

# Conclusions and recommendations

Pollution and Unsustainable exploitation of fish and other living resources were selected as the two priority concerns in the Humboldt Current region. The environmental and socio-economic impacts have common causes regarding social, cultural and economic issues such as poverty, migration to urban centres, a lack of economic resources to invest in technology and a lack of knowledge, which delay the adoption of integrated management policies that are based upon a regional approach. The region has legally binding mechanisms for regional cooperation. The most important is the Plan of Action for the Protection of the Marine Environment and Coastal Areas of the South Pacific, whose Executive Secretariat is the Permanent Commission for the South Pacific (CPPS), as well as with several complementary instruments such as protocols and agreements that have not been fully implemented at the regional level.

## **Pollution**

There is detailed information in the region about the level of microbiological and chemical aquatic pollution. This information demonstrates that, although pollution has similar causes and levels of intensity in the three countries and there are still local problems associated with the major urban and industrial centres, it is not a transboundary issue. This is essentially due to the nature of rivers, the main carriers of pollution, which originate in the western slope of the Andean mountain range. In general, rivers are short with low discharges and in most cases seasonal. Unfortunately, there are few assessments on the current impacts of pollution on the coastal and marine biota of the South East Pacific Ocean. Studies need to determine the potential changes in the communities and ecosystems of the region if the current levels of pollution continue.

Although the root causes of pollution identified in this analysis are present in all three countries, it is evident that there are differences in the level of coverage of basic services and the effectiveness of

environmental management (WHO/UNICEF/WSSCC 2001). In this sense, the policy options proposed for the region must take into account these intra-regional differences. Chile has the highest environmental standards, with legal mechanisms that have allowed the privatisation of public services, and have incorporated the concept of self-regulation for industrial wastewater discharges. These mechanisms are not yet fully implemented in Ecuador and Peru, resulting in significantly higher rates of gastroenteric diseases and infant morbidity in these countries.

The harmonisation of criteria and environmental standards between the countries of the region is a policy option proposed to improve the environmental conditions of the region. The adoption by Ecuador and Peru of environmental standards similar to those used in Chile and the modernisation of environmental regulations to encourage private investment in sanitation and drinking water supply could be a mid-term objective. To facilitate this transition process the creation of decentralised entities for environmental management has been proposed. The basic idea is to reduce the decision-making power of centralist governments and assign responsibilities to municipalities or local governments, which will operate through a consultative process with local stakeholders, to identify local priority problems and provide integrated solutions. However, in the case of water resources, integrated basin management rather than a local or national approach must be adopted.

## **Unsustainable exploitation of fish**

The management of fisheries must be addressed with a regional approach, applying modern management criteria to promote their sustainability. As with pollution, the root causes of the overexploitation of fishing resources are the same in the three countries: overdevelopment of fishing effort, weak mechanisms of control, and a lack of knowledge of the exploited species. Although significant achievements regarding regional cooperation have been realised, no regional management mechanisms, such as fishing quotas, mesh size or closed

seasons, have been implemented. Each country is managing fisheries according to their own criteria based on national research, knowledge and capabilities. It is widely agreed that, at least in the case of the small schooling fish, which form the basis of the industrial fishery in the region, the three countries are exploiting the same populations.

It has been suggested that there should be a rationalisation of fishing production. The introduction of ecosystem and regional management approaches would not only allow the continuation of current industrial fisheries, but it would also promote the search for alternatives to diversify fishing products. This could involve the incorporation of added value to industrialised products and extensions to the market. The development of fishing indicators and the exchange of information between the countries of the region may initiate a regional management approach to fisheries in order to preserve the viability of the exploited stocks and satisfy the socio-economic necessities of the region.

The results of this assessment of the priority environmental concerns have highlighted the necessity to increase the level of cooperation

though the strengthening of existing regional mechanisms to address the environmental problems of the region. The most viable mechanism is the Permanent Commission for the South Pacific (CPPS), which has been coordinating activities with the participation of institutions and groups of specialists from each country on a number of topics including fisheries, pollution, and integrated management of coastal resources, over the last 50 years. Governments of the region confirmed their will to continue this successful collaboration during the commemoration of the 50<sup>th</sup> Anniversary of the Santiago Declaration, which established the CPPS, in August 2002 in Santiago, Chile. The text of this declaration is included in Annex III.

Addressing these and other environmental problems affecting the South East Pacific Ocean is a major challenge for CPPS and the Humboldt Current region. Only through the responsible management of environmental problems currently affecting the area will a future healthy and productive environment be achieved.