. This is especially so for certain categories of protected areas. ^{5/} The UNESCO Man and the Biosphere programme has pioneered the integration of sustainable use in protected areas.

17. The Convention also provides for measures to prevent the introduction of, control or eradicate invasive alien species (Article 8(h)), and to regulate, manage or control the risks associated with living modified organisms resulting from biotechnology that are likely to have adverse environmental impacts that could affect the conservation and sustainable use of biological diversity (Article 8(g) and Article 19, paragraph 3).

18. The Convention obliges Parties, as far as possible and as appropriate, to identify processes and categories of activities that have or are likely to

^{5/} Especially IUCN categories IV -habitat/species management areas (where controlled harvesting may be permitted), V - protected landscapes and seascapes (which often provide opportunities for sustainable tourism), and VI - managed resource areas (which are designed to provide a sustainable flow of natural products and services to meet community needs).

have significant adverse impacts on the conservation and sustainable use of biological diversity (Article 7(c)) and to regulate or manage such processes and categories of activities (Article 8(1)). Measures taken under such provisions could include limits or bans on the use of certain materials, such as certain pesticides. It could also include subjecting certain categories of activities to environment impact assessments (Article 14).

19. These provisions of the Convention reflect the precautionary approach to management (ninth preambular paragraph) with a view to avoiding long-term decline of biological diversity.

20. The Convention also provides for corrective or remedial action, in Articles 10(d) and 8(f), including measures for rehabilitation and restoration of degraded ecosystems and to promote recovery of threatened species.

21. Several articles of the Convention provide for supporting measures in respect of sustainable use. These include identification and monitoring components of biodiversity under threat or of greatest potential for sustainable use (Articles 7 (a and b)), research and training (Article 12), public awareness and education (Article 13), exchange of information (Article 17), technical and scientific cooperation (Article 18), international cooperation (Article 5), and the financial mechanism (Article 21).

Table 2

Indicative classification of measures in the Convention relating to sustainable use

| | Measures | | Articles |
|--|-----------------|---|---------------------------|
| Integration in national decision-making | 1 | Development of national strategies, plans and programmes | 10 (a); 6 (a) |
| | 2 | Integration in sectoral and cross-sectoral plans and policies | 10 (a); 6 (b) |
| | 3 | Integration of conservation and sustainable use | 8 (i) |
| | 4 | Protection & promotion of customary use and indigenous knowledge | 10 (c); 8 (j) |
| | 5 | Cooperation between government and private sector | 10 (e) |
| | 6 | Incentive measures | 11 |
| Measures to avoid or minimize adverse impacts | 7 | Regulation or management of biological resources (quotas etc.) | 10 (b); 8 (c) |
| | 8 | Control of invasive alien species | 8 (h) |
| | 9 | Regulation of living modified organisms | 8 (g); 19.3 |
| | 10 | Measures to avoid or minimize adverse impacts on biodiversity, from all processes and activities | 10 (b); 7 (c) & 8 (l); 14 |
| | 11 | Remedial action | 10 (d); 8 (f) |
| Supporting measures | 12 | Identification and monitoring, research and training, public education, exchange of information, cooperation etc. | 7, 12, 13, 17, 18 |

III. DEVELOPMENT OF THE CONCEPT OF SUSTAINABLE USE IN THE DECISIONS OF THE CONFERENCE OF THE PARTIES

22. To date, the Conference of Parties has not examined in detail Article 10 of the Convention ("Sustainable use of components of biological diversity"), but other relevant provisions, including Articles 6 and 8 (decisions II/7 and III/9, Article 7 (decisions II/8 and III/10), and Article 11 (decision III/18 and IV/10 A) have been addressed. Article 8(j) has been further examined in decisions III/14 and IV/9, and will be the subject of an inter-sessional working group in preparation for the fifth meeting of the Conference of the Parties. Similarly, access to genetic resources was addressed recently by the Panel of Experts on Access and Benefit-sharing, which met in Costa Rica in October 1999 (see UNEP/CBD/COP/5/8).

