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ENHANCING THE IMPLEMENTATION OF INTEGRATED MARINE AND COASTAL AREA MANAGEMENT (IMCAM)

Note by the Executive Secretary

I. BACKGROUND

1. The present document provides a summary of the main conclusions and recommendations of the Ad Hoc Technical Expert Group on Implementation of Integrated Marine and Coastal Area Management (IMCAM). The meeting of this Ad Hoc Technical Expert Group took place from 11 to 15 July 2005 in Montreal, with the generous support of the Government of the Netherlands. The full report of the Expert Group is available to the Conference of the Parties as an information document.

2. The Expert Group was convened to assist countries to promote and improve the implementation of IMCAM at the local, national and regional level. In accordance with activity (c) under operational objective 1.1 of the programme of work on marine and coastal biological diversity (decision VII/5, annex I), the Expert Group was tasked with identifying obstacles to the implementation of IMCAM nationally and regionally, and with developing strategies, such as partnerships, tools and other means, to overcome those obstacles, including provision of guidance on the applications of such tools. The present document discusses both of these issues.

3. The work of the Ad Hoc Technical Expert Group was undertaken in the context of the continuing decline in the biodiversity of marine and coastal areas, as indicated by the results of the Millennium Ecosystem Assessment (MA) and other recent global and regional assessments, including the Global International Waters Assessment (GIWA). Sectoral management of coastal zones has clearly failed to halt the progressive loss of marine and coastal biodiversity over the years, and there is need for an improved application of an integrated approach.

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4. IMCAM can be defined as a continuous, dynamic, iterative, adaptive and participatory process in which a coordinated strategy is developed and implemented to allow sustainable resource use. Vertical integration of national, regional and local authorities as well as horizontal integration of the many sectoral agencies, general public and relevant coastal stakeholders are considered to be cornerstones of the IMCAM process. Integrated management of coastal zones must be able to deal not only with current anthropogenic pressures, but also with future uncertainty regarding climate change, including accelerated sea-level rise and changing storm patterns.

5. The Parties to the Convention recognized the potential value of IMCAM at an early stage. Decision II/10 encourages the use of IMCAM as the most suitable framework for addressing human impacts on marine and coastal biological diversity and for promoting its conservation and sustainable use; and encourages Parties to establish and/or strengthen, where appropriate, institutional, administrative, and legislative arrangements for the development of integrated management of marine and coastal ecosystems, plans and strategies for marine and coastal areas, and their integration within national development plans. Because of its importance, the implementation of integrated marine and coastal area management became one of the programme elements of the Convention's programme of work on marine and coastal biological diversity, which was adopted in 1998 (decision IV/5) and updated in 2003 (decision VII/5). The present document aims to move beyond these decisions in order to understand why IMCAM is not being implemented as well as it should, and how its application could, in practical terms, be enhanced.

6. The Conference of the Parties may wish to consider the recommendations contained in section IV of the present document.

II. ENHANCING THE IMPLEMENTATION OF IMCAM: AN ANALYSIS OF CONSTRAINTS AND ENABLING ACTIVITIES

7. Given the complex nature of the pressures on the coastal zone and the multiple users of this area, it is not surprising that the implementation of IMCAM continues to be faced with many obstacles. Recognition of these obstacles will enable policy makers, coastal managers and other stakeholders to design more targeted programmes that will directly address the identified obstacles.

8. The obstacles for implementing IMCAM have been grouped into the categories adopted in the Strategic Plan of the Convention (decision VI/26, annex, appendix). The obstacles were identified based on the collective experiences of the Ad Hoc Technical Expert Group, as well as on various studies. In each case, a set of enabling activities is proposed to overcome the identified obstacles. The enabling activities identify an approximate timeframe to reach expected outcomes (short-, medium- or long-term) and propose the most likely actors for each activity. Further case-studies demonstrating these activities can be found in the full report of the Ad Hoc Technical Expert Group.

Political/societal issues

9. The following political obstacles were identified:

(a) Lack of long-term vision for IMCAM;

(b) Lack of political will and commitment to IMCAM, at various levels—national, regional and local;

(c) Elected officials' and their political parties' interest in costs and benefits limited to their term in office;

(d) Pro-development institutions and groups have greater access to policy makers than pro-conservation institutions and groups;

(e) Development options proposed for the coastal zone are often incompatible with IMCAM objectives;

(f) Lack of political will for effective enforcement of IMCAM-related legislation;

(g) Inadequate attention to priorities articulated by indigenous and local communities and other stakeholders in decision-making processes.

10. Successful implementation of IMCAM requires a long-term vision, shared outcomes and measurable goals and targets. It also requires strong and visible government commitment nationally and regionally, as well as awareness of and adherence to commitments made to various relevant international and regional conventions. Most government decisions are made on four to five year election cycles and there may be little attention paid to longer-term issues such as the eight to twelve year IMCAM project cycle or the long-term gains from sustainable resource management. Changing leadership during election cycles sometimes tends to change the focus of long-term resource management programmes. In addition, elected Governments may also be reluctant to consider costs and benefits beyond their term in office, while many IMCAM projects will take years to demonstrate results that can be readily seen and appreciated by the public.

11. Government commitment may be diluted by the fact that pro-development institutions have greater access to decision-makers and usually dominate over pro-conservation institutions in public forums. Conflicts between these factions may also result from a lack of alternative, environmentally sound development options.

12. An effective IMCAM programme will need to address priorities identified by indigenous and local communities and other stakeholders. Communities dependent on marine and coastal resources for their livelihoods have important first-hand knowledge of the status of these resources and the problems affecting them. However, local concerns, such as degradation and destruction of coastal habitats and resources by activities that are considered economically lucrative, may not be given priority status by policy makers. Economic issues are discussed in further detail in section G below.

Enabling activities related to political obstacles

13. *Desired outcome*: All Governments are committed to IMCAM; the steps required to effectively implement IMCAM on local, national and regional levels are in place; governments and stakeholders have full understanding of costs and benefits of IMCAM; all actors are putting in practice the integrated processes and commitments that will realize these objectives ***(Long-term)***.

