Biological Diversity
Thematic Assessment

National Capacity Self Assessment

Integrated Climate Change Strategy Projects (ICCS)

Ministry of Environment, Energy and Water

Prepared by

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ACRONYMS AND ABBREVIATIONS

BCH	Biosafety Clearing House
BSWG	Ad Hoc Working Group on Biosafety
CBD	Convention on Biological Diversity
CEPA	Communication, Education and Public Awareness
CGIAR	Consultative Group on International Agricultural Research
CGRFA	Commission on Genetic Resources for Food and Agriculture
CHM	Clearing-house Mechanism (CBD)
CIFOR	Center for International Forestry Research
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS	Convention on the Conservation of Migratory Species of Wild Animals
COP	Conference of the Parties (to the CBD)
COP-MOP	Conference of the Parties to the CBD, serving as the meeting of the Parties to the Protocol
CSD	Commission on Sustainable Development
CTE	Committee on Trade and Environment (WTO)
EIA	Environmental impact assessment
ExCOP	Extraordinary meeting of the Conference of the Parties to the Convention
FAO	Food and Agriculture Organization of the United Nations
GATT	General Agreement on Tariffs and Trade
GBIF	Global Biodiversity Information Facility
GCRMN	Global Coral Reef Monitoring Network
GEF	Global Environment Facility
GISP	Global Invasive Species Programme
GIWA	Global International Waters Assessment
GMBA	Global Mountain Biodiversity Assessment
GTI	Global Taxonomy Initiative
GURTs	genetic use restriction technologies
IACSD	Inter-Agency Committee on Sustainable Development (United Nations)
IAIA	International Association for Impact Assessment
IBPGR	International Board for Plant Genetic Resources (CGIAR)
ICCP	Intergovernmental Committee for the Cartagena Protocol on Biosafety
ICLARM	International Center for Living Aquatic Resources Management
ICRI	International Coral Reef Initiative
ICRW	International Convention for the Regulation of Whaling
ICSU	International Council of Scientific Unions
IFF	Intergovernmental Forum on Forests
IHP	International Hydrological Programme
IMCAM	integrated marine and coastal area management
IMO	International Maritime Organization (United Nations)
INC	Intergovernmental Negotiating Committee
IOC	Intergovernmental Oceanographic Commission
IOCU	International Organization of Consumers Unions
IPCC	Intergovernmental Panel on Climate Change
IPF	Intergovernmental Panel on Forests
IPGRI	International Plant Genetic Resources Institute

IPPC	International Plant Protection Convention
IPR	intellectual property rights
ISME	International Society for Mangrove Ecology
ISOC	Inter-sessional Meeting on the Operations of the Convention
ITFF	Inter-agency Task Force on Forests
ITTO	International Tropical Timber Organization
IUCN	The World Conservation Union (formerly the International Union for Conservation of Nature and Natural Resources)
IWMI	International Water Management Institute
LMO	living modified organism
MA	Millennium Ecosystem Assessment
MAB	UNESCO Programme on Man and the Biosphere
MDG	Millennium Development Goals
NOAA	National Oceanic and Atmospheric Administration (United States)
NTFP	non-timber forest products
Ramsar	Convention on Wetlands of International Importance, especially as Waterfowl Habitat
SBSTTA	Subsidiary Body on Scientific, Technical and Technological Advice
SCBD	Secretariat of the Convention on Biological Diversity
SCOPE	Scientific Committee for Problems of the Environment
SIDS	small island developing States
SPS	Sanitary and Phytosanitary Measures
TBPA	Transboundary Protected Area
TRIPs	Agreement on Trade-related Aspects of Intellectual Property Rights
UNCCD	United Nations Convention to Combat Desertification
UNCED	United Nations Conference on Environment and Development
UNCLOS	United Nations Convention on the Law of the Sea
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Programme
UNEP-WCMC	United Nations Environment Programme World Conservation Monitoring Centre
UNFF	United Nations Forum on Forests
UNFCCC	United Nations Framework Convention on Climate Change
UNICPOLOS	United Nations Informal Consultative Process on the Law of the Sea
UNIDO	United Nations Industrial Development Organization
WCPA	World Commission on Protected Areas
WEHAB	Water, energy, health, agriculture, and biodiversity initiative
WIPO	World Intellectual Property Organization
WRI	World Resources Institute
WSSD	World Summit on Sustainable Development
WTO	World Trade Organization
WTO	World Tourism Organization
WWAP	World Water Assessment Programme
WWF	World Wide Fund For Nature and World Wildlife Fund

GLOSSARY

The following are the meaning of technical words as used in the Biodiversity convention.

"Biological diversity" means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

"Biological resources" includes genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential use or value for humanity.

"Biotechnology" means any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use.

"Country of origin of genetic resources" means the country which possesses those genetic resources in in-situ conditions.

"Country providing genetic resources" means the country supplying genetic resources collected from in-situ sources, including populations of both wild and domesticated species, or taken from ex-situ sources, which may or may not have originated in that country.

"Domesticated or cultivated species" means species in which the evolutionary process has been influenced by humans to meet their needs.

"Ecosystem" means a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.

"Ex-situ conservation" means the conservation of components of biological diversity outside their natural habitats.

"Genetic material" means any material of plant, animal, microbial or other origin containing functional units of heredity.

"Genetic resources" means genetic material of actual or potential value.

"Habitat" means the place or type of site where an organism or population naturally occurs.

"In-situ conditions" means conditions where genetic resources exist within ecosystems and natural habitats, and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties.

"In-situ conservation" means the conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties.

“Protected area” means a geographically defined area which is designated or regulated and managed to achieve specific conservation objectives.

“Regional economic integration organization” means an organization constituted by sovereign States of a given region, to which its member States have transferred competence in respect of matters governed by this Convention and which has been duly authorized, in accordance with its internal procedures, to sign, ratify, accept, approve or accede to it.

“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.

“Technology” includes biotechnology.

1. UNCBD CONTEXT

The origins of the Convention lie in the 1970s and 1980s. At the time, there was mounting public and political concern – confirmed by scientific findings – that the world's biological diversity was being lost at an unprecedented rate, and that human activities were largely to blame.

It was highlighted in June 1972 at the United Nations Conference on the Human Environment, held in Stockholm. In 1973, the very first session of the Governing Council for the new UN Environment Programme (UNEP) identified the 'conservation of nature, wildlife and genetic resources' as a priority area.

Between 1972 and 1992, more than 300 international environmental agreements were negotiated in an attempt to slow or reverse this process. These included a number of important individual measures, such as the 1973 CITES convention regulating trade in endangered species, and the 1979 Convention on Migratory Species. But given the continued loss of biodiversity, it was clear that further measures were needed. So in 1980, the world's largest conservation organisation, IUCN – the World Conservation Union – proposed a new international framework convention to strengthen and harmonise the various individual treaties.

