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APPROACHES AND EXPERIENCES RELATED TO THE IMPLEMENTATION OF ARTICLES 6 AND 8 OF THE CONVENTION ON BIOLOGICAL DIVERSITY

Note by the Secretariat

1. INTRODUCTION

1. The first meeting of the Conference of the Parties called for its second meeting to discuss items relating to general measures for conservation and sustainable use of biological diversity. The objective of the discussion at the second meeting is to provide information and share experiences on the implementation of Articles 6 (General Measures for Conservation and Sustainable Use) and 8 (*In-situ* Conservation). This discussion corresponds to items 5.1.1. and 5.2.2. of the Medium-Term Programme of Work approved by the first meeting of the Conference of the Parties.

2. Measures required for implementing Articles 6 and 8 are already outlined in the Convention. This note presents an overview of the kinds of actions and approaches Governments are and have been taking in relation to these measures and reviews that body of experience to date.

3. Countries may wish to provide additional information and experience related to these measures and to suggest how the sharing of relevant information might be enhanced.

4. While some countries have taken a number of measures to implement the provisions of Articles 6 and 8 of the Convention, much remains to be done in other countries, in particular with regard to Article 6. Implementation of the Convention requires cooperation among Parties to facilitate action at

the national level and to harmonize measures at the regional and international levels. Having in mind that the sharing of relevant information and experience is central to international cooperation, the discussion under this agenda item is expected to facilitate and promote action for implementing Articles 6 and 8. The Conference of the Parties may wish to note, however, that countries have their own specific conditions reflecting *inter alia* differences in their socio-economic, cultural, political and biological diversity situation. It follows that an experience of one country may need to be adapted to the conditions of another country before application.

5. Article 6 requires Parties to develop or adapt national biological diversity strategies, plans or programmes (paragraph (a)) and integrate the conservation of biological diversity and the sustainable use of its components into relevant sectoral and cross-sectoral plans, programmes and policies (paragraph (b)), subject to each Party's conditions and capabilities. Because the substance of Article 6 is about planning, it is relevant to almost every substantive article in the Convention.

6. Considering the importance of national strategies, plans and programmes for the implementation of the Convention, the Conference of the Parties included their development in the list of programme priorities for funding through the financial mechanism.

7. With regard to Article 8, the Convention notes in paragraph 10 of the Preamble that *in-situ* conservation is the primary approach for the conservation of biological diversity. Article 8 addresses the protection of ecosystems and natural habitats, rehabilitation and restoration of degraded ecosystems, and *in-situ* conservation of wild species and genetic diversity as well as the *in-situ* conservation of human-created plant varieties and animal breeds. Conservation measures are envisaged both within and beyond protected areas.

8. The Conference of the Parties may wish to note that implementing Article 8 will also draw upon the results of identification and monitoring carried out under Article 7.

2. ARTICLE 6: GENERAL MEASURES FOR CONSERVATION AND SUSTAINABLE USE

2.1 Article 6(a): Development of national strategies, plans and programmes

9. Article 6(a) essentially creates an obligation for national planning — to prepare a blueprint which reflects how all the objectives of the Convention may be achieved.

10. In general, "strategies" identify potential goals and objectives. They propose recommendations, actions and investments needed to address each objective and assign a priority level to each action. The primary function of a national biological diversity strategy is to make specific recommendations for action on conserving biological diversity and on sustainably using its components. These recommendations should result in plans and programmes. "Plans" (sometimes called "action plans" or "management plans") explain how a strategy's specific recommendations will be achieved. They spell out the steps, means and time-frames needed to implement the strategies. "Programmes" are sets of activities to implement strategies and plans. Biological diversity plans and programmes are targeted directly at particular sectoral and cross-sectoral aspects of conservation and sustainable use.

11. A national biological diversity strategy may be an effective tool for determining priorities, especially when a country has limited resources at its disposal. To do this a national biological

diversity strategy could, among other things:

(a) identify areas for action;

(b) identify obstacles, such as conflicting policies and inadequate laws, infrastructure, human resources, finances and technology;

(c) identify relevant government sectors and affected constituencies, such as local communities, business and industry;

(d) identify cost-effective solutions;

(e) identify financing requirements and possible funding sources; and

(f) assign tasks.

12. In practice, the preparation of strategies, plans and programmes typically reflects a chronological series of steps which can be undertaken as part of an overall "strategy cycle": that is, a repeating process by which a biological diversity strategy is developed, plans and programmes derived, and then, after a period of programme implementation, reassessed. Improvements or adjustments are made and the cycle repeats itself. Thus, a strategy cycle allows new information to be taken into consideration and used as appropriate, whether that information is strictly environmental or from other sectors such as transport, tourism, health or trade. A strategy cycle may also facilitate a Party's efforts to integrate the conservation of biological diversity and the sustainable use of its components into relevant sectoral and cross-sectoral plans, programmes and policies (paragraph 6(b)).

13. An indicative list of published national strategies, plans and/or programmes for the implementation of the Convention on Biological Diversity is presented in annex I to this note. References to the body of information on the development of national biological diversity strategies and plans, and illustrative examples of strategies and plans can be found in "National Biodiversity Planning: Guidelines Based on Early Experiences Around the World" (see reference in annex II to this note). Parties may wish to refer to this planning manual for illustrations of possible institutional, scientific, policy, and legal tools for biological diversity planning, ingredients for success, and lessons learned from using these tools. These guidelines were drawn from the early experiences of Australia, Canada, Chile, China, Costa Rica, Egypt, Germany, Indonesia, Kenya, Mexico, the Netherlands, Norway and the Philippines, Poland, Vietnam, the South Pacific region and the United Kingdom.

14. Although there are no standard methodologies for preparing a National Biological Diversity Strategy, Miller and Lanou (1995) (see reference in annex II) identified the following seven basic steps:

(a) Getting organized - establish a focal point in government, get an adequate high-level mandate, form a partnership with governmental agencies, non-governmental organizations (NGOs), indigenous peoples, community leaders, and business and industry, and obtain adequate funds;

(b) Assessment (country study/stock taking step) - gather and evaluate information on the status and trends of the nation's biological diversity and biological resources, laws, policies, organizations, programs, budgets, and human capacity; select preliminary goals and objectives; identify gaps between desired and current situations; review options to close gaps; and estimate costs, benefits,

and unmet needs;

(c) Developing a strategy - determine goals and operational objectives; analyze and select specific measures to close the gaps identified in the assessment; hold further consultations and dialogue until consensus is reached on acceptable targets and mechanisms for action; and identify the potential roles of stakeholder groups;

(d) Developing a plan of action - determine which public and private organizations and groups will implement which activities denoted in the strategy, in which location or region, by what means, and with which people, institutions, facilities and funds, and set a timetable for action;

(e) Implementation - launch activities and policies in practical ways so that partners take charge of particular elements of the plan and biological diversity planners become "biological diversity implementors"; in other words, individuals from the key ministries, NGOs, communities, indigenous groups, business, and industries, each with self, group, or business interests and commitment move forward to seek results from their plans and action;

(f) Monitoring and evaluation - observe and measure the impact of the plan on the economy, ecosystems, and social indicators; note changes in laws and policies, behavioral responses, conservation improvement, sustainability, and enhanced equity; and note changes in capacity and investment;

(g) Reporting - prepare reports for important constituencies; such documents can include country studies, national strategies, action plans, reports to the Convention, and reports to the country's chief executive and general public.

