

Indian ocean fishery commission
INDIAN OCEAN PROGRAMME

**project for the development
of small-scale fisheries
in the bay of bengal
- preparatory phase**

volume 1 - report



UNITED NATIONS DEVELOPMENT PROGRAMME



**FOOD AND AGRICULTURE ORGANIZATION
OF THE UNITED NATIONS**

PROJECT FOR THE DEVELOPMENT OF SMALL-SCALE FISHERIES
IN THE BAY OF BENGAL - PREPARATORY PHASE

VOLUME 1: REPORT

SWEDISH FUNDS-IN-TRUST
FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
UNITED NATIONS DEVELOPMENT PROGRAMME

Rome, July **1978**

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The copyright in this book is vested in the Food and Agriculture Organization of the United Nations. The book may not be reproduced, in whole or in part, by any method or process, without written permission from the copyright holder. Applications for such permission, with a statement of the purpose and extent of the reproduction desired, should be addressed to the Director, Publications Division, Food and Agriculture Organization of the United Nations, Via delle Terme di Caracalla, 00100 Rome, Italy.

PREPARATION OF THIS DOCUMENT

This document describes the origin of the Project for the Development of Small-scale Fisheries in the Bay of Bengal and gives a brief report of the work carried out in the preparatory phase; reports of two project Advisory Committee meetings and the final project request are appended.

Volume 2 of the Report contains Working Papers describing marine small-scale fisheries and their problems and needs in some of the countries and states bordering the western Bay of Bengal

Distribution:

Member states of IOP
Contributing Institutions
SIDA
UNDP
FAD Regional Fishery Officer
FAO Department of Fisheries

Bibliography:

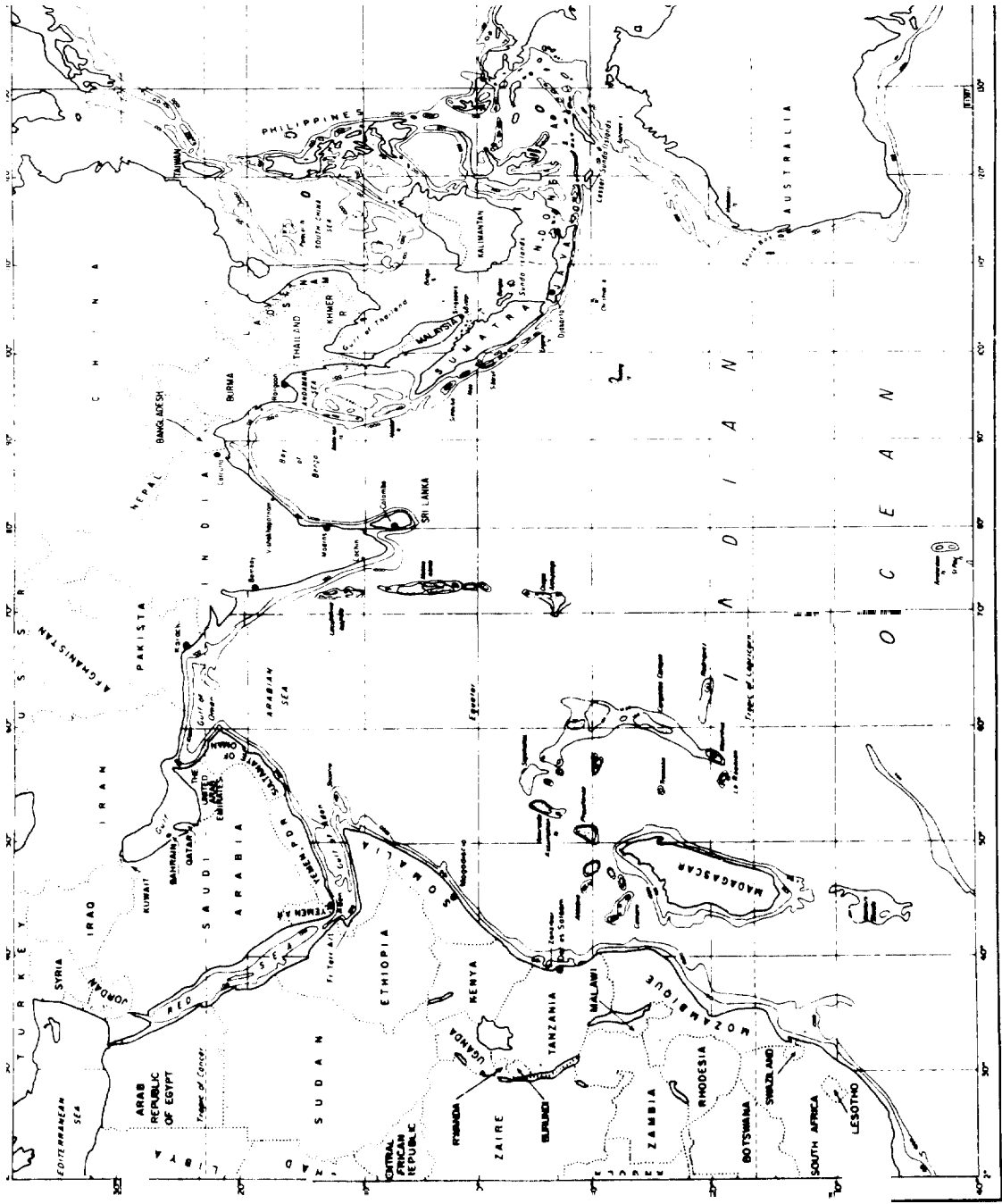
Project for the Development of Small-Scale Fisheries in the Bay of Bengal (1978)
Dev.Rep.Indian Ocean Programme, (44) Vol.1: pag.Var.
Project for the Development of Small-Scale Fisheries in the Bay of Bengal - preparatory phase. Volume 1. Report

Marine fisheries. Fishery development. Artisanal fishing. Bay of Bengal

THE INDIAN OCEAN PROGRAMME

The International Indian Ocean Fishery Survey and Development Programme, or Indian Ocean Programme for convenience, was formally conceived by the Indian Ocean Fishery Commission and its activities are conducted through that body. The Programme is supported by the UNDP and is being carried out by the FAO Department of Fisheries. Put simply, the objective of the Programme is fishery development in the Indian Ocean region.

H.C. Winsor
Programme Leader



REPORT ON THE PREPARATORY PHASE OF THE PROJECT
FOR DEVELOPMENT OF SMALL-SCALE FISHERIES IN
THE BAY OF BENGAL

PREFACE

This document is Volume 1 of the Report on the preparatory phase of the project for the Development of Small-scale Fisheries in the Bay of Bengal; it gives a brief account of the work carried out and reports of two Advisory Committee meetings and the final project request are appended.

Volume 2 of the Report contains working papers which describe the marine small-scale fisheries and their problems and needs in the countries and states bordering the western Bay of Bengal.

The preparatory phase was sponsored by the Swedish International Development Authority (SIDA) under a Funds-in-Trust arrangement with the FAO under the project symbol TF/RAS 40(SWE).

The work was greatly facilitated by the active cooperation and generous assistance provided by the Fisheries Administrations of the participating Governments. In particular, the collaboration and generosity of the Administrations of Sri Lanka and Tamil Nadu, India, in hosting the two Advisory Committee meetings is acknowledged.

CONTENTS

1. Background
2. Activities

Appendices

1. Report of the First Meeting of the Advisory Committee, Colombo, October **1976**
2. Report of the Second Meeting of the Advisory Committee, Madras, June **1977**
3. Request for Project for the Development of Small-Scale Fisheries in the Bay of Bengal, Rome, July **1977**

1. BACKGROUND

A Mission under the aegis of the FAO/UNDP Indian Ocean Fishery Survey and Development Programme (IOP) visited countries bordering the Bay of Bengal in May/June 1974 with the purpose of identifying suitable fisheries development projects. The countries which had expressed interest in the Mission were visited i.e. Bangladesh, India, Malaysia, Sri Lanka and Thailand. The Mission was sponsored by the Swedish International Development Authority (SIDA) and was composed of PAO and SIDA personnel.

The Mission was a follow-up of extensive discussions between FAO/IOP and SIDA about problems, needs and opportunities of the Indian Ocean Fisheries and about suitable areas for development support from SIDA and other agencies. The Bay of Bengal was identified as a target area for reasons of large impoverished fisheries populations in the bordering states and of underexploited fishery resources.

The Mission identified the need for development support in the broad areas of survey of living resources, development of traditional fishing communities and strengthening of institutional capacity in technology development and training. The report 1 of the Mission contains outline proposals for specific projects as remedial actions to meet the needs.

The findings and recommendations of the Mission were endorsed by the Executive Committee of the IOP in October 1974, by the FAO Committee of Fisheries in June 1975 and by the Indian Ocean Fishery Commission in July 1975. In these meetings and in direct consultations with the countries concerned, a high priority was given to development of small-scale fisheries.

After consideration of the views expressed and consultations with SIDA, FAO requested support from SIDA of a project primarily directed towards the small-scale fisheries to be executed largely through existing national institutions. The project would thus satisfy some of the needs identified in the field of traditional fishing communities and institutional capacity.

In mid-1976 SIDA agreed to fund a preparatory phase of one year duration for the preparation of a project entitled "Centre for the Development of Traditional Fishing Communities". The main activities during this phase would be to study and consolidate the available information on small-scale fisheries in the region with particular emphasis on problems and needs and to prepare a detailed work plan and budget for the operational phase. An Advisory Committee with participation of representatives of participating countries, FAO/IOP and SIDA was to be formed and two meetings of this Committee were to be convened during the preparatory phase. IOP would be the Secretariat of the Committee.

2. ACTIVITIES

The implementation of the preparatory phase was started immediately upon receipt of the official SIDA approval of the project by utilizing the services of the FAO/UNDP project "Development of Small-Scale Fisheries in Southwest Asia" (RAS/74/031) with headquarters in Colombo, Sri Lanka.

Initial contacts were established with the cooperating agencies of the participating countries in August/September 1976 and arrangements were made for a first Advisory Committee meeting. Descriptions of the small-scale fisheries in Bangladesh, India and Sri Lanka as well as outlines of the work programme of the preparatory phase were prepared as background material for the meeting.

The First Meeting of the Advisory Committee was held in Colombo, Sri Lanka, 28-29 October 1976. The meeting was attended by representatives from the five participating countries SIDA, six other bilateral development agencies, UNDP, FAO, IOP and the RAS/74/031 project.

In this meeting the countries identified their main problems and constraints to development and needs for material inputs and technical support. The proposed project under preparation, it was suggested, should provide institutional support services in the fields of technology development, education and training. It was further suggested that FAO/UNDP projects such as the existing RAS/74/031 should, on a continuous basis, offer services to the governments in the areas of data collection, problem identification and project preparation.

The meeting agreed that the result of the preparatory phase would be reviewed in a Working Party of participating countries, administrative and technical staff, which would specify the contents of the operational phase for final endorsement by the Advisory Committee in a second meeting to be convened by mid-1977.

The full report of the First Meeting of the Advisory Committee is attached as Appendix 1.

A small-scale fisheries specialist was appointed as officer-in-charge of the preparatory phase from January 1977. Together with a team of consultants he undertook consultations with the participating countries about specific activities, their location and input requirements in terms of expertise and funds. A draft project document was prepared on the basis of this work.