The Convention on Biological Diversity was opened for signature at the Earth Summit in Brazil on 5 June 1992 and entered into force on 29 December 1993 when it had been ratified at a national level by 30 of the countries that had signed it in Rio. Its member countries currently number 188 and are known as 'Parties' to the Convention. They meet roughly once every two years.

It contains three national level obligations: to conserve, to sustainably use, and to share the benefits of biological diversity.

The Convention reflects the policy and scientific recommendations of a number of groups, beginning with substantive inputs from the IUCN. Formal negotiations began in November 1988 when UNEP convened a series of expert group meetings pursuant to Governing Council decisions 14/26 and 15/34 of 1987. The initial sessions were referred to as meetings of the Ad Hoc Working Group of Experts on Biological Diversity. By the summer of 1990, a new Sub-Working Group on Biotechnology was established to prepare terms of reference on biotechnology transfer. Other aspects of biodiversity were included, such as in situ and ex situ conservation of wild and domesticated species; access to genetic resources and technology, including biotechnology; new and additional financial resources, and safety of release or experimentation on genetically-modified organisms (also known as biosafety).

In 1990, UNEP's Governing Council established an Ad Hoc Working Group of Legal and Technical Experts to prepare a new international legal instrument for the conservation and sustainable use of biological diversity. Former UNEP Executive Director Mostafa Tolba prepared the first formal draft Convention on Biological Diversity, which was considered in February 1991 by an Intergovernmental Negotiating Committee (INC).

The first INC meeting was also known as the third session of the Ad Hoc Working Group of Legal and Technical Experts. The INC met four more times between February 1991 and May 1992, culminating in the adoption of the final text of the Convention in Nairobi, Kenya on 22 May 1992.

In May 1993, UNEP's Governing Council established the Intergovernmental Committee on the Convention on Biological Diversity (ICCBD) to prepare for the first meeting of the Conference of the Parties (COP) and to ensure effective operation of the Convention upon its entry into force. UNEP's Executive Director, Elizabeth Dowdeswell, established four expert panels to provide advice to the first ICCBD: Panel 1-Priorities for Action and Research Agenda; Panel 2- Economic Implications and Valuation of Biological Resources; Panel 3-Technology Transfer and Financial Resources; and Panel 4-Safe Transfer, Handling and Use of Living Modified Organisms Resulting from Biotechnology.

In addition, the Norwegian Government and UNEP hosted an Expert Conference on Biodiversity, held in Trondheim, Norway from 24-28 May 1993 to provide input to the preparatory work for the ICCBD.

The first session of the ICCBD met in Geneva from 11-15 October 1993. After a halting start, due to procedural problems that resulted from the 16-month gap between the last session of the INC and this meeting, the ICCBD made progress in addressing the long list of tasks mandated to it. The ICCBD established two Working Groups. Working Group I dealt with the conservation and sustainable use of biological diversity, the scientific and technical work between meetings and the issue of biosafety. Working Group II tackled issues related to the financial mechanisms, the process for estimating funding needs, the meaning of full incremental costs, the rules of procedure for the COP, and technical cooperation and capacity-building. Despite several sessions of substantive debate, the Working Groups were not able to produce reports that could be approved by the Plenary. As a last minute solution, the Plenary adopted only two decisions: the establishment of a scientific and technical committee that would meet before the second session of the ICCBD; and a request to the Secretariat to use the unadopted working groups' reports as guidance during the intersessional period.

The second session of the ICCBD met in Nairobi from 20 June to 1 July 1994. During the two-week session, delegates addressed a number of issues in preparation for the first COP. These included: institutional, legal and procedural matters; scientific and technical matters; and matters related to the financial mechanism. Progress was made on issues including: rules of procedure; the subsidiary body on scientific, technical and technological advice (SBSTTA); and the clearing-house mechanism. However, many delegates felt that substantive negotiations had been hastily postponed on such critical issues as: the need for a biosafety protocol; ownership of and access to ex situ genetic resources; farmers' rights; and the financial mechanism.

'The conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.'

Scientific Advice

The founders of the CBD envisaged that signatories would base their subsequent decisions about key biodiversity concerns primarily on advice from scientists and conservationists from both developed and developing countries, with minimum interference from politicians. This was an ambitious aim that has proven difficult to realise.

Part of the problem stems from the fact that members of the Convention's science advisory body, the SBSTTA, are nominated by member states. In practice, this means that the scientists on this body tend to reflect the views of their sponsoring countries. Indeed, in the SBSTTA's early years, its meetings were dubbed 'mini-COPs': the issues raised, the opinions expressed, and the overall tenor of the meetings generally mirrored the political debates of the CBD's main COPs.

This has changed significantly in recent times. Meetings of the SBSTTA have become high-level, independent forums at which scientists and policymakers can explore the interaction between research and policy relatively free of direct political pressure.

At the same time, however, there has been resistance to recommendations from the secretariat to set up a more comprehensive biodiversity science panel, similar to the Intergovernmental Panel on Climate Change (IPCC). One reason has been a fear among developing countries that such a body would be dominated by scientists from developed countries, who would impose a perspective skewed towards the North on their conclusions and advice. Another is that developed countries have been disinclined to provide funding for such a body.

The CBD has, however, endorsed the Millennium Ecosystem Assessment, a comprehensive study of the links between humans and ecosystems sponsored by a range of UN agencies, non-governmental organisations and other sources.

And rather than setting up a single comprehensive science advisory panel, the CBD has agreed to create a number of expert groups, as well as rosters of qualified advisors who are consulted on specific issues. In addition, formal agreements have been reached on sharing information and ideas on strategy with other biodiversity organisations, programmes and processes. These include the Global Invasive Species Programme; the UNEP/World Conservation Monitoring Centre; Diversitas, a global network of biodiversity researchers; and CAB International.

The resulting flow of information, however, has created its own problems. Despite efforts within the Convention process to streamline its agenda and consolidate information for delegates, developing countries are too frequently overloaded with scientific and policy advice during meetings. This is compounded by a lack of capacity at the national level to translate the advice into concrete action, a major challenge now facing all those concerned with the effective implementation of the CBD and the achievement of its goals.

Cartagena Protocol on Biosafety

The Cartagena Protocol on Biosafety came into force on 11 September 2003, and lays down rules under which crops and other organisms which have been genetically modified can be transferred from one country to another.

It reflects a desire by many developing countries to improve their ability to exploit and regulate modern biotechnology – and to use the CBD negotiating process to achieve this goal. They have succeeded in doing this in the face of opposition from exporters of genetically modified organisms (GMOs) – such as the United States, Canada, Australia and Argentina – who argue that the restrictions embedded in the proposal could unnecessarily hamper international trade in biotech products.

Under the Protocol, anyone exporting GMOs such as seeds, plants or fish intended for direct release into the environment will need prior permission from the importing country. Organisms intended for direct human consumption, for animal feed, or for use in food processing can be freely exported once a central biosafety information clearing-house has been notified. However, the importing countries can still halt or delay a shipment by calling for a risk assessment. (GMOs intended for use in contained facilities, for transit through third countries, or for use as human pharmaceuticals are generally excluded from the Protocol's agreement procedure.)

