

**PROPOSAL FOR A
PROJECT DEVELOPMENT AND PREPARATION FACILITY
(PDF) BLOCK B GRANT**

Country: Global (see Annex A for a list of potential participating countries)

Project: Reducing the Impact of Tropical Shrimp Trawling Fisheries on Living Marine Resources

Focal Area: International Waters, Integrated Land and Water Multiple-Focal Area Operational Programme with relevance to Biological Diversity.

Requesting Agency: The United Nations Environment Programme
Executing Agency: Food & Agriculture Organization of the United Nations

Amount of PDF Funding Requested: US \$ 330,000
Co-financing: No

Other Support in cash & kind:

FAO Regular Programme:	US \$ 60,000
UNEP (Water Branch):	US \$ 10,000
Participating Governments:	US \$ t.b.d.

Block A Grant Awarded: No

1. BACKGROUND:

- 1.1 In providing guidance to the Operational Programme on Integrated Land and Water Multiple Focal Area, the GEF Operational Strategy states that *"the goal is to help groups of countries utilize the full range of technical economic, financial, regulatory, and institutional measures needed to operationalize the sustainable development strategies for international waters..."* Further, the Strategy lists as an expected outcome of this programme *"the reduction of stress to the international waters environment in selected parts of all five development regions across the globe through participating countries making changes in their sectoral policies, making critical investments, developing necessary programs and collaborating jointly in implementing... water resources protection measures"*.
- 1.2 One such source of stress that is of growing international concern is the need to develop, promote and implement sound technology and practices in the marine environment so as to prevent loss of biodiversity and habitat degradation. Data suggest that ecological impacts and mortality rates resulting from bycatches in world fisheries are significant, affecting finfish (particularly juveniles of commercial species), benthic invertebrates, marine mammals, turtles and birds. The Food and Agriculture Organization of the United Nations (FAO), estimated recently that worldwide, discards in commercial fisheries are of the order of 20 million metric tonnes and account for economic losses that run into billions of dollars annually. Tropical shrimp trawl fisheries generate more by-catch than any other type of fishery of the order of 5.8 million metric tonnes which is almost six times the catch of shrimp landed. Although several devices have been developed and proved to be efficient in the reduction of by-catches, to date, no concerted international effort, involving all key parties, has been made to resolve the problem of the impact of tropical shrimp trawl fisheries on marine ecosystems and species.

- 1.3 Several provisions of the 1982 UN Law of the Sea Convention relate to the sustainable use of living marine resources and these are reaffirmed in the FAO Code of Conduct for Responsible Fisheries and Chapter 17 of Agenda 21. Problems relating to the potential loss of biodiversity through by-catches of non-target species in fisheries have been underlined in section 8.5 of the former and para 17.75 of the latter that emphasises the need to *"promote the development and use of selective gear and practices that minimize waste in the catch of target species and minimize by-catch of non-target species"*. Through their endorsement of these decisions, Governments world-wide have demonstrated their commitment to addressing this problem while para 4 of decision II/10 of the Contracting Parties to the Convention on Biological Diversity *"supports their implementation, including that by Parties,"*.
- 1.4 One of the five core elements of the 'Jakarta Mandate on Marine and Coastal Biological Diversity' refers to the sustainable use of coastal and marine living resources and recommendation I/8 para 12(c) recommends that *"Waste (such as waste through discard, spoilage, or mortality in the trade in living organisms) is reduced."*
- 1.5 Support to a coordinated effort in dealing with the environmental problems of fisheries has been expressed in various international fora, such as the recent FAO Technical Consultation on Waste in Fisheries (28 October-1 November 1996, Tokyo). The present project addresses a pantropical problem that cannot be effectively tackled by any single nation alone. It proposes to reduce the environmental stress caused by shrimp trawl fishing operations in tropical waters, aiming specifically to test and demonstrate by-catch reduction devices, and to facilitate and promote the adoption of appropriate technology through strong industry involvement. Thus the proposal contributes directly to the implementation of the Multiple Focal Area Operational Program.

