



Strategic Action Programme

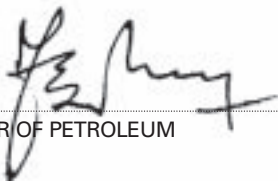
CONTENTS	PAGE
AGREEMENT	2
THE CHALLENGE	4
THE BASIS FOR CO-OPERATIVE ACTION	6
POLICY ACTIONS	9
NATIONAL STRATEGIC ACTION PLANS	17
FINANCE AND REVIEW	17
ARRANGEMENTS FOR FUTURE CO-OPERATION	17
ANNEXURE 1 <i>The Structure of the Interim Benguela Current Commission</i>	18
ANNEXURE 2 <i>Recommendations to the Interim Benguela Current Commission</i>	19
ACKNOWLEDGEMENTS	23



This Strategic Action Programme was adopted and signed by the Ministers of the respective countries:

On behalf of the Republic of Angola:

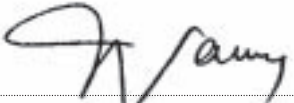

signature date: 02/12/1999
MINISTER OF FISHERIES AND ENVIRONMENT


signature date: 14/01/2000
MINISTER OF PETROLEUM

On behalf of the Republic of Namibia:

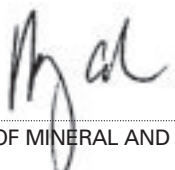

signature date: 18/11/1999
MINISTER OF FISHERIES AND MARINE RESOURCES


signature date: 10/11/1999
MINISTER OF ENVIRONMENT AND TOURISM


signature date: 24/11/1999
MINISTER OF MINES AND ENERGY

On behalf of the Republic of South Africa:


signature date: 17/02/2000
MINISTER OF ENVIRONMENTAL AFFAIRS AND TOURISM


signature date: 25/02/2000
MINISTER OF MINERAL AND ENERGY AFFAIRS

Desiring to manage development and protect the Benguela Current Large Marine Ecosystem in an integrated and sustainable manner,

The Governments of:

**The Republic of Angola
The Republic of Namibia
The Republic of South Africa**

Continuing in the spirit of the United Nations Declaration on Environment and Development (Rio Declaration) and Agenda 21;

Appreciating the progress that has been made towards sustainable development and environmental protection of the Benguela Current ecosystem through, *inter alia*, the actions taken by the Sector Co-ordinating Unit for Marine Fisheries and Marine Resources of the Southern African Development Community (SADC) and the Benguela Environment Fisheries Interaction and Training Programme (BENEFIT);

Welcoming the international support to regional initiatives such as BENEFIT and the efforts undertaken to sustainably manage and protect the living resources of the region through the development of the Benguela Current Large Marine Ecosystem (BCLME) programme;

Recognising the unique character of the BCLME with the many transboundary fisheries and environmental issues facing it and their potential global importance in relation to climate change;

Welcoming also the national initiatives taken to ratify or accede to international conventions to manage the living resources sustainably and to protect the environment of the Benguela Current ecosystem, including the work undertaken towards the adoption of MARPOL 73/78 and the London Convention in relation to marine pollution, the United Nations Agreement on Straddling and Highly Migratory Fish Stocks, the FAO Code of Conduct for Responsible Fishing, the Convention on Biological Diversity, the United Nations Framework Convention on Climate Change, the Abidjan and Nairobi Conventions on the Protection and Development of the Marine and Coastal Environment and Oil Spill Response around Africa, the Cape Town Declaration (ACOPS-UNEP), the Global Programme of Action (GPA) for the Protection of the Marine Environment from Land-based Activities, the Basle Convention on the Transport of Hazardous Materials as well as other Conventions in the Benguela Current such as the developing South East Atlantic Fisheries Organisation (SEAFO) and the Zone of Peace and Co-operation in the South Atlantic (ZOPCSA);

Conscious of the importance of the initiatives taken by non-governmental organisations towards conservation of living marine resources and protection of the environment of the BCLME;

Nevertheless concerned about the fragmented nature of regional management and the urgent need to strengthen and jointly engage member states in the co-ordination and conservation of the resources of the Benguela Current as an integrated ecosystem;

Convinced of the pressing need to take further concrete actions individually and collectively, at national and regional levels, to ensure transboundary co-operation and the integrated sustainable management and the protection of the living resources of the BCLME;

Committed to capacity strengthening for sustainable development at national and regional levels;

Acknowledging the significant contribution made through the results of the Transboundary Diagnostic Analysis (TDA) process in the development of the Strategic Action Programme (SAP) and towards integrating the information necessary for policy planning in the BCLME;

Commit themselves to establish the BCLME Programme and to agree on the following principles, policies and actions.

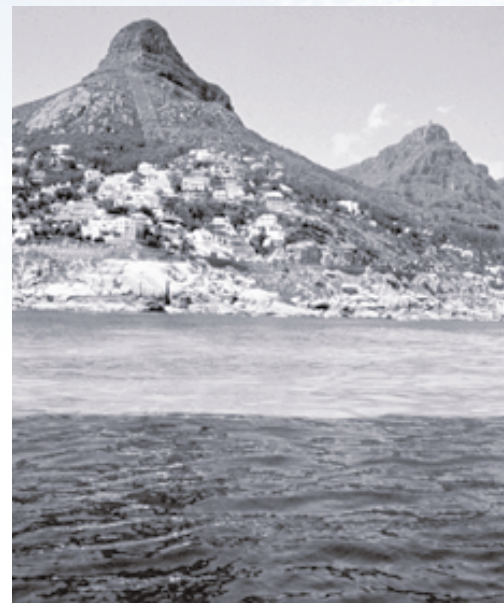
The Challenge

SUSTAINABLE INTEGRATED MANAGEMENT OF A CHANGING BENGUELA CURRENT LARGE MARINE ECOSYSTEM

The colonial and political past have left a legacy of fragmented management of the BCLME – an absence of co-ordinated planning and integration, poor legal frameworks and a lack of enforcement and implementation of existing regulatory instruments, insufficient public involvement, unbalanced regional capacity development and inadequate financial mechanisms of support.