An important aspect of the Cartegena Protocol is that its implementation is based on the use of the 'precautionary principle'. This 'better safe than sorry' approach allows countries to refuse the importation of a GMO if they believe that there is insufficient scientific information about its impact on human health or the natural environmental. Countries can include socioeconomic factors arising from impacts on biodiversity conservation in making such a decision.

The precautionary principle has many critics, who argue that it demands an assurance of 'zero risk' – or at least a level of certainty about low-level risks – that is impossible to achieve in practice. However, its proponents argue that it is an essential element of any strategy designed to prevent irreversible changes to natural biodiversity that could occur if the risks of GMOs turn out to have been ignored or understated.

Access to genetic resource

An equally contentious topic during negotiations over the CBD has been the issue of who should have access to genetic resources – which includes living plants, animals and their products – and who should share the benefits from their use.

The Convention gives a country sovereignty over the biological resources found within its geographical borders, and states that any commercial benefit derived from these resources should, for example, recognise that country and/or indigenous and local communities for their conservation efforts, as well as any prior knowledge about its potential utility.

The principles of fairness and equity behind this commitment are widely acknowledged. But putting it into practice has not been easy, given the divergent views and interests of industry, non-governmental organisations, governments and indigenous peoples.

In 2002, the CBD signatory states adopted the so-called Bonn Guidelines on access to genetic resources and benefit sharing. These guidelines, which are non-binding, provide a framework for developing national legislation on access and benefit sharing, address the potential roles of different stakeholders, and give countries advice on how to settle disputes.

At the instigation of a coalition of biodiversity-rich developing nations – known as the Like-Minded Group of Megadiverse Countries – the World Summit on Sustainable Development (WSSD), held in Johannesburg in 2002, went further. It called for "an international regime" to be established within the framework of the CBD that would "promote and safeguard the fair and equitable sharing of benefits arising out of the utilisation of genetic resources". At present, discussions are taking place on whether such a regime should form a binding protocol to the Convention.

Another controversial move centred on patents. This was the decision that the CBD should encourage scientists and companies applying for patents on products based on genetic resources to voluntarily disclose the country of origin as well as the use of any relevant traditional knowledge.

This move is intended to reduce the incidence of 'biopiracy' – the illegal appropriation of genetic resources. However, a number of countries have questioned whether it is appropriate for the CBD to make such recommendations. This is because of the prior existence of an international agreement on intellectual property rights known as Trade-Related Aspects of Intellectual Property Rights (TRIPS), which falls under the World Trade Organisation.

COP 1 first meeting of the COP (Nassau, Bahamas, 28 November– 9 December, 1994)
COP 2 second meeting of the COP (Jakarta, Indonesia, 6–17 November, 1995)
COP 3 third meeting of the COP (Buenos Aires, Argentina, 4–15 November, 1996)
COP 4 fourth meeting of the COP (Bratislava, Slovak Republic, 4–15 May, 1998)
COP 5 fifth meeting of the COP (Nairobi, Kenya, 15–26 May, 2000)
COP 6 sixth meeting of the COP (The Hague, The Netherlands, 7–19 April 2002)
COP 7 seventh meeting of the COP (Kuala Lumpur, Malaysia, 9–20 and 27 February 2004)

SBSTTA 1 first meeting of SBSTTA (Paris, France, 4–8 September, 1995)
SBSTTA 2 second meeting of SBSTTA (Montreal, Canada, 2–6 September, 1996)
SBSTTA 3 third meeting of SBSTTA (Montreal, Canada, 1–5 September, 1997)
SBSTTA 4 fourth meeting of SBSTTA (Montreal, Canada, 21–25 June, 1999)
SBSTTA 5 fifth meeting of SBSTTA (Montreal, Canada, 31 January– 4 February, 2000)
SBSTTA 6 sixth meeting of SBSTTA (Montreal, Canada, 12–16 March 2001)
SBSTTA 7 seventh meeting of SBSTTA (Montreal, Canada, 12–16 November 2001)
SBSTTA 8 eighth meeting of SBSTTA (Montreal, Canada, 10–14 March 2003)
SBSTTA 9 ninth meeting of SBSTTA (Montreal, Canada, 10–14 November 2003)

2. OBJECTIVES AND PRINCIPLES OF THE CONVENTION

ARTICLE1 | Objectives

According to Article 1, the Biodiversity Convention's objectives are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

The objectives are to be achieved through appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.

ARTICLE 3 | Principle

Article 3 stresses that in accordance with the Charter of the United Nations and the principles of international law, that states have the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.

ARTICLE 4 | Jurisdictional Scope

Subject to the rights of other States, and except as otherwise expressly provided in this Convention, the provisions of this Convention apply, in relation to each Contracting Party:

(a) In the case of components of biological diversity, in areas within the limits of its national jurisdiction; and

(b) In the case of processes and activities, regardless of where their effects occur, carried out under its jurisdiction or control, within the area of its national jurisdiction or beyond the limits of national jurisdiction.

ARTICLE 5 | Cooperation

Each Contracting Party shall, as far as possible and as appropriate, cooperate with other Contracting Parties, directly or, where appropriate, through competent international organizations, in respect of areas beyond national jurisdiction and on other matters of mutual interest, for the conservation and sustainable use of biological diversity.

3. COMMITMENTS UNDER THE CONVENTION

ARTICLE 6 | General Measures for Conservation and Sustainable Use

Each Contracting Party shall, in accordance with its particular conditions and capabilities:

(a) Develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity or adapt for this purpose existing strategies, plans or programmes which shall reflect, inter alia, the measures set out in this Convention relevant to the Contracting Party concerned; and

(b) Integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies.

ARTICLE 7 | Identification and Monitoring

Each Contracting Party shall, as far as possible and as appropriate, in particular for the purposes of Articles 8 to 10:

(a) Identify components of biological diversity important for its conservation and sustainable use having regard to the indicative list of categories set down in Annex I;

(b) Monitor, through sampling and other techniques, the components of biological diversity identified pursuant to subparagraph (a) above, paying particular attention to those requiring urgent conservation measures and those which offer the greatest potential for sustainable use;

(c) Identify processes and categories of activities which have or are likely to have significant adverse impacts on the conservation and sustainable use of biological diversity, and monitor their effects through sampling and other techniques; and

(d) Maintain and organize, by any mechanism data, derived from identification and monitoring activities pursuant to subparagraphs (a), (b) and (c) above.