2. SUMMARY PROJECT OBJECTIVES AND DESCRIPTION:

- 2.1 The primary objective of this PDF proposal is to prepare a costed GEF project consisting of regional and national activities aimed at reducing the effects of tropical shrimp trawling operations on habitats and species by:
- promoting the use of best practices and technologies, including bycatch exclusion technology;
 - through the development of strategies and revision of national policies designed to minimize impacts on non-target species and habitats.
- 2.2 The components of the project are expected to consist of activities for the development, and adoption of best practices through extension, technical education and training activities and removal of economic barriers. The goal is to facilitate the use of environmentally sound and economically viable technologies by the fishery industry concerned, in conformity with national and regional agreements and conventions. Potential elements that might be included in the main-phase of the project are listed in Annex B.
- 2.3 The PDF phase will identify the potential roles of different stakeholders at a national level through a process of wide consultation, that will be focussed in particular on enlisting the participation of the shrimp trawl industry.

3. DESCRIPTION OF PROPOSED PDF ACTIVITIES

3.1 Establishment of a network of national coordinators.

A National Committee should be established in each participating country to ensure the broadest possible involvement in the activity. The Committee should include representation from relevant Ministries and government structures, the fishing industry, regional fishery organizations, the private sector and non-governmental organisations as appropriate.

National Coordinators will be designated by participating governments and will be responsible for coordinating national inputs to the formulation of the main-phase project. The coordinators, with the assistance of national experts or consultants, will be responsible for ensuring that the national input includes:

- an analysis of data on the shrimp fishery itself, including existing regulations and management measures; evaluation of the utilization and efficiency of technical measures/devices by the fishery industry that are designed to reduce by-catch (including codend meshsize regulation);
- identification of potential inputs to the project phase from Government and public institutions; the fishing industry; fishing communities and other organizations and NGOs;
- evaluation of on-going and/or planned research and the state of knowledge related to aspects of shrimp trawling operations such as bycatch and discards; impacts on biological diversity and on ecologically sensitive areas including benthic communities; interaction with other fisheries through bycatch of juveniles; availability of data and information, research and networking capabilities.
- analysis of the constraints (technical, economic, policy related or other) preventing more widespread adoption of appropriate trawling technology designed to reduce unwanted bycatch.
- Case studies on social and economic aspects of selected shrimp trawl fisheries will be designed to evaluate the perception of technological changes and the aptitude to modify fishing practices. The results of these studies will be incorporated into the National Reports and will take the form of KAP studies (Knowledge Aptitude Participation) carried out with the participation of a few selected groups of operators in shrimp trawl fisheries. It is envisaged that case studies will be conducted in four main regions (Latin America and the Caribbean, Africa, Asia and the Middle East).

3.2 Regional workshops to review national inputs

Four regional workshops (Latin America and the Caribbean; Africa; Middle East and Asia) will be organised by FAO and UNEP in close cooperation with other GEF partners and national committees. The purpose of the workshops will be to:

- a. discuss and review the available information concerning the impacts of shrimp trawling at the national level;
- b. to assess the impacts of the trawl fishery from a regional perspective and determine regional priorities for action in the main project phase; and,
- c. prepare an outline of elements to be included in the main-phase project, including development priorities and activities; strategy for participating institutions and industry, and networking requirements during the project.

(ii) Co-financed activities

The funds assigned by FAO to this PDF-B are intended for:

- technical back-stopping of national committees and consultants;
- editing and publishing of national reports based on the inputs of the national committees;
- editing and publishing of reports of the four regional workshops;
- technical support to the development of potential TCDC arrangements; and,
- support to the preparation of main-phase project document with identification of financial requirements and arrangements for main-phase project.

The funds assigned by UNEP to this PDF are intended for:

- participation of UNEP Water Branch staff in activities of the PDF; and,
- scientific back-stopping of national committees and consultants.

(iii) National Level Support:

Participation of the shrimp trawl industry at a national level will be given high priority. Major national fisheries organizations will be consulted and their direct involvement will be sought, through the National Committees. It is expected that national support to the project will be provided in the form of utilization of facilities, staff time and some local costs.

4 PDF OUTPUTS

4.1 National reports of technical, biological and environmental and economic data and information on impacts of tropical shrimp trawl fisheries on living marine resources and associated habitats, including opportunities and potential for changes in technology (capture, fish processing); fishing practices and fish utilization; and a review of ongoing and planned national and regional studies and research activities.

4.2 Reports of case studies on social economic aspects related to shrimp trawl fishery operations in four regions; Latin America and the Caribbean, Africa, Asia

and the Middle East; the results of which will be incorporated as appropriate in the final national reports mentioned in (1) above.

- 4.3 Reports of four regional Workshops in Latin America and the Caribbean, Africa, Asia and the Middle East reviewing available information and achieving consensus on the outline of elements and activities for the main-phase project; including basic strategy for implementation.
- 4.4 Final GEF project document.