15. It may be noted that the preparation of national biological diversity strategies and plans is an open-ended process that develops continuously as further information and experience is gained. The process is cyclical, with the same steps repeated round after round. It is adaptive because participants learn from past experience about shifts in nature and society, and it also involves multiple stakeholders and sectors. A partnership is needed among all those committed to making choices and taking action from all parts of society, and from all sectors of government and the economy.

16. Some countries are designing legislation which anchors or institutionalizes the biological diversity strategy cycle, requiring biological diversity strategies, plans or programmes to be created, implemented and subsequently modified as part of the cycle.

17. With regard to the preparation of biological diversity strategies and plans, lessons learned include:

(a) In those countries with decentralized systems of government, the Constitution or other laws may require planning at the sub-national level for land use or the use of natural resources. These countries are finding a sub-national or local level approach to be most appropriate to their needs. In such cases, "national" strategies, plans or programmes would integrate a series of those at the sub-national level;

(b) Some countries are preparing a series of sectoral strategies, plans or programmes, for example, for agriculture, forestry, fisheries, tourism and industry — the sum of which may fulfil the article's obligations;

(c) In the past decade, more than 220 national environmental studies have been completed in 110 countries. Most of these studies, however, cover only some aspects of the provisions of the Convention. Furthermore, many countries have already developed or are in the process of developing conservation strategies or action plans, including: National Strategies for Sustainable Development (affiliated with UNDP); National Conservation Strategies (with guidance from IUCN, UNEP and WWF); National Environmental Action Plans (usually associated with World Bank funding); National Environmental Management Plans; Strategies to combat desertification (with UNSO); and multi-sectoral or sectoral action plans, such as Tropical Forestry Action Plans (usually affiliated with FAO and the World Bank). These studies can be integrated into the strategic planning cycle as appropriate;

(d) Existing global and regional strategies, plans or programmes are helping inform the process of preparing those at the national and sub-national level. These include the *Global Biodiversity Strategy*, *Caring for the Earth*, *Agenda 21*, the *Botanic Gardens Conservation Strategy*, the *World Zoo Conservation Strategy*, the *Guidelines for the Conservation of Medicinal Plants*, the strategy proposed in the *Global Marine Biological Diversity* and IUCN Species Action Plans. Full references to these are listed in annex II of this note;

(e) Some countries may find that there is insufficient experience with national biological diversity planning and will thus like to start the process from scratch. In this case, the stock taking/assessment step referred to in paragraph 14 above would be the starting point.

18. Other lessons distilled from experience include:

(a) The preparation and implementation of effective national biological diversity strategies, plans and programmes generally requires a highly participatory process, drawing from both the public and private sectors, and including appropriate representation of indigenous people (Article 8 (j)). It thus reflects a consensus for action among various constituencies which use or affect biological diversity. The process of developing such strategies and plans is often a key factor in their successful implementation;

(b) Countries which have already undertaken studies on the status of their biological diversity and its components may have a comparative advantage in developing national or sectoral strategies, plans and programmes relating to the objectives of the Convention. It may be noted that a number of countries carried out biological diversity country studies in accordance with recommendations formulated in Chapter 15 of Agenda 21. Some of these studies are being coordinated by the United Nations Environment Programme (UNEP) in Latin America and The Caribbean, in Africa, Asia and Eastern Europe. The first phase of the UNEP project on country studies is currently being evaluated;

(c) National biological diversity strategies also identify existing relevant legislation and areas where legislation is needed to implement and enforce the various approaches for environmental action. Of course, some actions can be undertaken voluntarily, for example by administrative decision or by a simple budgetary allocation. However, many actions, such as establishing off-take controls for fishing or forestry, restrictions on wild plant collecting and wild animal hunting, establishing and maintaining protected areas, and conserving valuable habitats on private land, will need to be anchored in legislation;

(d) A supportive high-level political environment and a strong driving force for the coordination of interdepartmental, interagency and interconstituency activities are among other factors

that can ensure a successful implementation of Article 6.

19. Development of national strategies, plans and programmes requires human and financial resources which can be a constraint to developing countries. The first Conference of the Parties decided to include "capacity-building to facilitate the preparation and/or implementation of national strategies, plans for priority programmes and activities for conservation of biological diversity and sustainable use of its components" in accordance with Article 6 in the list of programme priorities for funding under the Financial Mechanism (UNEP/CBD/COP/1/17/ Decision I/2 annex 1). This capacity including human resources and institutional structure needs to be built or strengthened in the earliest stage of the planning process.

2.2. Article 6(b): Integration of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies

20. Strategies, plans and programmes are the mechanisms through which countries can organize and implement their approach to the conservation of biological diversity and sustainable use of its components while they may be contributing to the larger goal of sustainable development. They are effective tools for determining priorities, especially when resources are limited. Development of national strategies, plans and programmes on biological diversity is a complex and multi-faceted task involving many sectors of government as well as the private sector and requiring adequate coordination of their activities.

21. Article 6(b) sets the stage for Article 10(a) by requiring integration of the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies. Article 10(a) requires the integration of the consideration of conservation and sustainable use of biological resources into national decision-making.

22. Implementation of Article 6(b) is a complex undertaking and few countries have yet attempted it. An analysis of the experience of these countries and of the results of the methodologies used might serve as a basis for the development of adequate guidance in undertaking the process of integrating biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies.

23. Experience shows that:

(a) Integration of biological diversity considerations into existing plans is feasible. It can be facilitated *inter alia* by relating components of biological diversity to specific sectors, by ensuring that the linkages between components of biological diversity and sector issues are complementary and mutually beneficial, and by combining related components into comprehensive packages and providing the biological diversity components with enough interest and commitment by the appropriate implementing agency and community to keep it from being buried in a broader programme;

(b) Biological diversity cannot be maintained or used sustainably by nature conservation and natural resource management agencies alone. The policies of transport, agriculture, health, energy and human settlement ministries, to name but a few, have major impacts on conservation and the sustainable use of biological resources, as do the decisions of finance and planning ministries;

(c) Since a national biological diversity strategy provides a basis to improve policy integration and coordination at the national and sub-national levels, cross-sectoral integration can be fostered and coordinated through a multi-disciplinary focal point (see paragraph 13 above) whose

members could be drawn from the public and private sectors;

(d) Legislation can provide this institutional mechanism with the legal authority it needs to seek implementation of biological diversity strategies, plans or programmes by the sectors involved;

(e) Implementation may also be facilitated by grafting the biological diversity strategy cycle onto other strategy cycles, such as those for economic planning. Only a few States have attempted this, but the indications are that grafting is a particularly powerful route to achieve sustainable development and to build environmental concerns into relevant sectors and national decision-making.