ARTICLE 8 | In-situ Conservation

Each Contracting Party shall, as far as possible and as appropriate:

(a) Establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity;

(b) Develop, where necessary, guidelines for the selection, establishment and management of protected areas or areas where special measures need to be taken to conserve biological diversity;

(c) Regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to ensuring their conservation and sustainable use;

(d) Promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings;

(e) Promote environmentally sound and sustainable development in areas adjacent to protected areas with a view to furthering protection of these areas;

(f) Rehabilitate and restore degraded ecosystems and promote the recovery of threatened species, inter alia, through the development and implementation of plans or other management strategies;

(g) Establish or maintain means to regulate, manage or control the risks associated with the use and release of living modified organisms 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;

(h) Prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species;

(i) Endeavour to provide the conditions needed for compatibility between present uses and the conservation of biological diversity and the sustainable use of its components;

(j) Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices;

(k) Develop or maintain necessary legislation and/or other regulatory provisions for the protection of threatened species and populations;

(l) Where a significant adverse effect on biological diversity has been determined pursuant to Article 7, regulate or manage the relevant processes and categories of activities; and

(m) Cooperate in providing financial and other support for in-situ conservation outlined in subparagraphs (a) to (l) above, particularly to developing countries.

ARTICLE 9 | Ex-situ Conservation

Each Contracting Party shall, as far as possible and as appropriate, and predominantly for the purpose of complementing in-situ measures:

(a) Adopt measures for the ex-situ conservation of components of biological diversity, preferably in the country of origin of such components;

(b) Establish and maintain facilities for ex-situ conservation of and research on plants, animals and micro-organisms, preferably in the country of origin of genetic resources;

(c) Adopt measures for the recovery and rehabilitation of threatened species and for their reintroduction into their natural habitats under appropriate conditions;

(d) Regulate and manage collection of biological resources from natural habitats for ex situ conservation purposes so as not to threaten ecosystems and in-situ populations of species, except where special temporary ex-situ measures are required under subparagraph (c) above; and

(e) Cooperate in providing financial and other support for ex-situ conservation outlined in subparagraphs (a)–(d) above and in the establishment and maintenance of ex-situ conservation facilities in developing countries.

ARTICLE 10 | Sustainable Use of Components of Biological Diversity

Each Contracting Party shall, as far as possible and as appropriate:

(a) Integrate consideration of the conservation and sustainable use of biological resources into national decision-making;

(b) Adopt measures relating to the use of biological resources to avoid or minimize adverse impacts on biological diversity;

(c) Protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements;

(d) Support local populations to develop and implement remedial action in degraded areas where biological diversity has been reduced; and

(e) Encourage cooperation between its governmental authorities and its private sector in developing methods for sustainable use of biological resources.

ARTICLE 11 | Incentive Measures

Each Contracting Party shall, as far as possible and as appropriate, adopt economically and socially sound measures that act as incentives for the conservation and sustainable use of components of biological diversity.

ARTICLE 12 | Research and Training

The Contracting Parties, taking into account the special needs of developing countries, shall:

(a) Establish and maintain programmes for scientific and technical education and training in measures for the identification, conservation and sustainable use of biological diversity and its components and provide support for such education and training for the specific needs of developing countries;

(b) Promote and encourage research which contributes to the conservation and sustainable use of biological diversity, particularly in developing countries, inter alia, in accordance with decisions of the Conference of the Parties taken in consequence of recommendations of the Subsidiary Body on Scientific, Technical and Technological Advice; and

(c) In keeping with the provisions of Articles 16, 18 and 20, promote and cooperate in the use of scientific advances in biological diversity research in developing methods for conservation and sustainable use of biological resources.

ARTICLE 13 | Public Education and Awareness

The Contracting Parties shall:

(a) Promote and encourage understanding of the importance of, and the measures required for, the conservation of biological diversity, as well as its propagation through media, and the inclusion of these topics in educational programmes; and

(b) Cooperate, as appropriate, with other States and international organizations in developing educational and public awareness programmes, with respect to conservation and sustainable use of biological diversity.

ARTICLE 14 | Impact Assessment and Minimizing Adverse Impacts

1. Each Contracting Party, as far as possible and as appropriate, shall:

(a) Introduce appropriate procedures requiring environmental impact assessment of its proposed projects that are likely to have significant adverse effects on biological diversity with a view to avoiding or minimizing such effects and, where appropriate, allow for public participation in such procedures;

(b) Introduce appropriate arrangements to ensure that the environmental consequences of its programmes and policies that are likely to have significant adverse impacts on biological diversity are duly taken into account;
(c) Promote, on the basis of reciprocity, notification, exchange of information and consultation on activities under their jurisdiction or control which are likely to significantly affect adversely the biological diversity of other States or areas beyond the limits of national jurisdiction, by encouraging the conclusion of bilateral, regional or multilateral arrangements, as appropriate;
(d) In the case of imminent or grave danger or damage, originating under its jurisdiction or control, to biological diversity within the area under jurisdiction of other States or in areas beyond the limits of national jurisdiction, notify immediately the potentially affected States of such danger or damage, as well as initiate action to prevent or minimize such danger or damage; and
(e) Promote national arrangements for emergency responses to activities or events, whether caused naturally or otherwise, which present a grave and imminent danger to biological diversity and encourage international cooperation to supplement such national efforts and, where appropriate and agreed by the States or regional economic integration organizations concerned, to establish joint contingency plans.

2. The Conference of the Parties shall examine, on the basis of studies to be carried out, the issue of liability and redress, including restoration and compensation, for damage to biological diversity, except where such liability is a purely internal matter.

ARTICLE 15 | Access to Genetic Resources

1. Recognizing the sovereign rights of States over their natural resources, the authority to determine access to genetic resources rests with the national governments and is subject to national legislation.

2. Each Contracting Party shall endeavour to create conditions to facilitate access to genetic resources for environmentally sound uses by other Contracting Parties and not to impose restrictions that run counter to the objectives of this Convention.

3. For the purpose of this Convention, the genetic resources being provided by a Contracting Party, as referred to in this Article and Articles 16 and 19, are only those that are provided by Contracting Parties that are countries of origin of such resources or by the Parties that have acquired the genetic resources in accordance with this Convention.

4. Access, where granted, shall be on mutually agreed terms and subject to the provisions of this Article.

5. Access to genetic resources shall be subject to prior informed consent of the Contracting Party providing such resources, unless otherwise determined by that Party.

6. Each Contracting Party shall endeavour to develop and carry out scientific research based on genetic resources provided by other Contracting Parties with the full participation of, and where possible in, such Contracting Parties.

7. Each Contracting Party shall take legislative, administrative or policy measures, as appropriate, and in accordance with Articles 16 and 19 and, where necessary, through the financial mechanism established by Articles 20 and 21 with the aim of sharing in a fair and equitable way the results of research and development and the benefits arising from the commercial and other utilization of genetic resources with the Contracting Party providing such resources. Such sharing shall be upon mutually agreed terms.

ARTICLE 16 | Access to and Transfer of Technology

1. Each Contracting Party, recognizing that technology includes biotechnology, and that both access to and transfer of technology among Contracting Parties are essential elements for the attainment of the objectives of this Convention, undertakes subject to the provisions of this Article to provide and/or facilitate access for and transfer to other Contracting Parties of technologies that are relevant to the conservation and sustainable use of biological diversity or make use of genetic resources and do not cause significant damage to the environment.