Parallel to this, the services of the staff of RAS/74/031 were utilized for extensive field surveys of the project area. Working papers giving detailed descriptions of the small-scale fisheries and assessments of problems and needs in Bangladesh, Sri Lanka and Indian East Coast States, i.e. West Bengal, Orissa, Andhra Pradesh and Tamil Nadu were prepared. These working papers are compiled in Volume 2 of this report.

The Second Meeting of the Advisory Committee was held in Madras, India, 29-30 June 1977, and was attended by representatives of all participating countries, SIDA, FAO, IOP and RAS/74/031. The meeting was preceded by a Technical Working Party composed of technical officers of the Committee members. The Working Party reviewed the survey results and discussed the draft project document in detail; a revised document was presented to the Advisory Committee.

The Committee decided that the project should have the title: "Project for the Development of Small-Scale Fisheries in the Bay of Bengal" which would better reflect its actual purpose and contents.

The Committee adopted the Report of the Technical Working Party with some amendments and expressed its wish that the project request should fully reflect the views stated in the adopted report. The essential parts of that report are included in the Report of the Second Meeting of the Advisory Committee. See Appendix 2.

The representatives of the five participating countries reiterated, in the meeting, unequivocally the strong support their Governments were giving to the project as well as the high priority they have given to the development of small-scale fisheries sector in their respective development plans.

The Committee agreed that its next meeting should be held in Bangladesh soon after the project has become operational and that an inter-government consultation should take place in October 1977 during the 5th Session of the IOFC in Cochin, India. Subsequent meetings of the Committee would be held in rotation in each of the participating countries.

A final project request, incorporating the views of the Advisory Committee, was prepared and submitted to SIDA in August 1977. The request is attached as Appendix 3.

Pending the SIDA approval, the posts of project staff were advertised, specific priorities for the proposed activities were determined through discussions with the participating countries and tentative arrangements made for the Third Meeting of the Advisory Committee.

On 14 July 1978, SIDA informed FBI) that it was prepared to support the project by making available on a Trust Fund basis an amount of U.S. dollars equivalent to a maximum of twenty million two hundred thousand Suedish Kroner (SKr 20 200 000) for the financial years 1978/79 - 1980/81.

CENTRE FOR DEVELOPMENT OF TRADITIONAL FISHING COMMUNITIES
IN THE BAY OF BENGAL

TF-RAS/40 (WE)

TF-RAS/40 (SWE) Rep. 1.

Report of the first meeting of the

ADVISORY COMMITTEE

Colombo, Sri Lanka, 28-29 October 1976

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

INTERNATIONAL INDIANOCEAN FISHERY SURVEY AND DEVELOPMENT PROGRAMME

CENTRE FOR DEVELOPMENT OF TRADITIONAL FISHING COMMUNITIES
IN THE BAY OF BEN

TF-RAS/40(SWE)

Report of 1st Advisory Committee Meeting, October 28 and
29, 1976, Colombo, Sri Lanka

1. The meeting was convened at the Bendaranaike Memorial International Conference Hall-. A list of participants' is attached as Appendix A.
2. The meeting was addressed briefly by Mr. Goonewardene, Permanent Secretary, Ministry of Fisheries, of the host country, Sri Lanka, who officially opened the meeting. He welcomed the delegates and expressed the hope that the meeting would be productive as the development of small-scale fisheries in the region was of particular importance.
3. Mr. M.J. Priestley, UNDP Resident Rreprsentative, Sri Lanka, addressed the meeting. He welcomed the delegates on behalf of UNDP and congratulated the convenors of the meeting. Mr. Priestley expressed UNDP belief in, and interest and support for, any new activities which may result from the 'deliberations. He wished the meeting well.
4. The meeting elected the distinguished delegate from India, Mr. S.P. Balasubramanian as Chairman of the meeting.
5. The meeting:
 - (i) recorded its appreciation to Sri Lanka for hosting the first meeting of the AC;
 - (ii) noted with satisfaction the acknowledgement by UNDP of the contribution by bilateral donors, either on a direct basis or by trust fund arrangement through FAO/IOP, to the development of fisheries in the region;
 - (iii) noted with some reason for optimism the expressed UNDP "strong commitment to, and helief in, the great potential for fisheries development in the SW Asia region" and the possibility that UNDP's interest in, and support for, new activities in the fisheries sector, including especially support for small-scale fisheries development, may be stimulated by findings and recommendations emanating from this meeting.
6. The donor countries recorded, in general terms, their past individual contributions to development of fisheries in the region, their current assistance programmes and their plans for development assistance in the immediate future. A comprehensive list of donor country assistance programmes is contained in an appendix to each country's background

paper "General Description of Small-Scale Fisheries" and distributed at the meeting. Where necessary, this list will be appropriately updated during the preparatory phase of the SIDA-supported project currently underway.

7. The association between the international funding agencies and FAO was explained. In FAO, the Investment Centre is the link unit. The Investment Centre has cooperative programmes with the World Bank; the Regional Banks such as Asian Development Bank; agencies such as the Arab Fund and the Kuwait Fund; and the private banks through the FAO/Bankers Programme. In Rome, the Department of Fisheries works with the Investment Centre through the Investment Centre/Department of Fisheries Joint Group and thus ensures a continuing dialogue and participation with all funding agencies on matters of fishery investment. Investment activities are growing at a rapid rate and figure prominently in the FAO Director General's priorities.
8. Conditions characterizing the small-scale fisheries sector, though varying from country to country in degree and emphasis, are similar throughout the region and may be summarized as follows:
 - (i) All countries attach considerable importance to their small-scale fisheries.
 - (ii) A significant portion of each country's production of fish comes from its small-scale fisheries.
 - (iii) All countries recognize the social as well as the economic significance of their small-scale fisheries.
 - (iv) Countries look to the small-scale fisheries primarily to supply the domestic market demand but also to produce supplies of certain species for export.
9. Countries identified the following as their main problems and constraints to development:
 - (i) inadequate gear and equipment;
 - (ii) inadequate technological know-how related to fish production, handling and fish utilization;
 - (iii) low level mechanization;
 - (iv) inadequate repair and maintenance facilities;
 - (v) inadequate landing facilities;

- (vi) inadequate post-harvest technology and facilities;
 - (vii) **adverse** weather conditions especially for the technology in use;
 - (viii) low level traditional technology;
 - (ix) competition between small-scale fisheries on the ~~one~~ hand and medium or large-scale industrial fisheries on the other;
 - (x) socio-economic plight of the fishermen;
 - (~~xi~~) too-many fisherman in the small-scale fishery sector of some countries.;
 - (xii) institutional weaknesses in:
 - (a) administration
 - (b) training
 - (c) marketing
 - (d) credit;
 - (xiii) poorly structured and inefficient fishermen's organizations;
 - (xiv) poor communications system with fishermen, e.g. lack of effective **extension** services ;
 - (xv) the lack of necessary socio-economic, catch/effort, and resources data in usable and useful form;
 - (xvi) inadequate national financial and technical resources to meet these needs.
10. Concerning the proposed project, "Centre for the Development of Traditional Fishing Communities in the Bay of Bengal", a report from a consultation of the representatives of the participating countries suggests: ,
- (i) that new and extensive resources surveys **in** the region are not necessary as a basis for small-scale fisheries development;
 - (ii) that the concept of harbours development is given less emphasis in favour of less sophisticated but practicable type of landing facilities, in view of the fact that harbours are costly and technically difficult to construct.
11. The representatives of the countries further suggested that integrated development of small-scale fisheries in the Bay of Bengal area **requires** the provision **of adequate** material and technical inputs for the up-grading of the small-scale fisheries.

The problems and constraints are similar throughout the region though the priorities and the emphasis may differ from country to country.

(a) The following material inputs for the improvement of fish production were noted:

- (i) Mechanization of craft and suitable engines together with the provision of spare parts.
- (ii) A supply of boats of suitable materials.'
- (iii) Assistance in improved boat design including surf-riding boats and beach landing craft, and appropriate landing facilities for open beach areas.
- (iv) Development of multi-purpose vessels which could be equipped for diversified fishing.
- (v) Fishing gear (synthetic nets).
- (vi) Mechanical - electronic aids for better fishing.
- (vii) Safety equipment in boats for operating in bad weather.
- (viii) Service centres and workshop facilities for mechanized craft.
- (ix) Small jetties or other appropriately designed landing facilities instead of harbours development.
- (x) Ice plants, freezing facilities, cold storage facilities; refrigerated and insulated transport and other appropriate facilities for the efficient utilization of fish and fish by-products.

(b) The following technical input requirements were noted:

- (i) Training in the maintenance of mechanized vessels.
- (ii) Fishing technology.
- (iii) Boatbuilding.
- (iv) The training of extension staff.
- (v) The upgrading of the Cooperative and other **fishermen** organizations for production, processing and marketing.
- (vi) Socio/economic activities designed to improve the lot of **fishermen**.

12. The consultation concluded that suitable projects to meet the requirements for each participating country based on the aforementioned general needs and requirements will be prepared for funding by donor agencies.
13. The report of the consultation of the participating countries outlined an organizational structure which the countries believed would be suitable. Briefly, it suggested that the proposed project TF-RAS/40(SWE)) be referred to as a Small-Scale Fisheries Development Support Programme in the Bay of Bengal. Within this programme, assistance would be provided to participating countries in the preparation of projects for the development -of small-scale fisheries covering all or some of the material and/or technical input-mentioned, above. It is suggested that this would be a continuing, function-of the present UNDP Project RAS/74/031 in consultation with the countries concerned. It is proposed that projects thus prepared would be proposed to the donor agencies for the necessary funding Institutional support services in the fields of technology development, education and training would be the function of the proposed Project RAS/40(SWE) "Centre for the Development of Traditional Fishing Communities".

At the suggestion of the Indian delegate, the meeting agreed that the preparatory phase of the SIDA-supported project would be confined to the countries in the Bay of Bengal area.

14. -The meeting noted with commendation the results of the participating countries' consultation. FAO/IOP, in expressing its appreciation for the views of the participating countries, noted that as executing agency of the proposed project under review and in consultation with the participating countries and donor agencies, it would ensure the most efficient utilization of the limited resources available;
15. It was agreed that relative to activity envisaged in the proposed operational phase of the project, donor involvement commences at the point where regional end/or national projects have been identified-and prepared for possible donor funding.
16. It was agreed by the donor country participants that there are types of regional activity such as that envisaged in the proposed Day of Bengal project which could warrant donor country support. However, in general, they anticipated that most of the development would be at the national level..
17. Having made an inventory of ongoing activities and activities in the pipeline for the region, and having reviewed the activities proposed to be carried out during the preparatory phase of the SIDA-supported project, as set out in page 4 of the Project Document, the Nordic Group encouraged the arrangement whereby the UNDP-supported RAS/74/031 Projecof would continue to offer its services to governments in the areas of-data collection, problem identification and project identification and formulation.

Meanwhile the Nordic Group envisaged the proposed "Centre for the Development of Traditional Fishing Communities" engaging in the strengthening of necessary national institutional support services through education and training, and experimental and demonstrational development activities implemented at the appropriate levels in the participating countries. Additionally; the project would be a means of coordinating development inputs into small-scale fisheries in the region. It was felt that the role and functions of the Centre and the continuing role of a UNDP-type project would become more clear as the preparatory phase progresses.

