

**COVER PAGE INFORMATION**

<b>1. Country:</b>	<b>Chile and Peru</b>	
<b>2. Focal Area:</b>	<b>International Waters</b>	
<b>3. Operational Programme:</b>	<b>OP# 9 – Integrated Land and Water</b>	
<b>4. Project Title</b>	<b>Integrated Management of the Humboldt Current Large Marine Ecosystem</b>	
<b>5. Total Cost:</b>	<b>US\$ 419,000</b>	
<b>6. PDF Request:</b>	<b>US\$ 344.000</b>	
<b>7. Co-Financing :</b>	<b>Govt. of Chile</b>	<b>US\$ 25,000</b>
	<b>Govt. of Peru</b>	<b>US\$ 25,000</b>
	<b>NOAA, USA</b>	<b>US\$ 25,000</b>
	<b>Total</b>	<b>US\$ 75,000</b>
<b>8. Executing Agency with Expanded Opportunities:</b>	<b>United Nations Industrial Development Organization (UNIDO)</b>	
<b>9. Executing Agency:</b>	<b>Multiple Execution: UNIDO, IFOP (Chile), IMARPE (Peru)</b>	
<b>10. Duration:</b>	<b>December 2001 to December 2002</b>	

**PROJECT STRUCTURE****11. PROJECT OBJECTIVES**

The objective of the project to be developed under the Block B GEF grant is to enhance national and regional efforts to move towards sustainable integrated management of the Humboldt Current Large Marine Ecosystem (HCLME). The first step in the process will be the establishment of a mechanism for regional co-operation, a review of the existing knowledge of the status and threats to the HCLME and the development of a Transboundary Diagnostic Analysis (TDA) and a preliminary Strategies Action Programme (SAP) to address both these threats and the gaps in knowledge essential to the sustainable management of the ecosystem. In addition to assisting in the development of the TDA/SAP, the project is expected to focus on the strengthening of effective consultation, co-ordination and monitoring mechanisms, the development of institutional capacity, the continued brokering and co-ordination of donor support and the direct support of some of the priority activities identified in the SAP.

## 12. BACKGROUND AND PROBLEMS

The Humboldt Current LME extends along the coast of Southeast South America from Southern Chile (-40° S) to N. Peru (-5° S). The HCLME is the most productive marine ecosystem in the world, with an estimated productivity level of 1500 gC/m<sup>2</sup>/yr. It is also the largest upwelling system in the world and it is the cold, nutrient-rich water brought to the surface by the upwelling that drives the system's extraordinary productivity. The Humboldt's high rates of primary and secondary productivity support the world's largest fisheries. Approximately 18-20% of the global fish catch comes from the HCLME, mostly in the form of small pelagic fishes such as sardines, anchovies and jack mackerel. Periodically, the upwelling that drives the system's productivity is disrupted by El Niño-Southern Oscillation (ENSO) events. When this occurs, fish abundance and distribution are significantly affected, often leading to stock crashes and cascading social and economic impacts. These events have led to species sequential changes, where sardines and anchovies have replaced each other periodically as the dominant species in the ecosystem. These species changes can have negative consequences for the fishing industry and the economies of the countries that fish the system. The HCLME's high productivity supports globally important fishery resources for food security and marine biodiversity, including endemic marine mammals. Coastal tourism is also increasingly important to the economies of both Chile and Peru.

The Humboldt Current Large Marine Ecosystem represents over 20% of the world's fish catch, mostly in the form of pelagic fish resources. During the last three decades, there have been great changes in fisheries yields and species dominance. Fluctuations in fisheries are due to short-term perturbations (e.g. ENSO), fishing pressure, subtle long-term environmental changes. Pelagic fisheries began in the 1950s, peaked in the 1970s, and fluctuated greatly during the rest of the 1970s and 1980s. The anchovy fishery rose during the 1950s and 1960s. Following the anchovy fishery collapse in 1972, the fisheries for sardines, mackerel, and horse mackerel increased. Apparently the 1972 ENSO combined with over fishing depleted the anchovy fishery, allowing the others to expand. It has been long accepted that any management strategy to promote long term sustainability of the fish resources and integrity of the Humboldt Current upwelling system will need to be based on system-wide strategic models of yield predictions. So far, the following HCLME stocks have been identified as shared stock by Chile and Peru: *Sardinops sagax*, *Engraulis ringens*, *Sarda chilensis*, *Scomber peruanus*, *Xiphias gladius*, and probably *Trachurus symmetricus murphyi*.