2. Access to and transfer of technology referred to in paragraph 1 above to developing countries shall be provided and/or facilitated under fair and most favourable terms, including on concessional and preferential terms where mutually agreed, and, where necessary, in accordance with the financial mechanism established by Articles 20 and 21. In the case of technology subject to patents and other intellectual property rights, such access and transfer shall be provided on terms which recognize and are consistent with the adequate and effective protection of intellectual property rights. The application of this paragraph shall be consistent with paragraphs 3, 4 and 5 below.

3. Each Contracting Party shall take legislative, administrative or policy measures, as appropriate, with the aim that Contracting Parties, in particular those that are developing countries, which provide genetic resources are provided access to and transfer of technology which makes use of those resources, on mutually agreed terms, including technology protected by patents and other intellectual property rights, where necessary, through the provisions of Articles 20 and 21 and in accordance with international law and consistent with paragraphs 4 and 5 below.

4. Each Contracting Party shall take legislative, administrative or policy measures, as appropriate, with the aim that the private sector facilitates access to, joint development and transfer of technology referred to in paragraph 1 above for the benefit of both governmental institutions and the private sector of developing countries and in this regard shall abide by the obligations included in paragraphs 1, 2 and 3 above.

5. The Contracting Parties, recognizing that patents and other intellectual property rights may have an influence on the implementation of this Convention, shall cooperate in this regard subject to national legislation and international law in order to ensure that such rights are supportive of and do not run counter to its objectives.

ARTICLE 17 | Exchange of Information

1. The Contracting Parties shall facilitate the exchange of information, from all publicly available sources, relevant to the conservation and sustainable use of biological diversity, taking into account the special needs of developing countries.

2. Such exchange of information shall include exchange of results of technical, scientific and socio-economic research, as well as information on training and surveying programmes, specialized knowledge, indigenous and traditional knowledge as such and in combination with the technologies referred to in Article 16, paragraph 1. It shall also, where feasible, include repatriation of information.

ARTICLE 18 | Technical and Scientific Cooperation

1. The Contracting Parties shall promote international technical and scientific cooperation in the field of conservation and sustainable use of biological diversity, where necessary, through the appropriate international and national institutions.

2. Each Contracting Party shall promote technical and scientific cooperation with other Contracting Parties, in particular developing countries, in implementing this Convention, inter alia, through the development and implementation of national policies. In promoting such cooperation, special attention should be given to the development and strengthening of national capabilities, by means of human resources development and institution building.

3. The Conference of the Parties, at its first meeting, shall determine how to establish a clearing-house mechanism to promote and facilitate technical and scientific cooperation.

4. The Contracting Parties shall, in accordance with national legislation and policies, encourage and develop methods of cooperation for the development and use of technologies, including indigenous and traditional technologies, in pursuance of the objectives of this Convention. For this purpose, the Contracting Parties shall also promote cooperation in the training of personnel and exchange of experts.

5. The Contracting Parties shall, subject to mutual agreement, promote the establishment of joint research programmes and joint ventures for the development of technologies relevant to the objectives of this Convention.

ARTICLE 19 | Handling of Biotechnology and Distribution of its Benefits

1. Each Contracting Party shall take legislative, administrative or policy measures, as appropriate, to provide for the effective participation in biotechnological research activities by those Contracting Parties, especially developing countries, which provide the genetic resources for such research, and where feasible in such Contracting Parties.

2. Each Contracting Party shall take all practicable measures to promote and advance priority access on a fair and equitable basis by Contracting Parties, especially developing countries, to the results and benefits arising from biotechnologies based upon genetic resources provided by those Contracting Parties. Such access shall be on mutually agreed terms.

3. The Parties shall consider the need for and modalities of a protocol setting out appropriate procedures, including, in particular, advance informed agreement, in the field of the safe transfer, handling and use of any living modified organism resulting from biotechnology that may have adverse effect on the conservation and sustainable use of biological diversity.

4. Each Contracting Party shall, directly or by requiring any natural or legal person under its jurisdiction providing the organisms referred to in paragraph 3 above, provide any available information about the use and safety regulations required by that Contracting Party in handling such organisms, as well as any available information on the potential adverse impact of the specific organisms concerned to the Contracting Party into which those organisms are to be introduced.

ARTICLE 20 | Financial Resources

1. Each Contracting Party undertakes to provide, in accordance with its capabilities, financial support and incentives in respect of those national activities which are intended to achieve the objectives of this Convention, in accordance with its national plans, priorities and programmes.

2. The developed country Parties shall provide new and additional financial resources to enable developing country Parties to meet the agreed full incremental costs to them of implementing measures which fulfil the obligations of this Convention and to benefit from its provisions and which costs are agreed between a developing country Party and the institutional structure referred to in Article 21, in accordance with policy, strategy, programme priorities and eligibility criteria and an indicative list of incremental costs established by the Conference of the Parties.

Other Parties, including countries undergoing the process of transition to a market economy, may voluntarily assume the obligations of the developed country Parties.

For the purpose of this Article, the Conference of the Parties, shall at its first meeting establish a list of developed country Parties and other Parties which voluntarily assume the obligations of the developed country Parties. The Conference of the Parties shall periodically review and if necessary amend the list. Contributions from other countries and sources on a voluntary basis would also be encouraged.

The implementation of these commitments shall take into account the need for adequacy, predictability and timely flow of funds and the importance of burden-sharing among the contributing Parties included in the list.

3. The developed country Parties may also provide, and developing country Parties avail themselves of, financial resources related to the implementation of this Convention through bilateral, regional and other multilateral channels.

4. The extent to which developing country Parties will effectively implement their commitments under this Convention will depend on the effective implementation by developed country Parties of their commitments under this Convention related to financial resources and transfer of technology and will take fully into account the fact that economic

and social development and eradication of poverty are the first and overriding priorities of the developing country Parties.

5. The Parties shall take full account of the specific needs and special situation of least developed countries in their actions with regard to funding and transfer of technology.

6. The Contracting Parties shall also take into consideration the special conditions resulting from the dependence on, distribution and location of, biological diversity within developing country Parties, in particular small island States.

7. Consideration shall also be given to the special situation of developing countries, including those that are most environmentally vulnerable, such as those with arid and semi-arid zones, coastal and mountainous areas.

ARTICLE 26 | Reports

Each Contracting Party shall, at intervals to be determined by the Conference of the Parties, present to the Conference of the Parties, reports on measures which it has taken for the implementation of the provisions of this Convention and their effectiveness in meeting the objectives of this Convention.

5. STATUS OF IMPLEMENTATION

Article 6 (a) national strategies, plans and programmes

COP 6 adopted a Strategic Plan to bring about a "convergence of actions around agreed goals and collective objectives." The goals of Strategic Plan are:

1. The Convention is fulfilling its leadership role in international biodiversity issues.
2. Parties have improved financial, human, scientific, technical and technological capacity to implement the Convention
3. National biodiversity strategies and action plans and the integration of biodiversity concerns into relevant sectors serve as an effective framework for the implementation of the objectives of the Convention
4. There is a broader understanding of the importance of biodiversity and of the Convention, and this should lead to broader engagement across society in implementation.

