

## ABBREVIATIONS AND ACRONYMS

CBD	Convention on Biological Diversity
GBA	Global Biodiversity Assessment
ICSU	International Council of Scientific Unions
IUCN	International Union for the Conservation of Nature and Natural Resources (now World Conservation Union)
PGGBA	Preparatory Group for the Global Biodiversity Assessment
SBSTTA	Subsidiary Body on Scientific, Technical and Technological Advice of the Convention on Biological Diversity
STAP	Scientific and Technical Advisory Panel
UNESCO	United Nations Educational, Scientific, and Cultural Organization
WCMC	World Conservation Monitoring Center
WRI	World Resources Institute

UNITED NATIONS ENVIRONMENT PROGRAMME

GLOBAL ENVIRONMENT FACILITY

SECTION 1

Project Identification

1.1. Title: Global Biodiversity Assessment

1.2. Number: GF/6105-93-01(3048)

1.3. Subject Area: Biological Diversity

1.4. Geographical Scope: Global

1.5. Implementation: Direct

1.6. Duration of Project: 24 months

Commencement: 1 May, 1993  
Completion: 30 April, 1995

1.7. <u>Cost of Project:</u> *	<u>US\$</u>	<u>%</u>
Cost to Environment Fund	0.00	0
Cost to United Nations Environment Programme(UNEP)/Global Environment Facility (GEF) Trust Fund	<u>2,000,000.00</u>	<u>100</u>
TOTAL	<u>2,000,000.00</u>	<u>100</u>

\* At its meeting in July 1994, the GEF Council endorsed an additional US\$ 1 million for this project.

## SECTION 2

### Background and Legislative Authority

#### 2.1. Background

In July 1992, two *ad hoc* working groups of the GEF Scientific and Technical Advisory Panel (STAP) on Biodiversity and on Conventions and Research, concluded that it would be desirable to carry out, at the earliest possible, a global assessment of biodiversity. UNEP prepared a project brief entitled Global Biodiversity Assessment (GBA) that was submitted for consideration to the GEF and subsequently endorsed by the Participants' Meeting (Abidjan, December 1992) for inclusion in the Fourth Tranche.

A Preparatory Group for the Global Biodiversity Assessment (PGGBA) was convened by UNEP's Assistant Executive Director in Montreal, Canada, 15-16 March, 1993, with the purpose of providing technical guidance for the preparation of the assessment. The meeting was attended by seventeen leading scientists of different disciplines and nationalities.

The PGGBA discussed the objectives of the GBA and developed a work programme and a Draft Outline of Contents of the Global Biodiversity Assessment (see Annex 1). The PGGBA suggested names for lead authors and chapter coordinators for consideration by UNEP and drafted outlines for the terms of reference for the Steering Group (Annex 3).

##### 2.1.1. Introduction

The Convention on Biological Diversity (CBD) has now been signed by over 160 countries and the European Community, and ratified by 12 countries<sup>1</sup>. The GBA has been proposed as a parallel activity to the CBD in support of its objectives once it comes into force. Strong links have been established with the Expert Panel 1 on Follow-up of the CBD in order to ensure that the GBA will work along similar lines with the Subsidiary Body on Scientific, Technical and Technological Advice of the CBD (SBSTTA).

The GBA will concentrate on preparing the first comprehensive peer review ever undertaken on the relevant theories and issues of biodiversity, based on an assessment of current scientific knowledge. The project will not undertake the preparation of lists of species or ecosystems, nor assess biodiversity data.

---

<sup>1</sup>Number of ratifications on 26 March, 1993.

### 2.1.2. Project context

The GBA has been designed to complement several past and ongoing initiatives in the field of biodiversity. In addition to the Convention on Biological Diversity, the GBA has taken into consideration a wide range of programmes and activities such as the Global Biodiversity Strategy jointly developed by UNEP, the International Union for the Conservation of Nature and Natural Resources (IUCN) and the World Resources Institute (WRI); the SCOPE Programme on Ecosystem Function of Biodiversity; the United Nations Educational, Scientific, and Cultural Organization (UNESCO)/ International Council of Scientific Unions (ICSU) Diversitas Programme on the origins and maintenance of biodiversity; and the World Conservation Monitoring Centre (WCMC) Global Biodiversity Status Report.

