

7th August, 1972.

ORIGINAL: ENGLISH

SOUTH PACIFIC ISLANDS FISHERIES DEVELOPMENT AGENCY
UNDP(SF)/FAO/SPC

THIRD MEETING OF THE FISHERIES CONSULTATIVE COMMITTEE

Noumea, New Caledonia

7 - 9 August, 1972

REPORT

by

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June 1972

SUMMARY OF FINDINGS AND RECOMMENDATIONS

The South Pacific Islands Fisheries Development Agency gives every evidence of having been poorly conceived, badly planned, under financed, inadequately staffed, ineptly executed, and completely misunderstood. However, surface appearances are often deceiving, and in the case of this project much of the criticism is undeserved. In spite of its very real faults, the project is filling a real need in the vast expanse of the South Pacific Ocean. If properly supported it is capable of fulfilling its original purpose: to assist the fisheries development of the member island territories.

Revitalizing the project will not be easy and it will cost more than at present. It was originally planned as a two-phase project: two years of feasibility surveys, followed by a second period of more concentrated work on subjects identified as being more likely to result in fisheries development. Somewhere along the line, the project seems to have changed into a three-year combination survey and action programme, at least in the minds of some of its critics. Regardless, the first two years have been largely of a feasibility nature, and even if execution has been less than excellent, the project is now ready to move into the development phase. UNDP faces a choice between two alternatives. It can terminate the project either now or at the conclusion of its term in July 1973 and admit that attainment of objectives is impossible without undue expenditure of funds: or it can support the project adequately with funds and personnel.

For the reasons set forth in this report, the review mission recommends that the project be supported. The feasibility phase has been completed and the project is ready to move forward. Three potentially productive lines of endeavour have been identified to the satisfaction of the mission. Therefore, a three-fold action programme is proposed. Along with several suggestions for clarification of objectives and improvement of procedures, the proposed programme will ensure the success of the project at minimum additional cost.

The three proposed sub-projects are:

- 1) Development of aquaculture techniques for fish, molluscs and crustaceans in the inner lagoons and turtles on the beaches;
- 2) Development of fishing in the river deltas and mangrove areas;
- 3) Development of bottom and surface fishing along the outer edge of the outer reefs.

INTRODUCTION

1. The South Pacific Islands Fisheries Development Agency (SPIFDA) was approved in 1970. The project manager-designate commenced pre-project activities in June 1969 pending final signature of approval. The project commenced officially on 22 July 1970 and is scheduled for termination in July 1973. The Food and Agriculture Organization of the United Nations (FAO) is the Executing Agency and the South Pacific Commission (SPC) is the Counterpart Agency.

2. The review was undertaken because of numerous reports from the member territories and the project itself that SPIFDA was failing to achieve its objectives. Also the Regional Representative of UNDP reported that SPIFDA was conducting activities that might be contrary to the principles of UNDP projects.

3. The mission consisted of one person, Mr. Richard S. Croker, consultant to the Administrator, UNDP. The opinions expressed herein are solely those of the writer. His terms of reference were, "To investigate the potential for further UNDP assistance in fisheries development in the South Pacific" and to review recommendations already submitted by the project, with emphasis on their economic viability and on prospects for financing and implementation. See Annex I for the full text of the terms of reference.

4. The mission departed from the continental United States on 23 April 1972. Visits were paid to Honolulu, American Samoa, Western Samoa, Tonga, Fiji and New Caledonia. Fisheries officials and other government officers were consulted in all these places. In addition, officials from the Cook Islands, Gilbert and Ellice Islands and Papua New Guinea were consulted while in Fiji. The French official consulted in New Caledonia stated that he spoke also for French Polynesia, Wallis and Futuna Islands and the Condominium of New Hebrides. The mission also received official messages from the British Solomon Islands and Gilbert and Ellice Islands. Discussions were held with the project manager of SPIFDA, the Secretary General of SPC and the Regional Representative of UNDP for the Western Pacific. (See Annex II for the list of persons consulted).

