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**THE FISHERIES PROGRAMMES OF THE SOUTH PACIFIC
COMMISSION**

(Paper Prepared by the Secretariat)

The South Pacific Commission (SPC) has played a major role in the development of the region's fisheries at subsistence, commercial and industrial levels. Today, marine resources retain their traditional importance to the diet and cultures of Pacific Island peoples. The value of marine products harvested for commercial uses has also increased from insignificance to rival the total value of all other renewable resources combined. Nevertheless many countries are only now beginning to implement national fisheries development programmes, and assistance to the development of national and regional fisheries remains a priority activity of the SPC.

In keeping with the importance of marine resources, assistance to member countries in fisheries development is the Commission's largest single activity.

The Commission's activities in this field are broadly divisible into two areas, which nevertheless show considerable overlap and integration, and which relate respectively to the development of small scale inshore fisheries with the focus on the provision of development and management advice, technical assistance and training at national and regional levels, and to the conduct of a programme of scientific research on behalf of member countries to generate the resource information necessary for the rational exploitation and sound management of the rapidly expanding international tuna fisheries in the SPC area.

With increasing commercial use of the region's fisheries resources, Pacific Island countries have a growing need for assistance in surveying, assessing, understanding and developing their potentials, and for training of fishermen and fisheries officers. Countries' needs in fisheries are increasing and changing. The SPC's fisheries programmes, because of their inherent flexibility and direct control by governments, have and will continue to evolve accordingly. The SPC Fisheries Programme provides a balance of inshore and oceanic fisheries projects to cover the broad spectrum of fisheries assessment, development and training needs of member countries.

The SPC Fisheries Programmes comprise five (5) main projects as listed below:

TUNA AND BILLFISH ASSESSMENT PROGRAMME (TBAP)

INSHORE FISHERIES RESEARCH PROJECT (IFRP)

DEEP SEA FISHERIES DEVELOPMENT PROJECT (DSFDP)

FISH HANDLING AND PROCESSING PROJECT (FHPP)

REGIONAL FISHERIES TRAINING PROGRAMME (RFTP)

The structure of the SPC Fisheries Programmes is detailed in Appendix I, and a summary outline of the goals, objectives, and priority activities of each of the major projects is given below:

TUNA AND BILLFISH ASSESSMENT PROGRAMME (TBAP)

The TBAP is about to embark on a major, new, large-scale tagging programme that will add substantially to existing knowledge of the yellowfin and skipjack stocks in the region. Planning for the implementation of the Regional Tuna Tagging Project, proposed for EEC funding under Lome III is proceeding on the basis that funds should be available in early 1989. This project will become the major focus for TBAP research activities over the triennium 1989-91. To prepare for this major expansion in research activity, and in recognition of the increasing importance of the statistical services required both to member countries and in support of TBAP research initiatives, the TBAP has been split into two integral but functionally separate projects, the Fisheries Statistics Project and the Tuna and Billfish Research Project. This provides a clearer definition of staff responsibilities and activities within the scope of the TBAP, and further recognises the role of the Fisheries Statistics Project in supporting other SPC fisheries projects.

A. TUNA AND BILLFISH RESEARCH PROJECT

1. Goal

Help countries develop, manage and rationally exploit the renewable oceanic resources of the SPC region.

2. Objectives

To conduct scientific research on stocks of tunas and billfish supporting fisheries in the SPC region and on the environmental factors which affect them.

3. Activities

- i. Assessment of interaction between fisheries for oceanic species.** This activity will be made up of the following components:
 - a.** A large-scale tagging programme is required to address questions relating to the interaction of skipjack and yellowfin tuna fisheries in the western Pacific. Specifically, recapture data from this programme will be used to develop a generalised quantitative description of the movements of yellowfin and skipjack from which estimates of interactions between existing and potential fisheries may be derived. Funding for this programme is expected to be forthcoming in late-1988.
 - b.** Collaborative in-country tagging experiments on yellowfin and/or skipjack will be integrated into the regional project and will be conducted concurrently. These will

be designed to answer questions regarding interaction between specific fisheries of concern. They will also provide training opportunities for local staff and possibly enable a more continuous time-series of releases to be established. A short trial tagging experiment in Kiribati to assess the feasibility of releasing tags from small artisanal skiffs was highly successful.