### 2.1.3. Development dimensions

Conservation and the proper use of biodiversity are fundamental for attaining the objectives of sustainable development. The GBA will provide a scientific, analytical, timely and updated overview of the most important theories and methodologies related to biodiversity, and so enable us to better conserve and manage our planet's biotic wealth.

### 2.1.4. Rationale for GEF support

The GBA will provide a standard scientific reference work on the main issues of biodiversity. The publications that will be issued will prove extremely useful for a wide audience. This would include policy makers worldwide and scientists involved with technical issues covered by the provisions of the Convention on Biological Diversity. The Assessment is expected to identify critical scientific issues on which there is consensus or disagreement, as well as gaps in current knowledge, providing a firm basis for further scientific work. The GEF may find the GBA an important tool to assist in deciding between different types of interventions or methodologies in research, technical assistance and investment projects on biodiversity conservation.

## 2.2. Legislative Authority

- The GEF Participants' Meeting in Abidjan in December 1992 gave its broad endorsement to this project. Details of its design and scope have been discussed with several interested governments.
- UNEP Governing Council Decision 14/26 recognized "the need for adequate protection and preservation of biological diversity".

The Convention on Biological Diversity calls for support to scientific activities related to biodiversity. The Interim Secretariat for the CBD is provided by UNEP.

## SECTION 3

### Objectives and Achievement Indicators

#### 3.1. Objectives

##### 3.1.1 Short-term objective

The objective of the Assessment is to provide an independent, critical, peer-reviewed, scientific analysis of the current issues, theories and views regarding the origins, dynamics, assessment, measurement, monitoring, economic valuation, conservation and sustainable use of biodiversity globally. It will identify critical scientific issues and draw attention to areas where there is consensus or continuing debate amongst scientists. The Assessment will examine the current status of knowledge on biodiversity, identifying the most important gaps. It will review the effects of both natural factors and human activities on biodiversity, and consider priorities for action as well as the effectiveness of different conservation strategies.

A Draft Outline of Contents is attached as Annex 1. It was prepared by the Preparatory Group and will be revised further.

##### 3.1.2 Long-term objective

The GBA will contribute to international, national and regional efforts to conserve global biodiversity. It will provide a timely, independent and scientific forum for discussing the state of knowledge on biodiversity, thereby strengthening the links among the world's scientific community.

#### 3.2. Achievement Indicators

- Use and discussion of the Report by the SBSTTA of the CBD
- Targeted distribution of and public demand for the Report, the Policy Makers' Guide and the Executive Summary documents
- Scientific interest and follow-up of the discussion, manifested in scientific papers and articles.

## SECTION 4

### Outputs, Follow-up, Activities, and Inputs

#### 4.1. Outputs

The main output will be a Report in the form of a book, divided into nine sections, each with one or more chapters corresponding to the main subjects selected for the Assessment (see Annex 1, Draft Outline of Contents of the GBA).

A Policy Makers' Guide and an Executive Summary of two to three pages will also be prepared.

#### 4.2. Use of Outputs

The Assessment has been designed to contribute to the objectives of the Convention on Biological Diversity, and is expected to be an important tool for the future work of the scientific body of the Convention.

The potential audience for the Assessment is expected to be extremely large including international, regional and national environmental organizations, both governmental and nongovernmental, as well as policy makers and a wide range of scientists working in the field of biodiversity.

#### 4.3. Follow-up Action

The Conference of the Parties and the Scientific Body of the Convention on Biological Diversity will determine the follow-up actions.

