



United Nations
Environment
Programme

Working document
Version 4
14/07/03



**CONSIDERATIONS REGARDING THE DEVELOPMENT OF A GLOBAL
MARINE ASSESSMENT¹**

Working document based on ongoing consultations

Version 4, 14 July 2003

¹ This document has been produced without formal editing.

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Introduction

The report “*A Sea of Troubles*”² highlighted the challenges related to the protection of the marine environment and the lack of connection between science and policy makers in addressing these challenges. The 21st UNEP Governing Council/Global Ministerial Environment Forum (UNEP GC/GMEF) in February 2001, therefore, requested the Executive Director of UNEP to explore the feasibility of establishing a regular process for assessing the state of the marine environment. The assessment was also called for by the World Summit on Sustainable Development. Subsequently, in February 2003 the United Nations General Assembly (UNGA) resolution 57/141 “*decides to establish by 2004 a regular process under the United Nations for the global reporting and assessment of the state of the marine environment, including socio-economic aspects, both current and foreseeable, building on existing regional assessments.*”

The Global Marine Assessment (GMA) was seen as a tool for action by a consultative process that examined its feasibility. The overall goal of the GMA process as outlined in the Reykjavik meeting in September 2001 is *to provide on a regular and timely basis, scientific assessments of the state and trends of all aspects of marine ecosystems for use by policy makers.* It was recognised that the management of marine environment is a multi-sectoral process that requires interagency and multi-stakeholders cooperation. A holistic approach to the GMA design is, therefore, needed but at the same time the process has to be practical. The GMA should be based upon the lessons learned from existing assessments and could be used to improve the implementation of various multilateral agreements and action oriented instruments such as the Global Plan of Action for the Protection of the Marine Environment from Land-based Activities (GPA) and the Regional Seas Conventions.

This working paper is a “living document” which outlines UNEP’s considerations regarding the development of the GMA based on consultations with governments, agencies, scientific experts and other relevant partners. This document is developed in response to the Governing Council decision 22/1/II of February 2003 which requests the Executive Director to make the necessary arrangements for the active participation and appropriate contribution of the UNEP to the preparatory process for the establishment of the GMA as called for in UNGA resolution 57/141. Together with UNEP’s website (www.unep.org/DEWA/water/MarineAssessment), the document is intended to support the development of the GMA through a continued consultative process involving all stakeholders.

1. The Basis for UNEP’s Contribution to the GMA

UNEP’s mandate is to keep under review the world environmental situation in order to ensure that emerging environmental problems with international significance receives appropriate and adequate consideration by Governments. Furthermore, to implement the mandate, UNEP should mobilise

² GESAMP (IMO/FAO/UNESCO-IOC/WMO/WHO/IAEA/UN/UNEP Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection) and Advisory Committee on Protection of the Sea. 2000. *A Sea of Troubles*. Rep. Stud. GESAMP No. 70, 35 pp.

scientific experts and promote international cooperation. This mandate is the basis for the ongoing assessment activities of the marine environment, such as Global International Waters Assessment (GIWA), the Millennium Ecosystem Assessment (MA), and the marine component of the Global Environmental Outlook (GEO) or GEO-Marine.

UNEP sees the GMA as a composite process under one partnership framework. The GMA could be characterised by the following three phases: 1) Global Scoping; 2) Regional Zooming-in on Hot Spots and Themes; and 3) Policy Relevant Global Synthesis. The GMA should capture all aspects of marine ecosystems, but focus on overall risks and challenges, hotspots and regional priorities. Furthermore, the assessment should also include socio-economic aspects.

UNEP's contribution to the GMA will be based on the outcomes of the consultative process, our existing assessment activities, and the following aspects:

- interaction and collaboration with other relevant global and regional policy bodies that could contribute to the implementation, e.g. the UNEP GC/GMEF, the Convention on Biological Diversity (CBD), GPA, and Regional Seas Programme (RSP);
- a strong multidisciplinary science-based approach using existing networks of institutions and experts;
- close cooperation with other UN agencies to promote environment for development; and
- a strong capacity building component targeting developing countries.

