

European Union Supports Project to Strengthen Fisheries and Biodiversity Management in African, Caribbean, and Pacific (ACP) Countries

Projet de l'Union européenne visant à renforcer la gestion des pêches et de la biodiversité dans les pays d'Afrique, des Caraïbes et du Pacifique (ACP)

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Proper resource management implies a better understanding of ecosystems and the conservation of biodiversity. Scientists from developing countries often have limited information on their aquatic resources because of many difficulties in accessing and exchanging information on a national and international level. The project described not only aims to strengthen the scientific capacity of fisheries scientists in ACP institutions but it is also expected to create an awareness among fisheries researchers and managers of the importance of conserving biodiversity for the sustainable use of living aquatic resources. This will be achieved through training, building a network of regional and transregional cooperation using modern communication facilities, the promotion of research and the distribution and improvement of fisheries management tools. It is hoped that these capabilities will enable fisheries scientists in ACP countries to actively contribute towards a discussion to solve common problems originating from the endangering of the ecological basis of their fisheries.

Une gestion scrupuleuse des ressources exige de mieux maîtriser le fonctionnement des écosystèmes et les questions de conservation de la biodiversité. Les difficultés que rencontrent les scientifiques des pays en développement au niveau de l'accès et de l'échange d'information à l'échelle nationale et internationale font qu'ils ne possèdent souvent qu'une connaissance imparfaite de leurs propres ressources aquatiques. Le projet de l'Union européenne vise non seulement à renforcer les compétences scientifiques des halieutes des institutions de l'ACP mais il est également censé sensibiliser les gestionnaires et les chercheurs à l'intérêt de la conservation de la biodiversité pour assurer la pérennité des ressources aquatiques vivantes. Cette démarche sera concrétisée par la mise sur pied de structures de formation et la création d'un réseau régional et transrégional de coopération s'appuyant sur les outils modernes de communication. Cette initiative permettra de promouvoir la recherche et de distribuer et perfectionner les outils de gestion de la pêche. L'on peut espérer que la mise en oeuvre de ces moyens permettra aux scientifiques des pêches des pays ACP de contribuer activement à la solution des problèmes communs que suscitent une base écologique des pêcheries en péril.

Background

Traditionally, fisheries scientists interact with their colleagues to discuss fisheries-related problems of mutual interest by attending conferences and participating in working groups at regular intervals. If scientists from developing countries are to play an active role in such regional bodies, they often have to rely on funding from external sources. International institu-

tions such as FAO are to be commended for their efforts to support scientific meetings in Africa and other regions during the past decades. However, financial constraints have reduced many of these activities, and the budgets of national fisheries administrations have generally not been able to make up for the loss of external funding.

Fisheries scientists in developed countries are increasingly appreciating the convenient access to large

computerized databases, such as Aquatic Sciences and Fisheries Abstracts (ASFA) and FishBase (see Box 1). They are also enjoying instant information exchange with fellow scientists made possible by electronic networking. In many developing countries, these means either do not exist or are not yet put to efficient use with the result that researchers and managers are once again at a disadvantage compared to their

Box 1. FishBase goes ACP.

FishBase is a large biological database developed by ICLARM in collaboration with FAO and other partners. FishBase contains key information (e.g., nomenclature, morphology, trophic ecology, population dynamics, physiology, pictures, maps, etc.) for up to now 16 500 of the estimated 25 000 recent species of finfish. It acts as a host to important databases developed by collaborators, such as FAO Catches 1950-1994, FAO Aquaculture Production 1984-1994, Welcomme's database on fish introduction, IUCN Red List of Endangered Animals, Eschmeyer's Genera of Recent Fishes, Myers' database of recruitment time series, Houde's database on dynamics of fish larvae, and many others. Numerous graphs, procedures and reports utilize the data, all easily accessible through a user-friendly menu system (see demo at <http://www.cgiar.org/iclarm/fishbase/>).

FishBase has been mainly funded by the Commission of the European Communities since its beginning in 1989. It will form the scientific backbone of the ACP-EU Training Project by assisting scientists in more than 50 ACP countries to create up-to-date national biodiversity databases for finfish. Part of this task will be the repatriation of national biodiversity information currently held in the museums of developed countries. These data, once they are computerized, georeferenced, checked and updated, will be used to analyze national biodiversity trends and patterns, and provide a scientific basis for national biodiversity policies in ACP and other countries.