These human factors, superimposed on a complex ecosystem that transcends national/country boundaries and has a highly variable environment, have manifested themselves in declines of fish stocks and some unsustainable practices of harvesting of living resources, uncertainty regarding ecosystem status and yields, increasing pollution, habitat destruction and alteration, loss of biotic integrity and threats to biodiversity, harmful algal blooms, and inadequate capacity to monitor and assess ecosystems. All of these have significant transboundary implications. The challenge is to halt this changing state of the BCLME and, where possible, to reverse the process through co-operative regional action to manage the ecosystem on an integrated and sustainable basis.

1. **The over-exploitation of the commercial fish stocks and some unsustainable harvesting of the living resources of the Benguela Current ecosystem continue to be a cause of concern.** Maritime boundaries do not coincide with ecosystem boundaries, and several of the region's important harvested resources are shared between countries or at times move across national borders. Over-harvesting of a species in one country can therefore lead to depletion of that species in another as well as changes to the ecosystem as a whole. Moreover, many resource management difficulties common to all three countries are transboundary in nature and require collective and co-operative action by member states to address them fruitfully.
2. **The environment associated with the Benguela Current is highly variable, and so the status and yield of the ecosystem as a whole are difficult to predict.** Although the Benguela ecosystem is naturally adapted to a highly variable environment, sustained events – such as Benguela Ninos, widespread hypoxia events, Agulhas Current intrusions and changes in winds – can have an impact on the whole system, compounding the negative effects of fishing, while poor predictive ability limits the capacity to manage effectively system-wide. In addition, the Benguela Current Large Marine Ecosystem is believed to play a significant role in global and ocean processes and may be an important site for the early detection of global climate change.



3. **Deterioration in water quality poses a threat to the Benguela Current Large Marine Ecosystem at local and regional levels.** Although most impacts of chronic deterioration in water quality are localised national issues, they are common to all countries, will increase as coastal populations increase and will ultimately require collective, transboundary action to address them. Moreover chronic pollution can favour less desirable species and result in the species' migration across national boundaries. Catastrophic events such as major oil spills and large-scale system-wide anoxic events can have widespread transboundary consequences, requiring co-operative management and sharing of knowledge, equipment and technology.
4. **Habitat destruction, degradation and modification of the sea bed and coastal zone in the BCLME are taking place at an increased pace.** Although most impacts appear localised, habitat alterations attributable to fishing and mining can cause migration of biota and system-wide ecosystem change. Uncertainties exist about the transboundary and regional cumulative impacts on the benthos resulting from sea-bed mining and associated sediment disturbance and movement.
5. **Increased loss of biotic integrity, such as changes in community composition, species and diversity, and the introduction of alien species threaten the biodiversity of the Benguela Current as a whole.** Past over-exploitation of targeted species has altered the ecosystem, causing impacts at all levels, including top predators, and reducing the genetic diversity. Endemic species such as the African penguin are now threatened or endangered. Alien species of phytoplankton have been introduced into the BCLME via ballast water from ships, potentially destabilising the foodweb.
6. **There is insufficient and limited institutional, infrastructural and human capacity at all levels to assess the status of the BCLME as a whole, and to jointly engage and assess the shared resources and other transboundary elements/components and variability thereof.** Moreover there is unequal distribution of this capacity between countries.
7. **During the past decade, there has been increased incidence in the occurrence of blooms of harmful algae in the coastal waters of many parts of the world, as a result of highloading by nutrients and contaminants as well as invasion by alien species.** Harmful Algal Blooms (HABs) occur in coastal waters of all three countries of the Benguela Current and all three face similar problems in terms of assessment of the impacts, and monitoring the effects and management of the problems caused to fisheries and the quality of seafood. Collective regional and transboundary action will be required to address this problem co-operatively.

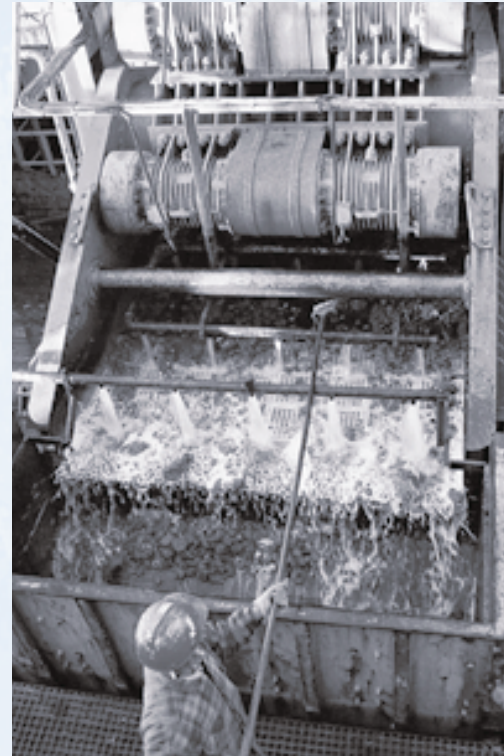


The Basis for Co-operative Action

An organisation entitled the BCLME Programme is hereby established as an international body in terms of The United Nations Convention on the Law of the Sea (UNCLOS).

Principles

8. The concept of sustainable development shall be used in a way that does not destroy the integrity of the BCLME ecosystem, or otherwise foreclose on options for use and enjoyment for future generations.
9. The precautionary principle, where appropriate, shall be applied, preventative measures being taken when there are reasonable grounds for concern that an activity may increase the potential hazards to human health, living marine resources or marine ecosystems, damage amenities, or interfere with other legitimate uses of the sea, even when there is no conclusive evidence of a causal relationship between the activity and the effects and by virtue of which greater caution is required when information is uncertain, unreliable or inadequate.
10. Anticipatory and co-operative actions, such as contingency planning, environmental impact assessment and strategic environmental assessment (involving the conservation of living marine resources, the transboundary assessment of the environmental consequences of government policies, programmes and plans), shall be taken.
11. The use of clean technologies, which require the replacement or phasing-out of high-waste and waste-generating technologies that remain in use, shall be encouraged.
12. The use of economic and policy instruments that foster sustainable development shall be promoted through, *inter alia*, the implementation of economic incentives for introducing environmentally friendly technologies, activities and practices; the phasing-out of subsidies that encourage the continuation of non-environmentally friendly technologies, activities and practices; the introduction of user fees and the polluter pays principle; as well as the auditing of natural resources and environment.
13. Environmental, ecosystem and human health considerations shall be included into all relevant policies and sectoral plans, especially those concerning marine industrial development, fisheries, mariculture and marine transport.
14. Co-operation among member states shall be promoted, especially in the area of transboundary issues and activities.
15. The participation and co-operation of the private sector shall be encouraged and is seen as integral to the successful management and implementation of the SAP.
16. Recognising the interests of other states in the BCLME, such states shall be encouraged to take part in, co-operate and jointly engage in activities.
17. Transparency, public participation and co-operation in the work of the BCLME shall be fostered through wide dissemination of information on the work undertaken to enhance the integrated and sustainable management of the BCLME, including environmental variability forecasting and protection.