14. *Activities*:

- Create a high level of awareness and understanding about IMCAM among policy makers by making a compelling case on the demonstrable benefits of IMCAM1/ *(**Actors**: Civil society, other organizations, coastal managers, educators, leading policy makers)*
- Facilitate processes that enable local constituencies to articulate a common vision relating to IMCAM and to input into decision-making *(**Actors:** Coastal managers, policy makers, communities and other stakeholders, civil society, organizations,)*
- Mainstream IMCAM into national and regional planning processes *(**Actors**: Policy makers, civil society and other organizations, regional programmes)*
- Integrate IMCAM into day-to-day political agenda *(**Actors**: Policy makers, civil society and other organizations)*
- Sensitize policy makers about the negative effects of non-implementation and non-enforcement of IMCAM-related legislation and obligations *(**Actors**: Civil society, other organizations, educators, leading policy makers)*

15. The following societal obstacles were identified:

(a) Inadequate awareness and knowledge among stakeholders and the general public about the benefits of IMCAM, particularly its role in fostering sustainable use of resources;

(b) Low level of educated involvement of stakeholders, particularly indigenous and local communities, in decision-making processes;

(c) Inadequate structures for stakeholders to arrive at a consensus vision for IMCAM, for conflict avoidance and resolution, and for implementing activities.

16. Public participation is vital to successful implementation of IMCAM. When local communities are faced with national government decisions in which they had no part, lack of understanding of the IMCAM process and its benefits leads to distrust and feelings of resentment. This is particularly the case when issues seen as important by local communities, such as pollution of coastal areas and destruction of coastal habitats, are not adequately addressed in IMCAM plans. Stakeholders may also perceive an absence of alternatives to current and unsustainable resource use patterns, which an IMCAM programme can address through economic development and enhancement of livelihood options. A successful IMCAM programme need not necessarily have the best technical content, but it does require public approval and must meet the needs of a wide range of stakeholders.

17. Creating public awareness and fostering public participation generally means that more time is required for decisions to be taken. However, the absence of public awareness and the loss of confidence

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1/ Supporting activities include:

- Produce studies on valuation of marine and coastal resources, using resource economics
- Incorporate IMCAM into World Environment and Ocean Day celebrations
- Conduct training programmes for policy-makers in IMCAM (including raising awareness of the existence of IMCAM as a government strategy to combat loss of marine resources, and, where possible, a comprehensive timetable for regular updates to policy-makers on developing issues).
- Distribute case studies/appropriate information products in various forms, on successful IMCAM projects, drawing out the lessons learned
- Produce publications demonstrating benefits of IMCAM (economic, social, environmental, including its role in disaster mitigation and climate change)

in management decisions and the regulatory process can create enormous impediments to IMCAM implementation. If the public is not actively engaged and does not ''buy into'' the decisions made, IMCAM initiatives can be substantially delayed, or may even fail. A formal mechanism for public participation needs to provide for the development of a common vision for IMCAM and the resolution of conflicts that may arise between different parties during the course of implementation. Stakeholders should have complete understanding of projected gains and losses, in order to avoid a consensus that is based on false expectations.

Enabling activities related to societal obstacles

18. *Desired outcome*:

- All stakeholders and the general public are aware of the benefits of IMCAM and of a healthy marine and coastal environment ***(Long term)***;

- Recognized and effective arrangements for consultation and participation of stakeholders, particularly indigenous and local communities, in all stages of programme design, implementation, enforcement and evaluation are in place;

- A consensual process of decision-making is in place ***(Medium term)***.

19. *Activities:*

- Sensitize the public, particularly the youth, and create greater awareness about benefits of IMCAM 2/ ***(Actors**: Educators, civil society, other organizations, coastal managers)*

- Ensure incorporation, on an ongoing basis, of experiences from successes and failures of IMCAM programmes ***(Actors**: Coastal managers, policy makers, organizations)*

- Establish mechanisms promoting effective consultation and participation of stakeholders, particularly of indigenous and local communities, at all stages of programme planning, design, implementation, enforcement and evaluation 3/ ***(Actors**: Coastal managers, policy makers, community leaders)*

- Establish mechanisms for conflict avoidance and conflict resolution ***(Actors**: Coastal managers, policy makers, community leaders)*

2/ Examples include:
- Locally appropriate educational/public awareness material, including for use in school curricula
- Culturally appropriate and locally relevant metaphors explaining IMCAM
- Publications/audio-visual material on successes/ achievements of IMCAM
- Equitable participatory structures and mechanisms such as administrative forums/councils

3/ These mechanisms should ensure that:
- IMCAM programmes respond to clearly identified needs of stakeholders
- Costs and benefits from IMCAM efforts are shared equitably and that mechanisms to do this are part of project design

B. Institutional, technical and capacity-related obstacles

20. The following obstacles were identified in relation to weak institutional structures:

(a) Lack of sufficient authority within IMCAM institutions to be effective;

(b) Lack of integration between the bottom-up and top-down approaches;

(c) Vagueness of what constitutes IMCAM in management terms;

(d) The absence of mechanisms to allow or ensure horizontal integration;

(e) Large number of (uncoordinated) agencies with conflicting or overlapping interests;

(f) Poor internal organization of institutions;

(g) IMCAM institutional arrangements, powers and budget inadequate to form effective horizontal and vertical integration among existing units of government and non-governmental organizations;

(h) Difficulty in hiring and retaining competent and skilled in-country staff;

(i) Over-reliance on skills and inputs of foreign consultants (Failure to build in-country capacity).

21. One of the greatest impediments to the implementation of IMCAM is *integration*. In many cases, there is little or no coordination between those responsible for IMCAM at the national, regional and local Government levels (vertical integration). The IMCAM process also requires the involvement and horizontal integration of a number of sectors operating in the marine and coastal environment (e.g., oil and gas development, fisheries, coastal tourism, mariculture, marine mammal protection, port development), as well as land-based sectors that influence the coastal and marine environment (e.g., agriculture, forestry, mining, housing, tourism). A mechanism to provide for integration may be absent, leading to IMCAM being constrained by the activities of those sectors not actively participating in it.