FishBase is available on CD-ROM. It is free for collaborators; others can order it for US\$95. Address inquiries to FishBase, ICLARM MC P.O. Box 2631, 0718 Makati City, Philippines. Fax No. (63-2) 816-3183, E-mail: fishbase@cgnnet.com.

counterparts in developed countries. This is all the more unfortunate as the fisheries and biodiversity crisis besetting the end of the 20th century is global in nature.

The ACP-EU Project

It is against this background that in November 1996 the Commission of the European Communities (EU) and ICLARM signed a project agreement on "Strengthening of fisheries and biodiversity management in ACP countries". The project is financed under the Seventh European Development Fund and has a duration of four years. It is targeted at fisheries scientists and managers in those African, Caribbean and Pacific (ACP) countries that have a special relationship with the EU, based on the Lomé IV Convention. The implementing agency is ICLARM, assisted by a Steering Committee composed of the representatives from the ACP member states and the Commission.

The overall objective of the project is to contribute to the sustainable use of living aquatic resources in ACP countries, with special emphasis on fish resources. This will be achieved by: (i) strengthening aquatic resources management and scientific capacity of ACP institutions, (ii) promoting research relevant to sustainable use of aquatic resources, and (iii) distributing and im-

proving FishBase and other fisheries management tools.

The project's main thrust is institutional capacity building in ACP countries. Specific goals are:

- establishment of five regional training nodes (one each in the Pacific and the Caribbean, three in Africa);
- training of participants from 50 ACP countries through these regional training nodes;
- building of a regional and transregional network of co-operators, all using modern communication facilities;
- involving ACP partners in ICLARM's Network of Tropical Fisheries Scientists (NTFS), whose Newsletter *Fishbyte* in *Naga*, the ICLARM Quarterly will also be used as communication medium.

Each regional training node (RTN) will be staffed by a training coordinator and an assistant, nationals of ACP countries, who will be provided with travel budgets, computer hardware, Internet access, and other means to carry out the training program, and to lend support to the fisheries scientists and managers in the ACP countries of their respective region (see Fig. 1).

The Steering Committee will be responsible for the selection of the RTN. Ideally, an RTN should be an

integral part of an existing fisheries research organization with the capability to provide the necessary institutional support for the operation of the RTN.

The training courses will be made up of several components focussing on national, regional and inter-regional cooperation. On the technical side, electronic networking is expected to be an efficient tool to make use of existing possibilities of cooperation, especially in the context of the ongoing ACP-EU Fisheries Research Initiative (Anon. 1995). As a supportive measure, one institution of each of the ACP country taking part in the training will be provided with appropriate computer hardware and software, CD-ROM databases and full access to international networking (e-mail, Internet) for the duration of the project.

The Role of Biodiversity

The scientific component of the training program will emphasize the roles of biodiversity and ecosystems in the sustainable use of aquatic resources.

Proper resource management implies a better understanding of ecosystems and the preservation of biodiversity. These are key issues if fisheries management in developing countries is to move away from approaches

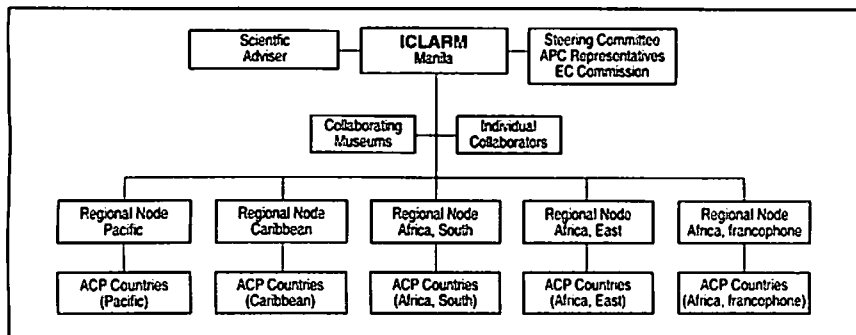


Fig. 1. Organizational setup of the ACP-EU project.

