7 April 2004

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GMA International Workshop

A regular process for the global reporting and assessment of the state of the marine environment, including socio-economic aspects*

Draft document prepared by the group of experts

Background

At the World Summit on Sustainable Development, held in Johannesburg, South Africa, from 26 August to 4 September 2002, States agreed, in paragraph 36 (b) of the Johannesburg Plan of Implementation, to "Establish by 2004 a regular process under the United Nations for global reporting and assessment of the state of the marine environment, including socio-economic aspects, both current and foreseeable, building on existing regional assessments" (GMA). In accordance with paragraph 45 of its resolution 57/141, the General Assembly decided to endorse paragraph 36 (b) of the Plan of Implementation, and requested the Secretary-General, in close collaboration with Member States, relevant organizations and agencies and programmes of the United Nations system, to prepare proposals on modalities for a regular process for the global reporting and assessment of the state of the marine environment, drawing, inter alia, upon the work of the United Nations Environment Programme (UNEP) pursuant to Governing Council decision 21/13 and taking into account the recently completed review by the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP), and to submit these proposals to the General Assembly at its fifty-eighth session for its consideration and decision, including on the convening of a possible intergovernmental meeting. In accordance with this request, a report was prepared by the Secretariat on proposals for modalities for the GMA focusing on steps to be taken for the establishment of the GMA process (A/58/423). In paragraph 64 (a) of its resolution 58/240, the General Assembly requested the Secretary-General to convene a group of experts of no more than 24 participants, comprising representatives of

* The present document was submitted after the established deadline to reflect the contributions received from the group of experts.

States, including all regional groups, and representatives from intergovernmental organizations and non-governmental organizations, including both scientists and policy makers, to produce, including through the possibility of hiring a consultant, a draft document with details on the scope, general framework and outline of the regular process, peer review, secretariat, capacity-building and funding.

A group of experts was convened in New York from 23 to 26 March 2004, pursuant to paragraph 64 (a) of General Assembly resolution 58/240, and was composed of representatives of States, intergovernmental organizations and non-governmental organizations, including both scientists and policy makers (for the list of participants, see annex II). The group of experts was chaired by David Pugh of the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization. The present draft document constitutes the outcome of the discussions held by the group of experts on the basis of the work of two consultants. It is submitted to the GMA International Workshop, to be held in conjunction with the consultative process from 7 to 11 June 2004 in New York, for its consideration and review pursuant to paragraph 64 (d) of Assembly resolution 58/240.

Contents

Abbreviations

GEF	Global Environment Facility
GEO	Global Environment Outlook
GESAMP	United Nations Group of Experts on the Scientific Aspects of Marine Environmental Protection
GIWA	Global International Waters Assessment
GMA	Global Marine Assessment
GPA	Global Programme of Action for the Protection of the Marine Environment from Land-based Activities
ICP	United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea
IOC	Intergovernmental Oceanographic Commission of UNESCO
IPCC	Intergovernmental Panel on Climate Change
LME	Large marine ecosystem
NGO	Non-Governmental Organization
TDA	Transboundary diagnostic analysis
UN	United Nations
UNCLOS	1982 United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
WCMC	World Conservation Monitoring Centre
WMO	World Meteorological Organization
WSSD	World Summit on Sustainable Development

I. Goals and Scope

A. Introduction

1. The process of investigating the potential establishment of a regular marine environment assessment to provide accurate information to decision makers on the state of the marine environment was initiated in 1999 by national governments at the seventh session of the Commission on Sustainable Development. Further Global Marine Assessment (GMA) initiatives included the technical workshops in Reykjavik (2001) and Bremen (2002).[1] At the World Summit on Sustainable Development (WSSD), States decided to seek the establishment by 2004 of a regular process under the United Nations for global reporting and assessment of the state of the marine environment, including socio-economic aspects, both current and foreseeable, building on existing regional assessments. That decision was subsequently endorsed by the General Assembly in resolutions 57/141 (paragraph 45) and 58/240 (paragraphs 64-65).