22. IMCAM institutions often lack direct authority over land-use practices affecting coastal ecosystems, inhibiting their ability to address problems crossing administrative boundaries. Agencies may have conflicting or overlapping interests and mandates, and poor internal organization. There may be imbalances in decision-making authority between multiple government ministries (e.g., between fisheries and environmental departments). As a result, IMCAM institutional arrangements, powers and budget may be inadequate to form effective horizontal and vertical integration. In many developing countries, institutional structures are further challenged by the difficulty of hiring and retaining competent in-country staff, resulting in over-reliance on the skills and inputs of foreign consultants. Development assistance programmes may not build adequate country capacity to sustain the programme when donor assistance ends.

23. Another constraint is the vagueness of the definition of IMCAM as it relates to pragmatic management issues. Effective integrated management requires coordinated actions and clearly allocated roles and responsibilities among a number of governmental and non-governmental agencies in multiple levels of governance, adequate resources and capacity among implementing officials at all levels to carry out management tasks. Systems for monitoring performance and ensuring accountability are also required.

The draft UNEP IMCAM Marker Set, which is available in annex II the full report of the Ad Hoc Technical Expert Group, can assist Governments in planning the steps that need to be taken to implement IMCAM and to monitor the progress.

Enabling activities/tools relating to weak institutional structures

24. *Desired outcome*:

- Strong, well-organized institutions with sufficient authority and capacity to effectively implement IMCAM are established and operational (***Long term***);

- A lead/coordinating agency with legal mandate for IMCAM is established and operational. Alternatively, a steering committee made up of agencies taking a lead role in IMCAM is established, with a clear understanding of respective roles and responsibilities; appropriate bodies at regional and local levels are in place; horizontal and vertical integration is achieved (***Medium term***).

25. *Activities:*

- Address vertical integration by holding meetings of relevant administrative agencies at all levels of government to analyse their individual mandates and activities, with the aim of developing a common understanding of roles, responsibilities and coordination strategies *(**Actors**: Policy makers, representatives of all relevant government agencies/departments and organizations)*

- Address horizontal integration by holding obligatory, regular inter-agency/departmental meetings of representatives of different agencies at all levels, and representing different sectors responsible for IMCAM *(**Actors**: Policy makers, representatives of all relevant government agencies/departments, sectors and organizations)*

- Create models for institutional structures supportive of IMCAM through incorporating proven examples of good practice adapted to country needs *(**Actors**: Policy makers, representatives of relevant government agencies and organizations)*

- Use indicators, such as the UNEP IMCAM marker set to improve implementation of IMCAM *(**Actors:** Coastal managers*)

26. The following obstacle was identified in relation to limited institutional capacity:

Lack of human resources and inadequate IMCAM knowledge and experience.

27. IMCAM requires a variety of expertise and knowledge in both the planning and implementation phases. In many countries, there is a shortage of trained personnel and collective resources, including finances, technologies and available equipment, leaving institutions unable to carry out adequate implementation, research or monitoring. There may also be limited experience in working in an integrated manner. Consequently, institutions are unable to fully plan, implement and evaluate IMCAM programmes, as well as evaluate the impacts of proposed development-related activities. Development of critical skills such as problem solving, strategic planning, project/programme monitoring and evaluation, and conflict

resolution is imperative. Skills enhancement at both national and local levels is important, as is the creation of an enabling environment in which practitioners can work.

Enabling activities/tools relating to limited institutional capacity

28. *Desired outcome*:

- Sufficient human resources with adequate expertise dedicated to the implementation of IMCAM programmes (***Long term***).

29. *Activity:*

- Enhance knowledge and experience through (i) training programmes on IMCAM and how to work together in an integrative fashion; and (ii) recruitment programmes (***Actors****: Research and educational institutions, relevant organizations, policy makers, funding agencies)*

30. The following obstacles were identified in regards to communication:

(a) Low level of communication between scientists and managers;

(b) Inability of many scientists to communicate in a non-scientific language;

(c) Failure of local managers to adequately state their needs;

(d) Absence of a "free" press as well as access to public information;

(e) High illiteracy rates limiting public understanding and participation;

(f) Absence of appropriate language skills at local level.

31. Communication on and about IMCAM among multiple stakeholders is a major challenge for all countries. The links between science, management and policy-making are often not well developed, and scientific information needs an effective mechanism of integration into the decision-making process. Many scientists lack the ability, time or will to communicate science in such a way that it is made understandable to the manager or the decision maker. Similarly, managers often fail to communicate to scientists their IMCAM information needs, or to take into account the scientific information offered. This may lead to decisions that are inconsistent with science, are motivated by economic objectives only, or that may fail to acknowledge scientific uncertainty and alternative hypotheses. The issue of scientific information in the management process is further discussed in section C below.

32. Most IMCAM projects are implemented at the local level, and require the participation of indigenous and local communities and other stakeholders. Although many informational resources relating to IMCAM already exist, both nationally and internationally, their practical use on the local level is often limited because they have not been translated into local languages. In some countries, high illiteracy rates limit public understanding and participation. In others, absence of free press and limited access to public information hinder the IMCAM process.

Enabling activities/tools relating to communication

33. *Desired outcome:*

- Communication gaps between scientists, managers and local people for IMCAM implementation are eliminated **(*Long term*)**;

- Common understanding between scientists and managers on IMCAM issues is developed ***(Medium term)***;

- IMCAM staff communicate more effectively at the local level ***(Short term)***.