- c. Analyses of interaction between skipjack fisheries using existing tagging data is limited by the present non-availability of catch and effort data from the Japanese pole and line fishery that operated during the period of intensive tagging and recapture. Renewed efforts will be made to collaborate with Japanese scientists on a joint analysis of skipjack tagging and fishery data. The vehicle for this collaboration will be the Standing Committee on Tuna and Billfish.
- d. The remaining avenue for investigation of fishery interaction is the analysis of length-frequency data from the various fisheries. This will involve identifying cohorts in the length-frequency data and comparing their size and occurrence in time and space between fisheries. A preliminary analysis of this type using extensive length frequency samples collected in the Solomon Islands National Fishery has been completed. Further data requirements and methodologies for more sophisticated length-frequency analyses have been identified.

ii. Assessing and monitoring the levels of exploitation of stocks of commercially important tuna and billfish species.

This activity will involve regular reviews of fisheries data for the purpose of monitoring catch and effort trends for skipjack and yellowfin at regional, sub-regional and country-specific levels. At the country level, comparison of yields-per-unit-area with established tuna fisheries elsewhere may provide a useful albeit crude indication of the level of exploitation. Country specific results will be reported in confidential documents while regional results will be published quarterly in a Regional Tuna Bulletin. The first of both these new publications have now been prepared.

As time permits, the data holdings on billfish and albacore fisheries will also be reviewed. A preliminary assessment of the adequacy of current billfish data for stock assessment purposes was undertaken and the next emphasis will be on the joint analysis of complimentary data, notably length frequency, with other data holders.

A second South Pacific Albacore Workshop is planned for mid-1989. It will address the questions of data holdings, data exchange protocols and review the results of current research.

iii. Studies on the biology and ecology of commercially important tuna, billfish and bait species.

- a. For two years, Tuna Programme staff have been collaborating with biologists and physical oceanographers from ORSTOM on the difficult problem of using data on

the "climate" of the ocean to predict catches of tuna. Major trends affecting fisheries have been identified and the correlation between specific oceanographic features and catch patterns continue as an ongoing investigation. ORSTOM has provided data that they co-ordinate from "ships of opportunity" which record physical oceanographic information over broad geographical areas and time periods. As the fisheries assessment data base improves with the further development of the fisheries statistics project, the advancement of this type of work will be facilitated.

- b. Since 1986, two requests have been received to study catches of baitfish supporting local commercial pole-and-line vessels and advise on developing effective methods of monitoring catches and maintaining statistics of baitfishing activities. The importance of managing a data base system on the commercial pole-and-line fisheries and using this data to perform analyses on the baitfish stocks has been stressed by the national fisheries staff. The multispecies nature of most bait-fisheries, and the fluctuating abundance of small pelagic species in general, requires a systematic, well-planned, approach to data summarization. The work of the Tuna Programme has and will continue to focus on addressing requests from member countries to assist in these types of studies.

iv. Provision of fisheries observers and advice on development of observer programmes.

- a. From its outset the TBAP has been requested by member countries to provide personnel to board foreign flag vessels. The objectives were twofold: to ascertain the validity of data recording and to provide assistance with the development of national observer programmes. Subsequently, a one week training course was run for island nationals and an observer manual was published in an effort to standardize the information gathered and assist the observers. Member countries have also requested the participation of TBAP in the training of the observers to board U.S. purse seiners in accordance with the multilateral treaty. Programme staff have contributed to the production of a manual for these observers, principally the on-board sampling section and design of a length frequency log book.
- b. The data generated by observers working on U.S. purse seiners for the requirements of the multilateral treaty provide valuable scientific information. Pacific Island parties to the treaty have thus requested the assistance of the TBAP in data handling and processing. These data will be used to ascertain the validity of the logsheets and provide a more accurate description of fishing effort. Ancillary biological and environmental data will also be used in the ecological studies on tuna.
- c. The Programme has been involved in the collaborative research effort on South Pacific albacore, representing the interests of Island countries. A particularly relevant topic is the study of oceanic features as they relate to the fisheries. The TBAP has coordinated the participation of island nationals on research cruises looking at surface features and will continue by placing observers on longline vessels targeting on albacore.

v. Monitoring the use of fish aggregation devices.

- a. Fisheries divisions have expressed considerable interest in research programmes to study the dynamics of tuna around FADs and two countries have requested joint research projects with the TBAP to look at short range tuna movement in relation to FADs. Where feasible, this question will be investigated during the in-country components of the Regional Tuna Tagging Project.
- b. In an effort to answer the many requests from Island countries for information, the TBAP will actively participate in workshops, coordinate various in-country research projects, disseminate the information and assist in field activities.

B. FISHERIES STATISTICS PROJECT

1. Goal

Provide statistical services to national fisheries departments and SPC fisheries programmes.