2. **The Plan of Implementation of WSSD in its paragraph 36 called on States to *improve the scientific understanding and assessment of marine and coastal ecosystems as a fundamental basis for sound decision-making, through actions at all levels to:***

> *(a) Increase scientific and technical collaboration, including integrated assessment at the global and regional levels, including the appropriate transfer of marine science and marine technologies and techniques for the conservation and management of living and non-living marine resources and expanding ocean-observing capabilities for the timely prediction and assessment of the state of the marine environment;*
>
> *(b) Establish by 2004 a regular process under the United Nations for global reporting and assessment of the state of the marine environment, including socio-economic aspects, both current and foreseeable, building on existing regional assessments;*
>
> *(c) Build capacity in marine science, information and management, through, inter alia, promoting the use of environmental impact assessments and environmental evaluation and reporting techniques, for projects or activities that are potentially harmful to the coastal and marine environments and their living and non-living resources;*
>
> *(d) Strengthen the ability of the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization, the Food and Agriculture Organization of the United Nations and other relevant international and regional and sub-regional organizations to build national and local capacity in marine science and the sustainable management of oceans and their resources.*

3. The Global Marine Assessment is to be developed pursuant to sub-paragraph (b) above, with regard for sub-paragraphs (a), (c), and (d) as appropriate.

[1] For details on Reykjavik (12-14 September 2001) and Bremen (18-20 March 2002) meetings, see the United Nations Environment Programme web site on the GMA: www.unep.org/DEWA/water/MarineAssessment

B. Goals

4. The Group of Experts established by General Assembly Resolution 58/240 concluded that the GMA should produce regularly occurring integrated global syntheses of the status and trends of marine ecosystems, including socio-economic aspects. The GMA should be built, as much as possible, on integrated regional assessments conducted by regional affiliates. The process of conducting the GMA should facilitate continuous access to information on the status and trends of marine ecosystems on diverse geographic scales. The global marine assessments should inform policy makers, ocean users, the public, and the scientific community with reliable and objective information, with the ultimate goal of policies, individual choices, and research that benefit humanity in a sustainable manner.

C. Scope

5. The GMA should address all dimensions of marine ecosystems including the physical and chemical environment, biota, and socio-economic aspects. The assessments should address the state of marine ecosystems, causes of change, benefits derived from marine ecosystems, and threats and risks. The geographic scope of the assessments should span coastal and estuarine waters through ocean basins, taking account of terrestrial and atmospheric influences. In particular, the assessments should:

- Synthesize the scientific findings of the state of and trends in the marine environment based on regional and national assessments, and outline options for policy makers and other stakeholders. A regular scientific report should be produced to inform policy makers, based on the best available peer-reviewed information;
- Identify gaps, nationally, regionally and globally in existing knowledge, and foster the further development of observation, monitoring and data management systems;
- Foster national, regional, and global capacity building efforts to improve scientific information for ocean management;
- Support the development of ecosystem approaches to management by providing comprehensive ecosystem-based scientific information; and
- Be policy relevant but not prescriptive of a specific policy or set of policies for management.

II. Framework and Process

6. The GMA is by definition a regular, cyclical process but there should be a startup phase of up to two years prior to commencement of the regular GMA process. The following sections present a framework for both the GMA startup and the regular process that would operate thereafter.

A. GMA Startup

7. The GMA startup phase would allow the institutional mechanism for the GMA to be established. It should also include:

- An Assessment of Assessments;
- Identification of regions;
- Capacity building;
- The identification of issues for, and possibly the commencement of, topical assessments; and
- Scenario analysis.

1. Assessment of Assessments

8. The Assessment of Assessments should analyze the results, process, and policy relevance of preceding assessments to define the current state of knowledge of marine assessment. From a scientific[2] perspective the Assessment of Assessments should examine the results and processes of previous and ongoing assessments in order to establish what we have learned from previous assessments both about the marine environment and about how to do assessments. Thus the Assessment of Assessments should:

- Establish the current state of knowledge and identify major uncertainties and gaps;
- Compare and contrast the scientific methodologies and processes of previous assessments to identify best practice and lessons learned;
- Recommend priority issues for topical assessments in the first cycle of the GMA; and
- Identify components of existing scientific assessment mechanisms, such as expert networks, database and information systems, methodologies, etc., that can be built upon by the GMA.

9. The Assessment of Assessments should also examine how well previous assessments have been communicated to and been used by policy makers and stakeholders at national, regional, and global levels.