24. Measures which countries are taking or may take to implement Article 6(b) include:

(a) requiring sectors to:

(i) identify various components of biological diversity for which they are responsible;
(ii) identify those activities likely to have significant physical, chemical or biological impacts on biological diversity;
(iii) identify the full range of instruments (political, legal, economic, or administrative) available for the conservation of biological diversity and sustainable use of its components;
(iv) specify objectives;
(v) draw up proposals for actions;

(b) reviewing sectoral strategies, plans and programmes to determine the extent to which conservation and sustainable use of biological diversity are incorporated;

(c) identifying gaps and determining additional requirements in new or revised strategies;

(d) taking a national and bioregional approach, preparing new or revised sectoral strategies which integrate conservation and sustainable use of biological diversity with particular emphasis on the key sectors such as agriculture, industry, human settlements, forestry, fisheries, energy development and tourism;

(e) providing incentives to key sectors to ensure biological diversity conservation; and

(f) strengthening or establishing institutional mechanisms and building capacity in different sectors for the integration of biological diversity conservation issues in sectoral policies and programmes.

25. Some of these and other measures listed below are being or will be implemented with assistance from the financial mechanism operated by the Global Environment Facility (GEF). The list of projects approved by GEF for funding is presented in document UNEP/CBD/COP/2/8. Many of these projects deal with *in-situ* conservation of components of biological diversity. With regard to biological diversity strategy planning, more than thirty Parties to the Convention requested assistance from UN organizations, mainly UNEP, for the preparation of their biological diversity national strategies and action plans. Accordingly, a Task Force consisting of representatives of the Secretariat of the Convention on Biological Diversity, the GEF Secretariat and the GEF implementing agencies (UNDP, UNEP and the World Bank), with representatives of the Convention on International Trade in

Endangered Species of Wild Flora and Fauna (CITES), the Convention on Wetlands of International Importance Especially as Waterfowl Habitats (RAMSAR), the World Conservation Union (IUCN) and the World Wide Fund for Nature (WWF) was established following a recommendation by the GEF Operations Committee (GEFOP). The Task Force met on 5 and 6 April 1995 to decide how to streamline the system of country assistance *inter alia* for the preparation of biological diversity planning in order to ensure programmatic cohesion, mutual support among the above-mentioned organizations, cost-effective assistance to countries, and cumulative progress towards conservation of biological diversity and sustainable use of its components.

3. ARTICLE 8: *IN-SITU* CONSERVATION

3.1 Articles 8(a) and 8(b): Selection and establishment of protected and other conservation areas

26. Articles 8(a) and 8(b) suggest that a system of protected areas forms a central element of any national strategy to conserve biological diversity. The word "system" in Article 8(a) implies that the protected areas of a country or region may be chosen to form a network, in which the various components may conserve different portions of biological diversity, often using a variety of approaches to management. Experience shows that a well designed and managed system of protected areas can form the pinnacle of a nation's efforts to protect biological diversity. Such a system complements other measures taken to conserve biological diversity outside protected areas.

27. Drawing on global experience, IUCN has proposed management categories for protected areas or areas where special measures need to be taken to conserve biological diversity (see annex III to this note). The primary objective of areas in Categories I to IV can be -- and usually is -- biological diversity conservation. The primary objective of areas in Categories V and VI is sustainable use, usually of biological resources. It should be noted that only in Category I are human influences and/or use of biological resources specifically excluded as management tools.

28. Experience shows that:

(a) An important first step is to make a protected areas system plan, which states the objectives of the national network, outlines what each existing protected area contributes to achieving those objectives, identifies gaps and provides a plan of action to fill the gaps;

(b) While many criteria can be used for selecting areas for protected status, countries often consider new sites in the light of what additional elements they will contribute to the network, referring in particular to Annex I of the Convention which lists those elements of ecosystems and habitats pertinent to, *inter alia*, selection of protected areas. These elements will have been identified from the results of identification and monitoring pursuant to Article 7;

(c) A variety of approaches may be used for establishing a protected area network. A mixture of types of protected areas, managed for different objectives, is useful. Both large and small areas may be needed: a few large areas may be easier to protect and have greater ecological integrity, but a network of smaller areas may include a greater number of species and ecosystems, and may better meet the needs of local communities;

(d) In order to best meet the objectives of a national protected area system, each protected area needs to have clear objectives for biological diversity management and appropriate boundaries, legal status, funding and personnel. As protected areas need to be well integrated into national social,

environmental and economic structures, production of a management plan for each protected area provides an opportunity for cooperation between conservation agencies, local people and user groups (e.g. tourist agencies);

(e) Effective long-term conservation of biological diversity requires taking possible movements of species (e.g., daily or seasonal migrations) or distribution shifts (e.g., as a consequence of global warming) into account, for example by creating corridors and "stepping-stones" between protected areas. The design (shape and size) of a protected area also influences its effectiveness. Creation of transborder protected areas may be important for conserving shared biological resources, such as migratory species or species which require large areas of habitat.

29. In addition to protected areas established and managed by the national government, some countries may also consider a range of other types of reserves, especially taking into account that the Article also refers to "areas where special measures need to be taken to conserve biological diversity". This provision is very general, but the areas referred to may include, *inter alia,* extractive and "indigenous" reserves which are established and managed by local communities (see also Article 10(c) which calls for the protection and encouragement of customary use of biological resources). Other options being used in different parts of the world include nature reserves owned and managed by Non-governmental Organizations (NGOs). Providing grants and incentives for private landowners to manage land for biological diversity conservation, or to donate land to reputable NGOs to protect key sites, is being seen as a valuable supplement to national protected area systems.

30. Protected areas are being designated by States in the implementation of other existing international Conventions e.g., World Heritage Sites under the World Heritage Convention and Biosphere Reserves under the UNESCO Man and the Biosphere Programme. Similar protection may also be afforded by regional agreements, such as regional conventions, or legal instruments of regional economic integration organizations.

31. Measures which countries are taking or may take to implement Articles 8(a) and 8(b) include:

(a) reviewing the adequacy of their existing protected area system to conserve biological diversity in national and regional context and to identify gaps in the system;

(b) establishing a system of protected areas of different categories, or other areas where special measures need to be taken to conserve biological diversity, including areas to conserve both wild and domesticated species;

(c) developing guidelines for the selection, establishment and management of these areas, including management plans and systems plans. This measure implies ensuring public involvement, especially of local and indigenous peoples in planning and management;

(d) identifying funding needs to establish and manage a comprehensive protected area system;

(e) developing incentives for community, private, and NGO reserves.

3.2. Article 8(c): Regulation and management of biological resources

32. "Regulate or manage" implies control of all activities, independent of location, which could

affect the biological resources concerned, including direct use (such as hunting and harvesting) and indirect effects (e.g., pollution or tourism) on biological resources. "Manage" can also mean taking measures to enhance the use of a resource, wild or domesticated, provided that this use is sustainable and that the resource is important for the conservation of biological diversity.