5. The writer wishes to express his appreciation for courtesies and co-operation received from all those with whom he came in contact. Special mention should be made for the help extended by all the people in the office of the Regional Representative in Apia, the United Nations Development Advisory Team in Suva, the South Pacific Commission in Noumea, and by SPIFDA personnel. Without the assistance of all concerned, the mission could not possibly have finished its work in the limited amount of time that was available.

6. The writer would especially like to recognize the contribution of UNDP's Regional Representative for the Western Pacific. If he had not asked for a review mission, the project would have muddled along in a morass of misunderstanding and recrimination to the point that it would not be possible to either revitalize it or replace it with a viable substitute. As it is, there is still time (but no much) to turn it around so that it will be a credit to all concerned. The mission has recommended some programmes that many observers felt to be the wrong approach. In fact they so appeared to the writer at "first impression". However, when properly explained they now seem to be the best way to proceed. It is hoped that the explanations given in this report, plus the attempt to present an understanding of the many factors that have handicapped SPIFDA's first years, will lead to a harmonious effort on the part of all concerned to give the project a second chance.

EVALUATION OF THE PROJECT

7. The purposes and ultimate objectives of SPIFDA were not only too ambitious but were rather poorly defined in the Plan of Operations. This is not surprising in view of the welter of recommendations that emanated from several planning meetings over a period of five or six years, during which time the ideas of all involved underwent many changes.

8. The earliest recorded concrete suggestion for a regional project arose from a meeting of the Fisheries Technical Committee of SPC in February 1962. The first unofficial request to the United Nations Special Fund was made by SPC in February 1966. It was for a project entitled "Pacific Islands and Atolls Fisheries Institute and Training-Centre". The project was to include reef fishes and skipjack. This became an official request in October 1966.

9. In November 1966, FAO commented on the proposal. A two-year Phase I feasibility study was suggested, to be followed by a Phase II development project. FAO also pointed out the vast area of operations and the high costs of travel and all other activities. In December 1966, UNDP also suggested a Phase I project of two years, at a gross cost of \$300,000.

10. A delay in negotiations occurred in 1967-68 when SPC balked at UNDP's insistence that a full 50 per cent of the total cost must consist of counterpart funds. Another cause of delay was France's objection to the proposed widening of the scope to include pelagic tuna on the basis that this would be too much to handle in one small project.

11. The proposed project really began to take shape in June 1968 at a meeting of SPC's Fisheries Technical Committee in Noumea. UNDP was represented at this meeting. It was decided to have two separate kinds of projects:

- 1) A regional project for the development of reef and lagoon fisheries;
- 2) National projects for the development of local tuna fisheries.

12. Meanwhile, it was decided that UNDP would not need to send out a pre-project review mission for what ultimately became SPIFDA, because all the planning meetings were sufficient. However, a review mission was deemed necessary for the proposed tuna projects, and a joint UNDP/FAO tuna mission visited the area in May and June 1969.

13. The Noumea meeting of June 1968 resulted in the final planning meeting: Working Party on South Pacific Fisheries Projects, held at the East-West Center in Honolulu during August 1968.

14. Once general agreement was reached, the negotiation of the Plan of Operations took over a year. This was in large part due to the unusually large number of signatory agencies and governments. The project manager-designate initiated his work about 13 months before the project became operational in July 1970. He was largely

responsible for drafting the Plan of Operations, which was based on the numerous recommendations made in the meetings listed above and in numerous documents of the various agencies involved: SPC, UNDP and FAO.

15. During all the planning meetings, it was apparently generally recognized that the project was to be a Phase I feasibility survey for two years, to be followed by a Phase II development project. However, in the Plan of Operations, which was agreed to by all the signatories, the new project emerged as a combination Phase I and Phase II operation of three years' duration. Almost everyone involved seemed to expect quick results in the form of developed fisheries, whereas the project had been conceived as a feasibility study. Moreover, it was funded only sufficiently for a feasibility project, not as a full-fledged developmental project. This conflict of objectives alone was bound to lead to SPIFDA into trouble.