23. Further, Article 6 has been the focus of the first reports by Parties on measures taken to implement the Convention. Most Parties have developed national biodiversity strategies or action plans or are in the process of doing so. Additionally, sustainable use is closely related to many of the cross-cutting issues, notably the ecosystem approach and indicators, and has been fully integrated into the various thematic work programmes under the Convention as noted in the following sections.

A. Cross-cutting issues

24. The Conference of the Parties has adopted the ecosystem approach as the primary framework of action under the Convention, and, at its fifth meeting, will consider principles and other guidance on the ecosystem approach. As described in the note by the Executive Secretary on the subject (UNEP/CBD/SBSTTA/5/11), the ecosystem approach is "a strategy for integrated management of land, water and living resources that promotes conservation and sustainable use of biodiversity in an equitable way". That document proposes twelve principles of the ecosystem approach and five points of operational guidance for their application, namely:

- (a) Focus on the functions of biodiversity in ecosystems;
- (b) Promote the fair and equitable sharing of the benefits derived from the functions of biological diversity in ecosystems;
- (c) Use adaptive management practices;
- (d) Carry out management actions at the scale appropriate for the issue being addressed, with decentralization to lowest level, as appropriate; and
- (e) Ensure inter-sectoral cooperation.

25. These points are also relevant to the development and application of the concept of sustainable use under the Convention for a number of reasons:

(a) As outlined above, functional biodiversity in ecosystems provides many goods and services of economic and social importance (table 1 above). Thus, sustainable use implies management of components of biodiversity to reduce the risk of compromising key functions, i.e., use must remain within the limits of ecosystem functioning;

(b) As already noted above the fair and equitable sharing of the benefits derived from biological diversity is closely linked to sustainable use. The ecosystem approach seeks to ensure that the benefits of the goods

and services flowing from biodiversity are distributed equitably to people at local, national, regional, and global scales. This will require, inter alia: capacity building, especially at the level of local communities that manage biological diversity in ecosystems; the removal of perverse incentives that devalue ecosystem goods and services, and the use of a participatory management approaches. The benefits accrued from the use of biodiversity and shared equitably will, in turn, serve as incentives for sustainable use;

(c) Since ecosystem processes and functions are complex, variable and, often not predictable, ecosystem management must be adaptive and involve learning from experience. Management for sustainable use must be designed to adjust to the unexpected, rather than act on the basis of a belief in certainties. This learning-by-doing will also provide important information for monitoring and evaluating the effectiveness of management approaches;

(d) An ecosystem is a functioning unit, which can operate at any scale, depending upon the problem, or issue, being addressed. Thus, sustainable use requires management actions at the scale appropriate for the issue being addressed. Often this approach will imply decentralization to the level of local communities. Where common property resources are involved, the most appropriate scale would necessarily be large enough to encompass the effects of practices by all the relevant stakeholders;

(e) Sustainable use requires increased inter-sectoral communication and cooperation at various levels of the society (government ministries, management agencies, etc.), as implied in Article 6(b) of the Convention.

26. There are few approaches for the measurement of sustainability due to lack of widely accepted indicators. Gathering information on all species and/or all components of the ecosystem that determine its functions is a daunting process. Concentrating on key species and functions, which characterize ecosystems for given management goals, may reduce the problem. This is the basis for using indicators. The core set of indicators proposed in the note by the Executive Secretary on the subject (UNEP/CBD/SBSTTA/5/12) could be considered as a first approach, to be progressively elaborated and complemented with additional indicators that take into account the long-term and intergenerational aspects of sustainability, encompass its various socio-economic and institutional dimensions.

27. Other relevant cross-cutting issues include the control of alien invasive species. Guiding principles for the prevention, introduction and mitigation of impacts of alien species are being developed (see UNEP/CBD/SBSTTA/5/5).