The current practices for the management of the marine and coastal resources in Chile and Peru are mandated, in Chile by the General Law of Fisheries and Aquaculture (Law No. 18892 of 1989 and its Amendments), and its complement, Law No. 19713 of 2001, and in Peru by the Supreme Decree No. 012-2001-PE, which regulates the General Law of Fisheries. Both these management schemes have been restricted to exploitation of the resources contained within the political boundaries between the two countries, including the economic zones. This situation has often resulted in substantial economical losses as well as the inability to properly care for the sustainability of the resources of the HCLME.

To properly assess and manage the resources of the HCLME, the analysis of the biological/oceanographic and of the socio-economic aspects has to encompass the system as a whole. So far, most related studies cover either the Northern Humboldt Current (Peru), or the Southern Humboldt Current (Chile). Both nations are aware of the need to improve the monitoring, assessment and management of this ecosystem as a whole to the extent that is required.

Increasingly, the two nations have become aware of some of the threats to, and issues associated with, the management of the HCLME. These include:

- a) increasingly frequent ENSO events, their impacts on abundance and distribution of fish stocks, resulting difficulties for fisheries management, and negative social, economic and human health consequences;
- b) locally significant coastal pollution, including sewage, industrial waste and petroleum, and

negative impacts on human health, coastal tourism and coastal living marine resources;

- c) long-term regime shifts, associated with climate variability, that impact fish stocks;
- d) the need to improve the capacity to assess, monitor and manage the system from an international multisectoral, integrated perspective;
- e) the need to enhance the international regime for more sustainable management of the HCLME's rich living marine resources;
- f) loss of biodiversity due to overfishing, which has already threatened or endangered sea otters, sea lions and some sea birds and whales;
- g) severe coastal habitat degradation near sources of pollution including fish processing plants (nutrients), copper mining (heavy metals) and thermoelectric plants (heat pollution);
- h) increased anoxia in HCLME bottom waters when primary and secondary producers, not consumed because fish stocks are over-fished, fall to the sea floor and decompose.

The two nations are aware of the need to improve the monitoring, assessment and management of this ecosystem as a whole to the extent that is required. However, they are moving to strengthen regional programmes related to management and protection of living marine resources, and to increase co-operation on management of the ecosystem as a whole. This project will support the national commitments initiated by both countries in the Galapagos Protocol of the Permanent Commission of the South Pacific (CPPS), to strengthen regional programmes related to management and protection of living marine resources, and to increase co-operation on management of the ecosystem as a whole. In particular, they expect that with support from the GEF, they can not only secure a broad range of national economic benefits, but can do so while sustaining the ecological capital of the LME and also generate significant global environmental benefits in terms of the maintenance of this extraordinarily productive waterbody. These benefits can be achieved through the cooperative and system-wide application of science to the evaluation of the current status, monitoring and management of the HCLME to ensure the long-term sustainability of its living marine resources. The project will be the first to address the scientific basis for a joint Chilean and Peruvian assessment and management of the environment and resources of the HCLME.

### **13. PROJECT DESCRIPTION**

The proposed HCLME project will enhance regional efforts to address critical ecosystem and environmental problems through the development and implementation of a coordinated and integrated approach to sustainable management of the ecosystem. It will assist in the development of, and catalyze the implementation of a regional TDA and a preliminary SAP. This is likely to include:

- a) Development of appropriate frameworks and mechanisms at both regional and national levels for consultation, co-ordination and cooperation;
- b) Development of the institutional capacities of key agencies and institutions in the region that contribute to the integrated sustainable management of the HCLME;
- c) Establishment of effective ecosystem monitoring systems together with mechanisms for identification and analysis of problems and issues;
- d) Promotion of research to increase understanding of the HCLME, its functioning and the factors which affect it (biophysical, social, economic and political);
- e) Implementation of demonstration projects in the two critical areas of fisheries management and pollution control mechanisms in the coastal zone.