18. The meeting agreed that results of the preparatory phase of the SIDA-supported project concluded during 1977 and reviewed in a working party of participating countries' administrative and technical staff would determine what the operational phase will include. Following this, there will be a second meeting of the AC to advise further on the final formulation of project activities proposed to be undertaken during the operational phase. It is envisaged that the proposed operational phase would be a continuing technical assistance programme which would ultimately lead to countries securing financial and investment inputs.
19. Donor agencies, especially SIDA as the only donor presently involved in the project under review, emphasized that donor assistance will be influenced by the policy of the national government towards development of the small-scale fisheries sector.
20. It was agreed by the participating countries that as an indication to 'potential donors' of national support commitment to up-grading small-scale fisheries, each participating country would prepare a factual statement that will include:
 - financial and physical plans for small-scale fisheries in the overall fisheries policies and plans
 - % of the total resources available to countries for fisheries development which is allocated to small-scale fisheries development and particularly the amount of national finance thus allocated
 - prospects of increasing the allocation as increased resources become available
 - the nature of the problems and constraints and the action proposed to be taken
 - where possible, the shortfalls proposed to be met by assistance from external sources.

The participating countries would, during the preparatory phase of the SIDA-supported project, show clearly their intention of coming to grips with the challenge of up-grading their small-scale fisheries.

Donor countries believe this to be an essential step in seeking development assistance.

21. While thanking SIDA for its continuing interest in small-scale fisheries in the Bay of Bengal area, the meeting noted with concern that funds for the proposed project have been committed only for the preparatory phase. Hope was expressed that donor assistance would be forthcoming for the operational phase without any discontinuity in activity.
22. The meeting agreed that the proposed second meeting of the AC, which would include participants from member countries actual and potential donors and IOP, would be convened by mid-1977.
23. The meeting concluded with an expression of thanks to the Chairman for the admirable manner in which he had conducted the meeting.

November 2, 1976

CENTRE FOR DEVELOPMENT OF TRADITIONAL FISHING COMMUNITIES
IN THE BAY OF BENGAL

1st Advisory Committee Meeting, October 28 and 29, 1976

LIST OF PARTICIPANTS

Bangladesh:

Mr. A. Islam Director of Fisheries

India:

Mr. S.P. Balasubramanian Joint Secretary, Fisheries

Malaysia:

Mr. A.B.O. Merican Deputy Director General, Fisheries

Sri Lanka:

Mr. E.G. Goonewardene Permanent Secretary, Ministry of Fisheries

Mr. V.L.C. Pietersi Director Programming, and Planning,
Ministry of Fisheries

Thailand:

Mr. Veravat Hongskul Chief, Marine Fisheries Laboratory,
Mr. S. Berg Bangkok

SIDA (Sweden) : Charge d'Affairs, Swedish Embassy,
Sri Lanka

Mrs. E. Liljeberg Senior Programme Officer, Agriculture
Division, SIDA, Stockholm

Dr. A. Lindquist Director, Institute of Marine Research,
Lysekil, Sweden

Mr. J. Traneus Head, SIDA Development Co-operation
'Office, New Delhi

4&AA (Australia):

Dr. G.I. Murp	Senior Principal Research Scientist, CSIRO
Mr. R.H. Walker	Director, Resources Management, Fisheries Division, Department of Primary Industry

DANIDA (Denmark):

Mr.* G. Christensen	Technical Adviser
---------------------	-------------------

NEW ZEALAND

Mr. G.D. Waugh	Director, Fisheries Research Division
----------------	---------------------------------------

NORAD (Norway):

Mr. O.A. Lunder	Head, Fisheries and Maritime Transport Division
-----------------	--

ODM (U.K.):

Dr. D.N.F. Hall	Principal Fisheries Adviser
Mr. J. Disney	Head, Fish and Pleat Section, T.P.I.

USAID (U.S.):

Mr. . P.M. Roedel	Fishery Adviser, Department of State, Agency for International Development
-------------------	---

UNDP:

Dr. A.F. Braid	FAO/Senior Agricultural Adviser, Sri Lanka and the Maldives
r. M. Priestley	UNDP Resident Representative to Sri Lanka and the Maldives

FAO:

Mr. F.P. Appleyard	Chief, Fishery Industries Development Service
Mr. F.R. Compton	Project Manager, SCM/73/005
Mr. . L.O. Engvall	Project Xanager, RAS/74/031
Mr. C. Ratclifr	Fisheries Adviser, RAS/74/031
Mr. H.C. Winsor (Secretary)	Programme Leader, IOP

PROJECT FOR THE DEVELOPMENT OF SMALL-SCALE FISHERIES
IN THE RAY OF BENGAL

TF-RAS/40 (SWE)

TF-RAS/40 (SWE) Rep. 2

Report of the second meeting of the

ADVISORY COMMITTEE

Madras, Tamil Nadu, India, 29-30 June 1977

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
INTERNATIONAL INDIAN OCEAN FISHERY SURVEY AND DEVELOPMENT PROGRAMME

PROJECT FOR THE DEVELOPMENT OF SMALL-SCALE FISHERIES
IN THE BAY OF BENGAL

TF-RAS/40 (SWE)

Report of 2nd Advisory Committee Meeting, June -29 and 30 1977
Madras, Tamil Nadu, India

1. The meeting was convened at the Connemera Hotel, Madras. A list of participants is attached as Appendix A.
2. The meeting was addressed briefly by Mr. H.C. Winsor, Programme Leader of the Indian Ocean Programme, who welcomed the Representatives of the participating countries and of the Swedish International Development Agency SIDA and thanked the Government of India and the Government of Tamil Nadu for hosting the meeting.
3. Mrs. S.L. Singla, Joint Secretary (Fisheries), Government of India, welcomed the delegates and other participants and expressed the Government of India's conviction that high priority is to be given to the development of fisheries and the small-scale sector in particular.
4. Mrs. E. Liljeberg, Representative of SIDA, thanked India and the other participating countries for the interest shown. She was pleased to note the high priority each of the countries was giving to small-scale fisheries development as this is a principal condition of Sweden's support to the project.
5. Mr. Winsor briefly reiterated the purpose and scope of the Indian Ocean Programme and reminded delegates that the project under discussion was an Indian Ocean Programme activity and would be executed under Indian Ocean Programme direction.
6. Mr. F. Compton, Officer-in-Charge, RAS/40 (SWE), referred to the directions given to the preparatory phase of the project by the 1st Advisory Committee meeting. He briefly described the work done by the Technical Working Party and outlined the purpose of this session of the Advisory Committee.
7. The meeting elected the distinguished delegate from India, Mrs. S.L. Singla, as Chairman for the session.
8. At the invitation of the Chairman of the Advisory Committee, the Chairman of the Technical Working Party presented the Working Party's report.
9. Prior to considering in detail the report of the Working Party, the Chairman suggested, and the Committee concurred, to reach agreement on the title of the project and its headquarter's location.

10. After due consideration of various viewpoints, and reconsideration of paragraph 13 of the Report of the 1st Advisory Committee, the Committee decided that the project should have the title: Project for the Development of Small-Scale Fisheries in the Bay of Bengal. It was recommended that a map indicating the region of the project should be appended to the project request.
11. The Representative of Sri Lanka expressed his country's continuing interest in hosting the project headquarters during the operational phase. The Chairman, speaking as the Representative of India, observed that, although India would be interested in having the project headquarters at Madras, as proposed, in view of Sri Lanka's expressed interest and considering the fact that Sri Lanka had already successfully hosted the preparatory phase of the project, that she did not wish to insist on locating the project in her country.

The executing agency was requested to pursue the matter.
12. The Committee adopted the Report of the Technical Working Party, with amendments of the Appendices and paragraphs as noted in paragraphs 14 to 17 below. Further paragraphs of relevance are attached as Appendix B.
13. The Committee expressed its wish that in rewriting the project request, the Secretariat should endeavour to fully reflect the views expressed in the Report of the Technical Working Party as adopted by the Advisory Committee and proposed that the text of paragraphs 14 to 16 below should be included in that document in full.
14. Appendix IV of the Report of the Working Party was amended to read:

"The Problem

- (a) The biggest and most critical human problem in world fisheries is that of the small-scale sector where there is an acute need to improve the standard of living and the quality of life of the fishermen. While vast numbers of fishermen live at subsistence level, their total production of fish is very considerable and their contribution to society is of utmost importance.
- (b) In the countries participating in this project, there is estimated to be about one million fishermen and their dependents, about five million people in all, who depend mainly upon fisheries for their livelihood. While these fishermen contribute a very large portion of the total food fish produced in the region, their per capita production is much less than what it could be.

- (c) This low production results in reduced income to the fishermen. This situation is further aggravated by post harvest losses, due to inefficient handling of catches on board, and inadequate processing, preservation, storage, distribution, transport and communication facilities. All these result in avoidable loss of valuable animal protein food which is in short supply in the region.
- (d) In spite of the several measures already introduced by the Governments of the region to improve the socio-economic conditions of the small-scale fishermen, in some areas and in varying degrees they still suffer from low levels of real income, indebtedness, sub-standard housing, malnutrition and poor health. In many cases, this situation is attributable to a combination of economic and technological considerations, like low productivity, inefficient technology, and weak institutional support.
- (e) In some instances, individual activities have been carried out in isolation. Various development components have not been integrated, and the total fishery activity has tended not to have been integrated with other potential resource development opportunities into a comprehensive community or area development plan."

15. Appendix V of the Report of the Working Party was approved and reads:

"III. Purpose:

The ultimate purpose of the project is to assist participating countries to improve the standard of living and the quality of life of their small-scale fishermen families and increase supplies of fish.

The immediate project objective is to develop and demonstrate techniques by which this purpose may be achieved, including inter alia the promotion of increased technical cooperation among participating countries and

- (i) improvement, development and application of appropriate existing fishery technology and/or, where required, introduction of new technology;
- (ii) promotion of and direct assistance to research and development programmes of existing national institutions in support of (i) above;
- (iii) strengthening existing extension services with special emphasis on development and/or strengthening of training institutions to provide adequate training in marine fisheries extension work;
- (iv) training of fisheries personnel, managers and operatives of small-scale fishery enterprises, including fishermen's cooperative organizations and other associations;

- (v) strengthening, where appropriate, the role of fishermen's cooperative organizations and associations, especially in the areas of fish distribution and marketing;
- (vi) demonstration of an effective system of collection, analysis and dissemination of relevant information with particular emphasis on information and data resulting from project activities? and assistance in implementation of such A system;
- (vii) assisting participating countries in the application of the results of successful project activities, and in formulating specific small-scale fishery development plans and projects."

16. Appendix VI of the Report of the Working Party was amended and now reads:

"The Approach

- (a) The project will approach the development of small-scale fisheries in the participating countries through several inter-related categories of activities.
- (b) One category is characterised by the direct inputs of the project headquarters and its multi-disciplinary team of specialists. Headquarters will be the centre for project activity planning, analysis and evaluation, data and information gathering, and administration. In addition, it will be the base for the project's consulting services to participating countries, i.e. the starting point **from** where members of the specialist team and consultants will embark on specific **missions** to participating countries. Activities in this category will continue throughout the lifetime of the project.
- (c) Another category will be the implementation of specific physical activities at field sites.
- (d) In a further category the project will concentrate its institutional support activities, emphasising those of regional application and impact. Direct assistance to national research and development, as well as training institutions is seen as an important part of this category of inputs, as is the organization and conduct of specific training courses, seminars, workshops, etc.
- (e) The project will make extensive use of available national institutions and expertise and, where these are lacking, will concentrate assistance in attempts to develop them. The project also will concentrate on facilitating the exchange of technology among the participating countries.
- (f) In implementing activities,, the project will promote the use of an integrated approach, i.e.