16. The input of both UNDP and FAO has at no time been entirely adequate as discussed in more detail in the section on Factors Affecting Achievement of Project Objectives. First, the project was woefully under-funded for the objectives listed in the Plan of Operations. Second, expert services were generally below standard. The first project manager was not suited to the position. Only a few of the seven short-time consultants were completely satisfactory. The present manager and the one long-term expert on boat building are professionally capable. The project has had access to sufficient equipment and supplies, but the first manager purchased considerable equipment, chemicals, etc. that are of no use whatsoever.

17. Counterpart contribution has been, on the whole, at a very low level. This is not entirely the fault of the several governments nor the responsible agency, the SPC. It should have been realized that many of the member territories have neither the funds nor the experienced personnel to contribute the usual share that is expected in standard projects. The counterpart executing agency is in the same situation: very little money and shortage of personnel.

18. Buildings and physical plant are adequate. Equipment is mostly lacking. Professional personnel have not been available. The member governments have virtually no experienced people, except in a few cases. The few fishery officers are swamped with overwork. The SPC was required to furnish a co-manager in the person of the commission's fishery officer. However, he put in less than 10 per cent of his time on SPIFDA. Since his contract lapsed, SPIFDA has been without even a part-time co-manager for several months.

19. SPIFDA has no administrative personnel, either United Nations or counterpart. The secretary provided by SPC is excellent, but she and the manager have to do everything themselves, including much translation work. The SPC does provide some backing-up work but not enough. The counterpart executing agency is stable and suitable, but it has not been either willing or able to budget enough funds to help SPIFDA. Its planning committee provides guidance, and SPC helps operate the Consultative Committee of SPIFDA and pays territorial representatives' travel expenses to attend meetings. The several governments are largely unable to provide sufficient supervision or policy inputs. Those few governments that can supply counterpart funds and personnel to sub-projects have, so much of both compared to the other governments that the contrast is a cause of dissention.

20. As of now, SPIFDA seems to have little to show in the way of concrete achievements. Too much was expected and too little was provided with which to accomplish anything. However, if rated on the basis of being a feasibility project, as originally intended, the project has made considerable progress. On the credit side the following can be listed:

a) The consultant on boat building has designed numerous boats for several member governments and has supervised actual construction work in some cases. Some of these boats are already in service and some are on the way. They will contribute to the execution of future proposed programmes. His services are in great demand;

b) A few of the short-term consultants did good jobs. The recommendations of the two turtle experts are being carried out to the best of the ability of the territories. Small turtle culture experiments are underway and sanctuaries have been set aside and others are being planned. The recommendations of the mollusc expert form the basis of much of SPIFDA's future programme as recommended by the Consultative Committee;

c) A handbook on bêche-de-mer is almost ready for issuance. It will enable several island groups to activate small commercial operations for export;

d) In the way of generating development of infrastructure, SPIFDA has been responsible in part for the establishment of fisheries sections in several territories. At least it seems more than coincidence that many were set up during SPIFDA's formative years and since its activation. These will ultimately be strong enough to take over the project's work and follow up on its programme;

e) In spite of many handicaps, SPIFDA has managed to survey the field and identify those programmes that will result in the development of the fisheries. These form the basis of the mission's recommendations.

21. Because of the absence of a co-manager, even though the replacement may be appointed soon, there seems to be no chance that the project can be turned over to counterpart personnel in the near future.

22. If SPIFDA is extended and funded better than at present, there is good reason to believe that planned project activities will be effective in helping achieve the ultimate objectives. Any assessment of present and future accomplishments must take into account two counter-balancing factors: First, the serious shortage of counterpart funds and personnel in all the island groups except Papua New Guinea and the American and French territories; and second, the sincere desire of all governments and the SPC to carry the work forward to the best of their ability. If the project is to succeed there will need to be a greater proportionate share of UNDP funds than in some other projects.

FACTORS AFFECTING ACHIEVEMENT OF PROJECT OBJECTIVES

23. It has been said that hindsight is easier than foresight. Nevertheless, it is incredible that UNDP, FAO and SPC all seemed to think that a one-man project could accomplish anything at all in eighteen countries scattered over 46 million square kilometers of ocean. If ever there was an exercise in futility SPIFDA is it. As if impossibility of attaining quick success were not enough, numerous obstacles were placed in the way of the project.