As part of UNEP's efforts in this respect, UNEP-WCMC completed a *Survey of Global and Regional Marine Environmental Assessments and Related Scientific Activities* in January 2003 (<http://www.unep-wcmc.org/marine/GMA>). The survey was sent out to the secretariats of current global and regional assessments and activities, UN agencies, international and national policy makers, relevant organisations, NGOs, and individual experts to gather information on the types of existing assessments and the mechanisms for their implementation. The survey will be officially published in August 2003 as a UNEP – IOC of UNESCO joint publication with the support of the Government of Germany, Iceland and the UK. It will be the first interagency contribution between UNEP and IOC of UNESCO to the overall GMA process.

UNEP's ongoing programmes and activities that may feed into and help frame the GMA process include GEO, GIWA, GPA, MA, RSP, and UNEP-WCMC assessment activities. GIWA and MA are initially one-off processes, whereas the GEO is a standing assessment. Added values of these activities include existing networks of experts and scientists, various methodologies and processes, and regional capacity.

The Global Environment Outlook (GEO) was initiated in response to the environmental reporting requirements of Agenda 21 and to a UNEP Governing Council decision of May 1995 which requested the production of a comprehensive report on the global state of the environment. To date, three reports have been published in 1997, 2000, and 2002. The latest, GEO-3, provides an overview of the main environmental developments over the past three decades, and how social, economic and other factors have contributed to the changes that have occurred. GEO-3 emphasizes that the next 30 years will be as crucial as the past 30 for shaping the future of the environment. The Annual GEO Statement for

2003 and GEO-4 scheduled for 2007 are currently at the planning stage. See www.unep.org/geo.

The Global International Waters Assessment (GIWA) is a comprehensive and integrated global assessment of international waters, the ecological status of and the causes of environmental problems in 66 water areas in the world, and focus on the key issues and problems facing the aquatic environment in transboundary waters. Beginning in 1999 and being completed by 2004, GIWA focuses on five major concerns: Freshwater Shortage, Pollution, Habitat and Community Modification, Unsustainable Exploitation of Fisheries and Other Living Resources, and Global Change. See www.giwa.net.

The Millennium Ecosystem Assessment (MA) is a four-year process that commenced in April 2001 and is designed to improve the management of the world's natural and managed ecosystems by helping to meet the needs of decision-makers and the public for peer-reviewed, policy-relevant scientific information on ecosystem goods and services, the consequences of changes in ecosystems on human well being, and consequences on other life on earth, and options for response. The MA will present options for addressing environmental change, opportunities and consequences, and leaving the choices to policy-makers. See www.millenniumassessment.org.

The Global Programme of Action (GPA) was designed to be a source of conceptual and practical guidance to be drawn upon by national and/or regional authorities for devising and implementing sustained action to prevent, reduce, control and/or eliminate marine degradation from land-based activities. The implementation of the GPA is primarily the task of Governments, in close cooperation with all stakeholders including local communities, public organisations and the private sector. The GPA identifies the Regional Seas Programme of UNEP as an appropriate framework for delivery of the GPA at the regional level. See www.gpa.unep.org.

The Regional Seas Programme (RSP) is a global programme implemented through regional components. Thirteen Regions have been established, in addition three non-UNEP regional seas are included and one is under development. Each component has a comprehensive, integrated, results oriented approach to combating environmental problems through the rational management of marine and coastal areas. Regional action plans are formulated according to the needs of the region as perceived by the Governments concerned. See www.unep.ch/seas

UNEP-World Conservation Monitoring Centre (UNEP-WCMC) is the world biodiversity information and assessment centre of UNEP. UNEP-WCMC's recent assessments of direct relevance to the GMA include the World Atlas of Biodiversity, World Atlas of Coral Reefs, Mangrove Atlas, the World Atlas of Seagrasses and ongoing projects on marine mammals, marine protected areas and the impacts of the aquarium trade. See www.unep-wcmc.org