- (i) various demonstration technological inputs, insofar as possible, will be provided not as isolated inputs, but as integral support components to a comprehensive development activity;
 - (ii) promote the integration of technological and economic inputs of a social nature to encourage comprehensive community development as a means of achieving the purpose of the project.
 - (g) The development approach proposed to be *taken by* the project will encourage increased participation by fishing communities in rural development programmes through which the suggested infra-structural facilities are normally provided. This same approach to the strengthening of communities will be used to achieve coordination of development assistance inputs, the lack of which in many situations is construed to be a constraint to development.
17. The Committee's attention was particularly drawn to paragraphs (13), (15) and (20) of the Report of the Working Party, the texts of which the Committee approved specifically. The Committee introduced two significant editorial changes in item (ii) of paragraph (20), which now reads:
- (ii) that the project prepare outline work plans for each of the priority activities, including proposed sites for each, to be forwarded to each country."

The Committee specially commended these paragraphs to the attention of the Secretariat during the forthcoming rewriting of the project request, and requested that paragraph 20 be included in the project request.

18. The Representatives of the five participating countries reiterated unequivocally the strong support their Governments were giving to the project, as well as the high priority they have allocated to the development of the small-scale fisheries sector in their respective development plans. They also pointed out that considerable national resources were being made available already for this development effort.
19. The Representative of SIDA reiterated SIDA's continuing interest in the project and stated that SIDA was prepared to present to the Government of Sweden a proposal to support the project, provided the final project request was well balanced and action oriented, and that the participating Governments will continue to give high priority to the project.

The Committee expressed its keenness to secure final approval of the project as quickly as possible.

20. A query was raised by the Committee regarding funding for interim project operations from now until the project becomes fully operational.

The Representative of SIDA recommended that the matter be referred officially to SIDA.

21. Considering the uncertainty regarding the time when the project could become operational, the Committee agreed that its next meeting should be held in Bangladesh, tentatively in March 1978, and that subsequent meetings of the Committee should be held in rotation in each of the participating countries.
22. In order to speed up inter-governmental consultations on the final project request and the budgetary provisions to be contained therein, and to facilitate the achievement of operational status as soon as possible, the Committee expressed general agreement with the suggestion made by the Representative of India, that such intergovernment consultations should take place in late October 1977 during the 5th Session of the IOFC to be held in India. It would be incumbent upon the Secretariat to produce the final version of the project request in the shortest possible time to enable Governments and SIDA to attend such consultations well informed about the proposed project content and relevant budget provisions.
23. The meeting heard closing statements by the Chairman, the Representatives of SIDA and the Indian Ocean Programme, and concluded with a vote of thanks to the Chairman for the conduct of the meeting, and to the Governments of India and the State of Tamil Nadu for the arrangements made and the hospitality provided.

July 22, 1977

PROJECT FOR THE DEVELOPMENT OF SMALL-SCALE FISHERIES
IN THE BAY OF BENGAL

2nd Advisory Committee Meeting June 29 and 30, 1977

LIST OF PARTICIPANTS

Bangladesh

Mr. Mohammed Ahsanula	Senior Scientific Officer Fisheries Department (Marine Fisheries) Agrabad, Chittagong
Mr. S. Rahman	Fisheries Technologist Directorate of Fisheries

India

Mr. D.A.S. Cnanadoss	Director Central Institute of Fisheries Nautical and Engineering Training/Integrated Fish- eries Project/Pelagic Fisheries Project Cochin
Mr. B. Krishnamoorthy	General Manager Fisheries Development Corporation Tamil Nadu
Mr. S.M. Murshed	Secretary Government of West Bengal Fisheries Department Calcutta
Mr. R. Nagarajan	Director of Fisheries Tamil Nadu
Mrs. Sneh Lata Singla	Joint Secretary (Fisheries) Ministry of Agriculture and Irrigation (Department of Agriculture Krishi Bhavan

Malaysia

Mr. Mohid Mazlan Jusoh	Fisheries Division Ministry of Agriculture
------------------------	---

Sri Lanka

Mr. E.G. Goonewardene	Secretary, Minis-try of Fisheries Colombo
Mr. V. Pietersz	Director (Programming) Programming and Planning Division Ministry of Fisheries Colombo

Thailand

Mr.V. Hongskul	Chief, Marine Fisheries Laboratory Department of Fisheries Bangkok
Mr. T. Taweessith	I Grade Fisheries Scientist Department of Fisheries Bangkok

SIDA (Sweden)

Mr. S. Berg	Charge d'Affairs a.i. Swedish Embassy Colombo, Sri Lanka
Mr. H. Herm	Programme Officer, Swedish Embassy New Delhi, India
Mrs. E. Liljeberg	Head of Section, SIDA Stockholm , Sweden

FAO

Mr. A. Andreasson	Fisheries Advisor, Associate Expert RAS/74/031
Mr. F. Compton	Officer-in-Charge, TF-RAS/40 (SWE)
Mr. L.O. Engvall	Project Manager, RAS/74/031
Mr. P. Gurtner	Chief, Fish Production and Marketing Service
Dr. H.D.R. Iyengar	Project Operations Officer
Mr. H.C. Winsor	Programme Leader, Indian Ocean Programme

SUBSTANTIVE PARAGRAHS OF THE REPORT OF THE
TECHNICAL WORKING PARTY AS ADOPTED
BY THE ADVISORY COMMITTEE

6. The meeting noted that the project proposal is addressed to a set of socio-economic conditions which tend to characterize the small-scale fisheries sector in the region. Each participating country may have its own definition of what constitutes its small-scale sector. However, the project presently excludes inland fisheries and related aquaculture, estuarine and brackish-water culture and the lucrative mechanized prawn and other trawler operations from its reference to small-scale fisheries. Nevertheless, with respect to the interests of Malaysia, Thailand and Bangladesh consistent with IOP programming, the project may make provision for activities in mariculture.
8. The Working Party considers it very important to have a clear description of the problem of small-scale fisheries in the region. Attention is drawn to the fact that despite the large quantity being produced by the small-scale sector, food fish as a valuable source of protein in many parts of the region still is in chronic short supply.
9. It is noted that the countries covered by the project RAS/031, Development of Small-Scale Fisheries in Southwest Asia, a regional FAO/UNDP project, i.e. Sri Lanka, India and Bangladesh, through their involvement in the preparation of general description, and assessment of problems and needs of their respective small-scale fisheries sectors, have indicated further their interest in, and support for, development in the sector.
13. The reference to criteria for the selection of activities sites, pages 8 and 9, is lifted from the "Approach" section and is to be included in the introduction to the activities section as follows:

"It is proposed that activity sites will be selected in consultation with the competent Government authority using the following criteria:

 - (a) apparent need;
 - (b) apparent technical and economic feasibility;
 - (c) apparent availability of fish resources;
 - (c) community attitudes towards development;
 - (d) availability of the necessary counterpart component, especially counterpart staff;
 - (f) possibility of integrating proposed activities along with other existing development activities;

- (g) possibilities for development, and demonstration value; and
 - (h) geographic distribution.
14. The "Activities" section was discussed in detail. It is recognized that the proposed activities are designed to overcome or to improve conditions which have been described in the problem, as constraints to development, Also it is emphasized that the proposed activities are to be demonstrational.
 15. The discussion under the section showed a clear distinction of development needs and priorities between Sri Lanka, the east coast States of India on the one hand, and Thailand and Malaysia on the other. Bangladesh has interest and needs in common with both parts of the region. Thailand, Malaysia and Bangladesh are requesting provision for activities offering assistance for brackish-water, mariculture and related developments especially in relation to the socio-economic aspects of these respective small-scale fisheries.
 16. Participating countries agree with the proposed approach to the introduction of technological improvements which includes:
 - (i) starting with the technology in use;
 - (ii) where possible and appropriate, diversification of technology;
 - (iii) the transfer of technology among participating countries;
 - (iv) maintaining flexibility with regard to the types and method of technological inputs required in each situation.
 17. With minor changes in redrafting, the Working Party endorses the proposed activities. Some of the activities, e.g. activity 1.6 "floating fish. receiving and distribution unit", require further study. Similarly, the proposed extension and training activities require further clarification and programming with respect to course content and timing. Activity 2.3 "Technical support to training institutes for the development of comprehensive training programmes in marine fisheries extension work" will have to be revised to include diploma courses to meet the need of some of the countries. Such courses would be of shorter duration than those proposed. Activity 2.5 "Training for fishery technologists" needs to be redrafted to reflect more specifically what is proposed. In particular, it should refer to fishing technologists and to the build-up of fishing technology units in fisheries administrations. Discussions included reference to the fact that the normal movement of officers in and out of responsible positions in fisheries administrations may lessen the effect of the proposed series of training activities. It is suggested that increased career path opportunities should be provided in fisheries administration that technical staff are encouraged to continue in their particular field of technical competence.



FAO/SIDA COOPERATIVE PROGRAMME

PROJECT REQUEST

SYMBOL: RAS/40/SWE

I. TITLE: Project for the Development of Small-Scale Fisheries
in the Bay of Bengal

Recipient Countries: India, Sri Lanka, Bangladesh, Malaysia and Thailand

National Agencies: Departments of Fisheries and Fisheries-Related
Institutions

Donor Contribution: \$ 6 562 900

Duration: 5 years

Rome, July 1977

W/K8239

II. BACKGROUND

A SIDA/FAO Mission visited the countries around the Bay of Bengal in May and June 1974 and presented a report to FAO in October 1974 (Report of the Fisheries Mission to the Bay of Bengal, IOP, FAO, Rome 1974). This report contains a description of the fisheries in the various countries and identifies development problems. It recommends a regional fishery development programme to be executed within the framework of the UNDP/FAO Indian Ocean Fishery Survey and Development Programme (IOP).

A request for a Swedish grant to fund a portion of this programme was made to SIDA by FAO in mid-1975. At this stage Sri Lanka, India, Bangladesh, Malaysia and Thailand had stated support for the programme. The programme has been discussed in detail by the Executive Committee of the Indian Ocean Fishery Commission (October 1974), the FAO Committee on Fisheries (COFI, June 1975), the Fourth Session of the Indian Ocean fishery Commission (July 1975) and the Advisory Committee to the Fisheries Board of Sweden (May and August 1975).

As a result of these discussions SIDA agreed to fund a preparatory phase to prepare a project entitled "Centre for the Development of Traditional Fishing Communities". As a first step, a meeting of an Advisory Committee was held in Colombo, Sri Lanka (October 1976). The participating countries, donor countries potentially interested in contributing to the overall regional fisheries development programme, and FAO staff attended this meeting.

Following the Advisory Committee Meeting, a team visited India, Bangladesh and Sri Lanka (February/March 1977) to assess:

- (i) the nature of the requirements for the development of small-scale fisheries and traditional fishing communities in the region;
- (ii) the technical and material assistance requirements to meet the development needs;
- (iii) the capacity of national institutions to respond to the needs of small-scale fisheries development and to propose activities to be incorporated into a development project proposal.

Visits were also made to Thailand and Malaysia by the Officer-in-Charge of the Preparatory Phase of RAS/40 (SHE).