- f) Harmonization of policies and legislation relating to activities affecting the HCLME;
- g) Increased external support to activities to minimize and mitigate the negative impacts of development (urbanization, tourism development, resource exploitation) through the promotion of sustainable approaches and the active participation of the industrial sectors (mining, fish processing, forestry and pulp and paper);
- h) Establish measures to protect food security and biological diversity;
- i) Quantification of the role of HCLME as a source/sink of CO<sub>2</sub>;
- j) A better understanding of the role of HCLME as a monitoring/early-warning site for global climate change.

The project will engage the industrial sector as a key stakeholder. The mining and fish processing sectors are the principal sources of income in both countries. Their participation and contribution to the project are thus critical to its success and sustainability. The land-based fish processing operations have a critical interest in the maintenance of the productivity of the HCLME but presently impact upon it through the discharge of high BOD loads to coastal waters. Similarly, land-based mining activities have traditionally used rivers and water bodies as convenient discharge mechanisms for their wastes. Pollution from these sources continues to impact upon estuarine and coastal waters that are also at risk from the failure of more modern tailings dams. It follows that these industries must be fully engaged in the development of foresight, management options and priority preventive actions. Through the Bilateral Humboldt Current Compact (see below), the project will foster the establishment of regulatory instruments, in both countries, to: (i) establish emission standards and quality standards for discharges to water bodies, where these are lacking; (ii) support the industrial sectors in establishing best practice in its pollution control activities and in adopting clean production technologies; and (iii) strengthen institutions responsible for environmental monitoring.

#### **14. IMPLEMENTATION ARRANGEMENTS**

There is no current institutional arrangement for cooperation between the two countries for the protection of the HCLME. One of the first tasks of the PDF-B will be to initiate discussions on such a coordinating mechanisms, initially for the sole purpose of implementing the PDF-B itself as the initial approach to system-wide management of transboundary resources.

An interim coordinating executive committee will be established to implement agreements achieved within the Bilateral Humboldt Current Compact (BHCC) agreed between the two countries sharing the resources of the HCLME. This coordinating executive committee of the BHCC will serve as the implementing organization for the HCLME Strategic Action Plan, and will be supported by sector-specific technical Advisory Groups. They will likely include:

- Advisory Group on Fisheries and Other Living Resources,
- Advisory Group on Environmental Variability and Ecosystems Health,
- Advisory Group on Marine Pollution,
- Advisory Group on Information and Data Exchange,
- Advisory Group on Legal Affairs and Maritime Law,
- Advisory Group on Industry and the Environment.

It is anticipated that the coordinating executive committee of the BHCC would regularly review the status

and functions of the above advisory groups and also establish *ad hoc* groups to help implement the SAP. Within the BHCC, a Project Coordination Unit would play a key role in coordination, networking, communication and information exchange for the HCLME performing a secretariat function for the BHCC. As required, activity centers (one per country) would be established to facilitate coordination within the partner countries and to serve as centers for specialist HCLME actions (e.g., resource assessment, methodology and calibration regional environmental monitoring and networking, marine pollution, etc.)

The United Nations Industrial Development Organization (UNIDO) has been selected as the Executing Agency Under Expanded Opportunities for this project based on its comparative advantages in this area and its success in implementing a project in the Gulf of Guinea LME. UNIDO, as the specialized agency of the United Nations in industrial development in developing countries and countries with economies in transition, is uniquely placed to bring together the necessary skills and expertise on industrial development and environmental protection essential for the development and application of integrated coastal zone management. UNIDO provides knowledge-based expertise on technologies for water treatment, waste management and cleaner production through its 3 relevant service modules: Environmental Policy Framework, Cleaner Production and Pollution Control and Waste Management. UNIDO, through its International Centre of Science and High Technology (ICS), Trieste, Italy, is able to provide high-level technical training to developing countries on topics related to integrated coastal zone management.