Institutional Arrangements

18. In order to implement the actions and policies agreed upon, it is imperative that existing regional mechanisms for co-operation among the member states be strengthened to ensure the necessary capacity building to promote sustainable integrated management of the BCLME. The member states will actively pursue a policy of co-financing with industry and donor agencies.
19. A Programme Steering Committee (PSC) and an Interim Benguela Current Commission (IBCC) shall be established to strengthen regional co-operation and be fully supported by a Programme Co-ordinating Unit (PCU) and subsidiary bodies, such as Activity Centres and Advisory Groups. The IBCC should become a fully functional Benguela Current Commission (BCC) with a supporting Secretariat within a period of five years after formal commencement of the BCLME Programme.
20. The PSC and IBCC shall implement this Strategic Action Programme and shall establish at its first session such bodies as necessary to provide support for specific projects and processes related to its implementation.
21. The IBCC shall be structured as described in the Annex I.
22. The IBCC shall be supported by Advisory Groups located and co-ordinated at Activity Centres in each of the member states (Annex II). The following Advisory Groups are initially agreed upon in principle:
 - a) Advisory Group on Fisheries and Other Living Marine Resources
 - b) Advisory Group on Environmental Variability, Ecosystem Impacts and Improved Predictability
 - c) Advisory Group on Biodiversity and Ecosystem Health
 - d) Advisory Group on Marine Pollution
 - e) Advisory Group on Legal and Maritime Affairs
 - f) Advisory Group on Information and Data Exchange
 - g) Advisory Group on Training and Capacity Development
23. The PSC and IBCC (later the BCC) shall regularly review the status and functions of the Advisory Groups and consider the establishment of ad hoc groups for the purpose of implementing this SAP.
24. The BCLME Programme Co-ordinating Unit will function as the IBCC Secretariat and shall be headed by a Regional Co-ordinator (Chief Technical Advisor). The PCU shall perform all such tasks as delegated by the IBCC and in particular it shall:-
 - a) co-ordinate and administer the Programme including contract preparations, financial management, auditing and preparation of annual reviews
 - b) assume responsibility for the operation and maintenance of an electronic communications system for purposes of facilitating interaction between the components of the BCLME institutional network,
 - c) liaise with Activity Centres to provide information on bibliography, data sources, status of the ecosystem, environmental variability and assessment activities
 - d) where appropriate, organise bi-annual conferences based on the results of assessment of the changing state of the BCLME. The first such conference will be held in March 2004.



Wider Co-operation

25. The PSC and IBCC (later the BCC) and member states shall individually and jointly encourage the following:
- a) Enhanced co-ordination between regional bodies and initiatives such as BENEFIT, the future South East Atlantic Fisheries Organisation (SEAFO), and NGOs which contribute towards the integrated management, sustainable development and utilisation of the living marine resources and protection of the Benguela Current Large Marine Ecosystem. The IBCC may, where appropriate, develop institutional relationships with SADC and promote collaboration with other SADC states and projects e.g. the Regional Fisheries Information System (RFIS) and the EU-SADC Monitoring, Control and Surveillance (MCS) Programme.
 - b) Co-operation between the regional governmental bodies and NGOs through transparency of the negotiating process, widespread availability of information and documents and, where appropriate, open access to meetings.
 - c) Co-operation with donors, including multilateral financial institutions, bilateral aid agencies and private foundations, in the aim of securing funding for projects and policies identified in the BCLME SAP, to be further developed at national level.
 - d) Co-operation with appropriate international organisations, including UN Agencies and international NGOs in implementing this SAP.
 - e) Co-operation with other states with interests in the BCLME and other LMEs that share similar attributes and are the subject of regional co-operation.
26. International agreements relevant to the aims and objectives of this SAP shall be implemented by each member state party to such agreement. Where this is appropriate and has not yet been done, member states shall consider ratifying or acceding to such agreements or otherwise consider implementing protocols relevant to the sustainable management of the BCLME. Consideration shall also be given to implementing other relevant international instruments.
27. Provisions for the settlement of disputes will be made by referring directly to the IBCC.
28. The boundaries of the BCLME for the purpose of this SAP will be as follows:
- a) eastern landward boundary will be the high-water mark at the land-sea interface
 - b) the northern boundary will be located at 5°S,
 - c) the southern boundary will be 38°20'S (the southernmost extent of South Africa's continental EEZ, and extending as far as 27°E and
 - d) the western boundary for the purpose of the BCLME is taken at the 0° meridian. The western boundary in terms of enforceable management actions under the SAP is however located at the seaward extent of the EEZs of the member countries i.e. 200 nautical miles offshore.



Policy Actions

A. Sustainable Management and Utilisation of Living Marine Resources

Living marine resources are harvested by commercial and artisanal and recreational fisheries throughout the BCLME, and fishing is important to the economies of all three countries. Most of the region's important harvested resources are shared between countries, or at times move across national boundaries. Over-harvesting of a species in one country can therefore lead to depletion of that species in another, resulting in potentially irreversible changes to the ecosystem as a whole. In contrast, there may be species that can provide opportunities for sustainable development (e.g. seaweed, some invertebrates) which are not optimally utilised. All principal harvested fish stocks in the BCLME have been subjected to over-fishing in the past – the consequence of colonialism, some inappropriate historical policies, and greed. The decline in hake stocks in the 1960s and 1970s can be attributed to the rape of the ecosystem by foreign fleets, and the collapses of sardine and rock lobster were due to greed and mismanagement coupled with a lack of understanding about the impacts of environmental variability. Over-fishing has had a negative impact on other components of the ecosystem too, e.g. seabirds and marine mammals. In order to rebuild depleted stocks and to repair the damage done to the ecosystem by past actions, and at the same time to develop employment opportunities and socio-economic advancement, the governments of Angola, Namibia and South Africa have committed themselves to the development of sustainable integrated management and utilisation of living marine resources through the following suite of policy actions:

29. In order to ensure the sustainable management and utilisation of living marine resources of the BCLME and avoid foreclosure of options for future generations, the following policy actions which address identified priority transboundary issues are agreed to:

a) *Regional structure*

A regional structure will be established to conduct transboundary fish stock and ecosystem assessments, to evaluate transboundary resource-environment linkages and to provide advice in these areas to governments. The implementation of this transboundary structure will involve the national focal institutions in the three states.

b) *Joint surveys and assessment*

Joint surveys and assessment of shared stocks of key species will be undertaken co-operatively over a five-year period commencing in 2001 as a demonstration of the benefits to the individual nations of joint transboundary fisheries assessments. Integral within this collaboration will be the gathering of baseline data, comparisons and validation of survey and assessment methodology. The Activity Centre(s) responsible will give effect to the above and provide a basis for regional advice on shared stocks.



c) *Harmonising management of shared stocks*

The IBCC shall, where appropriate, harmonise the management of shared stocks through, *inter alia*, addressing technical issues such as fishing gear, mesh size/type, compatible data and assessment methodology. (Note: harmonising management does not necessarily imply joint management.)

d) *Assessment of non-exploited species*

Co-operative assessments of non-exploited species, both offshore and inshore, which are common to at least two of the countries, will be undertaken where appropriate. This will require the gathering and calibration of baseline information on these species, and assessment of the impact of any future harvesting on the ecosystem. The appropriate Activity Centre(s) will have the function of co-ordinating these activities.

e) *Regional mariculture policy*

Mariculture contributes sustainably to the regional economy and the improvement of living conditions of coastal communities. There is considerable potential for the expansion of mariculture regionally. However, it is essential to ensure that future growth of the industry does not at the same time have negative impacts on the ecosystem. The IBCC shall endeavour to develop a responsible regional mariculture policy in co-operation with SADC by mid 2005 to harmonise national policies in such a manner that actions of one state do not impact negatively on the economic potential of another, nor on the ecosystem as a whole. The policy shall provide for the implementation of appropriate monitoring actions, including monitoring of harmful algal blooms.

f) *Socio-economic analysis*

Co-operative analyses of socio-economic consequences of various harvesting methods, the improved use of living marine resources and the economic value of the BCLME as an ecosystem, will be undertaken with a view to appropriate intervention within the framework of improving sustainable ecosystem use/management and quantifying regional and global benefits. Co-ordination of these activities will be undertaken by the appropriate Activity Centre.

g) *Fishery conservation measures*

National policies on protected areas and other conservation measures will be harmonised as far as possible.

h) *Code of conduct for responsible fishing*

The governments of Angola, Namibia and South Africa commit themselves to compliance with the FAO Code of Conduct for Responsible Fishing.



B. Management of Mining and Drilling Activities

Exploration for oil, gas and minerals (e.g. diamonds) is expanding throughout the BCLME. There is substantial oil extraction in northern Angola (Cabinda Province), and development of oil/gas fields (with pipelines) farther south are planned (e.g. in Namibia). Capped abandoned wellheads hamper fishing, while drill cuttings and hydrocarbon spills impact on the environment. Extensive diamond mining is being conducted by dredging along the coasts and continental shelves of Namibia and South Africa. The ecosystem effects of these activities are not fully known, and conflicts can arise between different sectors (e.g. mining-fishing-conservation).

30. In order to further the objectives of responsible multi-sectoral utilisation of the BCLME and to minimise any negative impacts on the ecosystem of mining and drilling activities, the following policy actions are agreed to:

a) *Regional consultation framework*

The PSC/IBCC shall develop by December 2003 a regional framework for enhanced consultation, with the objective of mitigating the negative impacts of mining, reducing inter-sectoral conflicts and ensuring that benefits accrue. The IBCC shall develop by December 2004 a Code of Conduct for responsible mining, including rehabilitation of affected areas, which would be voluntary.

b) *Policy harmonisation*

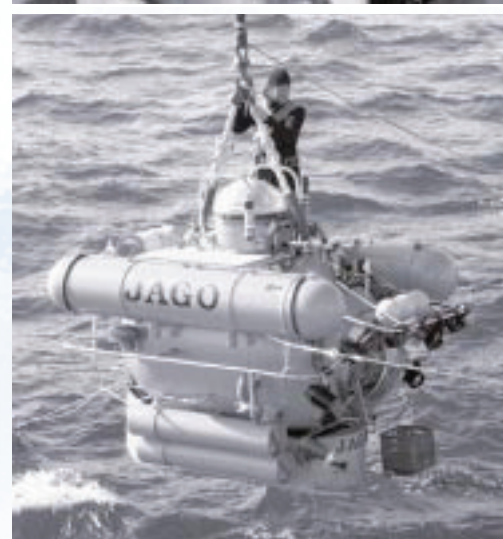
The governments of the three countries will collaborate to harmonise mining policies relating to shared resources, cumulative impacts and their mitigation.

c) *Cumulative impact assessment*

Impact assessment of the cumulative effects of mining activities on the BCLME will be undertaken. The principle of co-funding by industry is accepted and will be promoted.

d) *Co-ordination of actions relating to the offshore exploration and production of oil and gas*

Co-ordinated actions for the assessment and mitigation of negative impacts on the ecosystem of oil and gas exploration and production will be facilitated.



C. Assessment of Environmental Variability, Ecosystem Impacts and Improvement of Predictability

The BCLME is unique among eastern boundary upwelling systems in that it is bounded at both northern and southern ends by tropical or sub-tropical regimes that significantly impact on the ecosystem. It is a highly complex system that displays a high degree of environmental variability on a variety of time and space scales. Human impact on the BCLME (e.g. fishing) is superimposed on its inherent natural variability. The combined effect of anthropogenic disturbance and this variability has been implicated in ecosystem change and collapse of harvested resources. There is fragmentary but important evidence of increasing instability and variability. There is also considerable uncertainty regarding cause and effect of ecosystem status and yields. Lack of information about and understanding of environmental variability and its system-wide impact hampers the management of the BCLME resources and results in non-optimal utilisation of these resources. Moreover, there is evidence that environmental signals from the BCLME are useful predictors of rainfall in SADC countries. This has important implications for regional food security.