24.1 It is necessary to examine and understand the handicaps and obstacles before corrective steps can be taken. By their nature, some of the problems cannot, in fact need not, be solved, but their existence must be acknowledged and understood. Others can be corrected by taking certain administrative steps. The adverse factors affecting SPIFDA are listed and discussed in the following paragraphs, not as an exercise in defeatism, but as the first step in understanding the problem and how to solve it.

25. The first consideration is the enormous size of SPIFDA's area of operation. Only by travelling from one end to the other can the size be appreciated. The 46 million square kilometers straddle the equator from 130 degrees west to 130 degrees east, or 50 degrees on each side of the international date-line. From north to south the area stretches from about 23 degrees north to 28 degrees south, or approximately from the Tropic of Cancer to the Tropic of Capricorn.

26. Scattered across this vast expanse of ocean are hundreds of islands of every kind and size. Those listed in SPIFDA's Plan of Operations range from huge Papua New Guinea, which with its offshore islands has 2,000,000 inhabitants, to tiny Pitcairn Islands with less than a hundred people. Some islands are mountainous, some are nearly flat. Some are no more than coral atolls. Many atolls have extensive offshore barrier reefs and others have scarcely any coral-rimmed lagoons. Some have extensive mangrove flats fed by rivers, others lack these features.

27. The fishery resources vary greatly from island to island. Generally speaking, the islands with the most productive waters are in the western part of the area, and they become gradually less productive toward the east. In some islands the fringing lagoons have been over-fished by the rapidly expanding human population; elsewhere the inshore waters still teem with fish and shellfish. The problem of how to obtain enough fish to feed the people differs between islands.

28. All the peoples of the islands share a common heritage of the sea and all are joined by this common bond and are proud to be called "brothers or the isles" as the title of the theme song of the South Pacific Festival of Arts puts it. Nevertheless, the people of the various islands have different cultures, languages and outlooks. Generally speaking they are of three races: Melanesians in the southwest, Micronesians in the northwest, and Polynesians in the south central and eastern part of the area. The eighteen territories belonging to SPIFDA include six in Melanesia, three in Micronesia, and nine in Polynesia. Numerous people of Asian and European ancestry also live on the islands. In Papua New Guinea no less than 800 languages are spoken. In the remainder of the area about 200 additional languages are in use. Cultural differences are great and persist in spite of the imposition of a European culture.

29. The variety of governments with which SPIFDA must deal is great, and each requires a somewhat different approach. An airline that serves part of the area boasts that only it serves a dominion, a kingdom, a protectorate, a condominium, a republic, a colony, a territory, and an independent state. These are all associated with the British Commonwealth. The other ten members of SPIFDA include three French overseas territories, three dependencies of New Zealand, two United States territories, a United States trust territory, and another British colony. The area is featured by three dominant spheres of influence: British, French and American. The British influence can be sub-divided into

United Kingdom, Australia and New Zealand. Even though several of the island groups have become independent nations, the British influence remains strong.

30. Since SPIFDA commenced operations, three territories have achieved independence: Tonga, Fiji and Nauru. The Plan of Operations states that nations becoming independent can remain members of SPIFDA upon invitation from UNDP. Although no invitation has been extended, to the best of the writer's knowledge, all three remain members.

31. Great differences exist in the level of economic development and wealth. Some island groups have but one cash crop - copra. A drop in the world price has brought great distress. Furthermore, the population is increasing so rapidly that domestic consumption of coconuts has risen to the point that there are few left to export. At the other end of the scale some islands have become wealthy from their mineral resources. For example, New Caledonia, a foremost producer of nickel, boasts of an extremely high ratio of automobile registrations (and motor accidents), with two cars to a family being commonplace.

32. A single project to serve such a huge area of great diversity would have to be exceptional to succeed; being all things to all people seldom satisfies any of the customers.