The execution of the programme by UNIDO will benefit from UNIDO's experience in the execution of the GEF-funded Gulf of Guinea LME project. Much of the success of this UNIDO-executed project is attributed to the strong sense of commitment and community working of the six participating government partners. Indeed, that 'ownership' has now generated a successor project drawing in ten additional governments to the consortium. The HCLME instance is relatively less complex because: (i) it involves only two countries, and two countries that are fully committed to the future joint management of the LME; (ii) UNIDO's commitment to its constituency will ensure the direct involvement of all the relevant public sectors.; (iii) UNIDO's experience in the region will facilitate engaging the relevant industrial sectors as well. In addition, UNIDO through its regular collaboration and cooperation with UNDP will benefit from the experiences of the Benguela Current Large Marine Ecosystem (BCLME) and adopt some of the best practices and lessons learned for the development of the HCLME TDA/SAP in this PDF-B and also during full project implementation.

UNIDO brings to the project not only a wealth of expertise on industrial pollution control, but also the experience and ability to draw together government and industrial sectors to cooperate and support programmes that pursue a common good. UNIDO staff are also experienced in the region's contamination problems arising from the fish processing and mining industries. Specifically:

- UNIDO has assisted the aquiculture and fish processing industry in Chile's VIII Region in the application of clean technologies. The sector has now reduced BOD concentration in the waste stream by 80%, while introducing substantial savings to industry owners.
- UNIDO staff have formulated TOR for Feasibility Studies for Pollution Control and limited Remediation Programmes for Talcahuano Bay and Chañaral Bay; the two most contaminated areas in the HCLME, as a result of mining and fish processing activities.
- Members of staff participated in IMF-funded pollution control programmes involving the protection of upstream water resources from gold mining activities in Northern Peru.
- UNIDO is working globally to remove barriers to the proper management of mercury in small-scale gold mining. A major proposal for work in a further six countries has been submitted to the GEF for funding.
- UNIDO's vast involvement in Solid Waste Management in over 40 developing countries, from policy issues to the design and construction of sanitary landfills has been recognized by the UN agency-wide Environmental Management Group by establishing

UNIDO as the lead agency of the Waste Management Issue Group.

- UNIDO's comparative advantage and broad expertise in the management of Persistent Toxic Substances and their effect on marine and coastal ecosystems has been recognised by UN and Non-UN Agencies globally.

UNIDO will execute this regional project in partnership with the government agencies of the participating countries, IFOP in Chile and IMARPE in Peru. The project also envisions close consultation and collaboration with NGOs and citizen groups. In its efforts to be complementary and comprehensive, the project will build upon the achievements of related prior, on-going and planned activities in the region including implementation of Multilateral Conventions as well as private sector initiatives.

## **15. PDF BLOCK B ACTIVITIES AND OUTPUTS**

### **Activity 1: Initial consultations and regional workshop**

The PDF activity will build on existing contacts between the key players including IMARPE, IFOP, CONAM and CONAMA in Peru and Chile. Following initial consultations, the development of the TDA will be launched with a regional workshop to bring together the key players and stakeholders, both in the region and from outside, including relevant departments and agencies from the two governments, commercial and artisanal fisheries, mining and petroleum and other industries which affect the coastal zone, principal port authorities, tourism interests and donor agencies.

The first regional workshop will have the following major objectives:

- a) To establish the framework of the Bilateral Humboldt Current Compact and its Coordinating Executive Committee, which will act to forge a consensus on the way ahead for development of a coordinated integrated approach to the management of the Humboldt Current LME.
- b) To agree on a PDF work plan, including the definition of specific responsibilities and timetables for the achievement of the necessary actions.
- c) To establish formal mechanisms for ongoing consultation and co-ordination both within and between the key players in the two countries, and outside agencies and institutions as appropriate.