2. Objectives

Maintain and report on the regional oceanic fisheries data base. This is the priority activity of this project.

Assist with the collection and analysis of fisheries data at regional and national levels.

3. Activities

i. Maintain regional oceanic fisheries data base.

The data base consists of information submitted to SPC by member countries on local and foreign vessels fishing for tuna and billfish and associated species. Most data are submitted in the form of daily logsheets, which contain information on the position of the vessel, the catch by species, and additional information useful for research. Logsheets data and data from other sources are entered and stored on computer. The data entry procedures involve a rigorous system of checks and controls to ensure the reliability of the data base. The data base is updated on an ongoing basis, immediately upon receipt of data submitted by member countries.

ii. Provide summary reports from the fisheries data base.

Reports which summarize data submitted by the countries are provided on a regular basis, to assist countries with monitoring of their fisheries and to provide statistical support for fisheries management. These reports include general statistics on total catch by species, fishing effort and catch rates, as well as detailed information, such as catch per vessel. Reports are provided in several tabular and graphical formats. In addition to the reports provided on a routine basis, summary reports containing special statistics are also provided on a request basis.

iii. Provide statistical support for activities of other SPC fisheries projects.

Statistical support is provided to other SPC fisheries projects, in particular the TBAP, the Inshore Fisheries Research Project and the Regional Fisheries Training Programme. The research activities of the TBAP are founded on the oceanic fisheries data base maintained by the Fisheries Statistics Project, therefore an important activity is to respond to requests for data from within the TBAP, and to provide the data in a format suitable for research. A high priority activity of the Inshore Fisheries Research Project is to assist with the design and implementation of national systems for fisheries data collection and processing, and it is anticipated that in its support of this activity, the Fisheries Statistics Project will be a valuable source of expertise. The Fisheries Statistics Project will also provide training in the use of computers and in fisheries statistics through courses organized by the Regional Fisheries Training Programme.

iv. Assist with national fisheries statistical systems.

In order to assist member countries with processing of data from oceanic fisheries, and, in conjunction with the Inshore Fisheries Research Project, to assist in establishing systems for collection and processing of coastal fisheries data, the Project advises on the design and implementation of national fisheries statistical systems. Assistance is provided through in-country consultancies and through training of national personnel at SPC headquarters.

v. Cooperate with other national and international organisations.

Various organizations in the South Pacific region are concerned with fisheries and fisheries statistics, notably the Forum Fisheries Agency. Organizations responsible for monitoring of tuna fisheries in other ocean areas include the Inter-American Tropical Tuna Commission, the FAO/UNDP Indo-Pacific Tuna Programme and the International Commission For the Conservation of Atlantic Tunas. National organizations in countries of the distant-water fleets are also concerned with monitoring of fisheries in the South Pacific. An ongoing activity of the Fisheries Statistics Project will be to liaise with the various organizations, and cooperate to improve the coverage and reliability of data essential for monitoring of fisheries in the region.

INSHORE FISHERIES RESEARCH PROJECT (IFRP)
(Incorporating Fisheries Information Sub-project)

The IFRP was established in 1987 in response to increasing needs for inshore and small-scale fishery research assistance and management advice on the part of Pacific Island countries. The Fisheries Information Sub-project was approved late in 1987 and will commence operation in the second half of 1988.

1. Goal

In the face of increasing levels of exploitation in many Pacific Island fisheries, the IFRP will assist SPC member countries to acquire the information necessary for the sound and rational management of national fishery resources.

2. Objectives

By providing information, advice, technical assistance and training, to enhance the national capabilities of Pacific Island countries to carry out baseline resource surveys and assessments and to establish and maintain national small-scale fishery statistics collection and analysis programmes.

3. Activities

- i. **Coordination and liaison with national officials, SPC staff and outside research organisations involved in research relevant to Pacific Island inshore fishery resources.**
 - a. A two-week workshop on Pacific Island Inshore Fishery Resources was held in March 1988. This major meeting was the first regional activity of the newly-established IFRP and brought together fisheries scientists representing Pacific Island countries and all major research institutions carrying out work on commercially important marine resources in the Pacific Islands region. More than 100 participants attended, and presented over 150 papers on various aspects of inshore fishery research and management in the tropical Pacific during a busy and extremely productive meeting. The workshop brought participants up to date with relevant research being carried out elsewhere and enabled the establishment of contacts among researchers with like interests - both important steps toward overcoming the often-cited problem of poor communication among research workers in the region. The workshop also enabled identification of priority areas requiring research attention at regional and national levels by the IFRP.
 - b. In 1988, several special interest working groups will be established to encourage liaison and the exchange of information among Pacific Island scientists involved in

research on topics of regional interest. This is dealt with in more detail in para iv.(c) below.