33. Experience shows that:

(a) while information is needed as a foundation for regulatory or management decision-making, a lack of information should not be used as a basis for inaction, and a precautionary approach implies that less information should generate more conservative actions (see paragraph 9 in the Preamble of the Convention). The information necessary for establishing a regulatory or management programme for a particular biological resource can originate from a national biological diversity strategy;

(b) effective regulatory or management actions will very often depend on creating an effective legal framework in which they can be implemented and enforced. Regulatory or management actions will be enhanced by applying an appropriate mix of incentive and disincentive measures, and by eliminating "perverse" incentives.

34. Measures which countries are taking or may take to implement Article 8(c) include:

(a) subjecting biological resource users to off-take or harvesting controls;

(b) instituting trade controls, where appropriate, to accompany controls on the taking of biological resources;

(c) developing and applying appropriate technologies to enhance sustainable use;

(d) recognizing and encouraging sustainable use by indigenous or traditional cultures;

(e) controlling pollution and guiding potentially damaging industries such as tourism.

3.3. Article 8(d): Protection of ecosystems and natural habitats, and maintenance of viable populations of species in natural surroundings

35. Article 8(d) refers to *all* areas, not only those mentioned in Article 8(a), found within and outside reserves, on both public and private land.

36. While many States have legislation for conservation of vertebrate animal species, legislation to protect individual habitat types and ecosystems, non-vertebrate animal taxa, or plants is much less common. Parties are beginning to use Article 7 to establish priorities for action on threatened components of biological diversity.

37. At a global level, the most threatened ecosystems and habitat types include: freshwater wetlands, such as rivers and lakes; coastal areas; coral reefs; oceanic islands; temperate moist forests; temperate grasslands; tropical dry forests; and tropical moist forests in addition to arid, semi-arid and mountainous areas referred to in Article 20, paragraph 7, of the Convention as the most environmentally vulnerable ecosystems/habitats.

38. Experience has shown that protection of ecosystems and habitats in natural surroundings outside traditional protected areas may require legislatively-based planning controls. Such legally protected habitats are not "protected areas" in the traditional sense of the term, as no site-specific designation is made. In practice, however, these habitats are protected areas in all but name; in many cases, the protection afforded and the goals to be achieved through planning controls are similar to those of traditional protected areas.

39. A "viable population" can be defined as one which maintains its genetic diversity; maintains its potential for evolutionary adaption; and faces minimal risk of extinction or extirpation from demographic

fluctuations, environmental variation and potential catastrophe, including over-use.

40. Maintaining viable populations in natural surroundings is necessary both outside protected areas and within them. In both cases, special management measures such as "recovery" plans may be required to ensure the survival of the species or the continued existence of habitat critical to the species' survival (also see Article 8(f) below). To be most effective these may have to be anchored in legislation (see for example Article 8(k) which calls for development of regulatory provisions for the protection of threatened species and populations).

41. Measures which countries are taking or may take to implement Article 8(d) include:

(a) developing legislatively-based protection measures for threatened habitats, ecosystems and species;

(b) establishing protected areas including those run by national, sub-national (state, province, county) and private (NGO, community) interests; and

(c) developing recovery plans for populations or restoration measures for natural ecosystems.

3.4 Article 8(e): Development in areas adjacent to protected areas

42. Article 8(e) implicitly recognizes that activities occurring in areas adjacent to protected areas may be critical to the protected area's success. Some protected areas may be situated close to major urban areas or in areas of intensive agriculture. In these cases, human activities could undermine the protected area's viability and effectiveness, especially if the human population is rising, poverty predominates, resources are being overused, industry exists or urbanization is expanding. Some or all of these development threats face protected areas in developed and developing countries alike.

43. Some countries are taking measures to promote development in areas adjacent to protected areas while ensuring that such development does not undermine conservation within the protected area itself. One useful model is the biosphere reserve as developed and promoted by the UNESCO Man and the Biosphere Programme. These zonal reserves are designed to be models for sustainable resource use, as well as for conservation, and typically contain a fully protected core zone surrounded by an extensive "sustainable use" or "support" zone.

44. Experience shows that:

(a) If a local population is negatively affected by the protected area (such as by losing traditional rights to gather products or graze animals, or the ability to develop properties), then the long-

term viability of the protected area may be compromised. However, if resources which local people have lost are replaced where possible, and other forms of development compatible with the goals of the protected area promoted in adjacent areas, then the protected area has a greater chance of long-term success;

(b) Legal regimes for land-use planning and control in areas adjacent to protected areas should take into consideration the levels of biological diversity in both the protected area and the adjacent area, local population densities, and existing land uses. Environmental impact assessment for proposed development is required by some Parties as part of a review and approval process to ensure that the goals of the protected area are not contravened and that biological diversity is conserved;

(c) In some countries, development and administration of adjacent areas are closely linked to that of the protected area and both areas are viewed as a single planning unit. This calls for close coordination to be established and maintained between protected area managers, governmental development agencies, NGOs and local communities. In some cases, a multi-disciplinary coordinating group has been established for protected areas subject to adjacent development, which have the legal authority to act as a focal point for development proposals and to monitor the impacts of such development both in and around the protected area;

(d) Where the majority of adjacent lands are community or individually owned, measures taken to regulate or manage land use are sometimes instituted in combination with measures which act as incentives (as called for in Article 11 of the Convention) and disincentives and/or in combination with the removal or minimization of "perverse" incentives which encourage the loss of biological diversity and its components.

45. Measures which countries are taking or may take to implement Article 8(e) include;

(a) applying the biosphere reserve model to suitable areas;

(b) developing legislatively-based planning controls;

(c) developing incentive measures for local individuals and communities;

(d) developing and applying appropriate technologies for sustainable use of biological resources; and

(e) developing environmental impact assessment procedures.

3.5 Article 8(f): Rehabilitation and restoration of species and ecosystems

46. Article 8(f) reflects the belief that the conservation of biological diversity is not only relevant to "pristine" areas. It is also about revitalizing degraded ecosystems and restoring flora and fauna.

47. "Rehabilitate" can mean "to return to productive use", while "restore" can mean "to return to the original condition", but the two definitions are not very distinct. As natural ecosystems constantly change, the concept of "original condition" is somewhat arbitrary. Rehabilitating and restoring ecosystems (sometimes collectively called "restoration ecology") is a fairly new discipline which may rely on natural vegetation succession or on active human intervention such as tree-planting, removal of invasive species, controlled burning or re-introduction of extirpated species. Restoration has typically

been accomplished on a small scale such as on abandoned mines or small wetlands.

48. Experience shows that:

(a) Success for both small and large projects requires identification and control or elimination of the original damaging inputs like pollution or unsustainable use, and the "perverse" incentives which may encourage them. For this reason, habitat restoration and rehabilitation may require implementation of other Convention articles such as: Article 7 (Identification and Monitoring); Article 12 (Research and Training); Article 17 (Exchange of Information); and Article 18 (Scientific and Technical Cooperation);

(b) Remedial action in degraded areas may be developed and implemented at the local level (as called for in Article 10(d) of the Convention). With appropriate support, local people may be motivated to undertake remedial action and secure the undertaking's success because they have the most to gain.