COP7 emphasized that NBSAPs were the primary mechanisms for the implementation of the Convention and should be developed or reviewed with due regard to the relevant aspects of the four goals of the strategic plan "to enable greater contribution to the achievement of the 2010 target, consistent with national needs and priorities; and invites Parties to incorporate the goals, as appropriate into the national biodiversity strategies and action plans when these are revised.

The NBSAP of the Maldives was adopted in April 2001. The formulation of NBSAP was supported by the Global Environment Facility. The process for NBSAP involved a comprehensive assessment of the existing information on biodiversity in the Maldives and the carrying out of a participatory strategic planning process and the development of priorities for action on protecting biodiversity.

The NBSAP adopted a comprehensive approach to integrate biodiversity conservation and sustainable utilization of biological resources into all areas of national planning, development, policy and administration. The NBSAP addresses protection and conservation of special habitats and ecosystems as well as species. Emphasis is placed on capacity building, strengthening of legislative and institutional frameworks, working through participatory approaches, and improving and disseminating knowledge while building awareness and competence at community level.

A review of the status of implementation of the NBSAP was undertaken in July 2006 jointly by the AEC project and ICCS project implemented by MEEW.

Article 6 (b) Integrate conservation and sustainable use into sectoral plans, programmes and policies.

The Government of the Maldives has recently formulated the seventh National Development Plan (NDP7) t0hat lays down the policies and strategies for the development of the nation for the period 2006 to 2010. The NDP7 sets out the agenda for poverty reduction in the Maldives

and specifies country's macroeconomic framework, the structural and social policies and programs over the five year horizon to promote broad-based growth and reduce poverty and will serve as the Government's Poverty Reduction Strategy Paper (PRSP). Furthermore, the national development goals included in the 7th NDP are guided by the Millennium Development Goals.

Recognizing the important role the NDP7 will play in shaping the development agenda and allocation of public financing in the next five years, the UNDP/GEF funded Atoll Ecosystem Conservation Project implemented by the Ministry of Environment, Energy and Water brought together key stakeholders to ensure that biodiversity conservation is adequately addressed in the 7th NDP. The AEC project convened a special Working Group to review the sectoral roadmaps of the NDP7 and recommend policies and strategies to incorporate biodiversity conservation measures in the NDP7. Based on the outputs of the sessions of the Working Group a two-day Workshop on biodiversity conservation and the NDP7 attended by the key stakeholders was conducted. In the Workshop the participants reviewed the status of every action identified in the National Biodiversity Strategy and Action Plan (NBSAP). For all the strategies and actions from the NBSAP that are still relevant the participants checked if those strategies and actions were included in the NDP7 by the concerned agencies of the government. The participants deliberated on the strategies and actions that need to be included and made specific recommendations. These recommendations were forwarded to the Ministry of Planning and National Development for consideration by the Environment and Infrastructure Committee and the Economic Committee of the NDP7. The NDP7 contains several policies and strategies for conservation of biological diversity.

Article 7 Identification and Monitoring

No comprehensive assessment of the biodiversity in the Maldives has been undertaken. Studies undertaken are limited to commercially important species and to marine flora and fauna.

Under the GCRMN programme the MRC continues to monitor 14 transects of different reefs. Activities planned for 4-5 pilot sites for comprehensive socio-economic and biophysical monitoring. GIS introduced to facilitate data analysis. National system of coral reef monitoring?

MOFAMR and MRC has developed a full listing of the fish species in Maldivian waters.

MEEW has developed a listing of the biological diversity of bird species of the country. 5 endemic sub-species and 18 bird species under threat were identified.

The Maldives has a total enumeration system of reporting to the MOFAMR on marine species utilized commercially. The MOFAMR also has a monitoring system established for monitoring of reef species utilization, especially grouper species.

Article 8 In-Situ Conservation

Article 4 of Act 4/93 provides MEEW with powers to declare protected areas. On 15th October 1995 15 sites were designated as protected sites. On 21st October 1999 10 additional sites were designated as protected sites. On 5th June 2006, three islands and a mangrove ecosystem were declared as protected sites.

A Maldives Protected Areas System project was implemented from 2000 to 2004 to develop guidelines and build the capacity for protected areas management in the Maldives. The Integrated Reef Resources Management (IRRM) programme of the MRC also provides methodologies and systems for the sustainable use of marine biodiversity in the Maldives.

The species based management measures for conservation of marine biodiversity is through the Fisheries Law (5/97). The protected marine species include dolphins, Napolean Wrasse, whales, whale sharks, lobsters, turtles, giant clams, triton shells, and black coral.

The Fisheries law also bans the export of a number of marine species including: dolphin species, napoleon wrasse, Parrot fish, Puffer fish, Bigeye scad (under 6"), bait fish used in pole and line tuna fishery, Whales, Whale Sharks, Lobsters and lobster meat, Turtles and their products, Skates and rays, Eels, Triton shells, Trochus shells, All pearl oysters, All stony coral excluding organ pipe coral, Black coral and all products of black coral.

Terrestrial biodiversity is protected under Law on Uninhabited Islands. Timber on uninhabited islands may only be logged after obtaining written permission of the Ministry of Agriculture, and in the presence of a local government official and the party entrusted with the management of the island. In compensation for each coconut palm tree felled in such manner, the permit holder shall replant two palms in a place designated by the Agriculture Ministry. In the case of other plant and tree species, each unit felled shall be replaced by another.

Terrestrial vegetation on inhabited islands except Male' come under the jurisdiction of the Ministry of Atolls Development in accordance with Law No. 21/89. Agricultural biodiversity on land other than private land must be conserved and maintained in accordance with regulations established by the Atolls Ministry. The felling of trees and plants except those protected by the Agriculture Ministry on such land must be done in accordance with the advice of the Agriculture Ministry, and procedures established by the Atolls Ministry. Further, the pruning of such trees for firewood must follow the advice of the Agriculture Ministry and prior permit from the island office. The law also stipulates allowed practices with respect to such trees and plants.

The Directive No. (FA-E-2/29/98/06) of 5 February 1998 places a restriction on the felling of 20 plant and tree species except with the prior written consent of the Ministry.

Under Law No 21/89 the Agriculture Ministry has the mandate to declare as protected trees and plants over 50 years of age which are in danger or under threat of extinction.

A regulation on removal of vegetation and transfer of trees from one island to the other was issued by the MEEW on 15 January 2006.

Article 9: Ex-situ conservation

There are no programmes of ex-situ conservation.

Article 10: Sustainable Use

Article 11: Incentive Measures

Market values have been assigned to the species through catch and export quota systems. Species for which quota systems are used include target species for the live aquarium fish fishery, and yellowfin and bigeye tuna. Offshore foreign fisheries are also controlled through assigned total allowable catch, and imposition of royalty by volume of tuna caught.