34. *Activities:*

- Establish two-way, consistent and regular communication between scientists and managers, including through a clearing-house mechanism (***Actors:*** *Researchers, coastal managers, organizations*)

- Establish and implement a research agenda that will incorporate local and traditional knowledge and cultural practices, directed at improving the information base for IMCAM ***(Actors:*** *research institutions, local and indigenous communities, coastal managers, funding institutions)*

- Encourage non-technical interpretation of scientific arguments through, for example, the use of third parties, where relevant ***(Actors:*** *science journalists, communicators, educators)*

- Provide educational programmes for local managers through, for example, training programmes (***Actors:*** *researchers, educational institutions, relevant organizations*)

- Promote use of appropriate skills through, for example, exchange visits ***(Actors:*** *scientists, local and indigenous communities, coastal managers)*

C. Lack of accessible knowledge/information

35. The following obstacles were identified in regards to lack of accessible knowledge /information:

(a) Information and predictability: (i) Limited ability to model complex systems for adequate impact assessment and programme evaluation; and (ii) absence of valid, cost-effective models and/or baseline and time-series data;

(b) Irregular or insufficient dissemination of information among scientists, managers and stakeholders;

(c) Management objectives and needs are not clearly defined, agreed upon and communicated among scientists, managers and stakeholders;

(d) Irregular communication between IMCAM institutions at the local, regional and global levels;

(e) Failure to disseminate scientific work beyond the scientific community due to specialized language and format of publications; and limited access to scientific publications;

(f) Lack of respect for intellectual and cultural knowledge and property;

(g) Fragmentation of knowledge constraining informed decision-making.

36. Decisions taken as part of the IMCAM process should be based upon good scientific information and accurate predictive models capable of assessing with reasonable certainty the potential impacts of development proposals and the consequences of alternative planning or management policies. However, in many cases such scientific information is lacking, as are appropriate technologies for analysis. Even where data may be available, it may not be used to guide management. The problem lies within both the scientific and management communities: organizations creating scientific knowledge may not be disseminating it rapidly enough or in an understandable form and medium to ensure timely science-based management decisions. Likewise, managers and policy makers may not be defining their needs to the research community, or may not make use of research results that disagree with existing resource use policies. Even when information is available, it may be scattered and fragmented amongst diverse institutions, with no mechanism for sharing knowledge.

37. The IMCAM process usually requires answers to local questions, while funding agencies may not support research that only has local benefits. Data collected by scientists may only be available to the manager when it has been published in peer-reviewed journals, often a year or more later. With increasing pressure on coastal environments, there is little room for managers to wait for publication prior to acting on scientific data and recommendations. Subscription to scientific publications is expensive, restricting their accessibility beyond well-funded research institutions. Networking to establish better contact between local managers and scientific institutions has been shown to be helpful.

38. In addition to scientific knowledge, local knowledge has an important function in the management process. Indigenous and local communities often have an in-depth understanding and knowledge about their ecosystems, based on generations of interaction with the resources in the coastal zone. However, this knowledge may not be taken into account while preparing IMCAM plans, or it may be appropriated by researchers without due acknowledgement. Utilization of local knowledge in the IMCAM process requires the manager to build trust with the community regarding the goals and activities of the IMCAM process, and to seek their involvement in implementation.

Enabling activities related to lack of accessible knowledge/information

39. *Desired outcome:*

- IMCAM-related decision-making is informed by the best available science and learning from experience (adaptive management); Effective working relationships between scientists, managers and communities result in informed adoption of collective goals and more efficient, clear and holistic IMCAM-related decisions ***(Medium term)***;

- All stakeholders receive results of scientific work in a timely and understandable format; local and traditional knowledge is appropriately recognized and integrated into IMCAM ***(Short term)***:

40. *Activities:*

- Create partnerships between scientists, managers and resource users through regular communication and meetings 4/ (***Actors****: scientists, communities and other resource users, coastal managers*)

- Ensure wide sharing and utilization of the results of IMCAM-relevant research 5/ (***Actors****: scientists, coastal managers, policy makers*)

- Share best management practices on specific IMCAM needs 6/ (***Actors****: coastal managers, organizations*)

- Raise awareness about the importance of IMCAM among all actors 7/ (***Actors:*** Educators, coastal managers, civil society and other organizations, leading policy makers)

- Make scientific information public 8/ (***Actors****: researchers, coastal managers, educators, civil society, policy makers*)

- Make data accessible to communities for planning purposes in an understandable way (e.g., water pollution data) (***Actors****: coastal managers, policy makers, civil society*)

- Make IMCAM plans adaptable to emerging scientific problems (***Actors****: researchers, coastal managers, policy makers*)

- Train ambassadors for IMCAM 9/ (**Actors**: educators, coastal managers, researchers)

4/ Supporting activities include:
- Address information requirements at different levels, particularly at the local level
- Collectively develop a clear statement of management objectives and needs
- Encourage joint research between scientists, resource managers and local stakeholders – co-research
- Improve indicators for IMCAM

5/ Supporting activities include:
- Share results of research (permitting system) and collect data in consultation with field managers
- Disseminate information using the best and most appropriate methods given local and regional conditions
- Set up task groups to convert scientific data into management plans
- Improve timeliness of availability of scientific data for immediate decision-making

6/ This could be done through promoting and/or developing networks between relevant groups (national, regional and global).

7/ Supporting activities include:
- Include an IMCAM component into World Environment Day and Oceans Day celebrations
- Promote IMCAM sessions at national and regional science and management meetings

8/ Supporting activities include:
- Set up roving libraries and free download on web sites
- Utilize all available media for information dissemination

9/ Supporting activities could include:
- Develop training videos to train ambassadors
- Open marine camps for children with the aim to form young ambassadors who will in time become leaders

- Give appropriate attention to local/traditional knowledge and use it to develop mitigation measures, while taking care to avoid cultural appropriation (mining) of local knowledge (***Actors****: scientists, coastal managers*) 10/

- Develop and promote the consistent use of national, regional and global IMCAM databases, metadata bases, information systems, and archives of IMCAM-related knowledge 11/ (***Actors****: research institutions, other relevant organizations, including government departments*)

D. Economic, policy and financial resources

41. **The following obstacles relating to economic policy and financial resources were identified:**

(a) Placing socio-economic values on environmental conditions and qualities (e.g., endangered species, landscape aesthetics, community character) that are not directly quantifiable;

(b) Disparity in costs (high and early in the process) vs. benefits (slow and in the future);

(c) Lack of awareness of the value of natural resources and benefits from IMCAM;

(d) Imbalance between economics and the environment in decision-making;

(e) Funds are not commensurate with needs resulting in inappropriate level of financing,

(f) Lack of mechanism to guarantee post-funding sustainability;

(g) Undefined fiscal and financial policies to realize benefits of IMCAM;

(h) Lack of benefit-sharing.