49. Parties are also asked to make an affirmative commitment to promote the recovery of threatened species. Article 8(f) is complemented by Article 9(c) (*ex-situ* measures for the recovery and rehabilitation of threatened species). Species-recovery measures will be aided by measures to protect ecosystems and natural habitats (see the discussion of Article 8(d) above), as well as by measures undertaken to restore and rehabilitate ecosystems, since most species extinctions involve at least an element of habitat destruction.

50. Recovery plans and management strategies specify the methods by which these objectives are to be achieved. Although action plans for some threatened species have been prepared (e.g., IUCN's Species Survival Commission Action Plans referred to in annex I to this note), they cover only a tiny proportion of the tens of thousands of species of animals and plants which are known to be threatened.

51. Experience shows that:

(a) The recovery of threatened species cannot be guaranteed, because it is difficult and in some cases expensive. In most cases, prevention may be more cost-effective;

(b) The action required very much depends on the organism concerned. The recovery of some large mammals or birds may require large sums of money and the efforts, often life-long, of hundreds of dedicated people. Even then, success cannot be assured. Yet not all threatened species are expensive to save. Quite modest efforts in managing small rare plant sites may be sufficient to take care of some endangered plants. One person can effectively monitor, supervise and promote actions to save a large number of endangered plant species, especially if many of them grow in one location;

(c) Recovery measures should be anchored in legislation or other regulatory measures called for in Articles 8(k) and 9(d);

(d) The voluntary participation and support of local communities, facilitated through education and awareness campaigns, is also an important factor in successful species recovery.

52. Measures which countries are taking or may take to implement Article 8(f) include:

(a) identifying degraded ecosystems and threatened species or components of biological

diversity subject to degradation;

(b) developing and implementing rehabilitation and restoration plans for ecosystems; and

(c) developing and implementing recovery plans for species.

3.6. Article 8(g): Regulation of risks associated with the use and release of living modified organisms

53. Article 8(g) requires each Party to take steps to regulate, manage or control the risks associated with the use and release of living modified organisms (LMOs) resulting from biotechnology which are likely to have adverse environmental impacts that could affect the conservation and sustainable use of biological diversity, taking also into account the risks to human health. This thus applies at the national level, while Article 19, paragraph 3, of the Convention considers the international aspects of biosafety.

54. From the perspective of the Convention on Biological Diversity, the issues raised by LMOs resulting from biotechnology cover a wide range. These include, *inter alia*, issues of the stability of the inserted genes, environmental impact on non-target species, adverse effects on ecosystem processes, potential for weediness of genetically modified crops; issues of genetic alteration, regulation of gene expression and intended and unintended changes; issues of phenotypic properties of the donor organisms, such as competitiveness, pathogenicity and virulence; and issues of adverse effects on human health. These concerns prompted in the early 1970s discussions on safety in biotechnology which resulted in a number of national and international recommendations, guidelines and legislation on biosafety.

55. Biosafety regulatory instruments have been surveyed by a panel of 15 government-nominated experts on biosafety who met in Cairo, Egypt, from 1 to 5 May 1995, pursuant to decision I/9 taken by the Conference of the Parties at its first meeting (see annex IV in document UNEP/CBD/COP/2/7). The mandate of the Panel was to prepare a background document for consideration by an open-ended *ad hoc* group of experts on biosafety. This open-ended group met in Madrid, Spain, from 24 to 28 July 1995 to prepare recommendations on the need for and the modalities of a protocol on biosafety for consideration by the COP at its second meeting. The background document prepared by the Panel of Experts on Biosafety was based on current knowledge and experience of risk assessment and management, and on national as well as regional and international legislation or guidelines on biosafety.

56. The study of the Panel showed that risk assessment serves as a basis for decision making if the use and release of LMOs initiate regulatory requirements. Risk assessment is based on the characteristics of the organisms, the introduced trait, the environment into which the organism is introduced, the interactions between these, and the intended application. Risk management is the implementation of the most appropriate measures to minimize the identified risks and mitigate their effects while achieving the anticipated results. Risk management is implemented during the development and evaluation of an organism in a systematic and stepwise fashion.

57. Experience shows that:

(a) Risk assessment of LMOs with the potential to adversely affect the conservation and sustainable use of biological diversity might best be approached on a case-by-case basis;

(b) The nature of hazards associated with LMOs produced by biotechnology can usually be well characterized, although this is less so in the area of aquatic systems and soil microbiology.

(c) In an effort to have safety frameworks that are adaptive and adjusted based upon experience, there is a development trend to identify low risk categories of LMOs and to simplify administrative requirements for such organisms. This has led to development of simplified notification procedures for certain groups of modified plants. In addition, a new trend is that, except where pathogens are involved, separate regulation of genetically modified organisms in contained use may become unnecessary over and above current good laboratory practice.

58. The scope of coverage of national regulations for biosafety range from those that address only organisms developed through recombinant DNA techniques to those that include other modification techniques such as micro-injection, cell fusion, etc. In addition, under these different national regulations, the specific taxa of organisms covered range from, for instance, micro-organisms, plants or animals to some combination of these e.g. plants and micro-organisms or plants; micro-organisms and animals. There are even those national regulations that address specific groups of organisms such as bioremediation agents.

59 There is wide variation among national governments in the degree and method of regulation of LMOs. Some governments have adopted guidelines or legislation which specifically address biosafety considerations. Others have not promulgated specific regulations but use existing legislation in areas such as plants, vaccines, environmental/human health and pesticides to address biosafety considerations. There are, however, countries which have not adopted specific regulations for biosafety nor have they used existing legislation to promulgate regulations for biosafety.

60. Measures which countries are taking or may take to implement Article 8(g) include:

(a) developing national or international regulations/agreements and permit systems;

(b) building the capacity needed for risk assessment and management, including human resources, information exchange mechanisms taking also into account the obligations under Article 19, paragraph 4 (which requires each Party to provide information on available use, safety and environmental impact for a particular LMO when it is exported to another Party) and other relevant infrastructures required for development and application of biotechnology (see document UNEP/CBD/COP/2/7 and, in particular, its annex IV);

(c) developing environmental impact assessment procedures concerning the use and release of LMOs, particularly in centers of origin and genetic diversity;

(d) developing monitoring mechanisms as called for in Article 7(b);

(e) strengthening appropriate institutions and developing links with international organizations; and

(f) ensuring regional harmonization of national regulations/legislation on biosafety.

3.7 Article 8(h): Control of threats posed by alien species to ecosystems, habitats or species

61. Article 8(h) recognizes that alien species (also called "exotic", "introduced", "non-indigenous"

or "non-native" species) pose serious and well-documented threats to biological diversity. Some alien species may compete with other species for space and food; become predators of other species; destroy or degrade habitat; or transmit disease and parasites.