#### 4.4. Activities

In accordance with recommendations made by the Preparatory Group for the GBA, the main project activities will be:

- i) Nomination of the Steering Group by the Executive Director of UNEP. The Steering Group will consist of the nine coordinators of the main sections proposed for the Assessment (acting in their individual capacities), seven or eight experts representing agencies and international organizations, five to seven other independent experts, two representatives of the Convention on Biodiversity Panels, and representatives of the Secretariat of the Convention. Care will be taken to ensure that the Steering Group contains leading world experts from all the key areas of biodiversity. Proper emphasis will be given to marine and freshwater as well as terrestrial habitats and organisms. An adequate geographical balance and representation of experts from developing countries will also be ensured;

- ii) Selection of a Core Group from the Steering Group to monitor closely the progress of the Assessment;
- iii) Preparation of the final Outline of Contents of the GBA by the Steering Group;
- iv) Selection by UNEP, with the advice of the Steering Group, of all lead authors and contributors, and preparation of guidelines. Five or six lead authors would be selected for each chapter, as well as other contributors. The choice of authors will be as transparent as possible and will take into account scientific expertise, geographical balance, adequate representation of experts from developing countries and political sensitivities;
- v) Design and implementation of the peer-review process; the extensive peer review of the drafts may involve over 800 scientists;
- vi) Revision of the drafts and preparation of the final document, the Policy Makers' Guide and Executive Summary;
- vii) Publication of the Assessment.

#### 4.5. Workplan Timetable

Project approval	May 1993
Steering Committee	31 May-June 2, 1993
First draft of text	June 1994
First workshop (Steering Group and lead authors)	Mid-July 1994
Revised text	Mid-September 1994
Revision of Assessment draft through peer review (by mail):	
Comments	Mid-November 1994
Revised text	Mid-January 1995
Final workshop (Steering Group, lead authors and external experts)	End-February 1995
Publication	April 1995

#### 4.6. Inputs

Financial support from the GEF.

Professional support (Task Manager at UNEP).

Scientific publications including information, discussion papers and data on the subjects comprised in the Assessment.

### SECTION 5

#### Institutional Framework, Evaluation and Budget

##### 5.1. Institutional Framework

The GBA will be implemented by UNEP, Office of the Environment Programme, with the cooperation of various United Nations agencies (including the Food and Agriculture Organization (FAO), the International Board for Plant Genetic Resources (IBPGR), the United Nations Development Programme (UNDP), UNESCO and the World Bank) and international nongovernmental organizations (including ICSU, IUCN, WCMC and WRI).

Representatives of the Expert Panels to Follow-Up the Convention on Biological Diversity will participate in the project.

Different units of UNEP working on related fields will provide significant inputs to the Assessment. The Task Manager will be responsible for the coordination of such inputs.

All correspondence regarding substantive and technical matters of the project should be addressed to:

Coordinator  
Biodiversity and Biotechnology  
UNEP  
P.O. Box 30552  
Nairobi  
Kenya  
Tel: 520 600 or 230 800  
Fax: 2542 226 886 or 2542 226 890  
Telex: 22068  
Cable: UNITERRA, Nairobi

with a copy to:

Mr. L.F. Guerrero  
Acting Chief  
Fund Programme Management Branch  
Office of the Environment Fund and Administration  
UNEP  
P.O. Box 30552  
Nairobi

5.2. Evaluation

After completion of the project, UNEP will undertake a desk evaluation to assess the achievement of the short-term objective.

5.3. Budget

See Annex 2.

## SECTION 6

### Monitoring and Reporting

6.1 Monitoring

A Core Team will be selected from the Steering Group to monitor closely the assessment process.

6.2 Half-yearly Progress Reports

The Task Manager in UNEP (Job Description in Annex 4) will be responsible for reporting to the Chief, Fund Programme Management Branch, half-yearly progress reports on 30 June and 31 December.

6.3 Terminal Report

Within ninety days of completion of the project, the Task Manager shall submit to the Chief, Fund Programme Management Branch, a project terminal report.

6.4 Substantive Report

UNEP will be responsible for the distribution of the Report on the Global Biodiversity Assessment. UNEP hereby affirms itself the sole copyright-holder of the text of the Report on the Global Biodiversity Assessment, and equally expresses its intention to consider publication of the text to make it widely available.

Depending on the financial arrangements for publication, funds can be used for translation into several languages, as well as for regional seminars to promote the dissemination of results.