10. There should be a preparatory phase in which expert groups, formed in accordance with procedures to be agreed upon, would prepare background reports on the issues to be addressed by the Assessment of Assessments, building upon previous work such as the UNEP-WCMC/UNEP/UNESCO-IOC 2003 Survey of Global Marine Assessments[3]. These reports should then be considered by open-ended scientific consultations with a view to further consideration in the United Nations Open-ended Informal Consultative Process on oceans and the Law of the Sea (ICP).

11. The Assessment of Assessments should provide useful guidance on several aspects of the design of the GMA. These include strengthening the inter-comparability of national and regional assessments, the use of qualitative vs. quantitative indicators, and quality control, as follows:

[2] Throughout this report the term “scientific” is intended to include both the natural and social sciences.

[3] UNEP (2003). Global Marine Assessments: a survey of global and regional marine environmental assessments and related scientific activities. UNEP-WCMC/UNEP/UNESCO-IOC. 132 pp.

- A common GMA conceptual framework and a set of common scenarios would help to harmonize national and regional assessments. Nonetheless, the design of the GMA will need to consider additional mechanisms to foster inter-comparability, and also strategies to deal with a lack of inter-comparability where it is unavoidable;
- The Assessment of Assessments should help identify qualitative indicators that could be combined with expert ranking, which is likely to be necessary in several regions as the basis for initial assessment since the necessary quantitative data do not exist. The methodology should be directly linked to quantitative criteria to support the evolution of the GMA into a quantitative assessment mechanism; and
- The credibility of the GMA, which is essential for its effective use in the policy arena, critically depends on the quality of the information and data used in the assessments. The Assessment of Assessment should help identify rigorous quality control procedures for data providers.

2. Identification of GMA Regions

12. The GMA should be based on comprehensive and integrated assessments undertaken insofar as possible at a regional level. A regional GMA liaison mechanism will be designated in each region. Individual States should have the option to contribute on a national basis to the GMA.

13. The GMA should not attempt to impose uniform definitions or create new regional networks. In order to identify regional assessment units, States should be requested to identify their regional affiliation with the GMA, taking into account as much as possible:

- Existing regional mechanisms (e.g., regional seas organizations, regional fisheries organizations, Large Marine Ecosystem (LME) programmes) that have permanent, government-recognised structures;
- An ecologically sensible delineation conducive to an ecosystem approach, for example LME or groupings of linked LMEs;
- Ready accommodation of past or existing monitoring and assessment programmes;
- An administratively manageable number of regional units; and
- The need to ensure coverage of areas within and beyond national jurisdiction, including all ocean basins.

14. The total number of regional units in the GMA involves a trade-off between cost and complexity on one hand vs. level of detail and specificity on the other. Based on consideration of existing regional frameworks, a target of 25-30 GMA regions appears reasonable. During the startup phase, States should consult with a view to avoiding unnecessary overlap and ensuring global coverage.

3. Capacity Building

15. The 1982 United Nations Convention on the Law of the Sea (UNCLOS) and ongoing regional programmes provide a legal framework for capacity building. Capacity building should be adequately provided for. During the startup phase it would be useful to identify areas where capacity building activities would be particularly valuable. Some States and regions currently have advanced

assessment programmes that can be incorporated, with some adaptation, into the GMA. In most, however, the development of a regional assessment programme will require significant effort. Furthermore, there is in many regions great disparity in national assessment capacities within the region. The strengthening of national and regional assessments should build upon existing information and mechanisms wherever possible, in particular upon ongoing regional monitoring programmes, Transboundary Diagnostic Analysis (TDAs) completed or underway for the GEF-LME projects, the Global International Waters Assessment (GIWA) regional assessments, regional assessments of land-based activities conducted for the Global Programme of Action for the Protection of the Marine Environment from Land Based Activities (GPA), and the Millennium Ecosystem Assessment (MA).

4. Topical Assessments

16. The possibility of topical assessments could be considered as contributing to the GMA process. Examples of the kinds of topics that might be addressed in topical assessments include:

- Intentional large-scale perturbations of the open ocean, such as deliberate fertilization and carbon sequestration;
- Effects of habitat degradation in the marine environment on fisheries;
- Assessment of deep-sea and open-ocean conditions (e.g., biodiversity, productivity) integrated across all oceans;
- Increased atmospheric input of nitrogen to the oligotrophic open ocean;
- Review of methodologies for the socio-economic valuation of marine ecosystem services;
- Implications of coastal degradation for human health and safety; and
- Best practices for particular emerging uses of the ocean.