### **Activity 2: Establishment of mechanisms for ongoing communication and co-ordination**

While various informal and formal discussions have taken place between parties in both countries during the development of this proposal, there is currently no established mechanism for consultation and co-ordination between them to deal with multisectoral issues associated with the Humboldt Current. The Regional workshop should endorse a formal mechanism for consultation and co-ordination during the TDA/SAP process. This is anticipated to include the hiring of a consultant to provide full-time co-ordination of the TDA/SAP and project preparation process, as well as the establishment of direct e-mail linkages between all the key players both within and outside the region. Project communication will be in two languages (English and Spanish) and adequate provision will be made for a translation officer possibly shared with other regional programmes. While these mechanisms may serve as the precursors to the mechanisms and structures which will be used to finalize and implement the TDA/SAP and to provide co-ordination to ecosystem management in the long-term care will be taken not to prejudge the outcome of the work to be done under the PDF, nor to establish inappropriate or unsustainable institutions.

In accordance with UNCLOS and the context of the Humboldt Current LME project, both Chile and Peru are in agreement that joint bilateral actions will be forthcoming as an outcome of the TDA process, in three main areas: (1) Joint cooperative assessments and sustainable management and utilization of fisheries and other marine living resources, (2) cooperative assessments of environmental variability,

ecosystem impacts, and improvement of ecosystem predictability, and (3) improvements and maintenance of ecosystem health and management of pollution. The SAP will be fundamental to the establishment of priorities and methodologies for Chile and Peru to work jointly in its implementation.

### **Activity 3: Assessment of the existing information of the HCLME**

The National Working Groups and consultants will be used to undertake detailed reviews of:

- a) The state of the art with respect to the scientific and technical understanding of the biophysical processes of the HCLME, including the identification of major gaps in our understanding that need to be addressed by the project;
- b) The key threats, problems and issues associated with the HCLME including unsustainable harvesting of marine resources, land use changes and coastal pollution;
- c) The policy, legislative and regulatory environment in both countries, including adherence to the various international conventions such as UNCLOS, MARPOL, CPPS, OLDEPESCA, APEC, RAMSAR, CITES;
- d) The socioeconomic issues associated with the HCLME and its adjoining coastal areas;
- e) The institutional environment in terms of their roles and responsibilities as well as their technical and human resource capacities.

### **Activity 4: Identification and analysis of the key issues, alternatives and options for the HCLME**

On the basis of the synthesis and assessment of existing information, the key issues, alternative scenarios and management options will be identified and analyzed through an open participatory process underpinned with scientific and technical support and consultation. This participatory process will include social assessments, consultations and one or two workshops in order to:

- a) involve all stakeholders;
- b) inform them of the process;
- c) assess patterns of resource use and behaviours, and the social, cultural, political, economic and environmental forces behind these;
- d) build consensus concerning the principal issues and the options available to address them.

The process will include all stakeholders, including coastal communities and artisanal fisheries, and will identify key issues, options and possible alternatives that will lead to better management of the ecosystem. The product of this process will be consensus on the key issues, alternatives and options for the management of the HCLME. The project will take advantage of regional mechanisms established through the Mining, Minerals and Sustainable Development (MMSD) Project to strengthen the participation of the mining industry.

### **Activity 5: Development of Transboundary Diagnostic Analysis (TDA) and preliminary Strategic Action Programme (SAP)**

Drawing on the analysis of issues, alternatives and options a TDA and preliminary SAP for the HCLME will be developed. This will be subjected to extensive consultation and scrutiny throughout the region and beyond, using the mechanisms developed above.

### **Activity 6: Donor consultations and donor conference**

Consideration of financing options will be important from the very start of the PDF-B process and donor agencies and institutions will play an important part throughout the consultative process. The preliminary SAP will include a Financing Plan and this will be negotiated in detail with donors as it is completed.

Donor conferencing will define how the SAP as a whole is to be funded, the specific role of each donor agency or institution and the dimensions on the proposal to be submitted to GEF.