The Second Advisory Committee Meeting held in Madras in June 1977 reviewed a draft project proposal and made useful suggestions regarding the objectives of and approaches to small-scale fisheries in the region. It also decided that the title of the project should be "Project for the Development of Small-Scale Fisheries in the Bay of Bengal".

'The Problem

The biggest and most critical human problem in world fisheries is that of the small-scale sector where there is an acute need to improve the standard of living and the quality of life of the fishermen. While vast numbers of fishermen live at subsistence level, their total production of fish is very considerable and their contribution to society is of utmost importance.

In the countries participating in this project there is estimated to be about one million fishermen and their dependents, about five million people in all, who depend mainly upon fisheries for their livelihood. While these fishermen contribute a very large portion of the total food fish produced in the region, their per caput production is much less than what it could be.

This low production results in reduced income to the fishermen. This situation is further aggravated by post harvest losses due to inefficient handling of catches on board and inadequate processing, preservation, storage, distribution, transport and communication facilities. All these result in avoidable loss of valuable animal protein food which is in short supply in the region.

In spite of the several measures already introduced by the Governments of the region to improve the socio-economic conditions of the small-scale fishermen, in some areas and in varying degrees they still suffer from low levels of real income, indebtedness, substandard housing, malnutrition and poor health. In many cases this situation is also attributable to a combination of economic and technological considerations, like low productivity, inefficient technology and weak institutional support.

In some instances, individual activities have been carried out in isolation. Various development components have not been integrated and the total fishery activity has tended not to have been integrated with other potential resource development opportunities into a comprehensive community or area development plan.

Related Projects

'The Inter-regional UNDP/FAO Indian Ocean Fishery Survey and Development Programme (IOP) INT/76/012 is concerned with the preparation of new regional, sub-regional and national projects and with the coordination and supervision of selected projects which are operational. This project will operate within the jurisdiction and under the guidance of the Indian Ocean programme.

The South China Sea Fisheries Development and Coordinating Programme (SCSP) RAS/74/013 and TF/RAS/22 (CAN) which has as one of its major goals the "improved standard of living of artisanal fishermen in participating countries" is involved in small-scale fishery development activities along the east coast of peninsular Malaysia and Thailand. The activities of this project in Malaysia and Thailand will be carried out in close consultation with the SCSP.

A FAO/UNDP project, RAS/74/031, Development of Small-Scale Fisheries in South and West Asia (Pakistan, India, Sri Lanka and Bangladesh) assists Governments to prepare a description of their small-scale fisheries including an assessment of problems and constraints which traditionally have tended to and which continue to inhibit development. It is also assisting Governments in the preparation of national development projects. Its findings in the region have been provided under contract to this project. The RAS/74/031 project is scheduled to be terminated at the end of 1977 but it is likely to be followed by another FAO/UNDP project to provide similar services to the fisheries of the region.

In Sri Lanka there is a UNDP/FAO Fisheries Development Project SRL/72/051.

There are a number of Trust Fund projects in the region, including the Centre for Development and Marketing of Fish Products in Sri Lanka, SRL/28 (SWE), for which provision is made in this project proposal for collaboration. In Bangladesh there are DANIDA and NORAD funded projects in marketing, TF/BGD/4, and extension training, TF/BGD/5, respectively, with which this project is in contact, and other projects directed through the cooperative and private sectors as well as the Fisheries Directorate, all of which indicate the country's awareness of the need for assistance in this field.

In Sri Lanka, bilateral inputs include Japanese assistance for fisheries training, Norwegian assistance through the Cey-Nor Development Foundation and Danish technical assistance in refrigeration. Norway and Sweden are making funds available for

fisheries development in India, and Denmark is considering major programmes for community development in India and in Bangladesh. In Bangladesh, Denmark, the U.S.S.R. and the U.K. are providing investment funds for fisheries development in various places throughout the country. The World Bank, the IDA and the ADB have operational or planned investment activities in the various countries.

The Federal Republic of Germany is assisting the Fishery Development Authority in Malaysia to modernize the commercial fishing fleet, processing plants and marketing system along the east coast of West Malaysia. In Thailand, Japan, Canada and Denmark are providing bilateral assistance to training and research activities.

It is proposed that activities initiated by this project will complement activities already under way or about to be implemented with assistance from other donors.

Government Interest and Support

Governments in the region have indicated to bilateral donors and through their various macro-development plans that they attach high priority to small-scale fisheries development and have acknowledged the need for assistance in order to cope effectively with the complex problems of small-scale fisheries.

The FAO Committee on Fisheries, at its Ninth Session, October 1974, gave top priority to the development of small-scale fisheries and noted with satisfaction the work of the FAO/SIDA Bay of Bengal Fisheries Mission. The IOFC Executive Committee, at its meeting in October 1974 endorsed the idea of integrated regional programmes and gave high priority to the proposed Bay of Bengal Fisheries Survey and the Centre for the Development of Traditional Fishing Communities. Official communications of support have been received from the Governments of Bangladesh, India, Sri Lanka, Thailand and Malaysia, in which the concept of a Centre for the Development of 'Traditional Fishing Communities' - now suggested to be retitled: "Project for the Development of Small-Scale Fisheries in the Bay of Bengal Region" - is given high priority.

This support was reconfirmed at the Advisory Committee of participating countries to the project at its first Meeting, 28 and 29 October 1976, in Colombo, and at its Second Meeting, 29 and 30 June 1977, in Madras, India. Further evidence of various countries and States' support for small-scale fisheries development was obtained orally and in writing by the project preparation team when it visited some of the participating countries, February-April 1977; the support lent by the participating countries of RAS/74/031 to the collection of base-line information and data on the current situation of small-scale fisheries in these countries is additional evidence of the importance attached to the development of these fisheries by the countries concerned.

FAO UNDP Country and Inter-Country Programmes

The UNDP Country Programmes in the countries concerned, indicated in the Related Projects section above, make some provisions for fisheries but the funds available from this source are small relative to the magnitude of the problem. The regional projects, i.e. RAS/74/013, the South China Sea Fisheries Development and Coordinating Programme, and RAS/031, Development of Small-Scale Fisheries in South and West Asia, are related to this project in the limited way noted above. This project TF/RAS/40 (SWE) will complement and reinforce the various FAO/UNDP inputs into fisheries activities of Country and Inter-Country Programmes.

The Indian Ocean Fishery Survey and Development Programme core staff are financed from UNDP funds reserved for global and inter-regional projects. The IOP project has been extended for three years from January 1977.

Documentation

Reports of the FAO/SIDA Fisheries Mission to the Bay of Bengal, May/June 1974.

Publication of the Indian Ocean Programme in the IOFC/DEV series.

Publications of the South China Sea Fisheries Development and Coordinating Programme.

Report of TF/RAS/40 (SWE) 1st Advisory Committee Meeting, 28-29 October 1976 and 2nd Advisory Committee Meeting, 29-30 June 1977.

General description of Small-Scale Fisheries prepared by India, Sri Lanka, Bangladesh and Malaysia for the 1st Advisory Committee Meeting, 28-29 October 1976, and Assessment Reports of RAS/74/031.

Support for Development of Small-Scale Fisheries in the Bay of Bengal within the framework of FAO's programme for the Indian Ocean. Memorandum of 13 February 1976. Agriculture Division, SIDA.

Factual statements from some of the participating countries concerning present status of and their commitment to the development of small-scale fisheries.

This documentation was extensively used as background and supporting information by the Assessment Team and throughout the preparation of this project request.

III. PURPOSE

The ultimate purpose of the project is to assist participating countries to improve the standard of living and the quality of life of their small-scale fisherman families and increase supplies of fish.

The immediate project objective is to develop and demonstrate techniques by which this purpose may be achieved, including, inter alia, the promotion of increased technical cooperation among participating countries and:

- (i) improvement, development and application of appropriate existing fishery technology and/or, where required, introduction of new technology;
- (ii) promotion of and direct assistance to research and development programmes of existing national institutions in support of (i) above;
- (iii) strengthening of existing extension services with special emphasis on development and/or strengthening of training institutions to provide adequate training in marine fisheries extension work;
- (iv) training of fisheries personnel, managers and operatives of small-scale fishery enterprises, including fishermen's cooperative organizations and other associations;
- (v) strengthening, where appropriate, the role of fishermen's cooperative organizations and associations, especially in the areas of fish distribution and marketing;
- (vi) demonstration of an effective system of collection, analysis and dissemination of relevant information with particular emphasis on information and data resulting from project activities and assistance in implementation of such a system;

- (vii) assisting participating countries in the application of the results of successful project activities and in formulating specific small-scale fishery development plans and projects.

IV. A. WORK PLAN

Approach

The project will approach the development of small-scale fisheries in the participating countries through several inter-related categories of activities.

One category is characterized by the direct inputs of the project headquarters and its multi-disciplinary team of specialists. Headquarters will be the centre for project activity planning, analysis and evaluation, data and information gathering and administration. In addition, it will be the base for the project's consulting service⁸ to participating countries, i.e. the starting point from where members of the specialist team and consultants will embark on specific missions to participating countries. Activities in this category will continue throughout the lifetime of the project.

Another category will be the implementation of specific physical activities at field sites.

In a further category the project will concentrate its institutional support activities, emphasizing those of regional application and impact. Direct assistance to national research and development, as well as training institutions, is seen as an important part of this category of inputs, as is the organization and conduct of specific training courses, seminars, workshops, etc.

The project will make extensive use of available national institutions and expertise and where these are lacking will concentrate assistance in attempts to develop them. The project also will concentrate on facilitating the exchange of technology among the participating countries.

In implementing activities the project will promote the use of an integrated approach, i.e.:

- (i) various demonstration technological inputs, insofar as possible will be provided, not as isolated inputs but as integral support components to a comprehensive development activity;
- (ii) promote the integration of technological and economic inputs of a social nature to encourage comprehensive community development as a means of achieving the purpose of the project.

The development approach proposed to be taken by the project will encourage increased participation by fishing communities in rural development programmes through which the required infrastructural facilities are normally provided. This same approach to the strengthening of communities will be used to achieve coordination of development assistance inputs, the lack of which in many situations is construed to be a constraint to development.

Activities

The activities described in the following paragraphs are designed to come to grips with the problems of small-scale fisheries as noted in Chapter II and are to be implemented in such a way as to achieve the purpose of the project outlined in Chapter III, using the approach as outlined above.

The multi-disciplinary approach will ensure the involvement of all required subject-matter expertise in the execution of each activity. The project will maintain flexibility in identifying and implementing additional activities during its lifetime as may be required as a result of experience gained and of continuing close collaboration with national cooperating agencies of the participating countries.

It is proposed that activity sites, where required, will be selected in consultation with the competent Government authority in each of the participating countries, using the following criteria:

- (i) apparent need;
- (ii) apparent technical and economic feasibility;
- (iii) apparent availability of fish resources;
- (iv) community attitudes towards development;
- (v) availability of the necessary counterpart component, especially counterpart staff;
- (vi) possibility of integrating proposed activities along with other, existing, development activities;
- (vii) possibilities for development, and demonstration value;
- (viii) geographic distribution.

Where technological improvements are recommended as a project activity, or part thereof, special attention will be given to:

- (i) building up on existing technology;
- (ii) where appropriate, diversification of technology;
- (iii) transfer of technology among participating countries;
- (iv) maintaining flexibility with regard to the types and method of application of technological inputs **required** in any given situation;
- (v) careful assessment of probable social and economic impact of any proposed technological input.