B. Thematic areas

28. In most decisions by the Conference of the Parties on thematic issues, a focus is placed on sustainable use and management of biodiversity, for example:

(a) In regard to forest biodiversity the Conference of the Parties recognized, inter alia, the need to develop and implement methods for sustainable forest management which combines production goals, socio-economic goals of forest-dependent local communities and environmental goals (decisions II/9, III/12 and IV/7) (see also UNEP/CBD/SBSTTA/5/8);

(b) The programme of work on marine and coastal biological diversity includes the following elements: work on integrated marine and coastal area management at regional and national levels, including the development of

indicators; promotion of ecosystem approaches to the sustainable use of living resources; to examine the effects of protected areas on sustainable use; to assess the consequences of mariculture for biodiversity; and to examine the impacts of alien species (decision II/10 and IV/5) (see also UNEP/CBD/SBSTTA/5/7);

(c) The programme of work on inland waters includes the identification of options for sustainable use (decision IV/4) (see also UNEP/CBD/SBSTTA/5/6).

(d) In its decision III/11, the Conference of Parties provided guidance on the sustainable use of agricultural biological diversity, and, in decision IV/16, it recalled the precautionary approach when calling for an assessment of the potential impacts of genetic use restriction technologies on the sustainable use of biological diversity. The proposals for the further elaboration of the programme of work (UNEP/CBD/SBSTTA/5/10) include work to expand knowledge on the multiple goods and services provided by agricultural biological diversity and to identify best practices which promote the positive and mitigate the negative impacts of agriculture on biodiversity;

(e) The proposed programme of work for dryland biodiversity places high emphasis on sustainable use, incorporating the ecosystem approach. It includes specific measures to support sustainable livelihoods, through, for example, developing incentives for the sustainable management of biological diversity and developing alternatives to reduce the pressures on biological resources (UNEP/CBD/SBSTTA/5/9).

29. Further details are found in the decisions of the Conference of the Parties and notes by the Secretariat referred to above.

IV. SECTORS AND SECTORAL ACTIVITIES THAT COULD ADOPT BIODIVERSITY-FRIENDLY PRACTICES AND TECHNOLOGIES

30. Biodiversity-friendly practices and technologies comprise all practices and technologies that avoid deterioration or loss of biodiversity and its components. All human activities have an influence or impact on biodiversity, and rely on ecosystems and the services and goods that it provides. Consequently, all human activities could be screened to find ways and means to make them more biodiversity-friendly.

31. For example, agriculture (including livestock production, aquaculture and plantation forestry) by its very nature impacts greatly on the biological resources of the land and water areas it occupies (see also decision III/11, annex I). "Biodiversity-friendly" activities in this sector may be categorized as follows:

- (a) Optimizing the use of diversity within agro-ecosystems, including:
 - (i) Increasing the diversity of crops, livestock and farmed fish used (including use of landraces, agroforestry, alley cropping, inter-cropping, and crop rotation);
 - (ii) Increasing the diversity of "associated biodiversity" which provides service to agriculture, such as soil micro- and macro-fauna responsible for nutrient cycling (for example, through minimum tillage) and the insects and other natural enemies of plant pests which attenuate pests and diseases (for example,

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through integrated pest management). Such practices also reduce the use of external inputs and thereby can also be considered in the category (b) below;

(b) Reducing the negative impacts of agriculture on the biodiversity of neighbouring areas by erosion control, low use of pesticides, and low or well-managed use of other external inputs such as artificial fertilizers, as in organic agriculture;

(c) Sustainable intensification of agriculture to increase production and thereby reduce pressures on other lands or on wild resources. For intensification to be sustainable it is likely to draw upon elements of the subparagraphs (a) and (b) above;

(d) Integrated area management, such as integrated watershed management, which facilitates participation of, and conflict-resolution amongst, all stakeholders.

32. Under the Convention, biodiversity-friendly practices and technologies are being promoted through the various thematic programmes, as outlined in the previous section. Additionally, the sustainable use of biological diversity in respect of tourism is being pursued in cooperation with the Commission for Sustainable Development on the basis of SBSTTA recommendation IV/7. Other areas where sustainable use might be pursued under the Convention include wildlife management, and bio-prospecting.

33. The sustainable use of wildlife has been pioneered through initiatives such as the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) in Zimbabwe and various other programmes to promote community management of wildlife resources. Such programmes have demonstrated that the incentives provided through sustainable use can, under certain conditions, ensure conservation of biodiversity more effectively than simple bans on exploitation, and also contribute to socio-economic development and poverty alleviation.