62. Experience shows that:

(a) invasive alien species present a particularly great threat on oceanic islands, where their introduction, either accidental or intentional, can cause severe ecological disruption. Another intractable problem has been the spread of alien species in coastal and freshwater systems. Invasive alien species can also pose threats to natural ecosystems on continental landmasses;

(b) eradication of invasive species using currently available methods can be very expensive or even impossible. While the number of large mammals can be reduced and even to the point of extinction on small islands or in restricted areas, smaller animals and invasive plants can be almost impossible to eradicate in any situation. The cost of finding and introducing natural parasites and predators for the large number of invasive species is also prohibitive, bearing in mind the safety considerations for other species, and has often resulted in further ecological disaster.

63. Countries are finding that it is, therefore, vital to prevent the further introduction of invasive species. Some countries are reviewing their quarantine legislation, regulations and practices so as to ensure that plants (or their propagules) or animals are not introduced if there is a risk that they might become harmful.

64. National controls being developed in some countries address both voluntary introductions, and involuntary or accidental introductions. A regulatory programme to control voluntary introductions can be based on a permit system. Permits are granted only when research has determined with reasonable certainty that the introduction will not cause significant harm to indigenous ecosystems and habitats, species and communities or genomes and genes. The system is usually risk-based. Experience has shown that accidental introductions of organisms are more difficult to prevent through regulation. If a damaging introduction does occur, quick action is vital to control it. Some countries are finding it advisable to give the appropriate agencies the jurisdictional power and capacity -- and rapid access to funds -- to control an introduction before it can spread.

65. Attention has generally focused on the import of exotic species from outside, although some States are finding it necessary to establish controls on introductions from one part of the country to another. It may be particularly important to prevent introductions into protected areas.

66. Several countries have highlighted the need to inform the general public of the possible dangers of alien species. Public education and awareness campaigns (Article 13) are helping in this regard.

67. Present international controls in the context of marine biological diversity include Article 196 of the UN Convention on the Law of the Sea and Agenda 21 (Chapter 17.30 (a)(vi) directs States to consider adopting appropriate rules on ballast water discharge to prevent the spread of non-indigenous organisms). Other measures taken internationally focus on microbial, plant and animal pests and pathogens. The International Plant Protection Convention, for example, establishes a system of export certificates designed to confirm that exported plant items are insect-free and conform to the importing State’s phyto-sanitary regulations. The International Office of Epizootics has established health and sanitary guidelines for the export and import of animals.

68. Measures which countries are taking or may take to implement Article 8(h) include:

(a) developing national and international legislation and permit systems;

(b) developing environmental impact assessment procedures and monitoring mechanisms for alien species;

(c) developing control and eradication plans;

(d) carrying out education and awareness campaigns; and

(e) strengthening appropriate institutions.

3.8 Article 8(i): Provision of conditions for compatibility between present use and conservation and sustainable use

69. Article 8(i) focuses on use. For this reason, its implementation can also be seen within the context of Article 10 (Sustainable use of components of biological diversity).

70. Experience shows that:

(a) It is often difficult to change present levels or methods of utilization of biological resources such as fish or forests even if they are not compatible with sustainable use. In addition to the legal question of existing or acquired rights, livelihoods may be put at risk and countries may find that it will take time to implement the changes needed;

(b) The concept of ownership (whether by individuals or by communities) of a utilized biological resource often has a direct bearing on the sustainability of its use.

71. Measures which countries are taking to implement Article 8(i) include:

(a) providing incentives to encourage sustainable use (Article 11);

(b) developing and using appropriate technologies (Article 16 of the Convention and Agenda 21, Chapters 16 and 34).

3.9 Article 8(j): Promotion of indigenous knowledge

72. Article 8(j) recognizes that any efforts to conserve or sustainably use biological diversity must take into consideration the interface between human culture and biological resources. Well before the rise of modern society, communities throughout the world prospered by husbanding biological resources. In the process a sophisticated and wide-ranging body of knowledge, innovations and practices developed.

73. Experience shows that the accelerated loss of biological diversity can have significant impacts on the human cultural diversity which has co-evolved with it. As the communities, languages and practices of indigenous and local peoples die out, their accumulated knowledge is lost. This is occurring at a time when "modern" society is just beginning to understand and appreciate the potential

value of traditional knowledge, innovations and practices for its own welfare. Thus one of the first steps towards fulfilling Article 8(j) may be to identify and eliminate the impact of those policies which may contribute to the loss of biological diversity through the erosion of cultural diversity.

74. Article 8(j) acknowledges the great economic and non-economic value of traditional knowledge, innovations and practices to modern society and recognizes that the holders are entitled to decide how to share the information and for what benefit. This article requests Parties to develop appropriate policies and legislation which will promote wider application of such knowledge, innovations and practices, while at the same time ensuring the holders' consent and encouraging the equitable sharing of benefits. Providing for this is proving challenging, in part because experience has shown that such knowledge,

innovations or practices may not be confined to a single community or person.

75. Some of the measures which countries are undertaking to implement Article 8(j) are being implemented in conjunction with policies which provide individuals and communities, whether indigenous or local, certain rights under the law. These rights may be associated with land, culture, intellectual property, legal recognition, legal personality or the right to associate. The explicit or implicit guarantee of these rights is helping individuals and communities to maintain their knowledge, innovations and practices; to clarify control over such information; and to ensure that those who benefit from such information share the profits from that use.

76. Measures which Parties are taking or may take to implement Article 8(j) include:

(a) eliminating "perverse" incentives which encourage over-exploitation of biological resources, the displacement of traditional practices, plant varieties and animal breeds and the destruction of ecosystems (see Article 11);

(b) protecting and encouraging practices and innovation in the use of biological resources, for example by creating a system of incentives and disincentives;

(c) undertaking ethno-biological research programmes to identify and record traditional knowledge, innovations and practices (see Article 12(b));

(d) enacting legislation requiring approval of, and benefit-sharing with, traditional communities (perhaps to coincide with genetic resources access legislation);

(e) enacting special legislative or other measures to better enable traditional communities to protect and control their knowledge, innovations and practices;

(f) working with professional associations to establish ethical guidelines and codes of conduct for the collection and dissemination of, as well as benefit-sharing for, traditional knowledge, innovations and practices;

(g) establishing outreach programmes to educate traditional communities on how to negotiate benefit-sharing agreements;

(h) working with NGOs and local institutions to identify potential benefits and direct appropriate benefits back into a community;

(i) raising public awareness of the values of traditional knowledge, innovations and practices; and

(j) cooperating with other States to implement Farmers' Rights as part of the FAO Global System for the Conservation and Utilization of Plant Genetic Resources.

3.10 Article 8(k): Development of legislation and regulations for protecting threatened species and populations

77. Experience has shown that laws to prevent illegal hunting and other forms of direct off-take of individual threatened species have been insufficient to protect those species threatened by destruction of their habitats, rather than by off-take. As a result, recent laws have tended also to cover the protection of the sites where threatened species still exist. An additional benefit from this is that protecting one threatened species by conserving its habitat often safeguards many other species and contributes to the conservation of ecosystems.

78. Plant protection laws are being given particular attention by some countries. In many States, plants are treated as private property which can be freely removed by landowners. In others they are treated as free products of nature and so can be collected by anyone almost anywhere.