2. Some Aspects Relating to Developing the Modalities of the GMA

There is a need for the modalities of the GMA to be designed in a way that the GMA ensures adequate links between science and policy making. The assessment should analyse the current state of knowledge and identify areas of consensus among scientists as well as uncertainties and gaps in knowledge. The

findings of the GMA should be policy relevant, and not policy prescriptive. A long-term vision is important but, for practical reasons, the GMA, at least in its initial stage, should be based as far as possible on existing assessments, published material and available data-sets such as UN specialised agencies' databases. The GMA therefore should be structured in a way that the other ongoing assessments can fit into the process.

2.1 Developing the Overarching Goal, Scope and Key Considerations of the GMA

The overall goal of the GMA process as outlined in the Reykjavik meeting is to provide on a regular and timely basis, scientific assessments of the state and trends of all aspects of marine ecosystems for use by policy makers. In UNEP's view, the GMA should include consideration of socio-economic implications and identify scenarios in order to assist policy makers in addressing marine-related issues using the ecosystem-based approach.

To meet these objectives, the scope of the assessment should include all aspects of the interaction between human society and marine ecosystems. It should cover both coastal and oceanic systems and include land-based root causes and impacts, taking in particular into account the impacts and feed backs related to ecosystem goods and services. The consequences of those processes should be considered in relation to the use and conservation of marine resources and other socio-economic interaction with the marine environment. These considerations should lead to the development of indicators, scenarios and policy response options. Priority should be given to hot-spot areas and thematic issues. The geographical structure of the assessment has to be flexible and based on natural, political and institutional realities. Existing geographical and programmatic structures like Large Marine Ecosystems (LME), GIWA regions, deep-sea living and non-living resource management systems should be used where appropriate.

Within this general scope of the GMA, UNEP is particularly well placed to focus on pressures on coastal and marine ecosystems, consequent ecological changes and their implications for ecological goods and services supporting social and economical needs of coastal states. Past and ongoing activities of UNEP in particular GIWA, MA, GEO, GPA, and RSP provide a foundation on which to build a regular process for an ecosystem oriented assessment of the interactions between man and sea.

However, there are gaps in existing assessments with particular regard to marine socio-economic factors and interactions at the interface of freshwater and seawater. These are important issues and in order for the GMA to bridge these gaps the establishment of new assessments will be needed in the future.

Particular attention needs to be given to key questions that the GMA attempts to address. The questions should reflect decision making and policy needs as well as scientific considerations. A first examination of these issues was undertaken during the Bremen meeting and presented in its report (see www.unep.org/DEWA/water/MarineAssessment).

2.2 Developing the Characteristics and Methodology of the GMA

The methodology for the GMA needs to be carefully designed. The assessment methodology and process should be designed to ensure credibility, saliency, legitimacy, transparency, participation, cost effectiveness, and financial and institutional continuity.

The GMA methodology needs to be based on experience gained from previous and on-going assessment activities. As for UNEP, this experience includes scientific expert-based processes characterising the ozone assessments, Intergovernmental Panel on Climate Change (IPCC), the Global Biodiversity Assessment (GBA) and the MA, as well as, the ICSU lead processes. Other processes include the participatory and collaborating centres used by GEO and the sub-regional task team process used by GIWA where member countries participate. In addition, analytical methods, which was reflected in the Bremen meeting, such as the broad marine ecosystem approach, the biogeographical approach, socio-economic assessment including cost-benefit analysis and use of indicators should be considered in the design of the GMA.

In UNEP's view, a key methodological aspect of the GMA design is adequate involvement of relevant intergovernmental bodies. For UNEP's part, this involvement would, *inter alia*, include soliciting advice from the UNEP GC/GMEF on assessment needs. Furthermore, such involvement would enable the UNEP GC/GMEF to consider GMA findings and promote the timely development of policy responses. The coherent and joint knowledge base provided by the GMA could enable different intergovernmental bodies and agencies involved to act in a coherent and concerted manner. Furthermore, this would help sustain the continued and joint programmatic support to the process.