Biological diversity considerations are incorporated into impact assessment. The mandatory EIA requirement for all major development projects ensures that environmental costs are included in project costs and operations.

Article 12 Research and Training

The Marine Research Center is the lead agency for marine research in the Maldives. The MRC was established in 1984. MRC has the mandate to plan, coordinate and conduct scientific research on marine resources of the country; to undertake marine research for the conservation, enhancement and management of the marine environment in general and for fisheries exploitation in particular; disseminate knowledge to the government and public in order to increase awareness of the marine environment; to study ways and means that will increase the fisheries sector's contribution to the economy of the country; to conduct resource surveys; to establish and maintain a database, holding data as well as scientific information on marine resources; to undertake research on technological innovations to promote rational utilization of marine resources, and to introduce these technologies to the fishing industry; to publish research findings and references materials in order to increase public awareness of the marine environment; and to undertake research on rational utilization of reefs and reef resources.

MRC research includes basic cataloguing of fish species in the Maldives, analysis of tuna resource.

ERC established in 1991 has the mandate to plan and implement coastal protection measures; to undertake work on biodiversity conservation; to analyze atmospheric and climate related data; to assess impacts of development activities on the coastal zone; to conduct relevant mapping using aerial photography and develop geographical information and data systems and to provide training, education/public awareness in relevant environment-related areas.

The Agriculture Section of the MOFAMR conducts research on plant and terrestrial species.

Few trained and technical staff available are not adequately deployed nor their skills made use to the best ability de to shortage of general staff and hence their employment in administrative and technical jobs

Research and training in biodiversity conservation is regarded as function of state agencies. Hence, in addition to low funding and other demands on staff time, relatively low wages means that the turnover of trained staff is high. Research programmes tend to suffer and lack sustainability as there is a continual need for new staff to be adequately trained in scientific research methods and techniques.

Training institutes in the country are primarily geared towards sectors such as health, education, tourism maritime and engineering. Technical training for biodiversity research and conservation is unavailable in the country, leading to a dependence on government funded opportunities overseas.

Various in-house training in research methods and skills are carried out within research and conservation oriented programmes and projects. However, the sustainability of such programmes is greatly diminished by the inability to develop and build on these skills once a particular programme is over.

Article 13: Public Education and Awareness

MEEW, MOFAMR, MRC, ERC and NGOs have conducted a number of public education and awareness programmes on biodiversity conservation. Print, electronic media is used to promote awareness on a regular basis while community mobilization is conducted through workshops conducted by mobile teams.

MoE has prepared various resource materials for use in schools. Environmental Studies has been a primary school compulsory subject since 1984. Environmental conservation and sustainable use concepts and activities are incorporated into Practical Arts subject. At secondary school level, Fisheries Science is offered as an optional subject.

MOFAMR has two dedicated units to run extension programmes to promote sustainable development of fisheries and agriculture.

Article 14: Impact Assessment and Minimising Adverse Impacts

Clause 5 of the Environment Act 4/93 makes EIA mandatory for all development projects that will have a significant impact on the environment. EIA guidelines and procedures were first established in the Maldives in 1994. New EIA regulations were issued in May 2007.

The EIA requirement is enforced for all development projects and economic sector investments by both private and public sectors.

The key issues in the EIA system include, EIA auditing, monitoring of mitigation measures and ensuring community participation at all stages of the EIA process.

NATIONAL PRIORITIES AND KEY CAPACITY NEEDS

The key priorities and key capacity needs in the field of biodiversity conservation are:

I. AWARENESS AND EDUCATION

The level of awareness on the benefits of conservation of biodiversity is generally low. Conservation also includes concepts such as biosafety, genetically modified organisms, access and benefit sharing which are new to the public, decision makers, private sectors and community groups.

The main capacity needs are:

- Public awareness and understanding of biodiversity issues and benefits
- Understanding the practical measures that can be used to successfully implement the convention
- Information on the economic and social values of biodiversity resources
- Training and education for policy makers on sustainable development and biodiversity conservation
- Knowledge of success stories from other countries on conservation

II. NATIONAL POLICY AND PLANNING

Integration of biodiversity conservation into sectoral policies on tourism, fisheries, agriculture, construction, housing, transport and national development is critical to the success of implementing CBD. National biodiversity planning should not be considered as fulfilling the obligations under Article 6(a) alone. It is also important to have strategies and plans that identify responsible agencies, together with timelines and agreed resource allocations, effective monitoring and reporting systems.

Capacity needs are:

- Specific policy related to implementation of CBD, including exploitation of synergies between CBD and other global conventions.
- Cross sectoral dialogue and policy formulation
- Cohesive planning frameworks that eliminate conflicts between policies in different sectors such as conflicts in sectoral policies between airport development and coral reef protection
- Better linking of biodiversity objectives with social and economic priorities
- Involvement of all stakeholders, including particularly resource dependent communities, private sector, and NGOs in the policy process

III. LEGAL AND REGULATORY FRAMEWORK

National legal and regulatory framework is not adequate to address the sectoral conflicts and issues covered in CBD. As with policy frameworks, legal framework is not harmonized across various sectors, leading to conflict, confusion, and difficulties in enforcement. The major conflicts between Environment Ministry and Fisheries Ministry are a good example of this. Newly emerging issues, such as access to genetic resources for commercial use and biosafety is not covered.

Capacity needs are:

- Resolution of conflicts and overlaps between different laws and regulations
- Development of new legislation to fill gaps in existing legislation
- The development of supporting regulations
- Better enforcement and the development of new mechanisms such as self-enforcement provisions for industries or communities

IV. INSTITUTIONAL MANDATES, JURISDICTIONS, CO-ORDINATION AND DECENTRALIZATION

A consequence of the multi-sectoral or cross cutting nature of issues associated with biodiversity conservation and use is that responsibility for biodiversity is often spread amongst a variety of agencies and institutions. In addition, a wide range of other sectoral agencies and institutions, as well as private and public organizations have responsibilities to carry out actions that have direct impacts on biodiversity. This leads to considerable overlapping and duplication in responsibilities and activities, which in turn can cause confusion, conflict and inefficiency. Gaps in responsibility are also left.

In addition to occurring between agencies and institutions, responsibilities are also confused between national and atoll levels. Success of the implementation of CBD depends in many cases on the implementation at the atoll levels where people interact directly with biodiversity resources. A number of challenges remain in the decentralization of decision-making powers and responsibilities.

Enhanced participation of non-governmental stakeholders, in particular local communities and NGOs in the assessment and management of biological resources is a key strategy to enhance the protection and sustainable use of biodiversity.