ii. Provision of assistance to SPC member countries in the design and implementation of appropriate programmes of resource survey, fisheries data collection and data analysis.

a. Several countries have requested assistance in this field in order to gather resource-related and economic information on which to base fisheries management plans and development projections. The requests that will be met in 1988 are:

- survey of parrotfish and other marine resources in Palmerston Island, Cook Islands;
- survey of beche-de-mer fishery in Fiji;
- assistance to Federated States of Micronesia in developing a sampling protocol for ciguatoxic fish.

iii. Provision of attachment training, and conduct of or assistance with training courses and workshops in aspects of marine resource survey design, data collection and analysis.

a. Emphasis will be given to attachment training during all field work undertaken by the IFRP. Provision for the attachment of up to four fishery scientists from other countries of the region has been made as part of the Palmerston Island survey mentioned in ii.(a) above. In addition, training programmes for local staff will be written into individual country assignments wherever possible.

b. Two substantive training programmes are under development and will probably be conducted in late 1988/early 1989. These are

- training workshop on visual assessment of reef and lagoon fish (in conjunction with James Cook University and the University of the South Pacific);
- training in analysis and interpretation of SPOT satellite data for marine resource assessment (in conjunction with ORSTOM).

c. Some countries have requested training attachments based at SPC headquarters to improve the skills of national scientists. These requests will be met as required. When possible, attachment trainees will be encouraged to work on research problems or projects of direct relevance to their home countries.

iv. Evaluation, summarisation and communication of relevant fisheries informa-

tion from within and outside the region, by means of workshops, specialist working groups, publications and other media.

- a. The principal role of the the Fisheries Information Officer will be in collecting and disseminating resource-related information both in a general sense, and to individual Pacific Island scientists with known special interests. In addition, the Information Officer will coordinate a research-oriented question-and-answer and advisory service in collaboration with other fisheries staff.
- b. Copies of the large volume of technical documentation presented at the Workshop on Pacific Inshore Fishery Resources have been circulated widely in the region. In the second half of 1988 it is planned to produce a series of resource reviews which will contain selected IFRW working papers, transcriptions of the relevant discussion sessions and oral presentations, bibliographic information, and other relevant material.
- c. Preparation for the establishment of a number of special interest groups has begun. A questionnaire which aims to identify the main areas of interest has been circulated widely among fisheries workers in the region. The responses will be collated in August and will determine the priority given to establishing special interest groups in different topic areas.

DEEP SEA FISHERIES DEVELOPMENT PROJECT (DSFDP) (Incorporating Gear Development Sub-project)

The DSFDP was established in 1979 and is one of the SPC's longest running and most successful activities. Its activities are very wide-ranging but can be summarised as follows:

1. Goal

By providing expert advice and assistance in the field, the DSFD Project will assist in the development of small-scale capture fisheries throughout the SPC region, in order to generate income-earning opportunities at all levels, and enable Pacific Island countries to meet their commitments in effectively utilising national marine resources. It will focus particularly on rural fisheries and on resources that are currently under-exploited.

2. Objectives

Promote the development of artisanal fisheries based on fisheries resources that are at present under-utilised, in particular the deep-bottom resources of the outer reef slope, coastal pelagic fish, and offshore aggregations of surface and midwater pelagic species.

Stimulate interest in the exploitation of these resources through the introduction and demonstration of simple and inexpensive fishing equipment and techniques.

Develop, evaluate and demonstrate new or alternative fishing techniques which enable artisanal fishermen to improve catches or diversify their activities.

3. Activities

- i. Carry out programmes of demonstration and training in appropriate fishing and related skills to local fishermen and government personnel.**
 - a. The DSFD Project's team of 3-4 experienced Master Fishermen carry out field assignments in response to formal requests from Pacific Island governments for assistance with practical capture fisheries development activities. Assignments normally last between 3 and 12 months and include elements of all three activities mentioned above.
 - b. In many country assignments, the main field activity is to organise and run training programmes for local fishermen, government fisheries officers, fish processors, or others. Depending on the priorities of the country concerned, the programme may involve repeated demonstrations at a very basic level for many individuals (up to

100 in some visits) or more formal and detailed training for a smaller number of individuals. Training programmes are normally carried out at sea under actual fishing conditions, with an onshore element in some cases.