42. The primary concern of National Governments is often a sound economy and job creation, rather than the environment. Economic plans are often perceived to be in competition with ecological plans, even when economic development (e.g., tourism) may depend upon the conservation of the environment. This highlights the lack of awareness amongst many politicians and technicians of the value of natural resources and the dependence of sustainable economic development on a healthy environment. It is particularly difficult to place monetary values on benefits that are not directly quantifiable (for example endangered species, aesthetic and spiritual values), therefore such benefits are at a disadvantage (or dismissed) in the political process.

10/ Supporting activity: Include ethnoscience and para-taxonomists (taxonomic monitoring by local people) in survey and inventory of resources

11/ Such databases and information systems should be freely accessible by all countries. An example includes the global interactive database of IMCAM efforts (World Bank). Supporting activities include:

- Create clearing-house mechanisms available at the scale at which IMCAM is being implemented (containing all relevant information and understandable to local stakeholders)
- Develop improved GIS-based systems for analysis of scientific data
- Establish regional and global data centres on IMCAM/biodiversity (eg., GBIF, OBIS or through Regional seas)
- Provide financing for creation of regional/global data centres

43. There is a disparity in the flow and appearance of costs and benefits over time. Costs of an IMCAM programme are usually immediate and may be high to a small number of stakeholders, who may be faced with loss of existing and potential employment or diminished property values. Benefits, such as rebuilding fisheries or an endangered species population, usually take years to become evident and are distributed broadly to the public at large.

44. Funding may not be commensurate with the needs of IMCAM. Some countries may not have the capacity to handle large-scale projects on the multi-million-dollar level, nor may such projects be appropriate for their needs. However, many funding institutions are not able to fund small projects. The funds required for implementation of IMCAM are approximately 10 to 100 times greater than the amount required for planning. This is often not factored in at the beginning, leaving many IMCAM plans unimplemented. Most current IMCAM funding initiatives are project-based, and thus last for a limited time period. Donors need to begin small and expand gradually, recognizing the longer time frame required for successful IMCAM, and the need to move from donor-supported projects to sustainable country-supported programmes.

45. Lack of benefit-sharing can also be an obstacle to implementation of IMCAM in cases where mechanisms to share benefits from management efforts with and among local communities are not clearly put in place. If communities do not directly benefit from the IMCAM process, it is unlikely that they will cooperate, and they may even undermine the effort. Sharing of benefits will require an adjustment of expectations, in particular the timeframe of expected benefits balanced against the timeframe of any losses that may occur.

Enabling activities relating to economic, policy and financial resources

46. *Desired outcome*:

- Funds for IMCAM commensurate with needs and country capacity to absorb and sustain investment levels; long-term financial sustainability of IMCAM programmes secured ***(Long term)***;

- Donors have entered into partnership with recipient countries for long-term IMCAM implementation, facilitating commitment to post-project sustainability ***(Medium term)***;

- Governments and stakeholders recognize and take into account in decision-making the full economic value of marine and coastal resources; governments and stakeholders realize the importance, benefits and urgency of IMCAM implementation ***(Short term)***.

- Urge developed countries and the GEF to mobilize appropriate financial resources to support developing countries and countries with economies in transition to implement IMCAM as part of programme of work on marine and coastal biodiversity (***Actors****: Governments*)

- Ensure equitable sharing of benefits, particularly with indigenous and local communities, from the IMCAM process (***Actors****: Governments*)

- Raise awareness about the economic benefits of IMCAM and of healthy coastal ecosystems 12/ (***Actors**: Relevant national, regional and international organizations, civil society, economists*)

- Ensure that IMCAM projects and programmes produce tangible and measurable value-added benefits to the environment, the resource base and stakeholders, in particular local communities (***Actors**: Coastal managers, policy makers, community representatives*)

- Use, promote and finance technologies with less environmental impact 13/ (***Actors**: policy makers, industry, civil society, communities*)

- Ensure that IMCAM plans are financially sound 14/ (***Actors**: recipient countries and donor agencies, relevant organizations with financial experts*)

- Ensure that donor support is commensurate with country needs and capacity to sustain a programme 15/ (***Actors**: recipient countries and donor agencies*)

- Enhance the dialogue with funding organizations 16/ (***Actors**: recipient countries and donor agencies*)

- Elaborate and implement fiscal and financial legislation mechanisms to meet needs of IMCAM (***Actors**: governments, legal and financial experts*)

E. Collaboration/cooperation

47. The following obstacles relating to collaboration/cooperation were identified *(See also that part of section B above on weak institutional structures)*:

12/ Supporting activities include:

- Disseminate case studies of economic benefits of IMCAM to different groups
- Provide projections of economic benefits of IMCAM to different groups in the short, medium and long term.
- Make a case for the coastal environment to have economic value (valuation of environmental services
- Place a value on existing livelihoods based on natural resources (value of these vs. value of development projects)
- Develop a strategic vision emphasizing the goods and services that flow from natural ecosystems

13/ Supporting activity: Take into consideration positive and negative effects of different technologies

14/ Supporting activities include:

- Include comprehensive business planning (cost projection) in IMCAM plans at all phases, especially post project.
- Developers to put in place a fund to mitigate environmental impacts (eg., Polluter pays)
- Put in place an environmental impact fee
- Encourage reinvestment of economic benefits derived from the environment
- Develop mechanisms to encourage private sector contributions to implementing IMCAM, including guidelines.
- Create guidelines on how to fund costs of IMCAM, and how to make IMCAM sustainable (also how to make IMCAM cost-effective)

15/ Supporting activity: Donors to share accountability with recipient countries for long-term IMCAM.