Data and information should, as far as possible, be acquired from existing data providers, e.g. UN agencies and programmes, intergovernmental organisations, government agencies, academic institutes, commercial sources, experts. The use of indicators could be instrumental in defining more specific data needs. Data management needs in support of the assessment needs to be addressed. Data compatibility and inter-operability should be addressed as required.

It is important to ensure quality control of data and information sources. UNEP notes that there are a number of existing guidelines in place (*i.a.* from IPCC and MA) on the use of data and information from various sources such as for published materials, non-published material, un-reviewed data, indigenous and local knowledge as well as individual sources.

A proper peer review process is critical in ensuring the credibility and legitimacy of the assessment. The assessment activities of UNEP normally include independent and in-depth scientific peer review as well as government review. GMA should, as far as possible, be based on existing review mechanisms and include guidelines and bodies to ensure a balanced selection of reviewers, and consideration and inclusion of review comments. The editing process is also of vital importance to the quality of the assessment.

Capacity building for developing countries should be integrated in all phases of the assessment *i.a.* through development of training material, workshops, and young fellowship programmes.

The assessment should produce a series of products such as thematic reports at regional and global levels as well as synthesis reports, summaries for policymakers and vital graphics.

2.3 Financial and Administrative Consequences Related to the Establishment of the GMA

UNEP is currently implementing Governing Council decision 22/1/II, which calls for the Executive Director to identify program resources and activities in support of the GMA process. The ongoing GIWA and MA assessments will contribute directly to the process by products that will be finalised in 2004 and 2005. The marine component of GEO-4, which is now in its planning and design stage, will also be a major contribution. These contributions should be seen in the context of the wider intergovernmental consultative process on the strengthening of UNEP's science base for environmental monitoring and assessment, which may generate increased support for the GMA. Furthermore, the GPA and the Regional Seas conceptual framework provide a platform for the global and regional implementation of the GMA.

These programmatic activities are an indication of UNEP's key role in the GMA and should be viewed as substantive contribution to the assessment process. In addition, UNEP is now in the process of further strengthening and consolidating its input into the GMA. However, these activities would require additional extra-budgetary resources to UNEP's core programme. The Executive Director has been authorised by the Governing Council in its decision 22/1/II to establish a trust fund for ensuring the participation of experts from developing countries in the GMA process. Contributions to the fund are of utmost importance for ensuring the active participation of the experts from developing countries in the GMA. This participation will be a critical determining factor for the success of the assessment. Another key to success is to ensure long-term financial and programmatic support to the regular GMA process.

The total financial and administrative consequences of implementing UNGA 57/141 will depend on the nature and final design of the assessment. A cost-effective solution would be to ensure and build upon synergy among the existing activities by the different relevant agencies. Necessary interagency co-operation and joint programming could, for example, be ensured through existing mechanisms such as the UN-system wide Earthwatch established by the UNGA. See www.unep.ch/earthw

3. Considerations Regarding the Further Process for Developing the GMA

The further development of modalities of the GMA would most likely benefit from increased interagency consultations and expert consultations. In this regard the following two steps should be considered:

- a) Interagency consultations could be facilitated by a joint meeting of relevant UN agencies convened under the auspices of UN DOALOS. During the UN Informal Consultative Process on Oceans and the Law (UNICPOLOS) held in New York, 2-6 June 2003, it was agreed that UNDOALOS will convene an interagency meeting in Paris in September 2003. The meeting could focus on the following tasks:

1. Define what issues the GMA should address.
2. Determine how to maximise the use of existing assessment activities and resources including national and regional data sets, consideration on design options for the GMA process and avoid duplication of existing activities.
3. Explore how to engage various UN organisations, governments, non-government, regional/national institutions and avoid competition among organisations.
4. Explore how to avoid costly operation and manage GMA within the limited additional resources available.
5. Avoid further delay of the global reporting and assessment.