- c. In addition, all DSFD field assignments attach great importance to the training of local counterparts, usually fisheries officers who should be able to continue project training activities after the completion of the assignment.
- d. Starting in 1988, the Project has made a formal commitment to undertake four training attachments per year. Each attachment, lasting on average three months, will involve a Pacific Island fisheries officer or fisherman travelling to another country to assist the SPC Master Fisherman in carrying out a country assignment.

ii. Carry out basic resource assessments or fishing ground surveys.

- a. Some DSFD country assignments have resource assessment or survey work as a priority activity. In such cases, greater emphasis is placed on the collection of detailed biological and fishing data. This is subsequently analysed and interpreted on behalf of the country concerned.
- b. The recent establishment of the Inshore Fisheries Research Project (IFRP) has expanded the Commission's ability to undertake work of this nature on behalf of member countries. Future survey and assessment work is likely to draw heavily on the resources of both projects.

iii. Carry out trials of new or exotic fishing methods and adapt them to Pacific Island conditions.

- a. The improvement and adaptation of appropriate fishing methods continues to be a priority of SPC member countries and this is reflected in the fact that many country assignments involve a gear development element. In past years, this work has led to the establishment of deep-bottom fishing and vertical longlining techniques that are now in use throughout the Pacific Islands. Future country assignments will doubtless continue to include gear development elements.
- b. To enable selected techniques to be experimented with in more detail, the Fishing Gear Development sub-project was established within the framework of the DSFD Project. This regional activity is currently based in Tonga for a two-year period which expires late in 1988. It will subsequently be relocated, probably to Kiribati. At present, the sub-project is aiming to develop small scale methods of bait capture and of deep-trolling for tunas associated with fish aggregation devices.

iv. Provide information and advice to member countries on technique aspects of capture fisheries.

- a. Reports of all country assignments are produced, giving details of project activities and results and making specific and broad recommendations as to the fisheries development directions of the country concerned. With country authorisation, the reports are published and circulated.
 - b. During the course of country assignments, SPC Master Fishermen provide advice on request to individuals and establishments involved in local fishing enterprises.
 - c. A question and answer service at SPC headquarters deals with enquiries on technical aspects of fishing and related topics. When necessary, enquiries are passed on to field fishing staff for comment.
 - d. Two handbooks on fishing techniques (one completed, one still in production) have been compiled. These are based on the combined total of 30 years experience of Pacific Island fishing of the SPC Master Fishermen, and are aimed at a non-technical audience. Their principal use will be in field training activities, as well as stand-alone manuals.
 - e. In 1988, several technical reports on different fishing gears and techniques will be produced for general circulation.
- v. **Provide appropriate technical input and field support to other SPC CFP projects, particularly the Fisheries Training Project and the Inshore Fisheries Research Project.**
- a. The SPC Master Fishermen regularly act as tutors/field supervisors for SPC practical training courses. Recent inputs include six weeks per year from 1984-87 for the SPC/Nelson Polytechnic Pacific Island Fisheries Officer Training Course, and six weeks in 1980 for the SPC Fish Catching Methods and Extension Skills Course.
 - b. Future resource survey work by the SPC Inshore Fisheries Research Project will rely heavily on the SPC Master Fishermen for field support.

FISH HANDLING AND PROCESSING PROJECT (FHPP)

The Fish Handling and Processing Project (FHPP) was initiated in 1986 as part of SPC's Coastal Fisheries Programme.

1. Goal

To improve marine resource utilisation in the post harvest fisheries sector.

2. Objectives

Provide expert advice in the field of post-harvest fisheries to help countries utilise the catch to its maximum potential by upgrading fish handling practices at all levels in national fishing industries.

Develop and promote the use of suitable processing and packaging techniques.

Assist with the identification and development of marketing opportunities, both local and export, to increase availability of food fish for local consumption and generate foreign currency through the export of quality seafood produce.

3. Activities

i. Training.

Provide training opportunities to the post-harvest fisheries sector through formal regional and in-country training courses or by informal technical and managerial training on specific procedures for small scale to large scale commercial operations, e.g. managing freezers and cold store operations, on board fish handling and storage, QC procedures, filleting methods, fish curing procedures (drying, salting, smoking), etc. Produce training materials in the form of handbooks, leaflets, posters and videos.

ii. Advisory services.

Provide advice to member countries on technical aspects of post-harvest fisheries including marketing opportunities for different marine products. Specific activities would include appropriate processing procedures, product packaging, equipment advice and acquisition either by single items or as a tendering procedure for complete handling/processing/ storage facilities, etc.

iii. Market and product trials.