As a follow-up to the Preparatory Phase, the following steps are to be taken:

- (i) participating countries will be requested to rank the proposed project activities in order of priority to them;
- (ii) outline work plans for each of the priority activities, including proposed site identification where appropriate, to be prepared and forwarded to each country;
- (iii) within a reasonable time **after** the project becomes operational, a meeting of representatives of the participating countries will be convened to decide on the distribution of specific activities among countries;
- (iv) following this meeting, project staff will visit each country to develop detailed plans for specific activity implementation.

'The activity list suggests tentative country locations and gives a proposed time frame for each activity; these indications are to be seen in context with the preceding paragraph.

1. Fishery Technology

To improve their socio-economic status, fishermen will need to catch more fish and/or make better economic use of their current catches. This will require making more efficient use of existing technology, i.e. traditional boats, gear and methods where possible, and where necessary introducing appropriate technological improvements. It may also mean reorganizing and/or strengthening existing marketing systems including provision for new and improved collecting, distribution and marketing facilities for fish products, and possibly increased product promotion.

Project activities, therefore, will include various inputs in the broad field of Fishery Technology as follows:

<u>Activity</u>	<u>Suggested Locations</u>	<u>Time Frame</u>
-----------------	----------------------------	-------------------

1.1 Fishing Vessel Technology

- | | | |
|--|--|--|
| <p>(i) Traditional, non-mechanized fishing craft throughout the region differ very little today from those in use in ancient times. Their capacity for carrying fishing gear, crew and catches is limited, as is their range of operations; they are restricted to operations during short seasons only, and cannot in their present form extend fishing into the long bad weather seasons.</p> | <p>Identification and Planning stage: Project HQ, CIFT/ CLFNET in India</p> | <p>Second half of Year 1</p> |
| <p>Three distinct classes of craft are used extensively: log rafts (catamarans) and canoes (dugout canoes, with and without outriggers) operating from open, surf-beaten beaches, and a variety of planked boats operating from less exposed beaches and naturally sheltered places (river mouths, inlets, backwaters, lagoons) as well as from man-made shelters (ports).</p> | <p>Demonstration stage: fishing communities in Bangladesh, India and Sri Lanka</p> | <p>Intermittent from Year 1 throughout life of project</p> |
| <p>Motorization of most of the planked boat types is rendered difficult because of their inherent structural weakness. In all cases, motorization can only succeed if it results in significant catch increases and increased economic benefits.</p> | | |
| <p>Apart from motorization, there are other possibilities for improvement which could result in increased catches. In the first instance, more efficient fishing gear capable of being used from the traditional craft needs to be developed and/or introduced; secondly bigger craft of the traditional type</p> | | |

<u>Activity</u>	<u>Suggested Locations</u>	<u>Time Frame</u>
must be tried to allow carrying more gear and larger catches. This will call for the introduction of more efficient propulsion systems (non-mechanical) such as improved sail systems , the use of centre- or lee-boards, increasing the efficiency of paddles and/or their replacement by cars.		
(ii) Efforts at developing craft for replacing traditional ones for across the beach operations must emphasize the need for low cost solutions within the beach fisherman's reach, and allowing him to use improved or new types of fishing gear to further increase his fishing efficiency. As traditional boatbuilding materials and methods will not likely result in satisfactory solutions, experiments will need to include prototypes built of novel materials (e.g. FRP, marine grade plywood).	Identification and Planning stage: Project HQ, CIFT/ CIFNET in India	Prom second half of Year
Specific possibilities requiring testing under prevailing beach fishing conditions include the use of expanded plastic foam for the construction of raft type craft; FRP beachable boats with an extended service life; twin hull configurations of the simplest type; use of plywood; development of less vulnerable propulsion systems , low-cost industrial and sealed air cooled diesel engine units, retractable propeller systems.	Demonstration stage: India (Andhra Pradesh), Sri Lanka	Intermittent from Year 2 for 3 years
Additional food fish resources are available in some coastal and inshore waters of the participating countries and fleets of economically suitable, small mechanized boats could substantially increase the landings of such fish, while at the same time providing employment for increasing numbers of fishermen.		
(iii) To promote the progressive use of mechanized boats for fisheries other than those yielding high priced products for export markets, a new generation of boat types should be developed. Reduced investment costs, increased fishing efficiency for a variety of fishing methods to suit	Identification and Planning stage: Project HQ and all participating countries	From second half of Year 1

Activity

Suggested Locations Time Frame

seasonal changes in availability of fish, as well as increased safety to enable an extension of the all too short fishing seasons, are essential conditions for success; emphasis will also have to be placed on improving fish handling and storage aboard. Prototypes will be constructed by the project and demonstrated extensively.

Demonstration stage: Bangladesh (ferro-cement), India (wood), Sri Lanka (FRP)

From second half of Year 2 to end of Year 4

Review operational patterns including the use of larger mechanized craft during the good weather seasons without the need to beach them each day, already in use in parts of the region, will be extended and tried in other parts of the region where fish resources permit.

1.2 Development of low-cost landing facilities

Activities in this field will be designed to assist in planning and development of simple, functional, prototype facilities responding to actual needs and taking cognisance of the severe physical and economic constraints to the development of sophisticated facilities.

Bangladesh, India, Sri Lanka in conjunction with 1.1

From second half of Year 2 for 6 months

Consultant input will be provided to identify and design suitable simple landing facilities such as launching/beaching ramps, beach haulout systems, jetties, etc., and project funds will be available for pilot construction of facilities.

Two years from Year 3

1.3 Fishing Gear and Methods

Gillnets, longlines, baskets, small trap nets, drag seines and liftnets of many types, dimensions, materials and mesh sizes are used throughout the region by small-scale fishermen. Many of the nets are handwoven either from synthetic or vegetable twine. Initially the emphasis in this area will be to determine and demonstrate how maximum use can be made of the existing technology.

Fishing communities, particularly in Bangladesh, India, Sri Lanka and institutes (CIFT, India)

From beginning of project, extending through life-time of project

The main problem areas at the existing technology level include high costs of material which generally throughout the region is in short supply, the inappropriateness of some of the gear and methods currently in use, the use of unsuitable and low quality materials, the use of inadequate quantities and variety of gear per fishermen and per craft, all of which result in less fishing effort than may be possible.

Activity	<u>Suggested Locations</u>	<u>Time Frame</u>
----------	----------------------------	-------------------

The project's fishing methods and gear technology input, therefore, will have to determine what is the most efficient combination of a number of fishermen, craft type and type and quantity of gear, etc., to ensure the greatest return from a maximum fishing effort of each fishing crew.

Emphasis will be placed on the improvement of a suitable gear supply, including investigating the feasibility of cottage-type gear manufacture with a view to setting up pilot projects for gear preparation.

In addition, project activities in this area will attempt to facilitate the transfer of efficient technology from parts of the region to other parts.

It is intended that advances in methods and gear technology will keep pace with any changes in fishing craft; the proposed more efficient fishing units (see 1.1) will have to be supported by the introduction of new and improved gear and methods.

1.4 Equipment Maintenance

Many fishing centres in the region lack, or have inadequate, mechanical maintenance and repair facilities. Wherever mechanized craft and mechanical equipment in shore installations are used, adequate repair and maintenance facilities are necessary for the efficient operation of such craft and equipment. The lack of facilities results in unnecessary breakdowns and long delays in repair, with consequent financial loss to the fishermen. The project will assist the countries in the planning and implementation of prototype service facilities adaptable to fishing centres and villages where such may become necessary as a consequence of other developments (craft mechanization, introduction of fish holding facilities, ice plants, transport, etc.). Specifically the project will develop specifications and designs for standard maintenance units for several levels of requirement (e.g. outboard motors and inboard motors, refrigeration equipment, marine engines plus refrigeration equipment, transport vehicles, etc.). Specifications will be elaborated by a consultant, while detailed design of the units will be undertaken under contract by a competent institution in the region.

Prototype units will be provided through the project by local manufacturers and used for field trials and demonstration at selected sites. Detailed specifications and complete design information enabling unit construction in any country will be

Project HQ	Beginning of Year 2 for 3 months
CIFNET (India)	End of Year 2
India	End of Year 2
Project HQ	Year 4

Activity

Suggested Locations Time Frame

published by the project and widely circulated. The construction of prototype units and their installation and operation at field sites will be supervised and monitored by the project mechanical engineer. Personnel will be trained in operating the units, and provided by the project for their operation during the lifetime of the project .

All participating countries

First half of Year 3

1 . 5 Village fish receiving and distribution units

The lack of holding facilities at the point of landing and the absence of transport links to profitable markets make the small-scale fishermen vulnerable. In most cases he must sell his catch immediately, for whatever price is offered, or risk a total loss for his efforts. The only other possibilities are that his wife takes the fish to market or that it is turned into low-value dried products,

At least two demonstration units for holding and distributing fresh fish will be set up by the project, with the following components:

- (i) An insulated and refrigerated freight container which would be installed at the landing site. (If electricity is not available, a separate power supply will have to be included.)
- (ii) An insulated container mounted on the tray of a truck, leaving space for producer representatives to travel to market with their fish.
- (iii) Ancillary equipment will include fish boxes, washing equipment, scales, etc.

Fishing communities in India, Sri Lanka, if possible in conjunction with activities 1.1, 1.3, 1.4

Prom beginning of Year 2 for 2 years at least

The truck will bring ice when it returns from the market. After landing, the fish will be sorted, washed and boxed in ice, then held in the refrigerated container until a sufficient load accumulates. Depending on local circumstances the fish may remain the property of the fishermen, be sold to a local cooperative or other marketing organizations, or acquired by the project. In all cases the project will continue to supervise the operation and make all necessary inputs until economic feasibility can be assessed. Following economic assessment the project staff, in conjunction with staff from national institutes will prepare designs and specifications for the components of suitable systems for large-scale introduction.

Project HQ

From beginning of Year 4

Activity

Suggested Locations Time Frame

In order to ensure the multiplier effect of similar installations in other parts of the region, the project will assist with preparation of project proposals to be submitted to bilateral donors.

It is estimated that setting up and bringing the units into profitable operation will take about 2 years. The units will be operated by project personnel and will be used as extension centres to promote transfer of successful development elsewhere.

1.6 Floating fish receiving and distribution unit

The position of the migrant fishing communities in the low-lying delta areas is extraordinarily difficult. Heavy monsoon rains and floods prevent permanent settlement and transport links are very limited. At present most of the production is dried fish which is accumulated during the short fishing season. The principal demand at population centres is for fresh fish. The provision of holding facilities and the availability of transport arrangements to the market would enable this demand to be satisfied. In addition they would increase returns to the fishermen and probably contribute to lengthening the fishing season.

Because of the nature of the country it is not possible in most cases to establish a permanent shore site. It is therefore suggested that the project should design and build a ferro-cement barge and a carrier boat to connect it to the market. The barge would be a self-contained unit which could be moved into position for the fishing season and withdrawn before the storms set in, in areas where that is necessary, or could serve as a semi-permanent station where weather conditions permit.

Bangladesh

From beginning of Year 3 to the end of the project

In addition to a refrigerated store it would contain an ice plant with storage, radio communications, workshop and living accommodation. The unit would provide a focal point for collection of fish. Supplies could then be channelled to available markets by means of the carrier vessel acquired for the purpose. The carrier taking fish to the market would return fresh water, fuel oil and stores to the barge.