31. In order to assess environmental variability, ecosystem impacts and improve predictability in support of sustainable integrated management of the BCLME, the following policy actions are agreed to:

a) ***Development of environmental early warning system***

A suitable needs-driven, cost-effective regional early warning system for monitoring major environmental events within the BCLME will be developed by 2005. This will include the cross-linking of existing national environmental monitoring systems, adapting these, and then integrating and linking (networking) with ongoing international ocean monitoring activities through a demonstration project using an array of moored oceanographic buoys. Information on the state of the environment, which is the primary product of improved environmental assessment and networking, will be incorporated into the various decision-making support systems that underpin in particular living marine resource management, coastal zone management and pollution management, e.g. oil pollution and disaster contingency planning, and rainfall prediction. An Activity Centre will co-ordinate the development of the early warning system and the management application thereof for the region, establish requisite networking, and permit regular "state-of-the-environment" analysis and reporting in the three countries and for the region. Assessment of the utility of and feasibility of a regional link-up with the existing PIRATA moored ocean-monitoring buoy network in the equatorial Atlantic will be undertaken through a demonstration project to assess the feasibility of establishing an early warning system for environmental perturbations in the BCLME.



b) *Baseline establishment*

Analysis of existing data series and material archives will be undertaken collaboratively to ascertain and provide a baseline against which to measure future transboundary variability/change, in particular decadal changes, and to ascertain the extent of and trends in variability and change, in particular decadal changes during the 20th century. This work will be facilitated through one of the Activity Centres. The establishment of an environmental baseline for the BCLME is seen as a high priority regionally, and is also important in a global context.

c) *Improving predictability of extreme events*

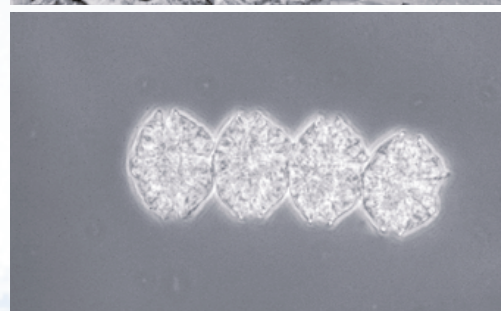
Analysis and reassessment of available data and information, augmented where appropriate by new material, will be undertaken to determine the sources and large-scale impacts on the BCLME of variations in seawater oxygen level as well as other extreme episodes of inter-annual variability, with a view to improving predictability of their timing, extent and ecosystem consequences. The improved predictability of major transboundary perturbations will complement in particular resource assessment and modelling and resource management actions, coastal zone management and marine pollution contingency planning. It will also be used to enhance forecasting of regional rainfall and, as a consequence, better planning/management of terrestrial activities that depend on rainfall, such as agriculture. This work will be jointly facilitated through the Activity Centres in all countries.

d) *Harmful algal blooms (HABs)*

A regional HAB reporting network will be developed during 2003 with a view to its implementation in 2004. Regional contingency plans for assessing the transboundary effects of HABs will be developed and implemented by December 2005. Data on HABs will be an important input into the sustainable development of mariculture, and data requirements will be specified in a plan for regional mariculture policy harmonisation.

e) *Climate change*

In view of the role that upwelling systems may play in climate change as sources and sinks of carbon, the three countries will collaborate with the international community to assess the carbon dioxide source/sink status of the BCLME and likely feedback mechanisms to climate.



D. Management of Pollution

Coastal developments and rapid expansion of coastal cities, much of which was unforeseen or unplanned, has created pollution "hot spots" in all three countries, with resultant deterioration in water quality. The problem is aggravated by an increase in marine litter from land and shipping activities. In addition, a substantial volume of oil is transported through the BCLME region and within it, and there is increasing exploration and extraction of oil and gas in the north. There is a significant risk of contamination of large areas of fragile coastal environments from major accidents, damage to coastal infrastructure and to straddling fish stocks.

32. The following joint policy actions to manage marine pollution in the BCLME and minimise ecosystem impacts are agreed:

a) ***Harmonising environmental quality objectives***

The IBCC will endeavour to provide effective regional communication to co-ordinate efforts to control marine pollution, minimise impacts and develop cost-effective solutions. This will include *inter alia* development of regional environmental quality indicators, proposals for marine pollution control and surveillance, regional monitoring/inspection of the coastal zone and regional enforcement of standards. The focus will be on prevention rather than cure. In the case of point source pollution, the member states will by June 2004 develop waste quality criteria for receiving waters.

b) ***Oil pollution contingency plans and regional policy***

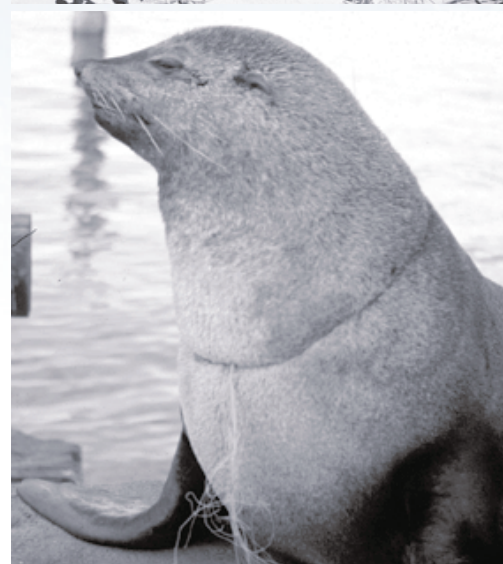
All three countries have or shortly will have oil pollution contingency plans. The IBCC will endeavour to harmonise these plans as far as possible and to develop necessary mechanisms for sharing technology and expertise, and in the event of a major oil spill, for the sharing of clean-up equipment and provision of expert advice. An appropriate regional policy will be developed by 2005 to minimise transboundary (cross-border) impacts of oil pollution from activities in the EEZs of individual countries. Such activities will be co-ordinated by an Activity Centre.

c) ***Implementation of MARPOL 73/78***

The Commission will co-operate with the SADC initiative for devising a common strategy for the implementation of MARPOL 73/78 in the BCLME region.

d) ***Marine litter***

The growing problem of marine litter will be addressed first by a regional public awareness campaign (which will have seafarers as its primary focus); and second by harmonising legislation, enforcement and implementation of standards at a regional level. Locally and nationally, activities will be facilitated and co-ordinated.