Identify new markets for fresh and frozen products, develop value-added products and seek market opportunities for improved traditional produce. Specific activities would involve assisting countries export fresh chilled fish to Japan, Hawaii, mainland USA, Australia and New Zealand, and, develop and market value-added non-canned tuna products.

iv. Pilot processing projects and trouble shooting.

Carry out pilot production trials of novel seafood products for quality and consistency in manufacture. Problems in present production operations can also be investigated.

v. Co-operative activities with other organisations.

By continuous contact with other organisations information interchange ensures that work and projects of mutual interest can be kept up to date with the most recent ideas and techniques. Organisations with specific areas of expertise can also be approached for assistance with problem solving or project execution, when considered necessary.

vi. Information.

Information service is available for specific information on a wide spectrum of topics. Scientific and trade journals are continuously monitored for up-to-date information on improved processing and packaging techniques, new equipment and materials, marketing opportunities etc..

REGIONAL FISHERIES TRAINING PROGRAMME (RFTP)

The Commission's first major training exercise was a three month course for fisheries officers, held in Noumea in 1956. Since that time, the Commission has been more or less continuously involved in providing training to the fisheries sector, particularly at a vocational level.

In recognition of the need for a dedicated project to address the urgent need for broad ranging training assistance to member countries; the Regional Fisheries Training Project was established in 1985 as an umbrella project to co-ordinate all SPC fisheries training activities and to act as a vehicle for the organisation of specialised training courses in given subject fields in response to country demand. The project has been particularly successful in this latter role, where it has bridged an important gap by providing training opportunities for Pacific Islanders in fields outside those normally covered by established academic and training institutions.

Core funding covering salaries and operating expenses for the two Fisheries Training Project staff positions (Fisheries Training Officer and Project Assistant) is currently being provided by the Australian Government. The strong interest shown by member countries in this programme has been particularly encouraging and has been paralleled by strong funding support for specific training activities from a wide range of donor agencies, and the provision of technical assistance from a number of co-operating organisations and institutions usually in the form of specialist tutors and equipment support. Substantial additional extra-budgetary funding will again be necessary to finance the suite of courses proposed for 1988/89.

1. Goal

By co-ordinating and where appropriate generating training opportunities, the Fisheries Training Project will act as a vehicle for enhancing the transfer of fisheries-related skills and knowledge to Pacific Island nationals. In particular, it will focus on specific vocational areas not normally addressed by established training programmes, and on non-formal or 'hands-on' training to individuals who may not have extensive educational backgrounds.

2. Objectives

Assist Pacific Island countries plan national manpower training programmes more effectively and make best use of available training opportunities.

Develop training programmes in areas where existing opportunities do not fully satisfy Pacific island country requirements.

3. Activities

i. **On an ongoing basis review and evaluate existing fisheries training opportunities available to Pacific Island countries and disseminate information on these opportunities.**

A draft directory of fisheries training opportunities available to Pacific island countries has been circulated for critical review and comment. This provides full details of all relevant fisheries-related training courses offered by educational institutions world-wide, with the emphasis on those most available to countries of the region. This directory will be revised and updated on a regular basis. An evaluation of several courses which are heavily patronised by Pacific island countries is also under way, by means of a questionnaire survey of former course participants and of Pacific Island fisheries officials.

ii. **Assess current and projected fisheries training requirements of individual SPC member countries and territories.**

The Fisheries Training Officer has now visited most member countries for consultations on national training needs and priorities, and emphasis will continue to be given to this activity. The value of this process of regular in-country consultation is fully recognised, not only in shaping and defining the specific activities to be undertaken by the project at national and regional level, but also for its effect in raising the general awareness of the importance of training within individual countries, and of the need for careful planning, if available training opportunities are to be utilised to optimum advantage to ensure that existing and future national requirements for trained manpower in the fisheries sector, are met in full.

iii. **Conduct or organise national and international technical training courses and workshops in subject fields identified in consultation with governments of SPC member countries as priority areas requiring attention.** Priority areas as identified by the 1985 RTMF and refined by the 1987 meeting are listed below:

- Marine engineering
- Outboard engineering
- Refrigeration engineering
- Business management
- Communication skills
- Computer skills
- Fish marketing
- Aquaculture training
- Navigation and chartwork
- Fish handling and processing
- Fishing gear design and development
- Fish quality control

Training activities have increased considerably with the formal implementation of this dedicated project. Direct country consultations and a greater appreciation of the training needs in individual countries has resulted in a number of important new initiatives, which together with ongoing commitments, saw the completion of regional training courses in the last two years. A similar level of activity is anticipated in 1988/89. Recent examples of regional training activities executed under this project include:

- 23-week SPC/Nelson Polytechnic Pacific Island Fisheries Officer Training Course including a 5-week practical fishing module executed at Fiji June/July 1984, Tonga June/July 1986, and June/July 1987.
- 14-week Fish Handling and Processing Course, Vanuatu June/August 1986.
- 2x3-day Echo Sounder Awareness Courses, Noumea 1986.
- 22-week Fisheries Refrigeration Technician Course, Cook Islands May/September 1986, Papua New Guinea August/December 1987.
- 6-week Course in Fish Catching Methods and Extension Skills, Fiji October/November 1986.
- 2-week Course on Design, Construction and Deployment of Fish Aggregation Devices, Kiribati October 1987.
- 4-week course in Extension Skills and Communication Techniques, Fiji April 1988.

In addition to these formal courses the Regional Fisheries Training project attends to a considerable number of country requests for training, information and assistance, such as reviews or development of training regimes, and arranging or developing specific training for individual fisheries officers.

ONGOING AND FUTURE TRAINING ACTIVITIES

a. SPC/Nelson Polytechnics Pacific Island Fisheries Officers Training Course.

The first course held under this long running training activity was held in 1979 to provide general fisheries and seamanship training which was closely matched to the needs of Pacific Island countries. With the tenth course planned for 1989, the Nelson course has been subject to a continuing process of review and modification to ensure it retains its relevance to Pacific Island countries, and to new developments in the fisheries of the region. This may account in some part for its continuing popularity. The stated objective of the course is to provide basic training in the skills required by a Pacific Island Fisheries Officer operating an extension office, fish buying station, or similar infrastructure establishment, and who is therefore responsible for providing physical support or services to rural fishing communities. These skills include: practical netting, rope work, engineering and welding: marine diesel and outboard maintenance and repair: small boat construction and maintenance: and practical fishing. The course of Nelson Polytechnic lasts for 18 weeks and a strong emphasis is placed on 'hands-on' training. This is followed by a five week practical fishing module conducted at a suitable venue in the Pacific Islands, where the students are able to learn a variety of small boat fishing and boat handling skills, as well as developing under working conditions the techniques and knowledge gained during the first part of the course in Nelson. As well

as spending much of their time in the Polytechnics' workshops and net loft, trainees also spend short periods attached to fish processing establishments, government laboratories, and other institutions in New Zealand, to complement the classroom instruction.

A total of 106 trainees have now participated in the Nelson Course (approximately 12 per course). Major funding for the Course is provided by the New Zealand Government with significant funding for past courses provided by the Commonwealth Foundation, Commonwealth Secretariat and FAO/UNDP. Further donor support is required for the 1989 and future courses.

b. Fisheries Extension Training Programme.

Based on the ideas and recommendations generated from discussions during the 1986 RTMF Extension Workshop, a comprehensive two phase training programme in extension and communication skills has been developed and implemented. A four week regional course for future extension training officers (Phase I), was held in Suva, Fiji from 11 April to 6 May 1988 to be followed by a series of in-country courses (Phase II) which will be conducted by the graduates of the first course with limited assistance from the tutorial staff.

During the Phase I course, a train the trainers exercise, the 16 participants were given intensive training in the development of extension and communication skills, while at the same time under supervision, each student developed the syllabus and training material for their own in-country courses under the second Phase of the overall programme.

All the graduates from this past course returned to their own countries very enthusiastic about extension in general, and keen to run their own training courses. The first of the Phase II courses was run in Fiji from 20-30 June and with funding now confirmed, the others are scheduled as follows:

FSM/Marshalls	August 1988
Solomon Islands	November 1988
PNG Kavieng	November 1988
PNG Port Moresby	December 1988
Kiribati, Tuvalu, Cooks	August 1988
Vanuatu	Early 1989

All aspects of this programme of training which includes the Stage I course and all stage two courses, except the Fiji course, has been funded by the International Center for Ocean Development (ICOD). The 2nd stage Fiji course was funded by the FAO/UNDP Regional Fishery Support Programme who also provided the Stage I course and the Fiji course with technical input and assistance.

c. Computer Training.

Both FFA and SPC have been active in providing assistance and training in computer related areas and requests for further training continue to be received by both organisations. A joint SPC/FFA regional training course in the use of computers for Fisheries Departments was recommended by the 1987 RTMF and planning is proceeding for a two part activity in 1988/89. Funding is now sought to enable full country participation in this course.

d. Attachment Training.