16/ Supporting activity: Expedite procedures for funding applications, and make them transparent

(a) Lack of vertical integration;

(b) Absence of mechanisms to allow or ensure horizontal integration;

(c) Lack of coordinating mechanisms for institutions with similar or overlapping mandates;

(d) Lack of transboundary cooperation.

48. Without appropriate mechanisms for vertical and horizontal integration, the flow of necessary information may be impeded, and the gap between planning and implementation remains. In situations where there is a lack of coordination between agencies, a more traditional sector-based approach to resource management will be strengthened. This situation can at times reinforce power conflicts between various agencies. As a result, decisions are made to settle immediate, politically motivated conflicts, rather than addressing long-term, socio-economic ones. A lack of integration, cooperation or coordination between agencies will also lead to a lack of understanding of the different IMCAM objectives and, often, failure to reach consensus. In many cases, it may be more appropriate to develop new structures to meet the challenges of IMCAM rather than strengthen old ones.

49. Managing whole ecosystems, including river basins and shared coastlines, in the context of the ecosystem approach requires transboundary cooperation. In many areas, regional seas programmes and action Plans provide a platform for this type of collaboration. Other mechanisms, including bilateral arrangements and large marine ecosystem (LME) projects, can also prove effective in furthering the aims of IMCAM.

Enabling activities relating to collaboration/cooperation

50. *Desired outcome:*

- Consultative processes and coordination mechanisms aimed at effective implementation of IMCAM established and operational ***(Long term)***;

- roles and responsibilities regarding implementation of IMCAM defined amongst existing agencies, or a new agency responsible for IMCAM created ***(Medium term)***;

- transboundary cooperation established for management of common resources ***(Medium term)***.

51. *Activities:*

- Address vertical integration and make IMCAM programmes transparent and accountable by holding meetings of relevant administrative agencies at national, regional and local levels to analyse their individual mandates and activities (*Actors: representatives of relevant agencies at all levels*)

- Address horizontal integration through obligatory, regular inter-agency/department meetings to ensure harmonization of different roles (***Actors****: representatives of government agencies and sectors of relevance to IMCAM, representatives of relevant organizations*)

- Adopt transboundary initiatives and agreements by holding appropriate meetings of existing regional bodies, organizations etc. (***Actors****: representatives of national governments and regional bodies and organizations*)

F. Legal/juridical impediments

52. The following legal/juridical impediments were identified:

(a) Lack of comprehensive analysis of existing legislation relevant for IMCAM;

(b) Vague and/or conflicting language in laws, decrees and regulations;

(c) Lack of enabling legislation to implement the provisions of international legal instruments;

(d) Laws and regulations have inadequate powers and budget provisions for implementation;

(e) Non-Party status to other international environmental conventions;

(f) Lack of appropriate and adequate legislation;

(g) Lack of use of alternative dispute resolution to foster communication and amicable resolutions to problems among stakeholders and others;

(h) Weak judicial/juridical practices relating to IMCAM;

(i) Poor enforcement practices against offenders.

53. To meet the needs of IMCAM, legislation would have to provide an IMCAM programme with: (i) an institutional arrangement that can achieve all necessary dimensions of integration, (ii) the ability to set clear, measurable and non-conflicting objectives, and (iii) the necessary powers and the budget to resolve issues. In some cases, legislation has either not been put in place, or it may contain vague or contradictory language, or have inadequate powers and budgetary provisions for implementation. Some States party to international and regional conventions relating to coastal resources management have not enacted enabling legislation at the national level to implement the provisions of these instruments, while other States are yet to accede to international legal instruments relevant to IMCAM. A comprehensive analysis of existing national legislation will help highlight gaps and inconsistencies.

54. While legislative weaknesses are major shortfalls to effective implementation of IMCAM, insufficient enforcement capability and will to enforce are also crucial factors. Regulations may be complex, poorly understood, or even misunderstood, which, in effect, will limit the ability to enforce them. The legislative process may also be lengthy, and enforcement of legislation is often associated with high costs and long delays. Although there may be a lack of funding for adequate enforcement, the goal should be to reach a situation where enforcement is not needed. Alternative-dispute-resolution mechanisms provide a cooperative way to resolve problems without resorting to litigation.

55. It must be noted that countries have managed to conduct IMCAM, at least to some extent, by using their existing legislative framework when specific IMCAM legislation is absent. When adequate legislation is lacking, the relevant provisions of international and regional legal instruments can be used.

Enabling activities relating to legal/juridical impediments

56. *Desired outcome:*

- National legislation is adequate for purposes of IMCAM implementation, with new legislation developed where necessary, including in response to relevant international instruments **(*Medium term*)**;

- Adequate enforcement practices established with supporting legislation in place (***Medium term***).

57. *Activities:*

- Comprehensively review environmental and other related legislation relevant to IMCAM 17/ (***Actors:*** *Governments and legal experts*)

- Enact enabling legislation to implement provisions of the Convention on Biological Diversity and other international and regional instruments relevant to IMCAM 18/ (***Actors:*** *Governments and legal experts*)

- Encourage States to accede to appropriate international instruments relevant to IMCAM (***Actors:*** *Civil society*)

- Review the judicial/juridical and enforcement system with a view to identifying and addressing weaknesses and promoting best practices in relation to IMCAM (***Actors:*** *Governments and legal experts*)

- Develop educational programmes for judiciary and enforcement agencies on the importance of sustainable use of coastal and marine resources (***Actors:*** *Governments, educators, researchers*)

- Promote establishment of Alternative Dispute Resolution (ADR) to foster communication and amicable resolutions to problems among stakeholders and others (***Actors:*** *Governments, legal experts, community representatives, representatives of sectors operating in the coastal zone*)

G. Socio-economic factors

58. The following socio-economic obstacles were identified:

(a) Overdependence on and unsustainable patterns of resource use;

(b) Difficulties in finding alternative or supplemental livelihood options;

17/ Study examples of relevant IMCAM legislation from other countries, to develop national legislation.