There are many other topics that might be addressed, and the list above is purely illustrative.

5. Scenario Analysis

17. In the startup phase there is a need for evaluation through the scientific analysis of a range of future scenarios. Scenario planning is a useful tool in planning environmental policy in the face of uncertainty, and has been used effectively in the Intergovernmental Panel on Climate Change (IPCC) assessments. The Reykjavik consultative meeting stressed the importance of scenario planning in the GMA.

18. It would be useful to develop a general set of scenarios during the startup phase of the GMA, before the regular process of regional and global assessments commences. The scenarios should have enough regional specificity to be useful at the level of the regional GMA assessments. They would help provide a unifying framework for the regional assessments, thereby fostering their comparability, and be a valuable tool for regional and national policy development.

19. The scenarios should be a set of plausible alternative futures for the main human causes of environmental change in the ocean[4] under different assumptions regarding economic development and the evolution of environmental policy. These initial scenarios should not go beyond the driving forces, and possibly the resultant stressors noted in the "Conceptual Framework" below (e.g., by anticipating changes in levels of sewage treatment); the regular process of the GMA would examine their environmental implications.

20. The MA has a major working group on scenarios, and UNEP's Global Environment Outlook (GEO) process has incorporated a scenario approach since its inception. The GMA should build upon this foundation by convening an expert working group to adapt the existing scenarios for the main causes of marine environmental change to the purposes of the GMA and to develop scenarios further where necessary and possible.

B. The Regular GMA Process

1. Frequency of the GMA Process

21. After the startup phase, it is recommended that the regular GMA process follow a five-year cycle, adjustable based on experience gained during the first cycle.

2. Conceptual Framework

a. Themes

22. The GMA requires a common conceptual framework to foster comparability among the regional assessments. To foster policy relevance the conceptual framework for assessing the present state of the marine environment should be framed on the basis of four general and overlapping themes related to the health of the marine environment and the societal benefits derived from it:

- Food security and fisheries. This should not focus on the state of individual fisheries' stocks but look more broadly at issues such as the impacts of environmental change on food security and fisheries;
- Public health and safety, including the impacts of environmental contamination as well as changes in the severity, frequency, or resilience to natural disasters;
- Ecosystem function, including productivity, habitats, biodiversity, as well as alterations in ocean circulation, gas exchange, and nutrient cycling; and
- Economic and social benefits and uses, including cultural values, that the marine and coastal environment provides to society.

[4] A more completed list of sectors of human activity such as coastal development and resource extraction is provided .in Section II.B.2.c.

b. Causes

23. The GMA assessment of these themes should be in relation to the immediate causes of environmental change, i.e., stressors including:

- Chemical contaminants (heavy metals, persistent toxic organic compounds, petroleum hydrocarbons, and radionuclides);
- Physical alteration and degradation of habitats;
- Altered nutrient and sediment flux (e.g., sewage, agricultural runoff);
- Microbiological contamination;
- Introduction of exotic species and genotypes;
- Solid waste and litter;
- Effects of overfishing; and
- Other stressors (e.g., sound, light in the deep ocean).

c. Drivers

24. These stressors should then be related to driving forces, i.e., the sectors of human activity that drive marine environmental change, which would include:

- General coastal development;
- Marine fisheries and mariculture;
- Coastal tourism;
- Shipping and port development;
- Agriculture and forestry;
- Land transport;
- Industrial emissions, including in the hinterland;
- Offshore mineral extraction; and
- Offshore installations (e.g., airports, large-scale mariculture, wind farms).

d. Implications

25. The conceptual framework should include scientific assessment of policy options, including the analysis of potential future scenarios.