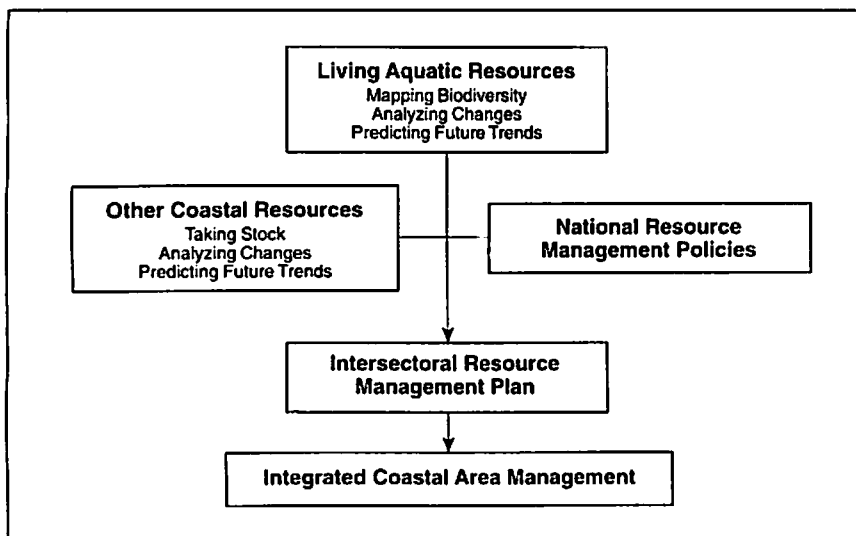


Fig. 2. The role of mapping the biodiversity of living aquatic resources in the context of integrated aquatic and coastal area management.

centered around single species concepts to a more global view of aquatic ecosystems.

Mapping the biodiversity of living aquatic resources is a good starting point for understanding the ecosystem, all the more as it also opens the door to national, regional, and intra-regional cooperation. The role of mapping is to establish what species are present, or have existed, and assess this baseline against changes that have taken place over time - or might take place in the future. The result of such research, together with a similar approach for other forms of resource utilization in the coastal area, should lead to the formulation of an inter-sectoral resource management plan, the baseline for any form of integrated aquatic and coastal area management (see Fig. 2).

Outcomes

A major result of the project is expected to be the gradual building

of national biodiversity databases on fish in the participating ACP countries. To this end, FishBase, the world encyclopedia on fish (Froese and Pauly 1996), will serve both as a source of already existing information and as a research tool to be used for structuring the collection and analysis of biodiversity data. At the same time, the project will sign contracts with several major museums to repatriate data from their historic collections which are of relevance to the assessment of the present and past status of biodiversity of the aquatic ecosystems in ACP member states. These museums include:

- Museum National d'Histoire Naturelle, Paris
- British Museum (National History), London
- Musée Royal de l'Afrique Centrale, Tervuren

The museum data will be entered into FishBase and, thus, will be avail-

able not only to the ACP countries, but to the scientific community at large. To further improve on the dissemination of the information, FishBase will be made available in languages other than English (i.e., in French, Spanish, and Portuguese).

Outlook

Several articles in recent issues of *Naga* have dealt with the subject of a perceived lack of impact of fisheries scientist on the sustainable management of fisheries resources. As Pitcher (1996) stated, this has led to a situation where "confidence in conventional fisheries science has been eroded at the very time when we need it most."

The global crisis in fisheries has made it clear that other solutions are needed. One solution would be an interdisciplinary synergy of biological, ecological, social, and economic approaches (Pitcher 1996). This is by no means a new idea. Recent developments such as the cooperation between the World Wildlife Fund for Nature (WWF) and Unilever, one of the world's largest multinational companies, to form a Marine Stewardship Council, points at ecologically sound and politically feasible solutions that harness market forces for the benefit of conservation (Sutton 1996).

Approaches to the sustainable use of fishery resources with such a wide scope require research to become broader and must involve interdisciplinary collaboration beyond national boundaries.

We hope that this project will strengthen the capabilities of fisheries scientists in developing countries, and develop functional linkages both within individual countries and at regional and international levels. This should enable them to actively contribute to the discussion to solve common problems originating from the endangering of the ecological basis of their fisheries. Ultimately, the project is expected to contribute to an increased awareness among fisheries researchers and managers in ACP countries of the