#### **Activity 7: Preparation of a GEF Project Brief**

A Project Brief for the GEF component of the programme will be prepared. The Project Brief should include mechanisms to strengthen system-wide transboundary monitoring and assessment, planning and management co-ordination mechanisms, as well as specific actions to increase the global environmental value of the HCLME as:

- a. an international waterbody;
- b. an important resource of food security;
- c. a reservoir of biological diversity; and
- d. an indicator of global climate change.

#### **PDF-B OUTPUTS**

The outputs of the PDF-B will be:

- a. An agreed upon document defining the key problems, issues and threats and identifying priorities, options and alternatives for the integrated management of the HCLME.
- b. A mechanism for consultation and co-ordination among the various stakeholders participating in the management of the HCLME including national governments: various agencies within them; their technical, scientific and management staff; coastal communities; NGO's and other groups, universities, the industrial sector – including oil and gas, mining, fisheries and tourism industries; and various other beneficiaries of the sustainable use of the HCLME.
- c. An agreed upon TDA and SAP for the integrated management of the HCLME.
- d. Outlines of a series of activities and projects (including ongoing monitoring and assessment) to be funded by national governments and donor agencies, together with a financing plan.
- e. A final report of the Donors Conference and Consultation.
- f. One or more detailed proposals to be submitted to the GEF for financing.

#### **16. ELIGIBILITY**

This proposal is consistent with the GEF Operational Strategy of April 1997 especially as described in Operational Programme #9, the Integrated Land and Water Component of the GEF. The participating countries are all eligible under Section 9(b) of the GEF Instrument.

**Programme Conformity:** The proposed project falls under the GEF International Waters Focal Area, and specifically under Operational Programme Number 9: Integrated Land and Water Multifocal Area Operational Programme. The project has direct relevance for the Global Programme of Action (GPA) for the Protection of the Marine Environment from Land-based activities. The Humboldt Current LME is the most productive marine ecosystem and the largest upwelling system in the world. Its high productivity supports globally important fishery resources for food security and marine biodiversity, including endemic marine mammals. The objective of the project is to enhance national and regional efforts to move towards sustainable integrated management of the Humboldt Current Large Marine Ecosystem. The programme builds regional cooperation and collaboration. It will consolidate and put in place formal mechanisms for cooperation between the two countries, including a legal framework for cooperation, which facilitate the development of similar cooperative environmental arrangements within the region.

**Incremental Reasoning:** The proposed GEF-project seeks to create a cooperative framework, together

with the necessary capacities, by which the two countries, which share the ecosystem can address both the imminent threats to the ecosystem and develop a joint science-based approach to solve the problems of the HCLME and its associated coastal areas. The approach is integrated and comprehensive in addressing the full range of environmental and resource issues associated with the HCLME across the entire system from offshore waters through the coastal zone to any associated inland areas. The PDF grant is needed in order to undertake the preparatory work necessary for the implementation of an effective HCLME TDA/SAP. In particular, there is a need for the formalization of the inter-country consultative and coordination mechanisms in order to undertake a coordinated and agreed regional review and synthesis of existing information on the HCLME, a diagnosis and prioritization of problems and threats, the development of a Project Brief for further cooperation, i.e. a TDA and preliminary SAP, and the co-ordination of donor support for the programme. The GEF contribution will pursue the global benefits of cooperative integrated management of an international ecosystem, the protection of the biodiversity of the ecosystem, and the provision of information relevant to food security and global climate change. The GEF contribution is catalytic as it builds on and brings together the separate efforts of the participating countries and several cooperating institutions. The GEF contribution will coordinate and leverage other donor assistance and co-financing, and will include contributions from the National Oceanic and Atmospheric Administration, NOAA of USA.