3. General Organization Framework

26. Following on from the startup phase, each GMA cycle should be initiated through consultations with stakeholders on the direction and needed outputs of the global scientific assessment. These consultations should include governments, intergovernmental and international organizations,

regional organizations, scientific organizations, development assistance organizations, trade and industry organizations, nongovernmental organizations, and academic institutions.

a. Global Scientific Assessment Panel

i. Composition

27. A Global Scientific Assessment Panel should be formed, consisting of a group of competent natural and social scientists with multidisciplinary expertise and experience in assessing the state of the marine environment, including expertise in developing an analysis of the policy implications of the scientific assessments. There should be representation of scientists involved in regional GMA assessments and balanced geographic and gender composition.

ii. Functions

28. The Global Scientific Assessment Panel should produce a general design for the global and regional assessments based, in part, on consultations with stakeholders. The Global Scientific Assessment Panel should also be responsible for synthesizing the results of the regional scientific reports as well as other available information into a Global Scientific Assessment Report, to be peer reviewed, as appropriate.

29. The specific functions of the Global Scientific Assessment Panel should be to:

- Guide and develop the GMA including providing input to the GMA affiliates;
- Work as necessary with GMA affiliates in gathering, analyzing, synthesizing, and presenting relevant data and information;
- Consider that all sources of relevant data and information are coordinated and utilized;
- Promote the collection and analysis of data and information, in cases where such data and information are not available;
- Ensure quality control and facilitate peer review of the global and regional assessments; and
- Be responsible for the preparation of the Global Scientific Assessment Report(s).

b. Regional Scientific Assessments

i. Modalities and Methodologies

30. Regional scientific assessments should be the responsibility of regional affiliates to the GMA based on arrangements between the regional and global organizations. The regional scientific assessment process should be undertaken using similar modalities and methodologies as those developed at the global level, adapted, however, to reflect the particular context of each region. Each region should undertake its regional scientific assessment through a structural mechanism of its own design, taking into account the special circumstances of each region and existing regional

mechanisms. States may also elect to provide data directly to the GMA rather than through regional organizations.

31. The Regional Scientific Assessment process should be undertaken by a combination of natural and social scientists with expertise in the various disciplines needed to complete the assessments, including expertise in developing the policy implications of the scientific assessments. Participation in the process should be broadly representative of the States in the region.

32. In those areas where comprehensive regional assessments are already available the existing mechanisms could be requested to adapt the existing regional assessment into the structure and format developed by the Global Scientific Assessment Panel to ensure comparability of data and information across regions.

33. In the event that national or regional assessments are not prepared within the prescribed time frame, the global GMA process will mobilize to assist the respective State or region to prepare the relevant regional assessment, in order to ensure the timely completion of the Global Scientific Assessment Report.

ii. Activities

34. The Regional Scientific Assessment process should consult broadly with regional stakeholders on the direction, conduct, and outputs of the Regional Scientific Assessments. These consultations should include governments, intergovernmental and international organizations, regional organizations, scientific organizations, development assistance organizations, trade and industry organizations, nongovernmental organizations, and academic institutions. The mechanisms designed at the regional level should be invited to:

- Gather, analyze, synthesize, and present data and information relevant to the major themes and categories established by the global scientific process;
- Consider that all sources of relevant data and information are coordinated and utilized;
- Promote the collection and analysis of data and information, in cases where such data and information are not available
- Prepare the regional scientific assessment report following the structure and format developed by the Global Scientific Assessment Panel, adapted, as appropriate, to the regional context; and
- Ensure quality control and facilitate peer review of the results of the Regional Assessment Report.

4. Coordination of the GMA process

a. Between United Nations Agencies

35. The GMA process will foster and rely on inter-agency coordination, utilizing the relevant mechanisms and components within the United Nations system, as much as possible. Firm commitments and inputs to the GMA from the relevant United Nations agencies and programmes

should be obtained at the outset of the GMA. This coordinating effort should be used to define common objectives and the roles and responsibilities of each agency, according to its mandate.

b. At the Regional Level

36. The regional GMA process should coordinate inputs to regional assessments using all existing information sources and activities in the region, augmenting them with new activities and mechanisms, only as required. Assessments for capacity building needs should be conducted in the startup phase and should be related to the maintenance of regional databases and the building of scientific capacity.

c. At the Global Level

37. The Global Scientific Assessment Panel should synthesize the Global Scientific Assessment Report directly from the national and regional reports and other available information including assessments of ocean basins.