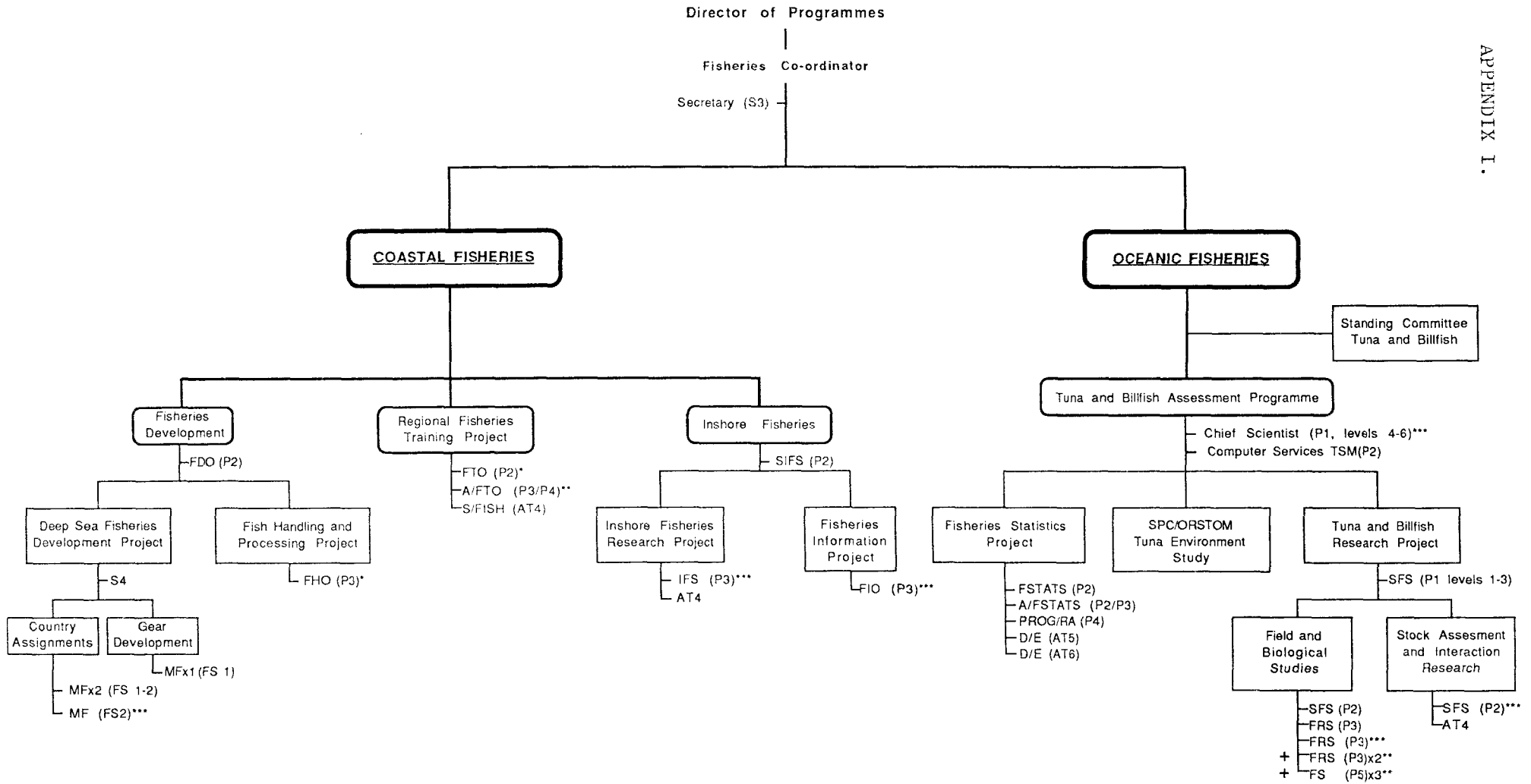
SPC considers that, providing careful selection methods are followed, and a proper timetable of activities which specifically cater for the participants learning needs is developed, that attachment training and counterpart training is an effective way of further developing a persons job experience and skills. Funding is being sought to support this activity.

e. Assistant Fisheries Training Officer

With the number of courses and training activities undertaken by the project steadily increasing, and the greater emphasis in country requests on direct in-country assistance placing heavy demands on staff resources, there is a need for increased technical capacity within the project. A proposal to appoint an Assistant Fisheries Training Officer is now under active and sympathetic consideration by member countries who accord high priority to manpower training activities in the SPC Work Programme.

SPC Fisheries Programme Structure

APPENDIX I.



* Position Upgraded
 ** New Position
 *** Position Vacant
 + Regional Tuna Tagging Project positions