**Sustainability:** Since living resources and pollutants in the marine environmental respect no political boundaries and few geographical ones, the coordinated national and regional level measures derived from large scale ecosystem wide integrated policies and strategies will be implemented to support environmentally sustainable economic development in the HCLME. The formalisation of the inter-country consultative and coordination mechanisms to be initiated and consolidated under the proposed project will ensure joint policies and actions on environmental and living resources management, hence diffusing a potential source of conflict and instability in the region. Furthermore, the actions on sustainable exploitation of the living resources will lead to improved food security and promotion of greater socio-economic stability in the region.

**Replicability:** Large Marine Ecosystems around the world and in particular those that border developing countries experience similar stresses as described for the HCLME. By developing rational, cost-effective and self-financing arrangements for restoring and protecting the health of the HCLME and conserving its biological diversity, this project would provide a model for the development and management of other relevant LMEs worldwide. The project will benefit from the experience of related and/or similar project that focus on Large Marine Ecosystems. On-going and pipeline GEF funded programmes for LME include: Gulf of Guinea LME, Bay of Bengal LME, Benguela Current LME, South China Sea LME, the Yellow Sea LME and the Sulu-Celebes LME.

## 17. NATIONAL LEVEL SUPPORT

This HCLME proposal has been driven by the governments of Chile and Peru. The HCLME initiative had its origins in the Regional Workshop for the Joint Stock Evaluation of Sardine and Anchovy for Southern Peru and Northern Chile, which was held by IFOP and IMARPE in November 1999 and attended by senior scientists, industry and resource managers from the two participating countries, international scientists and representatives from various technical co-operation agencies. The initiative is identified as a national priority by the two countries and is in keeping with their respective national policies. It has been submitted directly from the designated nations' GEF focal points in Chile and Peru. In addition, the proposed HCLME programme has strong support from South Pacific Permanent Commission (CPPS). It is supported by the relevant assessment, monitoring and research organizations in both countries including the Fisheries Research and Development Institute (IFOP) in Chile and the Peruvian Marine Research Institute (IMARPE) in Peru.

A range of national and bilaterally supported initiatives related to the development and management of

natural resources and the monitoring of the environment have been carried out in the Humboldt Current region. Most of this support has focused on fisheries development, assessment and monitoring. This includes the SELA-BID project for the assessment of the sardine, mackerel and jack mackerel and a recent EU-funded programme called VECEP for development and assessment of artisanal fisheries. Projects have also been undertaken to investigate the structure and function of upwelling areas in the ecosystem, including the CUEA (1976-1979), ICANE (1978-1980) and GTZ (1980-1987) programmes in Peru. Other support has been provided through international projects including Global Ocean Ecosystem Dynamics programme on Small Pelagics and Climate Change (GLOBEC/SPACC), the Scientific Committee on Oceanic Research (SCOR) Working Group 98 on decadal-scale ecosystem changes, and funding by the Inter-American Institute (IAI) to support participation of regional scientists and managers in workshops and planning meetings. Other programmes in the region that supported investigations of the HCLME are the Tropical Ocean-Global Atmosphere (TOGA), the World Ocean Circulation Experiment (WOCE) and the Joint Global Ocean Flux Study (JGOFS).

## **18. JUSTIFICATION FOR A PDF-B GRANT**

### **Urgency**

Sustainable management of coastal and marine resources for improved food security, water quality, and environmental security contributes to the eradication of poverty and hunger in the region. There is urgent need to initiate proactive integrated and interdisciplinary measures to prevent further degradation of the coastal and marine environment, stop the physical destruction of critical habitats, arrest the overexploitation of the living resources, redress the loss of marine biological diversity and protect threatened and endangered species. Many of these have transboundary implications and can only be successfully addressed by combining LME-wide actions with national level initiatives.