5. ELIGIBILITY

All potential participating countries listed in Annex A are Parties to the Convention on Biological Diversity, the United Nations Convention on the Law of the Sea and have been actively involved in the negotiations leading to the adoption of the Code of Conduct for Responsible Fisheries.

6. JUSTIFICATION FOR THE PDF GRANT

- 6.1 The operations of tropical shrimp fisheries result in unintended catches of non-target species estimated in the order of 5.8 million metric tonnes yearly, which are largely discarded. Such discards constitute a waste of potential food resources; loss of juveniles of commercial species affecting the sustainability of other fisheries; a threat, directly or indirectly, to coastal ecosystem production; and a threat to the maintenance of tropical coastal and marine biological diversity.
- 6.2 The proposal offers the potential for significant global benefits through the provision of, adaptation and transfer of sound technologies for the sustainable use of marine living resources in coastal tropical waters.
- 6.3 The activities planned under the project respond to the GEF Operational Strategy, Operational Program No. 9 'Integrated land-water multiple focal area' and will contribute to the implementation of the Coastal, Marine and Freshwater Ecosystems Operational Program No. 2 of the Operational Strategy relating to Biological Diversity.
- 6.4 The project will assist countries to meet their obligations relating to the sustainable use of marine living resources and responsible fisheries, under major international agreements and Conventions, such as the UN Convention on the Law of the Sea and the Convention on Biological Diversity.

7. ITEMS TO BE FINANCED

Activity	PDF Grant	Gov. inputs	FAO contribution	UNEP contribution	TOTAL
Preparation of national reports	120,000	t.b.d.	40,000	6,000	166,000
Case studies on social and economic aspects	50,000	t.b.d.			50,000
Regional Workshop for Latin America and the Caribbean	40,000	t.b.d.	5,000	1,000	46,000
Regional Workshop for Africa	50,000	t.b.d.	5,000	1,000	56,000
Regional Workshop for Middle East	20,000	t.b.d.	5,000	1,000	26,000
Regional Workshop for Asia	50,000	t.b.d.	5,000	1,000	56,000
TOTAL	330,000	TBD	60,000	10,000	420,000

8. EXPECTED DATE OF PDF-B COMPLETION

- 8.1 It is anticipated that the preparatory phase for the full GEF project can be completed 15 calendar months after receipt of the Block B Grant.

9. SPECIAL FEATURES

- 9.1 The preparatory phase will require extensive consultations and inputs from various disciplines, institutions and the industry in the participating countries and regions. It is of importance that from the onset regional and sub-regional fisheries and environmental organizations and other relevant bodies are consulted and involved in order to ensure a fully participatory approach to project implementation.

ANNEX A**List of proposed participating countries****Latin America and The Caribbean**

Mexico, Ecuador¹, Venezuela¹, Brazil, Cuba, Costa Rica, Colombia²

Africa

Nigeria, Ghana, Cote d'Ivoire, Kenya, Senegal, Tanzania, Mozambique², Cameroon²

Middle East

Iran², Bahrain, Kuwait

Asia

Bangladesh², India, Indonesia, Malaysia, Philippines, Sri Lanka, Thailand², China, Papua New Guinea².

Regional institutions:

SEAFDEC, ICLARM, INFOFISH, ICSF, PREP(Penaeid Recruitment Programme-Asia)

Possible collaborating institutions in developed countries:

Norway	Institute of Marine Research
Australia	Commonwealth Scientific and Industrial Research organization
	Australian Maritime College
USA	National Marine Fisheries Service
France	ORSTOM

Notes:

1. Ecuador and Venezuela have neither signed nor ratified the United Nations Convention on the Law of the Sea (UNCLOS)
2. These countries have signed but not ratified the UN Convention on the Law of the Sea.
3. Thailand has signed but not ratified the Convention on Biological Diversity.