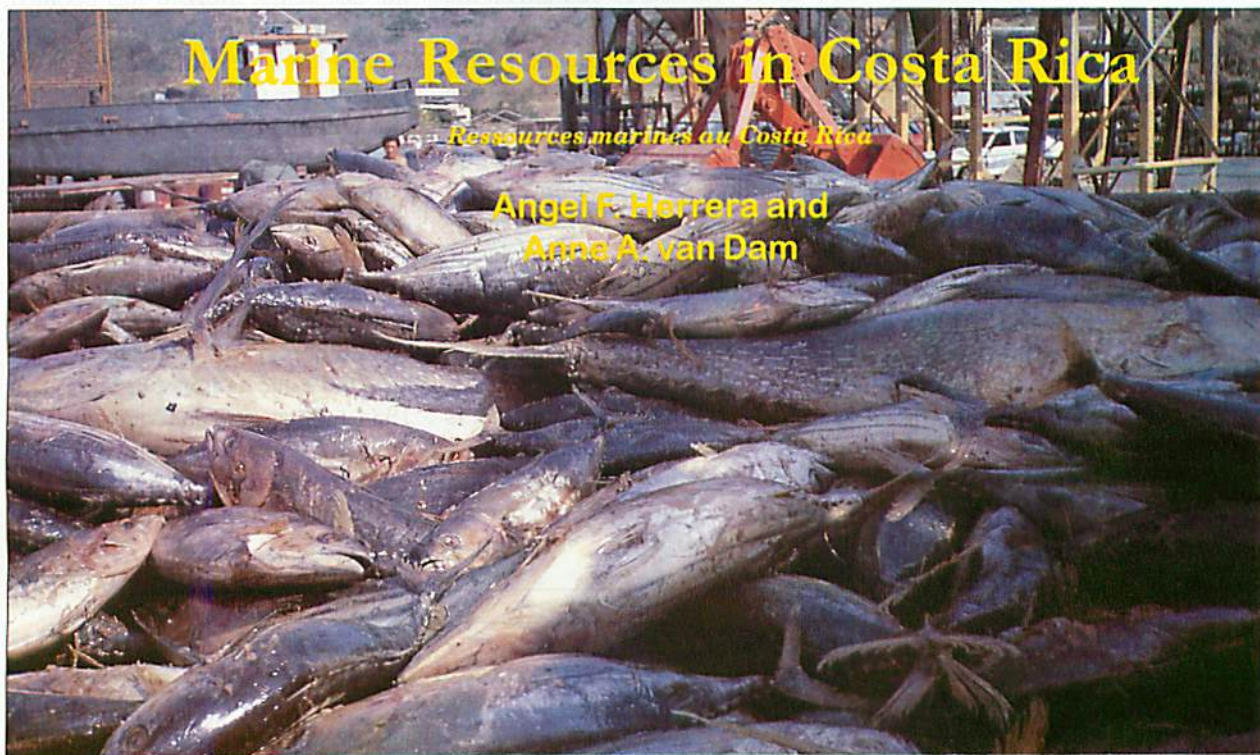
importance of conserving biodiversity for the sustainable use of living aquatic resources.

Acknowledgements

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Marine Resources in Costa Rica

Ressources marines au Costa Rica

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Photo by A.A. van Dam

Tuna at processing plant in Puntarenas. More than 15 000 persons are involved in fishery activities in Costa Rica. Local fishers use artisanal boats with long lines to catch tuna, shark, sailfish and dolphin. However, most of the tuna landings are by foreign vessels.

Blessed with beautiful beaches, mangroves and coral reefs, fisheries in Costa Rica developed without a basic resources management plan until the mid-1980s when protected areas were developed and integrated into the National System of Conservation Areas. With the boom in tourism as well as a decrease in fish landings due to overfishing, and an increase in pollution threatening the coastal areas, there is now a need for integrated management of marine resources. Costa Rica has made a deliberate choice for sustainable development. There has been a significant growth in scientific research, development of human resources at the technical and scientific level, stronger environmental legislation, and joint national and regional projects. What is needed for the future is good coordination and collaboration between the various institutions involved, namely the government, research and the resource users. Only then can Costa Rica continue to enjoy the "rich coast" that Christopher Columbus saw in 1502.

Bien que les pêcheries du Costa Rica comptent parmi leurs atouts de superbes plages, mangroves et récifs coralliens, elles se sont développées sans qu'aucun plan élémentaire de gestion des ressources ait été mis en place. C'est seulement vers la moitié des années 1980 qu'un système national de conservation prévoyant la protection de certaines zones a été institué. Étant donné l'essor du tourisme, la baisse enregistrée dans les quantités de poissons débarquées due à la surexploitation, et l'élevation de la pollution menaçant les zones côtières, la gestion intégrée des ressources marines devient à présent impérative. Le Costa Rica a délibérément opté pour le développement durable. Parmi les développements récents, on observe une évolution très nette dans les efforts consentis au niveau de la recherche scientifique, un accroissement des ressources humaines au niveau scientifique et technique, un renforcement de la législation environnementale, et la multiplication des projets conjoints nationaux et régionaux. Pour garantir la continuité de ces développements, une bonne coordination et une collaboration étroite entre les diverses institutions intervenantes sont à présent nécessaires, notamment le gouvernement, la recherche et les utilisateurs des ressources. C'est uniquement dans ces conditions que le Costa Rica pourra continuer à profiter de cette "Riche côte" que Christophe Colomb contempla en 1502.