## ANNEX 1

### Draft Outline of Contents of the Global Biodiversity Assessment

The Draft Outline of Contents was prepared by the Preparatory Group but will be further revised. The material of the Assessment has been classified under nine broad themes, with each containing one or more chapters.

#### 1. Introduction

- i. The Convention on Biological Diversity and its history
- ii. Aims and objectives of the Assessment
- iii. Comprehensive ecological and taxonomic coverage of the Assessment, including:
  - a) Terrestrial biodiversity
  - b) Marine biodiversity
  - c) Freshwater biodiversity
  - d) Micro-organism biodiversity
- iv. Complementarity between the conservation of biodiversity and the development of sustainable agriculture.

#### 2. Concepts and Issues

- i. Measurement of biodiversity at the ecological level: bioregion, landscape, ecosystem, community, habitat
- ii. Measurement of biodiversity at the taxonomic level: orders, families, species, infraspecies
- iii. Measurement of genetic diversity by: inference from morphology; allozyme variation; DNA variation-direct sequencing of alleles, restriction fragment length polymorphism (RFLPs); karyotype variation
- iv. The concept of endemism: a qualifier and not a measure of biodiversity; species endemism; genetic endemism; neoendemism, paleoendemism; schizoendemism, patroendemism, apoendemism.

#### 3. The Origins and Dynamics of Biodiversity

- i. The origins of biodiversity; speciation
- ii. The dynamics of biodiversity at the population level; problems of measuring extinction rates; species-area curves; quasiextinctions; commitment to extinctions; genetic erosion and its measurement; IUCN's established categories for determining species threat as well as other existing categories
- iii. The dynamics of biodiversity at the ecosystem level; biomass changes
- iv. The role of humans in shaping biodiversity, including the effects of human management practices and harvesting techniques in the long term; multiple time dimensions.

#### 4. Magnitude and Distribution of Biodiversity

- i. Methods of inventorying, their current state-of-the art, and strengths and weaknesses of the different approaches at:
  - a) genetic and population level
  - b) species level
  - c) ecosystem level
- ii. Patterns of distribution; centres of endemism and diversity; patchiness, rarity and richness; latitudinal trends in distribution; relict species; models of bioclimates for predicting the distribution of biodiversity; geomorphological factors.

#### 5. Monitoring

- i. What to monitor; indicators of success and failure; use of indices; broad-based methods, including socioeconomic as well as biological parameters; minimum database requirements for national monitoring
- ii. Establishment of base-line studies; intensive local inventory and extensive wide-scale survey; questions of scale and resolution, both spacial and temporal
- iii. Tools and methods; remote sensing and field sampling; use of bio-indicators, both of organisms and physiological processes; data standards, taxonomies, formats for data exchange; applications for Geographic Information System (GIS) and other data management systems
- iv. Survey and evaluation of existing institutions, their weaknesses and strengths; assessment of capabilities and experience at site and global levels.

#### 6. Ecosystem Function

- i. Review of the world's ecosystems, including human-dominated ecosystems and components thereof such as domesticated species. For each ecosystem the following will be discussed: patterns of species, populations, functional groups, systems and landscapes, as well as linkages between systems. The ecosystems will include:
  - 1) Estuaries, lagoons and mangroves
  - 2) Mediterranean systems
  - 3) Islands
  - 4) Boreal forests
  - 5) Tundra
  - 6) Coral reefs
  - 7) Savannas
  - 8) Upwelling systems
  - 9) Tropical forests, including mangroves
  - 10) Lakes and rivers
  - 11) Temperate forests

12) Arid zones

13) Marine ecosystems, including deep sea systems

14) Microbial communities

Annex 1

Page 3 of 4

- ii. Ecosystem function (including human-dominated ecosystems and domesticated species). This will cover:
- 1) Diversity and structural organization
  - 2) Diversity and biomass
  - 3) Diversity and stability through time and space
  - 4) Diversity and invasion resistance
  - 5) Diversity and regulation of:
    - a) gene flow
    - b) energy, water and biogeochemistry
  - 6) Analysis of diversity components
    - a) keystone species
    - b) functional groups
    - c) functional redundancy
    - d) ecosystems that could be invaded
    - e) invasive and introduced species.