18/ For example: (Law to) clarify and promote acceptable and equitable property-right regimes for resources in coastal areas, ensuring recognition of customary and traditional rights to these resources, and to designate stewardship over coastal and marine resources in IMCAM programmes.

(c) Degradation of coastal areas due to pollution, sedimentation, urbanization, expansion of industry and tourism, etc.;

(d) Demographic shift to and from coastal areas;

(e) Inadequate policy initiatives to improve the socio-economic condition, quality of life and skills of natural-resource-dependent populations along the coast, including to enable diversification of livelihoods to reduce pressure on natural resources;

(f) Inadequate recognition/clarification of the rights of natural-resource-dependent coastal communities in respect to resources traditionally used by them, and inadequate support to empower them to protect and manage resources in sustainable ways;

(g) The incidence and relative significance of impacts among the different stakeholders; the costs of an IMCAM programme are usually immediate, and may be high to a small number of stakeholders in contrast with relatively low benefits usually spread broadly among many beneficiaries, a major problem in forming and maintaining supportive constituencies *(see also the section on economic, policy and financial obstacles, section D).*

59. Poverty is the major driving force behind many socio-economic factors affecting implementation of IMCAM in developing countries. Many of the obstacles identified here result either directly or indirectly from the lack of alternative sources of livelihood and the poor socio-economic status of local people. In such a context, basic human survival needs, such as adequate food and shelter, often preclude almost all attempts to conserve coastal resources and protect environments. Socio-economic and environmental gains achieved by planning, management and development improvements can be nullified by population increases, particularly among the lowest income groups. Given that larger family size may be a rational response by the poor to their situation (need for more hands for more incomes), the problem ultimately lies with the inability of Governments to ensure basic quality of life for their people.

60. Indigenous and local communities along the coast have traditionally depended on coastal resources for their livelihoods. However, as competing uses of coastal resources multiply, their livelihoods are rendered increasingly vulnerable. As a result of factors such as low levels of education and political marginalization, communities may be unable to draw attention to these developments or to diversify into other livelihoods, and may continue to use coastal resources to eke out a living in ways considered unsustainable. For example, as fisheries resources come under greater pressure from increasingly efficient fishing fleets, often using gear considered as destructive, traditional, small-scale fishermen may have little option to continuing in the fishery, competing for depleting resources.

61. Coastal populations are rapidly increasing, mostly through migration, high population growth rates and tourist visitation. Population densities on the coasts are nearly three times that of inland areas. Coastal communities aggregate near those systems that provide most ecosystem services and are most vulnerable, including estuaries, and, in the tropics, mangroves and coral reefs. Many of these areas are unprotected or marginally protected, and the lack of long-term planning and management of human pressures leads to degradation, pollution and rapid rates of decline in resource abundance.

Enabling activities relating to socio-economic factors

62. *Desired outcome:*

- Natural resources in the coastal zone are sustainably used; development patterns comply with the carrying capacity of coastal ecosystems (***Long term***);

- Alternative and/or supplemental livelihood options identified and developed collaboratively with local stakeholders ***(Medium term***).

63. *Activities:*

- Ensure sustainable use of living resources 19/ (**Actors:** policy makers, coastal managers, resource users, including relevant industry sectors and communities)

- Provide for diversification of economy and creation of new activities in coastal area in order to improve existing livelihoods 20/ (**Actors**: Policy makers, coastal managers, communities, researchers, sustainable industry)

- Develop and improve land-use planning and resource use in coastal areas, taking into account community and indigenous issues 21/ (**Actors**: Policy makers, coastal managers, researchers, civil society, relevant organizations, communities and industry representatives)

- Establish national environmental standards, and community-based land, air and water quality monitoring programmes, that adhere to national standards, linking degradation to its source (**Actors**: Researchers, policy makers, communities)

- Ensure the consistent application of independent strategic environmental assessments to address external and cumulative impacts of developments (**Actors**: governments, industry, civil society)

19/ Supporting activities include:

- Use of suitable/selective fishing gear and practices
- Employ positive incentives – eg., buy back destructive gear, pay an allowance to fishers when fishing is closed
- Implement FAO Code of Conduct on Responsible Fisheries
- Use adequate fisheries management adapted to local circumstances
- Enhance post-harvest technology, processing and handling practices

20/ Supporting activities include:

- Conduct detailed studies on the identification/development of site-specific alternative and appropriate resource use
- Develop ides for alternative livelihoods by experience sharing with other regions and countries
- Garner better prices for products made locally and to community and ecological standards
- Villages to select, produce and advertise one product unique to them
- Empower local communities to develop value-added products from local sources
- Develop ecotourism – use knowledge of area to the maximum
- Mobilize human resources by involving women self-help groups and unemployed youths

21/ Supporting activities include:

- Promote environmental certification for hotels, restaurants, and other establishments.
- Promote the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities

- Take advantage of existing opportunities by adapting IMCAM planning to community characteristics and the wishes of people (**Actors**: Coastal managers, communities, researchers)

- Take into account traditional practices and innovations in implementing IMCAM (**Actors**: Coastal managers, communities, researchers)

H. Natural phenomena and environmental change

64. The following obstacle relating to natural phenomena and environmental change was identified:

(a) Lack of preparation and response to biological and physical phenomena (e.g., hurricanes, typhoons, tsunamis and invasive species) that have the potential to impact coastal infrastructure and shift ecosystem balance.

65. The coastal zone has the highest concentration of natural hazards in the world. These hazards can be:

(a) **Biological**, e.g., invasive alien species;

(b) **Physical**, e.g., coastal erosion, landslides, river or estuary flooding, storm surge flooding and winds from ocean borne storm events (such as hurricanes, cyclones, and typhoons), earthquakes, tsunamis, and volcanic eruptions); and

(c) **Climate-change related**, e.g., sea-level rise and increased number of storm events.