E. Maintenance of Ecosystem Health and Protection of Biological Diversity

Human impact on the ecosystem by way of fishing, increasing pressure on the coastal zone, pollution etc. has negatively affected components of the system, in particular top predators such as marine mammals and coastal birds (e.g. African penguins), which are now threatened or endangered. Several habitats, in particular coastal habitats, have also been perturbed or lost as a consequence of development and other human impacts, such as loss of wetlands, destruction of mangroves and lagoons. These have transboundary consequences and may be important globally. Moreover, there has been a loss of biotic integrity, including changes in community composition, species diversity and the introduction of alien species.

33. In order to retard or reverse habitat alteration and destruction and to protect vulnerable species and biological diversity, the following regional policy actions are agreed to.

a) *Vulnerable species and habitats*

A regional assessment of the status of the most vulnerable species and habitats will be undertaken collaboratively by December 2003. This assessment will be facilitated by one of the Activity Centres. Member states will endeavour to assemble the necessary baseline data and, where affordable, undertake focused research on perceived causality. A regional marine and coastal early warning system will be developed by December 2004 and incorporated into an action that will specify environmental quality criteria and propose the most appropriate regional structure to address the problems. Implicit in this is the development of mechanisms for co-operation between industries, governments and other stakeholders. A needs assessment to improve coastal management expertise will also be conducted. A suite of appropriate projects for marine and coastal areas suitable for GEF and donor funding will be elaborated during 2002/3. These will include *inter alia* a project to determine the carrying capacity of the BCLME coastal zone for tourism.

b) *Ballast water policy*

A regional policy on ballast water for the BCLME will be developed in tandem with the existing GEF international ballast water management project. The latter project will include a SADC-wide workshop to raise awareness on the problems associated with ballast water. South Africa can take the lead in this initiative.

c) *Marine biological diversity conservation*

A regional marine biodiversity conservation management plan will be developed by December 2005. This plan will include a framework for assessment and prediction of the aspects of environmental change, an assessment of genetic diversity implications for marine resource management, and identification of priority marine protected areas, in particular possible transboundary protected areas. Close co-operation will also be maintained with the SADC programme "The Southern African Biodiversity Support Programme". The GEF SIDS Programme for the South Pacific could serve as a useful framework for the identification and development of protected areas. The process of establishing a management plan will be facilitated by an Activity Centre.



F. Capacity Strengthening

The strengthening of human and infrastructure capacity and the maintenance of existing capacity has been identified as a high priority, if not the highest priority, in the region. Existing capacity is stretched to the limit to address national priorities within the BCLME, and there is a serious lack of capacity to address the priority transboundary issues identified in the TDA and highlighted in this SAP. Appropriate strengthening of human and infrastructure capacity in the region is a prerequisite for the sustainable integrated management of the BCLME. This applies at all levels in all transboundary components including, *inter alia*, science and technology based activities and assessment, economic assessment, surveillance, overall management and policy development, and regulation and enforcement.

34. Policy actions proposed to develop and maintain capacity in the BCLME are listed below.

a) **Strategic plan for capacity strengthening**

A comprehensive collaborative study of human capacity and training and infrastructure needs to address priority transboundary issues will be undertaken during 2003, together with an assessment of the status of existing capacity and trends therein. This needs assessment will use as its point of departure the priority areas identified in the TDA, e.g. transboundary resource assessment and management; environmental assessment and prediction of large-scale extreme events impacting across the BCLME and national boundaries, and the ecosystem consequences of such extreme events; transboundary pollution management; cumulative impact assessment of mining, and system-wide protection of biodiversity. It will harmonise with other programmes and activity areas such as BENEFIT and the Monitoring-Control-Surveillance (MCS) initiative. It will form a basis for the collaborative development of a comprehensive but realistic regional strategic plan for capacity strengthening and maintenance within the context of the BCLME and focusing on transboundary needs, and will be finalised by October 2003.

b) **Implementation of capacity strengthening strategic plan**

Following acceptance of the regional strategic plan for capacity strengthening and maintenance in the BCLME, each country shall endeavour to implement the strategy to the best of its ability.



National Strategic Action Plans

35. Each member state shall prepare by June 2003 a national BCLME strategic action plan (10 pages) or other corresponding document, which shall present details of additional national actions to further implement the SAP. These shall include details of responsibilities and specific projects where possible.

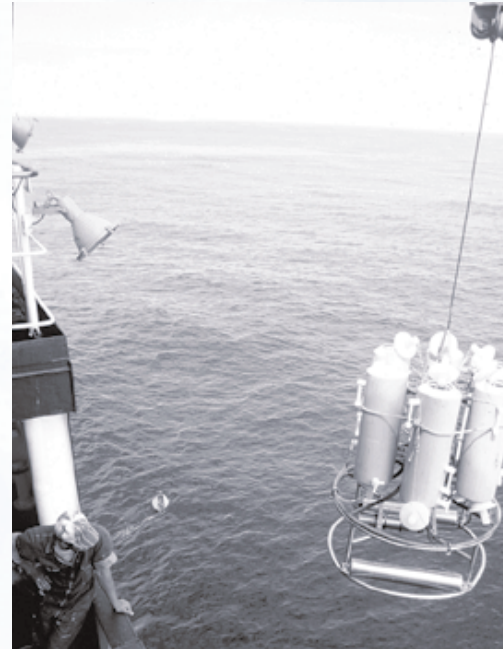
Finance & Review

FINANCING THE STRATEGIC ACTION PROGRAMME FOR THE NEXT FIVE YEARS AND REVIEW

36. The countries will seek the necessary funding for the actions agreed upon in this Strategic Action Programme from national, regional and international sources, through private and general public funding or through the application of specific economic instruments, as well as through grants and loans. Specific projects for international funding will be prepared for bilateral or multilateral funding. Donor conferences for assisting in this process shall be held every five years, starting in the year 2003. Specific funding arrangements for the national policies and measures agreed on in this Strategic Action Programme shall be presented in the National SAPs to be adopted by each of the member states.
37. The SAP shall be reviewed from time to time and updated when and where necessary.