34. Measures governing access to genetic resources should be designed with all three objectives of the Convention in mind, as was underlined by the recent meeting of the Panel of Experts on Access and Benefit-sharing (see para. 22 above). Thus, any guidelines on access and benefit-sharing, in addition to provisions to promote benefit sharing might include provisions to ensure sustainability of use. These might include, for example, requirements that: bioprospecting expeditions be planned to avoid an uncoordinated, random collecting; the collection of materials be carried out by trained individuals; advice on the maximal amounts of material that can be collected without damaging biodiversity should be provided by national institutions, such as botanical gardens. The International Code of Conduct for Germplasm Collection and Transfer, for example, includes similar provisions.

Annex

APPROACHES TO SUSTAINABLE USE UNDER OTHER MAJOR CONVENTIONS

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

The aim of CITES is to ensure that international trade in wild animals and plants does not threaten the survival of species. The basic tools to implement and enforce CITES's trade conditions and criteria are import, export, and re-export documents (permits and certificates) which are issued under strict scientific conditions. In addition, "trade facilitating measures" provide direct economic incentives to the Parties to support the sustainable use of their wildlife resources. "Specific trade measures" are imposed by the Conference of the Parties of CITES or by its Standing Committee and designed to restrict trade in listed species to and from States that have been unwilling to implement the provisions of the Convention.

The Convention on the Conservation of Migratory Species of Wild Animals (CMS)

CMS aims at the transboundary conservation and management of migratory species and their habitats, and undertakes to coordinate those States that are common owners of the respective migratory species (i.e. range states). Populations that are endangered or in an unfavourable conservation status are re-established.

The Ramsar Convention for the Protection of Wetlands of International Importance especially as Waterfowl Habitat

Under Article 3.1 of the Ramsar Convention, Parties agree to "formulate and implement their planning so as to promote ... as far as possible the wise use of wetlands in their territory". Wise use of wetlands was further specified by the Conference of the Parties to the Convention as the sustainable utilization for the benefit of mankind in a way compatible with the maintenance of the natural properties of the ecosystem. "Sustainable utilization" of a wetland was defined as: "Human use of a wetland so that it may yield the greatest continuous benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations". To assist the Parties in implementing the wise use concept, the Wise Use Working Group and the Wise Use Project developed guidelines for the implementation of the wise use concept. At its seventh meeting, the Conference of the Parties to the Convention, in 1999, Ramsar adopted a new range of guidelines to complement existing guidance, published as the "Toolkit for the conservation and wise use of wetlands".

The United Nations Convention to Combat Desertification

The United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, particularly in Africa (UNCCD) aims to control land degradation in arid and dry sub-humid areas. It is applied through a bottom-up participatory approach involving all stakeholders.

The Antarctic Treaty system

The Antarctic Treaty system comprises legal instruments that promote the rational use of biological resources such as the Agreed Measures for the Conservation of Antarctic Fauna and Flora, the Convention for the Conservation of Antarctic Seals, and the Convention on the Conservation of Antarctic Marine Living Resources. In these instruments, no more native animals are killed or taken in any year than can normally be replaced by natural reproduction in the following breeding season. The instruments also determine: permissible catch; protected and unprotected species; open and closed seasons; open and closed areas, including the designation of reserves; limits relating to sex, size, or age for each species; restrictions relating to time of day and duration, limitations of effort and methods of sealing; types and specifications of gear and apparatus and appliances that may be used.

Other treaties which address threats to biological diversity

The following international treaties all address potential pollutants or other materials that are likely to have significant adverse effects on the components of biological diversity:

- The United Nations Framework Convention on Climate Change
- The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal
- The Vienna Convention for the Protection of the Ozone Layer and its Montreal Protocol on Substances that Deplete the Ozone Layer
- The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter
- The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.
- The draft international legally binding instrument for implementing international action on certain persistent organic pollutants (currently in the process of negotiation).

Additionally, the International Plant Protection Convention aims to control alien invasive species that are pests of plants.