b) With respect to UNEP's contribution, it has been indicated that a group of experts could be convened by the end of 2003 to explore how the UNEP's ongoing assessments could feed into the GMA process, e.g. GEO, GIWA, MA. This meeting could focus on detailed discussion on scope and methodology of the GMA as outlined in part 2 above. In addition, this meeting could examine how GMA could be linked to UNEP's science-based assessment activities as well as other endeavours e.g. CBD, GPA, RSP.

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ANNEX II: DRAFT AGENDA

GLOBAL ASSESSMENT OF THE STATE OF THE MARINE ENVIRONMENT

The Hague, the Netherlands, 26-27 May 2003

Agenda Item 1. Revisiting the past GMA-related activities and the GC Decision 22/1/II,
Global Assessment of the State of the Marine Environment

Agenda Item 2. UNEP's contribution to the wider process

Agenda Item 3. Scope, Structure, and Modalities of the GMA/Environment

Agenda Item 4. Methodology and process of the GMA/Environment

Agenda Item 5. Financial mechanism

Agenda Item 6. Future process

DRAFT ANNOTATED AGENDA

26 May 2003

09:00 – 09:20	Welcome and Opening. Veerle Vandeweerd welcomes participants and open the meeting. Housekeeping. Mr. Thomas Laughlin to chair the meeting
09:20 – 10:00	Objective and expected outcome of the meeting. Presentation of the agenda. <i>Agenda Item 1: Revisiting the past GMA-related activities and the GC Decision 22/1/II, Global Assessment of the State of the Marine Environment</i>
10:00 – 10:30	<i>Agenda Item 2. UNEP's contribution to the wider process</i>
10:30 – 11:45	Coffee Break
11:45 – 12:30	Continuation of Agenda Item 2
12:30 – 14:00	Lunch
14:00 – 15:30	<i>Agenda Item 3. Scope, Structure, and Modalities of the GMA/Environment</i>
15:30 – 15:50	Coffee Break
15:50 – 17:30	Continuation of Agenda Item 3
18:30	Reception

27 May 2003

09:00 – 10:30	<i>Agenda Item 4. Methodology and process of the GMA/Environment</i>
10:30 – 10:45	Coffee Break
10:45 – 12:30	<i>Agenda Item 5. Financial Mechanism</i>
12:30 – 14:00	Lunch
14:00 – 15:30	<i>Agenda Item 6. Further process</i>
	Meeting adjourned

Objectives of the Meeting

The aim of the informal meeting is to develop scope, methodology, structure, concept issues and further process of the global marine assessment particularly the environment component as UNEP's contribution to the implementation of the UN-wide global marine assessment process. The outcome of this meeting will be used during the next UNICPOLOS meeting in New York, 2-6 June 2003, and it will also assist the scientific expert meeting to be organized later this year at UNEP Headquarters in Nairobi.

The ground for this informal discussion will be based upon the UNEP GC Decision GC 21/13 and its implementation (Reykjavik and Bremen workshops), the UNGA Resolution 57/141, and the UNEP GC Decision GC22/1/II. The focus should be put on, but not limited to, the environment component of the assessment as UNEP's foremost contribution to the implementation of the GMA.

Agenda Item 1. Revisiting the past GMA-related activities and the GC Decision 22/1/II, Global Assessment of the State of the Marine Environment

Reykjavik Meeting

Following the GC Decision 21/13, the first meeting on a feasibility study to establishing a regular process for the assessment of the state of the marine environment was convened in Reykjavik, Iceland, 12-14th September 2001. The major outcomes were that the meeting:

- Agreed that developing a GMA process is both desirable and urgently needed;
- Agreed on the GMA goal,