79. The protection of the habitats of threatened plants is often easier than the protection of threatened animal habitats because plants are immobile and many species occupy only small areas. Protection of invertebrates is an area where more attention should be paid for legislation development.

80. The Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) is a major international agreement designed to protect endangered species when they are threatened by international trade. While most countries have ratified and implemented CITES legislation, some are finding it useful to review the effectiveness of existing legislative measures and to make improvements as appropriate. An important feature of this convention is that, because trade involves at least two Parties, when one does not implement the Convention provisions, the other Party may do so.

81. Parties are finding that crucial aspects of legislation promulgated pursuant to 8(k) are:

(a) Inclusion of habitat protection, since the requirement is to protect populations;

(b) Development of provisions to accomplish this, including the use of incentives, and planning constraints or land-use controls (see Article 8 (d)) since it may not be possible to make the habitat of every threatened species into a protected area;

(c) Linkage to requirements for environmental impact assessments and provision for the preparation of recovery plans, as required in Article 8(f).

3.11 Article 8(l): Management of adverse effects

82. Experience shows that many human activities have significant adverse effects on biological diversity. These adverse effects may result from, among other things, pollution, urbanization, the building of transport links, monocultural and intensive agriculture, soil erosion and plantation forestry. The word "significant" gives some discretion to Parties to determine the processes and activities

concerned. The identification of damaging activities is being derived in part from the sectoral reports developed pursuant to Article 6(b).

83. Several countries are working to ensure that data derived from identification and monitoring activities (Article 7) are in a form which can readily be used by decision-makers for management activities.

84. Existing international agreements on many of these activities include the Climate Change Convention, the Protocol on Substances that Deplete the Ozone Layer, the Convention on Long-Range Transboundary Air Pollution and the various international agreements on ocean pollution and fisheries, as well as numerous national laws and regulations.

85. Measures which countries are taking or may take to implement Article 8(l) include:

(a) identifying processes and activities that have adverse impacts on biological diversity and its components;

(b) instituting measures to regulate and manage such processes and activities;

(c) developing environmental impact assessment procedures; and

(d) ratifying and implementing other relevant international agreements.

3.12 Article 8(m): Provision of financial and other support for *in-situ* conservation

86. Article 8(m) emphasizes direct bilateral support from one Party to another to implement paragraphs 8(a) through 8(l), in addition to multilateral financing under the Convention's financial mechanism. Financing is also reflected in Agenda 21, Chapter 33, paragraph 16, which calls for exploration of innovative ways to secure public and private resources for conservation of biological diversity.

87. The phrase "financial and other support" means that cooperation could be in cash, in kind or technical. And since the implementation of Article 8 requires Parties to implement or draw on other articles of the Convention, support may be extended to identification and monitoring (Article 7), research and training (Article 12), public education (Article 13) and sharing of technical knowledge (Articles 17 and 18).

88. Experience shows that:

(a) Many bilateral development assistance programmes have tended to create long-term needs for operational and other kinds of support. A critical goal of bilateral aid therefore should be to develop local capacity which can be maintained on a sustained basis, and to develop mechanisms which ensure continued funding of the programmes;

(b) Single, "stand alone" biological diversity-related projects will probably have relatively little impact on a Party's overall effort in the area of conservation of biological diversity and sustainable use of its components. A good strategy may be to finance components of biological diversity as part of larger development projects. Programmes which include elements for identification and monitoring, research and training, or public education and awareness could be included;

(c) Some Parties have in place a National Environmental Fund (NEF), a publicly - or privately - constituted body which solicits and manages funds from various sources to support environmental and sustainable development projects. A trust arrangement is common, which allows for stable long-term financing necessary for implementing conservation actions. NEFs can play an important role in donor coordination;

(d) Private sector funds are seen to be the most rapidly growing source of finance for

environmental programmes. These may be available through, *inter alia*, joint venture capital funds, "ecological mutual funds", debt-for-nature swaps, charitable foundations and NGOs;

(e) In some countries, "biological diversity" is a highly marketable commodity. The potential for exploitation of these markets through both non-consumptive (such as media coverage) and consumptive (such as harvesting medicinal plants or new food species) uses of biological diversity is being explored by a number of countries through the private sector.

89. Measures which countries are taking or may take to implement Article 8(m) include:

(a) providing direct financial or other support for *in-situ* conservation to developing countries;

(b) channelling financial assistance through national and international NGOs;

(c) exploring innovative ways to finance biological diversity-related programmes through the private sector; and

(d) developing and implementing cooperation programmes.

4. CONCLUSION

90. Implementation of Articles 6 (General Measures for Conservation and Sustainable Use) and 8 (In-situ Conservation) of the Convention requires cooperation among Parties to facilitate action at the national level and to harmonize measures at the regional and international levels. Central to this cooperation is the need for countries to inform each other about their own experience and the measures taken to implement the articles in their own environmental and socio-economic situation, especially since countries are at different stages of implementation and have access to variable levels of relevant knowledge and information. With appropriate review and adaptation, experiences of individual countries in a particular situation can be invaluable to finding solutions to similar problems in other countries.

91. Sharing of information and experience about approaches and activities related to Articles 6 and 8 will be essential for facilitating and accelerating the process of implementation. Such exchange needs to be carried out in an organized and systematic manner to be effective.

92. In the context of the Convention, information exchange and sharing of experience can be carried out under the provisions of Article 17 (Exchange of Information), Article 18, in particular paragraph 3 (on establishment of a clearing-house mechanism to promote and facilitate technical and scientific cooperation), and Article 26 (Reports). The second meeting of the Conference of the Parties will consider under agenda item 4.2 the recommendations prepared by the Secretariat to assist the Conference in establishing the clearing-house mechanism (UNEP/CBD/COP/2/6). The note by the

Secretariat will also contain elements that may enhance exchange of information and sharing of experience relevant to the objectives of the Convention. The Conference of the Parties will also consider under agenda item 9 the form and intervals of national reports by Parties (see Note by the Secretariat UNEP/CBD/COP/2/14) and the advice on scientific and technical information to be contained in national reports prepared by the Subsidiary Body on Scientific, Technical and Technological Advice (see document UNEP/CBD/COP/2/5). The report on the activities of the Global Environment Facility (UNEP/CBD/COP/2/8) also contains additional information on how eligible Parties are implementing or intend to implement Articles 6 and 8.

93. This note summarizes the kinds of actions and approaches that Governments are and have been taking in relation to the implementation of Articles 6 and 8. The list of actions described is only indicative. Parties may wish to provide additional information and experience related to these measures. This might be done through the clearing-house mechanism, in their national reports and through a variety of other means such as conferences, newsletters and electronic communications. This implies that Parties should have the capacity needed to collect, supply and ultimately use the relevant information and experience.

94. The meeting may also wish to identify ways and means through which United Nations bodies and inter-governmental and non-governmental organizations can best contribute information and their experience in dealing with the provisions of Articles 6 and 8.