ANNEX B**EXPECTED ELEMENTS OF MAIN-PHASE PROJECT**

1. **Establishment of a networked system of data and information repositories at national and regional centres holding information on technical, biological, environmental and economic aspects of tropical shrimp trawling operations, and best practices for reducing environmental damage and bycatch. Such data and information might include: characteristics of operational area; type of seabed; types of trawls and mesh sizes; fishing strategies and tactics; catch data for shrimp, food fish and bycatch including turtles, and marine mammals; species and size composition of the catch; effect of trawling operation on substrate and benthic fauna; behaviour of shrimp and bycatch species (migration, diurnal, feeding, fleeing reaction, tactile stimulation, etc.); interaction with other fishing operations.**
2. **Analysis of the compiled data to evaluate the negative impacts of shrimp trawling operations and improvements resulting from changes in gear and fishing practices, and to identify aspects of fishery practice requiring further research and development.**
3. **Develop or initiate observation programmes regarding the impact of the fisheries and technological devices and developments (related to fishing gear, fish/by-catch processing or marketing) which could affect the environmental impact of the fishery.**
4. **In close cooperation with the fishing industry develop and test gear, technologies, and strategies designed to:**
 - **reduce or prevent the capture of non-target species in tropical shrimp trawling operations,**
 - **improve the survival rate of escaping fish and undersized shrimp;**
 - **and,**
 - **develop methods for the utilization and marketing of unavoidable by-catch.**
5. **Promote and establish agreements for cooperation in the execution of research and development activities between institutions in developing countries (TCDC) and North-South twinning cooperative arrangements.**
6. **Foster partnership with the trawl fishing industry through provision of up-to-date information on the progress of the research and development activities, and analytical studies carried out by participating national and regional institutions in the framework of the project.**

ANNEX C**RECENT REFERENCES REGARDING REDUCTION OF IMPACT OF FISHERIES ON THE ENVIRONMENT, BY-CATCH REDUCTION, IN TROPICAL SHRIMP FISHERIES.****International conference on Sustainable Contribution of Fisheries to Food Security, Kyoto, Japan 4-9 December 1995: Kyoto Declaration:**

- " 9 Base policies, strategies and resource management and utilization for sustainable development of the fisheries sector on the following: (i) maintenance of ecological systems; (ii) use of the best scientific evidence available; (iii) improvement in economic and social well-being; and (iv) inter-and intra-generational equity.
- 15 Promote fisheries through research and development aiming at: (i) optimum use of unexploited or under-exploited resources; (ii) identification of new, harvestable, aquatic resources; (iii) reduction of discard mortality; (iv) development and use of selective, environmentally safe and cost-effective fishing gear and techniques."

International Conference on Sustainable Contribution of Fisheries to Food Security, Kyoto, Japan 4-9 December 1995: Plan of Actions:

- " 7 To increase efforts to estimate the quantity of fish, marine mammals, sea birds, sea turtles and other sea life which are incidentally caught and discarded in fishing operations; assess the effect on the populations or species; take action to minimize waste and discards through measures including, to the extent practicable, the development and use of selective, environmentally safe and cost-effective fishing gear and techniques; and exchange information on methods and technologies to minimize waste and discards.
- 9 To strengthen coordination of national and international research programs aiming to stimulate environmentally sound aquaculture and stocking, giving emphasis to the particular on: (i) the impacts on the environment and biodiversity; (ii) the application of biotechnology; and (iii) the health of cultured stock."

22nd Session of the Committee on Fisheries (Rome, 17-20 March 1997): Report

- 14 Several delegations reported on programmes to reduce discards and bycatch through fishing gear modifications and management measures. The Committee was informed that FAO was preparing additional guidelines on this subject. Canada indicated that, following the Kyoto Conference and the Tokyo Expert Consultation on this subject, it was planning to host with FAO an expert consultation on sustainable harvesting technologies and practices including reduction of discards and bycatches. Some delegations reported on successful results of campaigns to cut down bycatch, as well as on successful attempts to find uses for species that had previously been discarded.
- 49 High priority was also given to work related to scientific research and data collection, to identifying and reducing excess capacity, reducing discards and wastes, to increasing the use of the precautionary approach, and to strengthen monitoring, control and surveillance."

Technical Consultation on Reduction of Wastage in Fisheries, Tokyo, Japan, 28 October - 1 November 1996; Report FAO Fisheries Report No. 547.

Recommendations

- iii It was recommended that efforts be made to carry out research on the impact of fishing on ecosystems, economic analyses of various fishing scenarios, as well as setting reasonable targets for reduction of discards which could be attained in different fisheries.
- x The meeting recognized a need for more research into the selectivity of fishing gear particularly on trawls used in tropical industrial fisheries, and that on-going programmes to given high priority and strengthened. This would aim at developing methodology and techniques to reduce growth over-fishing of the major commercial species and optimize the return from the resource....
- xv It was recommended that regional fisheries bodies be supported so as to:
encourage the flow of information between neighbouring countries
establish regional technical working groups, in co-operation with industry
evaluate developments with introduction of selective gear technology, and;
establish regional fishery management strategies aimed at reducing discarding (where appropriate)."