66. Coastal development, and the associated clearance of coastal wetlands and mangroves, often leaves human populations vulnerable to the impacts of natural phenomena and environmental change. Maintenance of natural coastal vegetation and use of planning and engineering options to reduce or eliminate the devastation wrought by different types of coastal hazards is required. It should also be kept in mind that populations living in hazard-prone areas, such as steep hillsides prone to landslides, river flood plains, or immediate shoreland areas periodically experiencing storms, are often poor, and therefore disproportionately vulnerable to the effects of natural disasters.

Enabling actions relating to natural phenomena and environmental change

67. *Desired outcome:* IMCAM programmes are designed to adapt to unanticipated physical or biological hazards ***(Short term)***.

68. *Activities:*

- Provide information on the potential impacts of natural disasters relevant to stakeholders at all levels, especially at local level (***Actors****: coastal managers, researchers, organizations, communicators*)

- Make available and use data on coastal vulnerability and risk in the planning process (***Actors****: researchers, coastal managers)*

- Improve coastal resilience through improved watershed, sediment and water quality management 22/ (***Actors**: researchers, coastal managers, policy makers, communities)*

- Develop and implement IMCAM plans, incorporating predicted impacts of severe weather, climate change, and biological phenomena (***Actors**: researchers, coastal managers, policy makers)*

- Develop suitable predictive models of natural disasters, such as tsunamis, cyclones, floods, sea-level rise (***Actors**: researchers)*

- Put in place a risk assessment system and propose mitigation measures (***Actors**: researchers, coastal managers, policy makers, communities)*

- Use IMCAM to inform the decision to protect, mitigate or retreat (***Actors**: researchers, coastal managers, policy makers)*

III. CONCLUSION

69. The transition from IMCAM planning to implementation and long-term sustainability is a challenge for many coastal management programmes because of the great number of constraints present. It is fortunate, however, that not all of these constraints are encountered in any given country at the same place and time, and that the implementation of IMCAM can proceed even under less-than-perfect circumstances. However, an analysis of obstacles and consideration of the enabling activities offered in this report will help countries develop targeted programmes that provide for improved implementation of IMCAM, leading to a reduction in the current rate of marine and coastal biodiversity loss.

IV. RECOMMENDATIONS

70. The Conference of the Parties may wish to

1. *Welcome* the analysis of obstacles and enabling activities relevant to integrated marine and coastal area management (IMCAM) contained in the report of the Ad Hoc Technical Expert Group on Implementation of IMCAM, and summarized in the present document;

2. *Recognize* the importance of IMCAM in reaching the 2010 target, *urge* Parties and other Governments to create an enabling political climate for effective implementation of IMCAM by, as appropriate:

(a) Institutionalizing participatory processes that enable stakeholders, particularly indigenous and local communities, to provide input into decision-making and to the articulation of a common vision for mainstreaming of IMCAM into national and regional processes;

(b) Developing institutional structures for IMCAM, and, where necessary strengthening them, e.g. through establishment of:

22/ Supporting activities include:

- Protect species and areas showing most resilience
- Employ strategic sediment management by creating reservoirs (sediments of appropriate characteristics kept available for the future)

(i) A lead agency with a clear legal mandate; or

(ii) A coordinating mechanism with each agency's roles and responsibilities in regards to IMCAM clearly defined;

(c) Where necessary, developing and adopting a national IMCAM strategy;

(d) Undertaking a comprehensive review of environmental and other related legislation relevant to IMCAM, and, where necessary, enacting appropriate legislation;

(e) Enacting enabling legislation to implement the provisions of the international and regional instruments relevant to IMCAM;

(f) Ensuring effective enforcement of legislation, including by sensitizing the judiciary and enforcement agencies about the importance of sustainable use of coastal and marine resources and the importance of promoting compliance and apprehending offenders; and

(g) Actively participating in international initiatives and agreements, such as regional seas programmes, large marine ecosystem (LME) projects, and river basin initiatives, in order to improve trans-boundary cooperation;

3. *Invite* Parties and other Governments, with the help of coastal-management practitioners and relevant organizations, to

(a) Assess the baseline level of IMCAM implementation through the adoption and application of indicators, such as the UNEP IMCAM Progress Indicator Set (see annex II of the report of the Ad Hoc Technical Expert Group on Implementation of Integrated Marine and Coastal Area Management);

(b) Empower and promote the capacity of local communities and other stakeholders to use resources sustainably, and, where required, to diversify their economic and livelihood base;

(c) Undertake valuation of natural resources and their economic significance, and use the information in decision-making;

(d) Ensure that information about the social, economic, health, environmental, and cultural benefits of IMCAM is widely disseminated among government officials, policy makers, users of coastal resources and the general public;

(e) Significantly improve capacity-building for IMCAM activities through regular training and recruitment programmes; and

(f) Support the development and use of a global interactive database of IMCAM efforts.

4. *Request* Parties to report on measures taken to enhance implementation of IMCAM in their national reports;

5. *Urge* Parties and other Governments to support initiatives by coastal managers and scientists to:

(a) Put in place mechanisms to overcome communication gaps, taking fully into account local and traditional knowledge and cultural practices, and encourage the use of non-technical language;

(b) Improve collection, collation, interpretation, communication, and dissemination of information and participation of stakeholders in the implementation of management decisions;

(c) Design adaptive IMCAM programmes that take into account/respond to environmental change, as well as recurrent or emerging physical or biological hazards.

6. *Request* the Executive Secretary, in collaboration with Parties and relevant organizations, to compile and analyse case-studies on successful and unsuccessful implementation of IMCAM, and to provide lessons learned for the consideration of SBSTTA before the tenth meeting of the Conference of the Parties;

7. *Urge* funding agencies to enter into partnership with developing country Parties in order to support national and regional efforts to build long-term capacity in effective implementation of IMCAM, and to ensure that funding is commensurate with national IMCAM needs.