“To provide on a regular and timely basis, scientific assessments of the state and trends of all aspects of marine ecosystems for use by policy makers. These assessments shall include consideration of socio-economic implications and identify scenarios so as to assist policy makers in addressing marine-related issues. The assessments should take the form of technical scientific reports, supplemented by summaries for policy makers”

- Recommended four key criteria for the sustainability of the process, *Cost Effectiveness, Credibility, Sustainability, and Ability to address policy issues.*
- Recommended that the process should be aimed at policy makers providing advice and guidance to mitigate environmental impacts and changes based on science; and
- Proposed an organization of a technical workshop for the development of the GMA process

The full report is available at www.unep.org/DEWA/water/MarineAssessment/

Bremen Workshop

In March 2002 a technical workshop for establishing a regular process for the global assessment of the marine environment was held in Bremen, Germany. The workshop recommended that the assessment:

- focus on “hotspots” or priority areas by taking into account, for example, common issues in many regions and transboundary implication.
- Identify gaps in the existing assessment processes and learn from their experiences.
- Synthesize regional assessments, both science and policy
- Ensure data quality through peer review process.
- Take a broad ecosystem approach on commonly accepted ecosystem boundaries and include socio-economic aspect.
- Produce reports in a two-tier format: a scientific/technical report and a policy-oriented report, based on the same assessment information.

The workshop also recommended that a survey of current and future marine environmental assessment and related scientific activities be conducted to evaluate existing major assessment activities in terms of scope, status, and timing. The full report is available at www.unep.org/DEWA/water/MarineAssessment/

UNEP-WCMC Survey

Following the recommendation made at the Bremen meeting, UNEP-WCMC conducted a survey on A Survey of Global and Regional Marine Environmental Assessments and Related Scientific Activities. The full report is available at <http://www.unep-wcmc.org/marine/GMA/>.

The 22nd Session of the UNEP Governing Council

A new decision was adopted at the 22nd Session of the UNEP GC in February 2003 and its operational paragraphs of the GC22/1/II are as follow:

1. Requests the Executive Director to make the necessary arrangements for the active participation and appropriate contribution of the United Nations Environment Programme to the preparatory process for the establishment of a regular process for global reporting and assessment of the state of the marine environment as called for in General Assembly resolution 57/141;

2. Calls on the Executive Director to identify existing United Nations Environment Programme marine assessment budgetary and programmatic resources that can be applied to support the regular process for global reporting and assessment of the state of the marine environment;

3. Urges regional seas programmes and other regional seas

agreements to participate and contribute as appropriate to the process called for in General Assembly resolution 57/141;

4. Requests the Executive Director to report to the Secretary-General in 2003 as well as to the Governing Council/Global Ministerial Environment Forum at its eighth special session on the United Nations Environment Programme's contribution to the regular process called for in General Assembly resolution 57/141;

5. Authorizes the Executive Director to seek extrabudgetary resources, including through the establishment of a trust fund, to support the participation of developing countries in a regular process for reporting and assessment of the state of the marine environment;

6. Urges Governments to contribute to the trust fund, once established; and

7. Calls upon Governments to focus particular attention on coastal areas in collaboration with appropriate regional institutions involved in the coastal areas.

Agenda Item 2. UNEP's contribution to the wider process

- 2.1. Within its responsibility and mandate to keep the overall state of the environment under review, UNEP could put its focus on **environmental component** of the assessment and on **the coast and interactions with land and marine systems**.
- 2.2. How to utilize UNEP's existing assessment programmes and activities?
 - Use of extensive networks of experts?
 - Extracting information and findings from these programmes for the GMA to build on?
 - On the other hand, some UNEP programmes (e.g. GPA and RSP) can make use of the assessment findings from GMA for their activities.

UNEP's existing programmes and activities include:

A. One-off assessment process

- **Global International Waters Assessment (GIWA)**, a comprehensive and integrated global assessment of international waters, the ecological status of and the causes of environmental problems in 66 water areas in the world, and focus on the key issues and problems facing the aquatic environment in transboundary waters. Beginning in 1999, GIWA focuses

on five major concerns: Freshwater Shortage, Pollution, Habitat and Community Modification, Unsustainable Exploitation of Fisheries and Other Living Resources, and Global Change. See www.giwa.net.