The project will engage the industrial sector as a key stakeholder. The mining and fish processing sectors are the principal sources of income in both countries their participation and contribution to the project are thus critical to its success and sustainability. The land-based fish processing operations have a critical interest in the maintenance of the productivity of the HCLME but presently impact upon it through the discharge of high BOD loads to coastal waters. Similarly, land-based mining activities have traditionally used rivers and water bodies as convenient discharge mechanisms for their wastes. Pollution from these sources continues to impact upon estuarine and coastal waters that are also at risk from the failure of more modern tailings dams. It follows that these industries must be fully engaged in the development of foresight, management options and priority preventive actions. Through the Bilateral Humboldt Current Compact, the project will foster the establishment of regulatory instruments, in both countries, to: (i) establish emission standards and quality standards for discharges to water bodies, where these are lacking; (ii) support the industrial sectors in establishing best practice in its pollution control activities and in adopting clean production technologies; and (iii) strengthen institutions responsible for environmental monitoring.

The PDF-B grant is needed in order to undertake the preparatory work necessary for the implementation of an effective HCLME TDA/SAP. In particular, there is a need for the formalization of the inter-country consultative and co-ordination mechanisms in order to undertake a co-ordinated and agreed regional review and synthesis of existing information on the HCLME, a diagnosis and prioritization of problems and threats, the development of a Project Brief for further co-operation, i.e. a TDA and preliminary SAP, and the co-ordination of donor support for the programme.

The GEF contribution is incremental: it adds to the already substantial programmes of monitoring and assessment of the state of the HCLME funded by both the participating governments and by bilateral donors. It will fund the additional costs of activities needed to develop a cooperative and more comprehensive approach to the management of the HCLME.

## 19. GLOBAL BENEFITS

Environmentally sustainable economic development: Since living resources and pollutants in the marine environment respect no political boundaries and few geographical ones, it is important that co-ordinated national and regional level measures derived from large scale ecosystem wide integrated policies and strategies be implemented to support environmentally sustainable economic development in and around the HCLME.

Conservation of Biological Diversity: The HCLME is the repository for a rich diversity of living resources including exotic threatened and endangered species, which represent a major contribution to global marine biodiversity. Improving the health of the HCLME will redress the decline in biodiversity and conserve this natural heritage of humankind.

Improved water quality: By providing a framework for the reduction and elimination of both land and ocean based sources of pollution, the proposed project will contribute to improvements in quality of the global marine environment and the living resources that depend on "clean" waters and sustainable management practices for their survival. Only transboundary priority problems related to pollution will be addressed while ones with domestic impacts would be handled through other means.

Applicable models: Large Marine Ecosystems around the world and in particular those that border developing countries, experience similar stresses as described for the HCLME. By developing rational, cost-effective and self-financing arrangements for restoring and protecting the health of the HCLME and conserving its biological diversity, this project would provide a model for the development and management of other relevant LMEs worldwide.

Regional stability and security: The formalisation of the intercountry consultative and co-ordination mechanisms to be initiated and consolidated under the proposed project will ensure joint policies and actions on environmental and living resources management, hence diffusing a potential source of conflict and instability in the region. Furthermore, the actions on sustainable exploitation of the living resources will lead to improved food security and promotion of greater socio-economic stability in the region.

## 20. Workplan

The project preparation activities will commence on or about December 2001 and to be completed on or about December 2002 for submission to the GEF Council by May 2003 for the Project Brief approval. The envisaged calendar is as follows:

December 2001	Preparatory Assistance
January 2002	Preparatory consultations
April 2002	Initial Workshop
May-June 2002	Synthesis & Assessment of information
July-August 2002	Identification and Analysis of Key Issues, Alternatives and Options
September	
October 2002	Development of Elements of TDA/SAP
November 2002	Donor Conference
December 2002	Submission of GEF Proposal to GEFOP
May 2003	Submission of GEF Proposal to GEF Council

## **20. BUDGET**

Upon approval of this request, detailed Terms of Reference will be prepared for the individual experts. The GEF Block B grant requested is for the amount of US\$ 344,000 to be used to undertake the activities and achieve the outputs. The total project cost is US\$ 419,000 which includes US\$ 75,000 from non-GEF sources.

The cost attributed to governments are in-kind in terms of provision of facilities for meetings and the work of visiting consultants/experts who will be involved in the preparation of national reports and participation of consultations.

The expected contributions from the identified Agencies would also be in-kind and would include staff salaries, cost of missions and preparations of technical reports.