33. In SPIFDA's vast area of operation travel is difficult, expensive and time consuming. The airlines did not plan their routes to suit the needs of the project manager. Getting from point A to point B involves more than a straight line; it may include points C, D and E. Going from New Guinea to Palau, a distance of a few hundred miles, involves a trip of several days by way of Fiji, Honolulu and Guam. "I would go there on the research vessel, it's quicker" stated the New Guinea fisheries officer. To get to some of the islands from anywhere includes a routing through Auckland. Some places have one flight a week, others every two weeks. Transfer lay-overs take additional time. SPIFDA's temporary consultants, as well as the review mission, found that it is not possible to arrange visits in the best sequence. All trips have to be fitted to the seemingly perverse schedules of the airlines. Furthermore, the mere planning of a trip takes a lot of time. In addition, obtaining clearances for visitors from assorted governments entails long delays. As the project manager once complained, "This is not a fisheries project; we are running a travel agency".

34. Airfares are higher in the Pacific than elsewhere and hotel prices are exorbitant. Hence, travel consumes a disproportionate share of the budget (as FAO predicted back in 1966). Sample ticket prices and per diem allowances are shown in Annex III. Although

theoretically the project does not have to worry about travel expenditures which are included in the cost per man-year allotments, in practice FAO still keeps track of travel costs and warns the project when it runs over. There still seems to be the proclivity to try to save money by cutting down on travel expenditures, whereas in a regional project travel is essential even when it is expensive.

35. Communications are dreadfully slow. Cables are reliable but often take two days between islands. Round trip communication by air mail usually consumes two weeks; often it is slower between two nearby islands than trans-Pacific mail. Inter-island radio-telephone is virtually useless. In fact, local phone calls are often difficult. It is quicker to go visit someone across town by car.

36. The great size of the area has resulted in another unanticipated handicap for SPIFDA, which includes the entire area of operation of the SPC. The UNDP Regional Representative resident in Western Samoa has been designated as UNDP's representative with SPIFDA, yet his area of responsibility does not include a large part of SPIFDA's coverage. Excluded from his jurisdiction and covered by the UNDP office in Sydney is Papua New Guinea which includes two-thirds of the population and perhaps half of the fishery resources of the SPIFDA area. Likewise excluded from UNDP's Western Pacific region, and in fact not covered by any UNDP region are French Polynesia and the United States Trust Territory. Altogether, the three excluded territories comprise a good half of SPIFDA's operational area. As things turn out, two of SPIFDA's three large and controversial proposed sub-projects are in the Trust Territory and French Polynesia. If anyone had tried deliberately to cause trouble for both the regional representative and the project, he could not have done better. This is one of SPIFDA's problems that is capable of solution, and it is understood that a decision is forthcoming soon.^{1/}

37. Another problem involves the existence of other UNDP-FAO fisheries projects in SPIFDA's area. As noted above (paragrpah 11), it was decided that separate projects would be set up for high seas tuna, as needed. As a result of the pre-project mission of 1969, a skipjack project was activated in Fiji. A small-scale project was also established in Western Samoa. It appears unfortunate to this mission that no provision was made for any co-ordination or liaison between the regional project and the various tuna projects even though they operate in the same area and concern closely related fisheries.

^{1/} After the mission returned to headquarters it was learned that a decision had just been reached to include the Trust Territory in UNDP's Western Pacific region, which should in large measure reduce this problem.

38. Against the above background, SPIFDA was launched on its uncertain way as all the governments and agencies gave their approval to the Plan of Operations. This document turned out to be more than comprehensive. It requires SPIFDA to be at least four things: a scientific research agency, a developmental action organization, an advisory body to governments, and an information service.

39. The Plan of Operations called for conducting the following activities, although its work was not limited to these: boat building design and supervision, reef and lagoon fisheries development, studies on fish poisoning, sea turtles, aquaculture, bait fish surveys and culture, technology, marketing, development of coastal fisheries beyond the reef, bêche-de-mer, and scholarships.