## **7. The Socioeconomic Dimension of Biological Diversity**

- i. Direct use values: wild species, crop varieties (cultivars), socioeconomic aspects like cultural and religious uses
- ii. Indirect use values: ecosystem services, etc.
- iii. Non-use, e.g., existence values
- iv. Methods for economic evaluation, including evaluation of the weaknesses and strengths of existing methods and presentation of results; identifying gaps; the value of existing methods in relation to existing economic systems.

## **8. Consequences of Human Activities for Biodiversity**

- i. Direct:
  - a) land-use changes and population pressure, including changes in biomass and its consequent overexploitation, leading to degradation and fragmentation
  - b) changes and pressures on aquatic ecosystems
- ii. Indirect:
  - a) invasive and migratory organisms
  - b) chemical deposition
  - c) atmospheric disturbances like changes in ultra violet and CO<sub>2</sub> balances
  - d) climatic change
- iii. Macroeconomic policies and market imperfections (trade relations, government policies, etc.)
- iv. Beneficial human impacts and positive benefits.

**9. Conservation, Restoration and Sustainable Use Methods**

- i. Evaluation of current concepts and approaches to conservation; survey of current approaches and techniques; *in situ* and *ex situ* methods, as well as combinations of both; integrated/complementary conservation; questions of scale; successes and failures in relation to conservation objectives and their implications from a socioeconomic point of view
- ii. Survey and evaluation of existing methods for sustainable use in agriculture, forestry, fisheries, etc., including the traditional uses of medicinal plants
- iii. Evaluation of restoration methods (including habitat restoration and rehabilitation, reintroductions)
- iv. Examination and analysis of the impact on conservation and sustainable use of biodiversity of legal regimes, traditional laws, and international legislation
- v. Evaluation of international instruments for managing biological resources outside national jurisdiction
- vi. Biotechnology and its contribution to conservation and sustainable use of biodiversity, including plant breeding; effects on biodiversity of introduction of alien organisms; threats to biodiversity from genetically modified organisms.

ANNEX 2

Budget

10		PERSONNEL COMPONENT	1993*	1994	1995**	TOTAL
1100		PROJECT PERSONNEL				
	1101	Task Manager - P4 (26 mm)	78,750	135,000	56,250	270,000
	1199	Sub-Total	78,750	135,000	56,250	270,000
1200		CONSULTANTS				
	1220	Consultants Unspecified	-	-	99,000	99,000
	1299	Sub-Total	-	-	99,000	99,000
1300		ADMINISTRATIVE SUPPORT				
	1301	Secretary - G6 (26 mm)	4,667	8,000	3,333	16,000
	1320	Temporary Support	2,675	6,300	6,325	15,300
	1321	Conference Costs	4,880	13,200	15,030	33,110
	1399	Sub-Total	12,222	27,500	24,688	64,410
1600		TRAVEL ON OFFICIAL BUSINESS				
	1601	Travel UNEP Staff	5,000	5,000	10,000	20,000
	1699	Sub-Total	5,000	5,000	10,000	20,000
1999		Component Total	95,972	167,500	189,938	453,410
20		SUB-CONTRACT COMPONENT				
2200		MOU'S				
	2101	MOU Unspecified	6,000	10,000	4,000	20,000
	2299	Sub-total	6,000	10,000	4,000	20,000
2999		Component Total	6,000	10,000	4,000	20,000
30		MEETING COMPONENT				
3300		MEETINGS/CONFERENCES				
	3301	Travel-Experts Steering Group Meeting	143,000	-	-	143,000
	3302	Travel-Experts 1st Workshop	-	308,000	-	308,000
	3303	Travel-Experts 2nd Workshop	-	-	308,000	308,000
	3304	Core Group Steering Committee Meeting	-	-	6,000	6,000
	3305	Informal Consultation Meeting	100,000	140,000	60,000	300,000
3999		Component Total	243,000	448,000	374,000	1,065,000
40		EQUIPMENT COMPONENT				
4100		EXPENDABLE EQUIPMENT				
	4101	Office Supplies	3,700	5,000	1,300	10,000
	4199	Sub-Total	3,700	5,000	1,300	10,000
4200		NON-EXPENDABLE EQUIPMENT				
	4201	Office Equipment	2,000	3,000	1,000	6,000
	4202	*** Literature	2,000	3,000	-	5,000
	4299	Sub-Total	4,000	6,000	1,000	11,000
4999		Component Total	7,700	11,000	2,300	21,000