C. Budgetary Considerations

38. Several important budgetary issues need to be considered for the establishment of an ongoing GMA (also see Section VI):

- Coordination and assessment activities are needed at the regional and global level. Although the GMA will build upon existing national and regional frameworks and products, the need to enhance national and regional assessment activities and to synthesize comprehensive assessments from these products, address the primary themes of the GMA, and develop scenario analyses for policy options will require investment in the process over and above current levels;
- The global-level activities will similarly require investment for development of adequate coordination, synthesis, review, and dialogue with policy makers;
- The GMA must have, as an integral component, the means to foster substantial capacity building in multiple regions, in cooperation with relevant United Nations agencies and programmes, in order to perform the scientific work needed around the globe. Capacity building programmes must enable full participation of scientists within the regional and global fora as well as training of young scientists for the many scientific disciplines included in the work of the GMA. Resources must be dedicated to these efforts from the outset; and
- Participation by scientists from around the world in the GMA needs to be encouraged with adequate incentives, monetary or non-monetary, for their time and best efforts. In some cases this may have a direct budgetary implication.

39. Overall, costing the GMA is a complex exercise. The group of experts was informed by the work of two consultants on the likely costs of various activities. A condensed version of this information is attached as Annex 1. In summary, the group estimated that the startup phase of the GMA would cost one to two million United States Dollars (US$) for two years. The ongoing work of the GMA after this startup phase is likely to cost six to eight million US$ per year. Therefore, for a five year cycle

of the programme, the cost would be in the range of US$30 to $40 million. Capacity building efforts are not included in this cost estimate and would require additional expenditures.

III. Quality Assurance Including Peer Review

40. The quality of the GMA assessments must be of the highest standard. Quality has many dimensions including relevance, responsiveness, credibility, and correctness. Ultimately, quality depends on the national and regional sources of data that underlie the GMA. It also depends on the expertise, experience, and credibility of the scientists engaged in assessment processes. The processes must be well-documented and transparent, and there must be visible mechanisms to assure their objectivity.

41. Recognizing the importance of the credibility of assessments, there should be a quality assurance programme that addresses peer review, transparency, and safeguards against bias and political influence. During the startup phase, the programme should be developed by the GMA secretariat (see Section IV.C) in consultation with stakeholders. It should address quality assurance of global assessment processes and arrangements with affiliated regional organizations that identify their responsibilities for quality assurance.

A. The GMA Pool of Experts

42. A critical factor in the credibility of any of the GMA documents will be the depth, quality and independence of the reviews of these documents before they are published. It is absolutely essential that the global assessment and any topical report undergo a thorough review by recognized peers in the scientific and policy areas covered by the report, and that these individuals have no previous involvement with the generation of the report being reviewed. The GMA secretariat should develop a GMA Pool of Experts or utilize other mechanisms within the United Nations system, e.g., the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) Pool of Experts, to review specific GMA reports and assessments. The selection of the reviewers should be the responsibility of the GMA secretariat. National governments and non-governmental organizations (NGOs) could also be called on to nominate potential peer reviewers to the GMA secretariat.

B. Peer Review of Global Scientific Assessment Reports

43. Scientific documents should ultimately be the responsibility of an editorial board. All scientific documents prepared as part of GMAs should be subjected to peer review by independent reviewers (individuals who did not participate in preparation of the documents and have no known bias). The names of reviewers should be made public, but their reviews would be treated as privileged communications between the reviewers, authors, and the editorial board for the GMA Assessment. The editorial board should also be composed of independent experts appointed by the GMA secretariat. They should have the responsibility to assure that authors adequately address peer reviewers' comments.

44. The number of peer reviewers and scope of expertise of the reviewers should be appropriate for the document being reviewed. For global scientific assessment reports that are broad in scope, complex, and with high policy relevance, ten to twenty peer reviewers might be appropriate.

C. Peer Review of Regional Scientific Assessment Reports

45. Regional scientific documents that contribute to the GMA should also be subjected to peer review. However, conducting the peer reviews should be the responsibility of regional affiliates to the GMA according to arrangements between the regional and global organizations. In order to enhance transparency, the peer review processes and other quality assurance processes at the regional level should be documented and accessible to users of the GMA.

IV. Institutional Arrangements and the GMA Secretariat

A. GMA Reporting

46. The GMA should regularly report on its activities through appropriate channels to the United Nations General Assembly (UNGA). The products and reports of the GMA to the General Assembly on the state of the oceans should be made readily available to the governments and other agencies and entities within the structure of the United Nations.