- **Millennium Ecosystem Assessment (MA)**, a four-year process commenced in April 2001 and designed to improve the management of the world's natural and managed ecosystems by helping to meet the needs of decision-makers and the public for peer-reviewed, policy-relevant scientific information on the condition of ecosystems, consequences of ecosystem change, and options for response. The MA will present options for addressing the environmental changes, with the opportunities and consequences, leaving the choices to policy-makers. See www.millenniumassessment.org.

B. Standing assessment process

- **Global Environment Outlook (GEO)**, initiated in response to the environmental reporting requirements of Agenda 21 and to a UNEP Governing Council decision of May 1995 which requested the production of a comprehensive global state of the environment report. To date, three reports have been published in 1997, 2000, and 2002. The latest GEO-3 provides an overview of the main environmental developments over the past three decades, and how social, economic and other factors have contributed to the changes that have occurred. GEO-3 emphasizes that the next 30 years will be as crucial as the past 30 for shaping the future of the environment. See www.unep.org/geo.
- **Small Islands Developing States (SIDS)**, using results from GEO and UNEP assessment activities to prepare SIDS Environment Outlook report as a contribution to the preparatory process for Barbados+10 and SIDS Programme of Action.

C. **UNEP's Programmes**

- **Programme of Action (GPA)**, designed to be a source of conceptual and practical guidance to be drawn upon by national and/or regional authorities for devising and implementing sustained action to prevent, reduce, control and/or eliminate marine degradation from land-based activities. The implementation of the GPA is primarily the task of Governments, in close cooperation with all stakeholders including local communities, public organizations and the private sector. The GPA identifies the Regional Seas Programme of UNEP as an appropriate framework for delivery of the GPA at the regional level. See www.gpa.unep.org.
- **Regional Seas Programme (RSP)**, a global programme implemented

through regional components. 13 Regions have been established, plus 3 non-UNEP regional seas, and one under development. Each has a comprehensive, integrated, results oriented approach to combating environmental problems through the rational management of marine and coastal areas. Each regional action plan is formulated according to the needs of the region as perceived by the Governments concerned. See www.unep.ch/seas.

2.3. Possible links

- ❖ GMA/Environment and wider GMA
- ❖ GMA/Environment and wider environment assessment
- ❖ Wider GMA and wider environment assessment

Agenda Item 3. Scope, Structure, and Modalities of the GMA/Environment

3.1. **Scope of the GMA/Environment**, assessing by or a combination of:

- ❖ **Theme**, e.g. Physical alteration and habitat degradation of coastal ecosystems, Creeping dead zone, Coastal pollution from land-based activities, Beach erosion, Invasive species
- ❖ **Ecosystem**, e.g. Coastal wetlands, mangroves, seagrass, coral reefs, nearshore zones, estuary
- ❖ **Ecosystem goods and services**
- ❖ **Hotspot or priority issues**: e.g. pollution along the coast of different regions
- ❖ **Geographical region**: e.g. Mediterranean, East Africa, South Asia, Pacific Islands
- ❖ **Eco-region**: e.g. LMEs, GIWA subregions
- ❖ **Sectoral linkages**: e.g. Coastal fisheries, shipping (ballast water)
- ❖ **Socioeconomic** considerations
- ❖ **Interaction** between society and marine environment
- ❖ **Responses and scenarios**
- ❖ **DPSIR** (Driving force, Pressure, State, Impact, Response)

3.2. What is **UNEP's role** with respect to scope, e.g. should we limit ourselves mainly to the coast?

Agenda Item 4. Methodology and Process of the GMA/Environment

Methodology:

4.1. Major criteria for the assessment process: **cost effectiveness; credibility;**

sustainability; ability to address policy issues; saliency, and legitimacy.