Arrangements for Future Co-operation

38. The implementation of this SAP over a five-year period will produce a revised programme that will lead to long-term measures to sustain and protect the BCLME. Member states agree to commit themselves to continuing the BCLME Programme beyond the GEF intervention, and will endeavour to (a) adopt appropriate legislation, (b) implement economic instruments and (c) establish a permanent Benguela Current Commission with a supporting Secretariat. A financial plan that will make provision for future sustainable funding will be prepared, including a study on the feasibility of establishing an Environmental Fund.
39. It is envisioned that the BCLME Programme will continue to develop strong links with institutions, NGOs and the private sector within member states and the SADC region as a whole, so promoting the overall objective of closer economic integration.



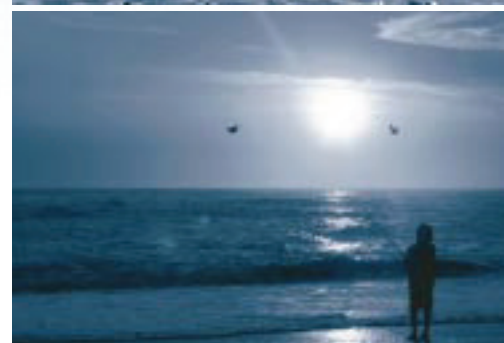
Annexure I

THE STRUCTURE OF THE INTERIM BENGUELA CURRENT COMMISSION

The Interim Benguela Current Commission will consist of three representatives from each country, each with a vote. Decisions will be made with majority voting. The terms of office of the Commissioners shall be for six years, one-third retiring after two years and another one-third after four years. A chairperson shall be elected by the Commission and will rotate every two years. There shall be equality between member states; The IBCC will also have non-voting representation from

- a) SEAFO,
- b) UNDP,
- c) UNEP,
- d) SADC,
- e) BENEFIT and
- f) the Secretariat.

The World Bank shall be represented on the IBCC for the duration of the BCLME Programme (five years). Specialists and representatives of other stakeholders and regional or international organisations can be co-opted onto the IBCC from time to time as appropriate.



Annexure II

RECOMMENDATIONS TO THE INTERIM BENGUELA CURRENT COMMISSION

Advisory Groups and Activity Centres Associated with the Benguela Current Large Marine Ecosystem Strategic Action Programme (BCLME-SAP)

The purpose of the Advisory Groups is to provide the Secretariat or the PCU with the best possible advice and information on topics key to implementation of the BCLME Strategic Action Programme. In all cases, they will, as part of their duties, respond to requests for advice from the PCU and prepare proposals for the PCU's consideration at their own initiative. The groups will include experts from specialised focal points of the member states. The Advisory Groups will work closely with other experts, bodies, institutions and industry as they, or the PCU, deem necessary. Involvement with relevant NGOs is also encouraged, particularly in the improvement of public participation and awareness in all of the focal areas they cover. Particular attention shall also be given to including experts in environmental law, environmental economics and public awareness, where appropriate.

Each Advisory Group shall seek to make best use of expertise and institutional capacity within the region and, within its work plan, approved on an annual basis by the IBCC, may request assistance from or assign specific tasks to, any institution or expert that it considers appropriate.

The BCLME-PCU will provide general co-ordination for the Advisory Groups, assigning the management of specific tasks to appropriate officers according to their technical specialisation.

The Advisory Groups shall be supported by the PCU and/or as appropriate three Activity Centres (one in each member state) which shall co-ordinate the necessary programme support and the provision of practical technical support for their work. The Activity Centres shall be created through in-kind contributions by member state governments, as well as with significant funding from donors, especially during the first three years.

Advisory Groups shall liaise with each other where appropriate and joint groups may be set up from time-to-time, particularly on such issues as resource assessment, fisheries development, ecosystem health, environmental variability and environmental impact assessment.

The Advisory Groups to be located in Activity Centres are defined and listed below.

1. Advisory Group on Fisheries and Other Living Marine Resources

The Group will co-ordinate activities and provide technical support for the sustainable management, utilisation and protection of fisheries and other living marine resources of the BCLME. The Advisory Group will gather the basic source of information related to transboundary commercial fish stocks and management strategies, including means of capture, installed capacity and protection measures, and will co-ordinate calibration/inter-calibrations for transboundary assessments; conduct socio-economic assessments, and serve as a regional forum for stock assessment advice. Information would also be collected on other potentially important living marine resources that are currently not harvested, as well as mariculture projects. These data will be gathered from all national authorities and should document past changes in the production and stock of the region and their relationship to changes in the Benguela Current ecosystem. They will provide the basic source of information for future management strategies, and for the implementation of any future fisheries convention.



The Group will develop proposals and, where appropriate, co-ordinate

- 1.1 harmonisation at the regional level of a legal and institutional framework aimed at sustainable use of living marine resources;
- 1.2 improvement of the fisheries resource assessment of the BCLME based on a regional approach;
- 1.3 development of projects for conservation, protection and rehabilitation of living marine resources;
- 1.4 development of specific techniques for mariculture that do not harm the environment or the biological diversity. The Group will collaborate with regional and international institutions, government bodies and the private sector.

2. Advisory Group on Environmental Variability, Ecosystem Impacts and Improved Predictability

This Group will co-ordinate activities and provide technical support for the development and implementation of an early warning system for variability and change in the physical, chemical and biological environment of the BCLME. Development of models to predict transboundary environmental change and assessment of the ecosystem impacts of environmental variability/change will form a primary role of this Group. The implementation of new techniques for rapid assessment of the Benguela Current ocean and coastal environments will also be pursued. Cost-effectiveness will be a guiding principle for Group activities.

The Group will develop proposals for and co-ordinate

- 2.1 effective state of the environmental assessment of the Benguela Current Large Marine Ecosystem;
- 2.2 modeling of the Benguela Current ecosystem and the interaction between the physical, chemical and biological parameters with a view to improving predictability of extreme events and system-wide change;
- 2.3 the metocean data buoy (PIRATA) demonstration project in southern Angola-northern Namibia;
- 2.4 rapid environmental assessment techniques using towed undulating oceanographic instruments and satellite remote sensing;
- 2.5 regional training programmes in scientific and technical aspects of environmental monitoring, data processing and modeling of the BCLME;
- 2.6 development of a regional network, contingency plan, public awareness and reporting system for HABs;
- 2.7 mitigation of the impacts of HABs, and community involvement in monitoring.