Capacity needs:

- Clarification of mandates, jurisdictions and roles of the various agencies involved in biodiversity
- Mechanisms to coordinate actions across agencies and institutions, including setting up and strengthening the role of the biodiversity focal points

Mechanisms to effectively decentralize decision making and management of biodiversity to the appropriate atoll levels, and to coordinate actions between the different levels

Enabling atoll offices to develop and implement local sustainable development policies which also address conservation and sustainable use of biological resources

Development of partnerships with NGOs, local businesses and other local actors whose activities directly impact biodiversity

Mechanisms for active consultation and involvement of local communities in planning and management of biodiversity and associated land resources

Planning processes that provide for adequate participation of non-government stakeholders in that process

Non-government stakeholders with the skills to become equal participants in planning processes

V. INFORMATION AND DATA MANAGEMENT

Effective policy making and management is dependent on the delivery of high quality, relevant and timely information to decision making levels. Information and data gaps occur widely, and a particularly weak area is inventory and status of biodiversity. Information on management options for sustaining biodiversity is also lacking.

Functional monitoring systems are also lacking. Agencies such as MRC operate monitoring systems that cover components of biodiversity such as coral. These are tailored to specific needs and not consistent or effectively shared with, or integrated into, broader systems.

Capacity needs:

Strengthening mechanisms for overall management of biodiversity information including coordination, integration, and delivery to identified targets, and particularly those in the policy and decision making process

Coordinated and compatible systems for data gathering, validation, storage, manipulation and analysis, access and dissemination

Filling of key information and data gaps, including extensive biodiversity assessment

Skills in monitoring system design, choosing indicators, etc

Better preservation and use of indigenous knowledge

Elaboration of working systems for the conservation and sustainable use of biodiversity

VI. INCENTIVE SYSTEMS, VALUATION AND ECONOMICS

The economic sectors such as tourism, fisheries and construction are highly dependent on the coral reef ecosystems of the Maldives. Yet there is a lack of market based incentives to manage the reef resources and there is a need to supplement traditional command-and-control approaches to conservation with market-based incentives that would encourage different stakeholders to conserve biodiversity and use its components in a sustainable manner. Biodiversity, especially coral reef ecosystems generates a range of services, the environmental, social, or economic values of which, particularly in the long term, are often not understood, are underestimated, or are not being factored into decision making. There is a need to develop techniques for valuing these services, coupled with the design and implementation of fiscal or other instruments so as to establish appropriate incentive/disincentive structures for conserving biodiversity and associated services.

Capacity needs:

Mechanisms for incorporating the values associated with biodiversity into national, and other, policy and planning processes and accounting systems

Incorporation of incentive systems into national policies

The human skills necessary to design systems of economic and social valuation and incentives

VII. NEGOTIATION

Delegations to meetings of the Convention from the Maldives frequently lack continuity. Sometimes research officials attend negotiations rather than policy officials. There is limited awareness and knowledge of the issues and their implications, and difficulties of communication and coordination between key national ministries and there are no preparatory discussions before major conferences. Delegation members lack negotiation skills and the decisions made at convention and meetings are often not disseminated to key policy makers.

Capacity needs:

Mechanisms for effective preparation, mandating, and reporting of convention discussions

Negotiating skills

VIII INTERNAL ORGANIZATIONAL CONSTRAINTS

Key agencies with responsibility for environment, particularly the atoll and island offices are weak and poorly resourced. There is lack of proper management within the Ministry of Environment, Energy and Water due to various constraints in human and financial resources. Individual initiative and achievements are not rewarded and management is geared towards

fulfilling requirements set by the Presidents Office only. This creates an ineffective environment for use of individual skills. Further, highly centralized decision making systems being inefficient, provides no solution to biological diversity problems which needs to be addressed at atoll levels.

Capacity needs:

Skilled managers and staff

Efficient and effective deployment of human resources and use of skills

Decentralization of decision making, staff and functions to lowest appropriate levels

Effective planning, particularly of programmes and projects

Access to and use of information technology

Effective monitoring and evaluation

IX HUMAN RESOURCES

Availability of human resources for conservation and sustainable use of biological diversity is influenced by a number of factors. Government policies on staff allocation, quality of education and professional training, attractiveness of certain professions, pay and incentive systems in different sectors are some of them. In many cases the lack of staff allocated to biodiversity management is directly linked to the shortage of financial resources, but in others it is a case of inappropriate staff allocations. The problem is particularly significant at the atoll level where there are no staff responsible for biodiversity conservation. Even though decentralization programmes can be initiated, it may prove of limited effectiveness as well-trained or experienced staff may be reluctant to move to the atoll level.

Capacity needs:

Mechanisms such as appropriate pay and incentive systems, to attract and retain qualified experts to work within the public sector

Increased opportunities for, and higher quality, training in key field relating to the convention including in particular environmental economics, taxonomy (Article 7), negotiation (CBD and WTO), data and information management (Article 18), trade policy and law.

Incentive mechanisms to provide motivation, encourage excellence, reward individual initiative and achievement and promote ongoing expertise development

X. FINANCIAL RESOURCES

It is difficult to assess how much is spent on conservation of biological diversity and sustainable use of its components, since the activities are implemented through and financed by different sectors and data on such spending is not easily available. The general amounts spent is low.

Capacity needs:

- Mechanism to ensure the availability of sufficient funds, including soft loans and grants for biodiversity conservation and sustainable use activities

- Mechanism to return revenues from biodiversity management, including fees associated with resource utilization and the provision of environmental services to the atoll level responsible for their management

- Stronger abilities to access and coordinate international financial support for biodiversity activities

- Enhanced transfer of technology and equipment from developed countries, along with the capacities to operate and maintain such equipment

XI IN-SITU MANAGEMENT AND PROTECTED AREAS

In-situ conservation is one of the key modalities for biodiversity management identified in the CBD and successive COP's have endorsed programmes of work to address priority ecosystems. While protected areas are one of the most important strategies for ensuring in-situ conservation they have limitations and additional strategies are needed. These include protection measures targeted at specific species, protection of biodiversity in ecosystems such as coral reefs.

No financial resources have been allocated for administration of protected areas in the Maldives. Hence there are no staff allocated to manage protected areas. Similarly, there is no budget for research, environmental education, and to work with communities in protected areas management.

Capacity needs:

- Strengthening protected area institutions, in particular through the design and implementation of self-financing plans for protected areas

- Enabling the adoption of new approaches to protected areas management, in particular the establishment of co-management with local communities and private sector reserves.

- More effective mechanisms for the in-situ management of biodiversity

- New mechanisms for in-situ management of biodiversity out strict protected areas.

XII BIOSAFETY AND THE CARTAGENA PROTOCOL

The requirement to respond to the potential risks associated with the release into the environment of organisms produced through modern biotechnology is rather new. There are no social controls or public alarm systems because biosafety is a new concern with issues unknown to most people. Where efforts have been made so far they are largely limited to sanitary measures by the agriculture authorities for blocking cross-border movement of biological elements that threaten to affect national production either as aggressive invaders or transmitters of pathogens.

Capacity needs:

- An understanding by decision makers of the biosafety concept and the requirements for implementation of the protocol
- Filling gaps in the policy and legislative and regulatory frameworks
- Abilities to assess and manage the risks posed by living modified organisms