In the initial stages of the project, a study will be made of the detailed requirements to be met by such a unit, and alternatives, such as carrier/mother ship operations will be considered and evaluated before detailed plans are drawn up and the activity is implemented.

Project HQ and Bangladesh, West Bengal, Orissa

From beginning of Year 1 to end of Year 2

<u>Activity</u>	<u>Suggested Locations</u>	<u>Time Frame</u>
<p>The unit, in whatever final form adopted, would also be an important extension centre in areas where it is, at present, practically impossible for extension workers to reach the fishermen.</p> <p>It is estimated that development of a successful complex will take several years, during which time the project could prepare proposals for bilateral funding of units for other locations. This activity would require the project to outpost personnel on board the barge during the fishing season to provide the general management of the activity.</p> <p>This activity would be as integrated as a similar shore-based activity. It will have application throughout Bangladesh and in Orissa and West Bengal in India.</p>		
<p><u>1.7 Assistance with improved marketing</u></p>		
<p>In most parts of the region improvements are required with marketing infrastructure and techniques. It is not possible to lay down a single specific proposal as situations differ from place to place. During the life of the project marketing assistance would be directed to such things as identifying centres where demand could be stimulated, suggesting physical improvements to wholesale and retail outlets, design and demonstration of mobile retail equipment and investigation of pricing structures.</p> <p>The headquarters staff and their national counterparts will have a continuous interest in these activities which will be supported by a consultant input at the level of 3 m/m per year.</p>	<p>Selected field sites</p>	<p>3 months each year (consultant)</p>
<p><u>1.8 Product and technology development</u></p>		
<p>The region's technological institutes, particularly those in India, have carried out a considerable amount of research work. One of the project activities will be to assist in translating this research into applied technology. A Fish Technologist will be outposted to the FAO/SIDA Institute of Fish Technology in Sri Lanka for a period of two years, to assist in the continuing research and development work in fish technology being carried out by the Institute and to give the results regional relevance. The current work programme includes experimentation and demonstration leading to the introduction of low cost products (e.g. mackerel products from shrimp trawler by-catches). In conjunction with other national institutes, the project will design the elements of small processing plants which can be built in the region with a minimum of imported components. High priority will be given to the improvement of existing technological processes to reduce post-harvest losses particularly on low-cost products and work in this area will include the development</p>	<p>Sri Lanka</p> <p>Bangladesh, India, Thailand, Malaysia</p>	<p>2 years from Year 2</p> <p>Intermittent throughout project life-time and beginning in second half of Year 1</p>

Activity

Suggested Locations Time Frame

and the use of low-cost energy sources in fish processing for example wind-driven ice plants and improved solar driers, consistent with the principle of appropriate technology. The project, through this product and technology development activity, will bring technology developments in these areas to the region for possible application. Funds will be provided to support similar and inter-related work to be carried out in institutes in the other participating countries on a subcontract basis. This institutional support will strengthen work currently being carried out by other institutes in the region.

2. Training and Extension

Technological changes and improvements throughout the region require special training efforts to equip personnel concerned at all levels with the subject-matter knowledge and operational know-how essential for successful applications and sustained development.

It is recognized that special importance has to be *given* in this context to the support and development of technical extension services which will be able to close the existing gap between institutes and organizations having significant know-how and relevant information and those groups who need this information, including fisheries administrations and the fishermen themselves.

The project will assist in defining specific training needs, plan and design training programmes and training **models**, develop training material both with regard to training in specific subject-matter content and training methods.

Apart from formal training activities, the project will demonstrate an extension approach in its continuing contacts with counterpart institutions and staff in the participating countries, through its publications, and by providing a forum in which matters of mutual interest relating specially to the formulation and implementation of a strategy for small-scale fisheries development **may** be aired and discussed.

Activity

Suggested Locations Time Frame

2.1 Initial short courses for extension workers

In order to get activities off to a quick start, governments will be asked to select at least two counterparts/extension workers for each activity to be implemented in their territory and to ~~make~~ these workers available for two months of intensive orientation and training. The training will include:

- (a) a full awareness of the nature and purpose of the project;
- (b) improving communication skills, including the preparation and use of extension communication aids.

At a suitable training institution to be selected, such as CIFE Hyderabad, CIFNET Madras or Cochin

1 at course: 2 months towards the end of Year **1**

<u>Activity</u>	<u>Suggested Locations</u>	<u>TimeFrame</u>
Two courses at least will be organized prior to the implementation phase of specific activities; further courses as and when required.		2nd course: 2 months in Year 2
Where upgrading of the technical knowledge relevant to particular project activities is required, this would be provided initially by project staff and subsequently by participation in specific, subject-matter oriented workshops/training courses (see 2.2).		Subsequent courses: a s required
<u>2.2 Workshops/training courses</u>		
The purpose of this activity is to improve and build up technical subject matter capacity through a series of short workshops/training courses planned and implemented by the project in close collaboration with available institutions and with a maximum involvement of national instructors and teaching staff. These courses are intended primarily for operatives and national staff associated with the project,s demonstration activities. An important objective will be to develop suitable formats for national workshops. Workshops/training courses will be held as the need emerges from related project activities. A tentative list of such workshops/ training courses includes: Introduction of New and Improved Fishing Gears; Operation of Repair and Maintenance Units; Cooperative Management ; Retail Marketing; Planning end Operation of Appropriate Landing and Shore Facilities; Business and Financial Management Principles for Fishermen; Introducing Technological Change; Stock Assessment for Small-Scale Fisheries; Management of Small-Scale Fisheries Enterprises; Ice Plant and Cold Store Operation and Management ; Fish Handling and Processing; Small Boatyard/Management ; Mariculture. Courses would be of minimum two and maximum four weeks duration, depending on subject matter area; not more than 15 participants in each course.	Project HQ and suitable sites throughout the region	One WSTC towards the end of Year 1. 2-3 WSTC per year during Years 2-5
<u>2.3 Training for fishing technologists</u>		
To meet the urgent need for establishing or upgrading fishing technology capacities of the participating countries essential for efficient transfer of appropriate fishing technology, the project will organize and run a series of progressive training courses. Participants will be drawn from the existing fishery administrations and from development corporations and organizations in order to build up, over the period of the project 's duration, a cadre of fishing technologists throughout the region. The courses will combine practical training with formal classes. Emphasis will be on the needs of small-scale fisheries, on technology suitable for transfer and on ways and means for this transfer to be achieved effectively. The	At a suitable training institution to be selected	Each course of 1 month duration, starting at the end of Year 1 and following at the rate of 1 course each successive year

<u>Activity</u>	<u>Suggested</u>	<u>Locations</u>	<u>Time Frame</u>
planning, establishment and operation of Fishing Technology Units/Services within the framework of national fisheries administrations will also be covered. Some 20 participants are expected to follow the whole series of courses and their progress in suitable posts between courses will be closely monitored by the project.			
2.4 <u>Extension training advisory service</u>			
All of the countries have 8 fisheries extension service. Most of the countries have indicated a need to strengthen that service through reorganization and training to be carried out by the appropriate national institutions. The purpose of this activity will be to assist governments to plan and develop effective marine fisheries extension services and particularly to develop and implement national training programmes for extension workers.	In participating countries and at project HQ		Throughout the life of the project
The activity will include the development and preparation of extension service kits (communication aids).	At 8 selected extension training institute		Years 2 and 3
Through this activity the project will assist existing training institutions to formalize their training programmes for marine fisheries extension workers and will develop appropriate training models for the region.			
A seminar will be organized for national fishery extension officers to discuss and demonstrate different level training models, effective extension service organization, end extension methods.	At a selected extension training institute		End of Year 2 for 2 weeks
<u>Strengthening Fishermen's Cooperative Organization</u>			
Where governments are engaged in fishermen's cooperatives as a part of their fisheries development activity, the project will make provision to assist development authorities to strengthen existing networks of primary and secondary end/ or apex fishermen's cooperatives as a means of meeting fishermen's economic needs of supplies and credit at low cost, profitable market outlets for their produce and a convenient distribution channel for government loans and subsidies for the purchase of fishing craft, <i>engines</i> end gear.	To be selected, but probably closely connected with other project activity sites		Intermittent through the lifetime of the project
In consultation with participating governments, 8 number of cooperatives and fishery corporations throughout the region will be chosen consistent with the criteria for the			

Activity

Suggested Locations Time Frame

selection of activity sites for initial detailed study and assistance. As a result of this activity the project expects to be in a position to give practical advice to interested governments on methods of achieving desirable improvements in their cooperative systems.

The activity may be tied in closely with other relevant project activities and would require considerable extension services input and, in some cases, may become the core activity of more comprehensive community socio-economic development inputs. The activity will be implemented through consultants.

4. Information Services

A significant project responsibility will be the collection of information relevant to small-scale fisheries development and its dissemination throughout the region. This will include assistance in updating of the information base already created, filling information gaps, continuous reporting on project activities, progress and results. Specific activities will include:

Activity

Suggested Locations Time Frame

4.1 Establishment of information base

The project will subcontract the preparation of information base reports in respect of Thailand and Malaysia, following the model adopted by RAS/74/031 for the other countries of the region, in order to complete base-line information for all participating countries.

Thailand, Malaysia **Year 1**
(6 months)

In addition, assistance will be provided to participating countries where required, for updating the information base.

All participating countries **From Year 2**
onwards as required

4.2 Project reports

The project will initiate a comprehensive system of reporting on all its activities and may issue, if required, periodic news letters highlighting project events, future plans and proposals, as well as significant results.

Project HQ Throughout
the lifetime
of the project

Technical reports and working papers may include inter alia such titles as:

Small-Scale Fishing Methods in the Bay
of Bengal Region

Small-Scale Fishing Craft in the Bay of
Bengal Region

Developing Standard Maintenance Units for
Small-Scale Fisheries in the Bay of Bengal
Region

<u>Activity</u>	<u>Suggested Locations</u>	<u>Time Frame</u>
Fish Product and Technology Development for Small-Scale Fisheries in the Bay of Bengal Region		
Training for Extension Work in Marine Small-Scale Fisheries		
Extension Work in Small-Scale Marine Fisheries in the Bay of Bengal Region - A Collection of Case Studies		
Fish Utilization and Marketing in Small-Scale Fisheries in the Bay of Bengal Region		
Small-Scale Fishermen's Cooperative Organizations in the Bay of Bengal Region		
5 <u>Development of Coastal Aquaculture</u>		
<p>Because of favourable coastal conditions and traditional fish culture backgrounds of the populations, Bangladesh, Thailand and Malaysia have attached high priorities and special emphasis to the role of coastal aquaculture in the development of small-scale fisheries. Of immediate concern to these countries is the finding of solutions for removing the identified economic, social, institutional, administrative and technical constraints which hinder its development. Project assistance will be provided in promoting coastal aquaculture in rural fishing communities as an important source of substantially increased fish landings and also as an integral component of rural development activities.</p>		
In conjunction with project staff, consultants will identify and formulate specific project activities to be implemented, and to assist the countries in preparing detailed development plans for small-scale fishing communities, and in initiating the execution of these plans.	Bangladesh, Thailand and Malaysia	Start Year 1 (6 months) and intermittent throughout lifetime of the project

B. SUPPORTING MATERIAL TO THE WORK PLAN

The project will be implemented under the general guidance of the Indian Ocean Fishery Survey and Development Programme (IOP) with the Food and Agriculture Organization (FAO) as the Executing Agency.