3. Advisory Group on Biodiversity and Ecosystem Health

This Advisory Group will co-ordinate all activities relating to the conservation of biological diversity in the BCLME, and will provide the basis for harmonisation of relevant policies in the three countries which share the ecosystem. Potentially important conservation and marine protected areas, in particular in the proximity of the transboundary regions, will be identified and recommendations made to the PSC/IBCC as appropriate. High on the agenda of this Group will be the involvement of all the stakeholders via a forum so that there can be full participation by all interested and affected parties in the negotiation and development of a biodiversity code of conduct for the region by 2006. This group will of necessity work closely with the Living Marine Resources,



Pollution and Environmental Variability Advisory Groups. The Group is seen as a key instrument to attain the objectives of the BCLME Programme, viz integrated management, sustainable development and protection of the ecosystem.

4. Advisory Group on Marine Pollution

The Group will co-ordinate, and provide technical support for, project activities aimed at the prevention, reduction, control and monitoring of all sources of transboundary pollution in the BCLME area. Such activities will include

- 4.1 assessment of water quality in the BCLME area, including identification and comparative evaluation of sources of pollution;
- 4.2 development of regional protocols and agreements with a view to harmonising policies and standards on water and sediment quality, and on the control of marine litter;
- 4.3 development of a regional framework for the monitoring of marine pollution and enforcement of regulations;
- 4.4 assessment of the need for training in marine pollution control, and identification of relevant opportunities and/or development of courses as necessary;
- 4.5 development of a regional oil spill contingency plan;
- 4.6 development of public awareness of marine pollution issues through the production of relevant educational material;
- 4.7 implementation of demonstration projects. In addition, the Advisory Group will liaise and collaborate with relevant regional and international institutions, government bodies, NGOs and the private sector (e.g. industry).

5. Advisory Group on Legal and Maritime Affairs

The Group will monitor and advise the PCU on the emerging legal regimes of the BCLME, measures adopted under it and activities carried out within it, with a view to ensuring

- 5.1 the appropriate development of the regime and its efficacy;
- 5.2 the consistency of the regime with global international law regimes (such as UNCLOS, UNEP, pollution conventions, the Biodiversity Convention, etc.);
- 5.3 the consistency of the regime with regional and other related international law regimes (such as SADC and the projected SEAFO);
- 5.4 that harmonisation of national policies within the system are similarly consistent. The Group will, where requested to do so by the PCU (Secretariat or a Member State), examine the compatibility of any national measure taken by any Member State with a view to assessing its consistency with the system and advising thereon.

6. Advisory Group on Information and Data Exchange

The Group will focus its work on the improvement of information flow and data exchange. In particular, it will oversee

- 6.1 Updating the existing Benguela Current information on fisheries, oceanography, environmental variability and ecosystem health, diamond mining and other minerals and deposits, offshore oil and gas exploration and production, coastal developments, and socio-economics;
- 6.2 development of an integrated regional data base and Geographic Information System (GIS) for the BCLME;



- 6.3 compilation and updating of a bibliography of the region and a BCLME website;
- 6.4 strengthening the e-mail network and improving Internet connections to the web services for principal data centres and Ministries of Environment, Fisheries and Marine Resources and Energy and Mining for the exchange of information and data including meta-data;
- 6.5 develop a regional Internet facility comprising environmental data, sets of data obtained from various national, regional and international programmes, copies of historical data and datasets from global data centres such as the World Data Centre (WDC), the Global Ocean Observation System-Living Marine Resources (GOOS-LMR) and the Intergovernmental Oceanographic Commission (IOC);
- 6.6 co-operate with an NGO network in data exchange. Furthermore it will organise training on data exchange, promote and support UN agency sponsored distance-learning programmes such as the International Waters IW:LEARN and TRAIN-SEA-COAST Programmes and also assist other networks in the region.

7. Advisory Group on Training and Capacity Development

Training and capacity development is an over-arching activity within the BCLME. Indeed, together with technology and knowledge transfer, it is a cornerstone on which the entire Programme is based, underpinning virtually all activities. Training and capacity development will be high on the agendas of the PCU and Activity Centres as well as the six Advisory Groups listed above, and will be incorporated into the various project activities initiated and supported by the BCLME during the GEF Intervention Phase (2002-2007). In order to maximise the benefits to the region and to ensure proper co-ordination and integration of training and capacity development, a cross-cutting Advisory Group is proposed, the work of which will be facilitated directly by the PCU with the necessary support from the Activity Centres. A Training and Capacity Development Strategy and Implementation Plan will be developed during 2003 (in partnership with BENEFIT where appropriate). The objective of this is to ensure that by 2007, or whenever the BCC is formally established, the necessary expertise exists in each of the participating countries so that the ongoing priority transboundary issues can be professionally addressed and the ecosystem as a whole sustainably managed and protected.

8. Activity Centres

A major part of the BCLME Programme activities will be implemented by a network of specialist institutions co-ordinated by Activity Centres. Each Government will agree to host one of these centres. The centres will be based on national institutions selected by the Commissioners at the first meeting of the IBCC or by the Programme Steering Committee. The Activity Centres will work closely with the PCU in order to establish links with the national institutional focal points i.e. specialised institutions selected by Governments to participate in each of the networks. With the support of the PCU, the Activity Centres shall organise Working Parties, conduct training and present recommendations to the Programme Steering Committee.

The three Activity Centres are as follows:

- | | |
|--------------------|---|
| Activity Centre 1: | Living Marine Resources (based in Swakopmund) |
| Activity Centre 2: | Environmental Variability (based in Cape Town) |
| Activity Centre 3: | Biodiversity, Ecosystem Health and Pollution
(based in Luanda) |

(The functions of the three Activity Centres are defined in the GEF-UNDP Project Document RAF/00/G32/A/IG/3 - PRODOC 2002).



Acknowledgements

All photographs courtesy of Marine and Coastal Management or Sue Matthews, with the exception of the following:

CSIR	Page 12	Seawatch buoy
De Beers Marine	Page 5	Drilling rig
	Page 6	Separator
	Page 8	ROV deployment
	Page 11	Diamond sorting, Grab sample, Jago
	Page 19	Heavisides dolphin
	Page 21	Production rig
	Page 22	'Towfish' deployment
NOAA	Page 12	Storm wave
	Page 13	Cumulus cloud
	Page 20	Storm seas
Rob Tarr	Page 18	Bokkoms, Treknet fishers, Lobster boats, Fishing at sunset
	Page 20	Crab
The Argus	Page 5	Burning ship, Oiled penguins