B. The GMA Executive Committee

47. Consideration should be given to establishing an Executive Committee for the GMA to ensure coherence in the organization and operation of the programme. The Executive Committee should be broadly representative of entities involved in the process, developed and developing States, and the recipients of the scientific products.

C. The GMA Secretariat

48. The GMA will require a secretariat to support the programme on an ongoing basis. The GMA secretariat should be established within the existing United Nations structure, but might be hosted by a member State. A secretariat is needed to develop cooperative arrangements with national, regional and global agencies to bring together existing and developing scientific work for the assessment. Further, a point of contact for the GMA would be needed, responsibility and accountability should be clear, and support for product development would be required. The following points should be considered in establishing a GMA secretariat:

- Located within or affiliated with an existing agency that has clear competence and expertise for entering into agreements with national, regional and international agencies; and
- Located within or affiliated with an agency with full experience in managing a scientific process with appropriate links to the scientific community.

V. Capacity Building

49. The success of the GMA will depend on capacity building at national, regional, and global levels. UNCLOS and ongoing regional programmes provide a legal framework for capacity building.[5] Several aspects of capacity are critical, including an information system built on routine ocean observations, institutional arrangements to coordinate and govern regional assessment processes, and scientists with the appropriate training and experience to conduct integrated assessments. The continuing development and implementation of the Global Ocean Observing System (GOOS) is an important aspect of capacity that the GMA should encourage. GEF support for LME studies also supports regional capacity building. The GMA should also work with donor organizations to encourage their support for capacity building, in particular in developing States.

50. The agencies, entities and other funding sources should collaborate and support a voluntary GMA trust fund (see paragraph 52) in supporting developing States in this capacity building enterprise. A capacity building function should be a permanent feature of the GMA and should be structured according to each region's needs.

VI. Funding for the Success of the GMA

51. In principle there are two functions that require funding for the successful functioning of the GMA. One is the cost associated with the operations of the GMA secretariat and the Global Scientific Assessment Report(s), including the necessary support for affiliated activities. The other is the requirement for new funding for capacity building for national and regional assessments in the developing States. The GMA should make maximum use of ongoing marine assessment programmes and processes, so that current and continuing programmes cover many of the costs associated with the GMA. It is clear that, to significantly improve the *status quo* of global marine assessment, the GMA will require new funding (see also Section II.C on Budgetary Considerations).

A. Voluntary Trust Fund

52. A voluntary trust fund for the GMA, and in particular for the participation of individuals from developing States in GMA activities as well as other assistance for capacity building and regional assessments, should be initiated. This has proven quite successful for other global assessments, in particular the IPCC and the Regional Seas Programme. Contributions to this trust fund could come from individual governments, United Nations agencies, possibly the World Bank or GEF and other organizations external to the United Nations. It is recommended that Member States of the United Nations be asked to contribute to the development of the GMA trust fund. Individual international agencies could also initiate trust funds for the GMA.

B. United Nations Agencies and Programmes Commitments

53. It is critical that all United Nations agencies and programmes concerned with ocean issues be involved in the GMA process, because without a significant buy-in by United Nations agencies, it is unlikely that the GMA will be a success. Only in this way will the GMA process be fully

[5] Information about capacity-building measures of international organizations relating to oceans and seas, starting with the provision of financial resources, is contained in the Secretary-General's report on Oceans and the Law of the Sea, document A/57/57, paras. 571-639.

participative and generate a sense of ownership by these bodies. For the United Nations agencies and programmes this could mean the continuation or expansion of current marine assessment activities, the refocusing of current activities toward activities that would contribute significantly to the GMA, the secondment or other ways of contributing the time and effort of individuals to the GMA process, and the contribution of monetary contributions to the voluntary GMA Trust Fund.

C. National Commitments

54. In addition to contributions to the voluntary GMA Trust Fund mentioned above, individual States should contribute in a number of other ways to the GMA implementation. Governments of developed States should cover some of the costs of participation in GMA activities. The voluntary GMA Trust Fund should cover these costs for experts from developing States.

D. External Commitments

55. Funding for the GMA implementation should also be sought from other external sources. The World Bank and the GEF have had a significant history of funding efforts at capacity building in developing States in the area of marine ecosystem protection and policy. The private sector, particularly foundations, should also be approached for contributions to the GMA process.