95. In view of the importance of developing biological diversity strategies and action plans as one of the first steps in the implementation of the Convention and a means to address the full array of the Convention provisions in the context of respective national development, the Conference of the Parties may wish to entrust the Secretariat with the task of assisting Parties, upon request, in preparing their biological diversity strategies and action plans.

96. The Conference of the Parties may also wish to decide to consider the experiences in the implementation of Articles 6 and 8 at the end of each medium-term programme of work so as to take stock of progress in the implementation of these Articles.

ANNEX I

Indicative list of published national strategies, plans and/or programmes for the implementation of the Convention on Biological Diversity

Australian and New Zealand Environment and Conservation Council. Undated Draft. *National Strategies for the Conservation of Australia's Biological Diversity.* ANZECC.

Biodiversity Action Plan Planning Team (1993) Draft. *Biodiversity Action Plan for Vietnam.* BAPPT. Hanoi.

Comisión Nacional del Medio Ambiente (1993) *Propuesta de Plan de Acción Nacional para la Biodiversidad en Chile*. Secretaría Técnica y Administrativa, CONAMA, Santiago.

Department of Environment (1994a) *Biodiversity: The UK Action Plan.* HMSO, London, U.K.

Department of Environment (1994b) *Biodiversity: The UK Action Plan, Summary Report.* HMSO, London, U.K.

Directorate for Nature Management (1994) *National Action Plan for Biological Diversity*: *Guidelines for Sector Plans*. Directorate for Nature Management, Trondheim.

Federal-Provincial-Territorial Biodiveristy Working Group (1994) *Draft Canadian Biodiversity Strategy.* Biodiversity Convention Office, Hull, Quebec.

Government of Indonesia (1993) *Biodiversity Action Plan for Indonesia.* Ministry of National Development Planning/National Development Planning Agency, Jakarta.

National Environmental Protection Agency (1994) *China Biodiversity Conservation Action Plan.* NEPA, Beijing.

Protected Areas and Wildlife Bureau. Undated Draft. *Philippine Strategy for Biological Diversity Conservation* (PSBDC). DENR and Sub-Committee on Biological Diversity of the Philippine Council for Sustainable Development, Manila.

ANNEX II

Indicative list of general references related to the implementation of Articles 6 and 8

Carew-Reid, J., Prescott-Allen, R., Bass, S. & Dalal-Clayton, B. (1994) *Strategies for National Sustainable Development: A Handbook for their Planning and Implementation* IIED and IUCN.

Glowka, L., Burhenne-Guilmin, F. & Synge, H. (1994) *A Guide to the Convention on Biological Diversity*, IUCN Gland and Cambridge.

IUCN (1992) *Protected Areas of the World: a Review of National Systems.* 4 vols. prepared by WCMC. IUCN, Gland, Switzerland, and Cambridge, UK

IUCN BGCS/WWF (1989) *The Botanic Gardens Conservation Strategy*. IUCN, Gland, Switzerland

IUCN/UNEP/WWF (1991) *Caring for the Earth*. A Strategy for Sustainable Living. IUCN, UNEP, & WWF. Gland, Switzerland and Earthscan, London

IUCN/SSC Action Plans. IUCN Publications Services Unit, 219 Huntingdon Road, Cambridge, CB3 0DL, U.K: for various animal species including African primate, Asian primate, antelopes, dolphins, porpoises, whales, kouprey, weasels, civets, mongooses and their relatives, Asian rhinos, tortoises, freshwater turtles, African elephants and rhinos, foxes, wolves, jackals, dogs, Asian elephant, otters, rabbits, hares, pikas, African insectivora and elephant-shrews, swallowtail butterflies, crocodiles, South American camelids, Australasian marsupials and monotremes, lemurs of Madagascar, zebras, asses, horses, old world fruit bats, seals, fur seals, sea lions, walrus, pigs, peccaries, hippos, the red panda, olingos, coatis, raccoons and their relatives, dolphins, and megapodes.

IUDZG/CBSG (IUCN/SSC) (1993) *World Zoo Conservation Strategy: The Role of Zoos and Aquaria of the World in Global Conservation*

Miller, K. R. & Lanou, S. M. (1995) *National Biodiversity Planning: Guidelines Based on Early Experiences Around the World*. World Resources Institute, United Nations Environment Programme and The World Conservation Union. Washington D. C. ; Nairobi; Gland, Switzerland

Norse, E.A. (Ed) (1993) *Global Marine Biological Diversity: A Strategy for Building Conservation into Decision-Making*. CMC/IUCN/WWF/UNEP/WB. Island Press, Washington, DC. & Covelo, CA.

UN (1993) *Agenda 21, Rio Declaration, Forest Principles: The Final Text of Agreements*. United Nations, New York

UNEP (1993). *Reports of Expert Panels 1-3 Established to Follow-up on the Convention on Biological Diversity.* UNEP, Nairobi .

UNEP (1993) *Guidelines for Country Studies on Biological Diversity*. UNEP/Bio.Div./Guidelines/CS/Rev.2

WHO, IUCN, WWF (1993) *Guidelines for the Conservation of Medicinal Plants*. IUCN, Gland, Switzerland

WRI, IUCN, UNEP (1992) *Global Biodiversity Strategy: Guidelines for Action to Save, Study, and Use Earth's Biotic Wealth Sustainably and Equitably.* WRI/IUCN/UNEP World Resources Institute, Washington DC .

ANNEX III

IUCN protected area management categories

I. Strict Nature Reserve/Wilderness Area.

Areas of land and/or sea possessing some outstanding or representative ecosystems, geological or physiological features and/or species, available primarily for scientific research and/or environmental monitoring; or large areas of unmodified or slightly modified land, and/or sea, retaining their natural character and influence, without permanent or significant habitation, which are protected and managed so as to preserve their natural condition.

II. National Park: Protected Areas Managed Mainly for Ecosystem Conservation and Recreation.

Natural areas of land and/or sea, designated to (a) protect the ecological integrity of one or more ecosystems for this and future generations, (b) exclude exploitation or occupation inimicable to the purposes of designation of the area and (c) provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.

III. Natural Monument: Protected Areas Managed Mainly for Conservation of Specific Features.

Areas containing one, or more, specific natural or natural/cultural feature which is of outstanding or unique value because of its inherent rarity, representative or aesthetic qualities or cultural significance.

IV. Habitat/Species Management Area: Protected Areas Managed Mainly for Conservation Through Management Intervention.

Areas of land and/or sea subject to active intervention for management purposes so as to ensure the maintenance of habitats and/or to meet the requirements of specific species.

V. Protected Seascape/Landscape: Protected Areas Managed Mainly for Seascape/Landscape Conservation and Recreation.

Areas of land, with coast and sea as appropriate, where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, cultural and/or ecological value, and often with high biological diversity. Safeguarding the integrity of this traditional interaction is vital to the protection, maintenance and evolution of such an area.

VI. Managed Resource Protected Area: Protected Areas Managed Mainly for the Sustainable Use of Natural Ecosystems

Areas containing predominantly unmodified natural systems, managed to ensure long-term protection and maintenance of biological diversity, while providing at the same time a sustainable flow of natural products and services to meet community needs.