- 4.2. **Assessment methods** used by on-going assessment activities, e.g. MA (Coordinating Lead Authors, Lead Authors, Contributing Authors, etc.), GEO, GIWA (Sub-regional task team), or approaches such as
 - ❖ Broad marine ecosystem approach
 - ❖ Use of indicators
 - ❖ Biogeographical approach
 - ❖ Future responses and scenarios
 - ❖ Causal Chain Analysis
 - ❖ Transboundary Diagnostic Analysis
 - ❖ Cost-benefit analysis
- 4.3. Setting up **working groups** and identifying **experts/contributors**
- 4.4. **Data and information providers**: a separate mechanism for GMA to acquire data and information, use of existing data providers, e.g. UN-agencies and programmes, intergovernmental organizations, government agencies, academic institutes, commercial sources, experts.
- 4.5. **Data quality and compatibility**: published materials, non-published, un-reviewed data, individual sources
- 4.6. **Peer review mechanism**: Creating new peer review, or use of existing mechanism such as the planned UNEP Peer Review Mechanism, GEF STAB, ICSU/SCOPE. It is suggested to have a rather light coordinating mechanism than a costly superstructure.

Process:

- 4.7. **Institutional mechanism and suggested framework for GMA/Environment** keeping in mind the wider process as well as how to relate to other ongoing assessment activities? Secretariat and Divisions responsible for coordinating the UNEP GMA/Environment? Role of relevant Divisions?
- 4.8. **Interacting with policy fora**: identify assessment needs from a policy perspective, transfer assessment finding into policies.
- 4.9. **Broad-based participation** of key players/users and interagency cooperation including governments, academic institutions, industries, NGOs, individual experts, etc.
- 4.10. **Timeline** for a regular process with a quick delivery of a good product: Every 5 years?
- 4.11. **Assessment products**, e.g.
 - ❖ **Scientific report**: natural science and socioeconomic context
 - ❖ **Policy-oriented report** in the context of management, policy recommendations, and

actions required to mitigate the environmental impacts based on the assessment findings and targeting policy makers in the national, regional, and international level, stakeholders, and public

- ❖ **Global synthesis** based on the assessments of all thematic issues in a science & policy dialogue

4.12. **Capacity building mechanism**, e.g. assessment training/workshops, fellowship

Agenda Item 5. Financial mechanism

5.1. Financial support for UNEP's GMA/Environment: Extrabudgetary, established trust fund, GEF, Donor countries, Global and regional financial institution, e.g. World Bank, Development Banks

5.2. Links with the financial support for the wider process

Agenda Item 6. Further process

6.1 Planning

6.2 Expert meetings/workshops

ANNEX III: List of Acronyms and Abbreviations

CBD	Convention on Biological Diversity
FAO	Food and Agriculture Organization of the United Nations
GBA	Global Biodiversity Assessment
GEO	Global Environment Outlook
GESAMP	Joint 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
IAEA	International Atomic Energy Agency
ICSU	International Council for Science
IMO	International Maritime Organization
IOC/UNESCO	Intergovernmental Oceanographic Commission of UNESCO
IPCC	Intergovernmental Panel on Climate Change
LME	Large Marine Ecosystems
MA	Millennium Ecosystem Assessment
NGOs	Non-Governmental Organisations
RSP	Regional Seas Programme
UN DOALOS	United Nations Division for Ocean Affairs and the Law of the Sea
UNEP	United Nations Environment Programme
UNEP-DEWA	UNEP Division of Early Warning and Assessment
UNEP GC/GMEF	UNEP Governing Council/Global Ministerial Environment Forum
UNEP-UCC	UNEP Collaborating Centre on Water and Environment
UNEP-WCMC	UNEP World Conservation Monitoring Centre

UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNGA	United Nations General Assembly
UNICPOLOS	UN Informal Consultative Process on Oceans and the Law
WHO	World Health Organization
WMO	World Meteorological Organisation