ANNEX 1. SUMMARY OF INDICATIVE BUDGETS[1]

Startup Phase		
	TOTAL COST (2 YEARS)	AVG ANNUAL COST
Secretariat	990,000	495,000
Assessment of Assessments	394,000	197,000
Topical Assessments (2 during Initiation Phase)	220,000	110,000
Scenario Analysis	130,000	65,000
STARTUP PHASE TOTAL COST	**1,734,000**	**867,000**
Capacity Building	**To be determined**	
5-Year 1st Cycle		
Global Activities		
	TOTAL COST (5 YEARS)	AVG ANNUAL COST
Secretariat	2,475,000	495,000
Global Scientific Panel (2 meetings per year)	890,000	178,000
Scenario Analysis/ Policy Implications Report	170,000	34,000
Global Scientific and Policy Reports: Production, printing, and distribution (6 languages)	600,000	120,000
Topical Assessments (2 per cycle)	220,000	44,000
Global Activities Total Cost	**4,355,000**	**871,000**
Regional Activities		
Per Region:		
Regional Liaison	400,000	80,000
Integrated Regional Scientific Assessment Panel (meetings)	50,000	10,000
Integrated Regional Policy Implications Report/ Scenario Analysis	55,000	11,000
Integrated Regional Scientific and Policy Reports: Production, printing, distribution (1-2 languages)	30,000	6,000
Regional Activities Total Cost (per region)	**535,000**	**107,000**
Regional Activities Grand total (30 regions)	**16,050,000**	**3,210,000**
5- YEAR 1st CYCLE TOTAL COST	**20,405,000**[2]	**4,081,000**
Capacity Building	**To be determined**	

[1] Estimates are in US Dollars.

[2] Cost of stakeholder consultations have not been budgeted for.

ANNEX 2

List of participants

A. Participants at the Meeting

Representatives of States:

Ms. Constance C. ARVIS (United States of America)

Dr. Argeo Rodríguez DE LEÓN (Spain)

Dr. Elva G. ESCOBAR (Mexico)

Dr. Gi-Hoon HONG (Republic of Korea)

Mr. Magnús JÓHANNESSON (Iceland)

Mr. Holger F. MARTINSEN (Argentina)

Mr. Mahmoud SAMY (Egypt)

Dr. Akima UMEZAWA (Japan)

Representatives from United Nations system organizations

Dr. Jorge CSIRKE (Food and Agriculture Organization of the United Nations (FAO))

Dr. Salif DIOP (United Nations Environment Programme (UNEP))

Dr. David PUGH (Intergovernmental Oceanographic Commission (IOC)/UNESCO) — elected as Chairman of the Group of Experts

Dr. Daniel D. DON NANJIRA (World Meteorological Organization (WMO))

Ms. Marjo VIERROS (Convention on Biological Diversity (CBD))

Representatives from Inter-governmental Organizations and Non-governmental Organizations

Mr. Lawrence Folajimi AWOSIKA (Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP))

Dr. Biliana CICIN-SAIN (University of Delaware)

Ms. Lee KIMBALL (The World Conservation Union (IUCN))

Prof. Andrew A. ROSENBERG (International Council for Science (ICSU))

Dr. Michael SISSENWINE (International Council for the Exploration of the Sea (ICES))

B. Unable to attend the Meeting

Nominated by States

Dr. Lawrence HUTCHINGS (South Africa)

Prof. Ryszard KOTLINSKI (Poland)

Ms. Anna LYUBALINA (Russian Federation)

Mr. Nicolay MIKHAILOV (Russian Federation)

Ms. Juying WANG (China)

Nominated by Inter-governmental Organizations and Non-governmental Organizations

Dr. Patricio BERNAL (Intergovernmental Oceanographic Commission (IOC)/UNESCO)

Dr. Elena MANAENKOVA (World Meteorological Organization (WMO))

Prof. Jacqueline McGLADE (European Environment Agency (EEA))

C. Consultants

Professor Robert A. DUCE (Professor of Oceanography and Professor of Atmospheric Sciences, Texas A&M University, College Station, Texas)

Dr. Michael HUBER (Chairman, GESAMP)