The project shall have an Advisory Committee consisting of a representative from each participating country and each donor agency, which shall meet at least annually or as frequently as necessary, to review the activities of the project and to advise the Executing Agency and the project management on the direction in which the project should continue.

1. The project will have the following personnel, services and facilities.

<u>(8) International Staff</u>	<u>Location</u>	<u>Duration</u>
<u>(1) Project Manager</u>		
Accountable to the Programme Leader, Indian Ocean Programme, will be responsible for project implementation.	HQ	60 m/m
<u>(2) Small-Scale Fisheries Development Adviser</u>		
will assist the Project Manager in planning initial project activities and will assist governments in formulating specific small-scale fisheries development plans and projects.	HQ	60 m/m
<u>(3) Fishing Craft Specialist</u>		
Will assist in improving the efficiency of existing traditional type craft and in developing and introducing improvements to and replacements of traditional craft, including mechanized boats.	HQ	54 m/m
In conjunction with the Fishing Technologist, will be responsible for the craft component in the development of more efficient prototype fishing units.		
<u>(4) Fishing Technologist</u>		
Will advise government fisheries technical staff, extension workers and fishermen on the use of appropriate fishing gear and methods.	HQ	54 m/m
In conjunction with the Fishing Craft Specialist, will be responsible for developing and demonstrating practical and efficient fishing units of men, craft, gear and methods.		
Will be responsible for organizing and coordinating the course content of training related to fishing technology noted in the Activities Section 2, Extension and Training.		
<u>(5) Mechanical/Marine Engineer</u>		
Will work with the <i>fishing</i> Technologist and the Fishing Craft Specialist on all matters pertaining to the mechanization of fishing craft.	HQ	36 m/m
Will direct the development of prototype equipment maintenance units noted in 1.4 of the Activities Section and will be responsible for the operation and maintenance of project mechanical equipment.		

	Location	Duration
Will advise on the training needs of technical staff in this area .		
Will organize and coordinate the course content of repair and maintenance training noted in the Activities Section 2, Training and Extension.		
(6) <u>Fish Utilization and Distribution Specialist</u>		
Will direct the design and development of the village fish receiving and distribution units and the floating fish receiving units. Provides advice on all aspects of fish handling, distribution and processing. Will organize facilities to assess post-harvest losses and take steps to prevent them.	HQ	48 m/m
Will assist in the organization of marketing systems and will give direction to the project's input into such activities.		
(7) <u>Fish Technologist</u>		
Will train counterpart staff in fish technology, particularly in the development of new, low cost products with direct programmes of technological research designed to utilize by-catch from shrimp trawlers and under-used resources.	Sri Lanka	24 m/m
(8) <u>Training/Extension Specialist</u>		
Will advise governments on the organization and implementation of marine fisheries extension services, including training for extension workers, supervisors and programme directors.	HQ	48 m/m
Will work with training institutions in the developing of training course content and methods.		
Will coordinate the training activities noted under the Activities Section 2, Training and Extension.		
(9) <u>Consultants</u>		
Will be provided as and when required in subject-matter fields such as: Stock Assessment, Statistics, Economics, Marketing, Home Economics, Extension, Cooperative Organization and Management, Mariculture, Socio-Economics, Naval Architecture, Mechanical Engineering, Civil Engineering, Fish Handling, Processing, etc. Consultants will be recruited internationally and whenever possible from among specialists available in the region (e.g. staff of national research institutes, universities, government services).	HQ and field sites and with national institutions, including fisheries administrations and services	188 m/m

(b) Local Supporting Staff

Title	Duration(m/m)
Administrative Officer	60
Information Officer	54
Senior Secretary	60
Secretaries (3)	156
Accounts Clerk	60
Receptionist	48
Drivers	372
Messengers	110
Janitor	60
Cleaners	120
	<hr/>
	1 100

- (c) In addition, provision is made for the use of technical support personnel by project implemented activities and engaged by the project under contractual arrangements.
- (d) Supplies and equipment will be provided to ensure efficient and timely execution of activities and will include inter alia: general equipment (fishing gear, outboard and inboard motors for demonstration, office supplies, office equipment; vehicles; demonstration/prototype craft, boats; tools and repair and maintenance equipment, spare parts; fish handling and preservation equipment, refrigerated and insulated freight containers; a floating fish receiving station, a fish carrier vessel; audio-visual equipment for training activities).
- (e) Fellowships will be provided within the region and principally in connection with the project's demonstration activities and for attendance at project-sponsored training courses and workshops. A restricted number of travel fellowships for senior counterpart personnel may be made available for study tours outside the region.

2. The project offers scope for the use of volunteers and associate experts. The former, selected on the basis of appropriate background, training and experience, could provide useful service at project demonstration sites. There will be a limited role in the project for associate experts with training in the fields of Fishing Technology, Boatbuilding, General Construction Engineering, Fish handling and Processing, and Economics.

3. Agencies and/or Departments of Governments responsible for fisheries in the participating countries will be the Government Cooperating Agencies and will be expected to provide the necessary counterpart contribution. The host government will provide office accommodation (including essential furniture) for the project headquarters, local services and facilities as required. Participating countries will provide internal transportation for the project as required for the conduct of field activities, the use of office accommodation and facilities as required on an intermittent basis. The major national counterpart contribution will be full participation in all project activities and, in particular, the provision of national personnel.

4. Evaluation

(a) Mid-term Review

The Executing Agency, SIDA, and representative of the participating governments shall undertake a formal mid-term project review in order to evaluate the performance of the project and the Government Cooperating Agencies, against the objectives indicated in Section III, and to suggest any modification of emphasis and procedures, etc., that may be necessary in order to ensure the maximum effectiveness of the project.

(b) Informal Monitoring of Project Activities

A system will be worked out to engage participating countries along with project staff in a continuous monitoring of project activities.

5. Reporting

- (1) Towards the end of their assignments, international staff and consultants, where practicable in consultation with counterpart Staff, will be required to produce technical reports in their areas of expertise.
- (2) An interim report of project achievements will be produced by the end of the second year of project operations.
- (3) The Advisory Committee will meet each year and will report its findings and recommendations.
- (4) A terminal report will be produced at the end of the project.

V. ESTIMATED COSTS

-4 . DONOR CONTRIBUTION IN US \$

Code	Object of Expenditure	Total		Year 1		Year 2		Year 3		Year 4		Year 5	
		mm	\$	mm	\$	mm	\$	mm	\$	mm	\$	mm	\$
10.	Personal Services												
.1	Project Manager (D 1)	60	297 000	12	59 400	12	59 400	12	59 400	12	59 400	12	59 400
.2	SSF Development Adviser (D 1 - P 5)	60	270 000	12	54 000	12	54 000	12	54 000	12	54 000	12	54 000
.3	Fishing Craft Specialist (P 4)	54	213 300	9	35 550	12	47 400	12	47 400	12	47 400	9	35 550
.4	Fishing Technologist (P 4)	54	213 300	9	35 550	12	47 400	12	47 400	12	47 400	9	35 550
.5	Meohanical/Marine Engineer (p 4)	36	142 200			3	11 850	12	47 400	12	47 400	9	35 550
.6	Fish Utilization and Distri- bution Specialist (P 4)	48	189 600	6	23 700	12	47 400	12	47 400	12	47 400	6	23 700
.7	Fish Teohnologist (P 4)	24	94 800					12	47 400	12	47 400		
.8	Extension/Training Specialist (P 5/p 4)	48	189 600	6	23 700	12	47 400	12	47 400	12	47 400	6	23 700
.9	Associate Experte (D 1 - P 4)	216	p.m.		p.m.	60	p.m.	60	p.m.	60	p.m.	36	p.m.
.10	Consultants	212	684 000	23	75 000	42	138 000	66	210 000	66	210 000	15	51 000
.11	Local Support Personnel		140 000		25 000		30 000		35 000		30 000		20 000
	Component total	2	433 800		331 900		482 850		642 800		637 800		338 450
20.	Offioial Duty Travel												
.1	Staff/Consultants		500 000		60 000		110 000		140 000		140 000		50 000
.2	Non-staff		100 000		15 000		25 000		25 000		20 000		15 000
	Component total		600 000		75 000		135 000		165 000		160 000		65 000
30.	Contraotual Services												
.1	Implementation of training courses		50 000		7 500		15 000		7 500		15 000		5 000
.2	Conatruotion/purchase of boats		80 000		3 000		25 000		45 000		7 000		
.3	Design contracts, site prepare tion, equipment development contracts		50 000		15 000		20 000		10 000		5 000		
.4	Local construction contracts (landing sites, shore facilities)		180 000		5 000		25 000		125 000		30 000		
.5	Operating personnel and local labour		150 000		5 300		25 000		50 000		50 000		20 000

V. ESTIMATED COSTS (sontinued)

Code	Object of Expenditure	Total	Year 1	Year 2	Year 3	Year 4	Year 5
30.							
.6	Reports	35 000		2 500	10 000	15 000	7 500
.7	Sub-contracts	170 000	20 000	30 000	40 000	40 000	40 000
	Component Total	715 000	50 500	142 500	287 500	162 000	72 500
40.	General Operating Expenses (6%)	271 518	32 994	58 581	85 518	63 858	30 567
50	Supplies and Material						
.1	Office supplies	10 000	2 000	2 500	2 500	2 000	1 000
.2	Engines, spare parts, tools, hardware	80 000	7 500	30 000	30 000	7 500	5 000
.3	Fishing gear	70 000	20 000	30 000	15 000	5 000	
.4	Operation of fish receiving unit	12 500		5 000	5 000	2 500	
.5	Waintanano kite, equipment	15 000		5 000	10 000		
.6	Training materials, equipment	75 000	15 000	20 000	20 000	20 000	
	Compenent total	262 500	44 500	92 500	82 500	37 000	6 000
60.	Furniture and Equipment						
.1	Offioe equipment	15 000	7 500	2 500	2500	2 500	
.2	Vehicles - 3 saloon cars	15 000	10 000	5 000			
	4 pickups	30 000	7 500	7 500	7 500	7 500	
	2 trucks with						
.3	insulate containers	24 000		24 000			
.4	Refrigerated containers (2)	22 000		22 000			
.5	Floating fish receiving station	120 000			120 000		
.6	Fish carrier	50 000			50 000		
	Prototype mechanical vessels (4)	80 000			20 000	40 000	20 000
	Component total	356 000	25 000	81 000	220 000	30 000	

V. ESTIMATED COSTS (continued)

Code	Object of Expenditure	Total	Year 1	Year 2	Year 3	Year 4	Year 5
80.	Fellowships, Grants, Contributions						
.1	Training of extension workers	40 000	15 000	15 000		10 000	
.2	Workshops/Training courses	108 000	8 000	25 000	25 000	25 000	25 000
.3	Support to national training courses	10 000		2 500	2 500	2 500	2 500
	Component total	158 000	23 000	42 500	27 500	37 500	27 500
90	Prime Servicing Costs	671 554	81 605	144 890	211 515	157 942	75 602
	SUB-TOTAL	5 468 372	664 499	1 179 821	1 722 333	1 286 100	615 619
90.1	Special Factor (10% p.a.)	1 094 527		117 982	344 467	385 830	246 248
	GRAND TOTAL	6 562 899	664 499	1 297 803	2 066 800	1 671 930	861 867
	rounded to	6 562 900					