50	MISCELLANEOUS COMPONENT					
5200	REPORTING COSTS					
	5201	Final Report	20,000	50,000	300,090	370,090
	5202	Executive Summary	-	-	3,000	3,000
	5203	Policy Makers' Guide	-	-	8,000	8,000
	5299	Sub-Total	20,000	50,000	311,090	381,090
5300	SUNDRY					
	5301	Communications	7,000	13,000	5,000	25,000
	5302	Other	8,000	13,500	5,500	27,000
	5399	Sub-Total	15,000	26,500	10,500	52,000
5400	HOSPITALITY					
	5401	Meeting Hospitality	1,500	3,000	3,000	7,500
	5499	Sub-Total	1,500	3,000	3,000	7,500
5999	Component Total					
			36,500	79,500	324,590	440,590
	GRAND TOTAL					
			389,172	716,000	894,828	2,000,000

\* 1993 Months

\*\* 1995 Months

\*\*\* Biodiversity Literature to be provided for Co-ordinator

### ANNEX 3

#### Terms of Reference for Steering Group

Agree and finalize the scope of the Assessment.

Provide further advice to UNEP on all lead authors and contributors.

Check coordination between sections.

Decide on the size of sections and chapters.

Draft guidelines for lead authors and contributors.

Design the peer-review process and help oversee it.

Agree on the timetable.

Review publication arrangements and media outreach.

Nominate a Core Team/Executive Group.

Attend workshops.

Ensure consistency between chapters and the Executive Summary.

(Core Team) draft Executive Summary and Policy Makers' Guide.

Check the consistency and style of the Assessment, the Executive Summary and the Policy Makers' Summary.

## ANNEX 4

### Job Description: Project Task Manager

<u>Duty Station:</u>	Nairobi
<u>Organizational Location:</u>	Office of the Environment Programme Biodiversity and Biotechnology Unit
<u>Functional Title:</u>	Programme Officer (Biologist)
<u>Level:</u>	P-4
<u>Duties:</u>	<p>Under the direct supervision of the Coordinator, Biological Diversity and Biotechnology, the incumbent will perform the following duties:</p> <p>Provide the Secretariat for the Steering Group of the Global Biodiversity Assessment.</p> <p>Organize the meetings and workshops of the Steering Group, lead authors and contributors.</p> <p>Assist the Steering Group in the organization of the peer review process of the Assessment.</p> <p>Coordinate the administration of funds for the project.</p> <p>Maintain close collaboration with the United Nations agencies and the nongovernmental institutions participating in the project.</p> <p>Coordinate inputs from UNEP to the Assessment with all relevant programmes and units.</p> <p>Establish relations with other scientific initiatives related to the objectives of the Assessment.</p> <p>Coordinate public information activities related to the project.</p> <p>Assist in designing and negotiating the publication process of the Assessment, the Executive Summary and the Policy Makers' Guide.</p> <p>Coordinate the final editorial work, the publication and the first distribution of the documents.</p> <p>16 Prepare progress and terminal reports on the project.</p>

Perform other duties related to project implementation as may be requested by the Coordinator, Biological Diversity and Biotechnology, and other senior officers.

Qualifications:

Advanced university degree in biology.

Ten years or more experience in conservation biology.

Familiarity with the United Nations system, and UNEP in particular, desirable. Familiarity with the process of negotiation of the Convention on Biological Diversity.

Fluency in English and excellent drafting ability.

Experience in administrative procedures.