40. Both the objectives and the means of achieving them have proven to be subject to conflicting interpretations. This fact has perhaps resulted in more bickering and dissatisfaction than any other factor. Everyone involved insists on his own interpretation and quotes the Plan of Operations to prove his point. Much of the disagreement seems to stem from the early planning period in 1967 and 1968.

41. For example, what constitutes the promotion of fishery development? Some view it from the village fishermen's level: to benefit the local inhabitants by providing employment and protein food to meet dietary needs. Even here there is disagreement, with some measuring success in terms of keeping fishermen busy and putting food on the table, whereas others measure it by the amount of cash changing hands. To some, development means producing fish locally for import substitution, both for local consumers and to supply the tourist trade. To others it means developing an export fishery with foreign investors and fishermen reaping the profit.

42. Although the Plan of Operations seems to include fisheries along the coast beyond the reef, many people firmly believe that SPIFDA is restricted to working only on lagoon fisheries. Perhaps this is why separate skipjack projects have been recommended, not subject to SPIFDA control. If the project's work is confined to the lagoon areas proper, as some insist, it will never be able to develop a well-rounded programme to take advantage of all the fishery resources of the islands. To the review mission it does not seem reasonable to set a hard and fast boundary of operations. The mission's recommendations envisage limiting SPIFDA's scope to the fishing grounds that can be exploited by small local boats that can fish and return home in a day, whether inside or outside the reef.

43. Another philosophical argument revolves about the question of whether UNDP projects should aid only the poor territories or should

they include wealthy ones as well. According to the Plan of Operations, all territories within SPIFDA's area belong to SPC and the project may operate in any of them. All the signatories presumably agreed. When the first temporary experts were sent out to survey the needs, they visited all territories, British Commonwealth, United States and French. The Consultative Committee subsequently recommended demonstration projects in all three areas of influence, without regard to political considerations.

44. A storm of protest arose. Why, said some, should the United Nations finance projects in areas where the United States and France were already funding fishery programmes? By inference, this argument seemed to infer that the British and New Zealanders were not adequately supporting their territories so the United Nations should do it. The protesters ignored the fact that the UNDP-FAO project in the Caribbean operated in British, French and Dutch areas. Also, pointed out others, it may be more useful to operate in areas where counter part aid is forthcoming than in islands where there is none. The less wealthy territories could then benefit from the example of work well done in neighbouring islands with similar environments.

45. Although the United States signed the Plan of Operations, there is no agreement between the United Nations and the United States for conducting projects in United States territories. Some say that no agreement is needed, others argue that no project can be initiated in the United States territories until one is signed. This situation can be remedied only by a high level decision.

46. Another argument concerns the type of projects that SPIFDA conducts. Some would like to see a number of small projects so that each territory could point with pride to its own pet project. For some time there has been pushing and pulling to get projects. Others say that the slim budget will not permit dissipating what little money there is on relatively unimportant small sub-projects. They argue that the available funds could be better spent on a few worthwhile larger projects which can be used as demonstrations for the benefit of other islands.

47. So far, in spite of numerous protests, the Consultative Committee and the SPC have gone along on the basis that SPIFDA may and should operate in all member territories, and that strong demonstration projects are preferable to a large number of little projects. As explained in detail in the section on recommendations, the mission is inclined to agree.

48. Judging from the small initial allocation of funds to SPIFDA, it would seem that it was not intended to be a standard operational project but more in the nature of the feasibility survey

that was planned originally in the early meetings. That it might be expected to do more was not contemplated.

49. The original allocation was for three years. The Special Fund allocation was US\$479,300. Of this, \$428,300 was Special Fund and \$51,000 was listed as Government contribution to local operations. To match the United Nations money, there was to be a Government contribution in kind amounting to \$410,000.

50. These sums, of course, are very small and are no more than sufficient for a Phase I feasibility survey, even though many people expected them to produce development results. It is in fact remarkable that with all its handicaps, SPIFDA was able to fairly well complete its feasibility phase in less than two years and is now ready to move into the development or second phase.

51. As of 31 December 1971, SPIFDA had spent or committed approximately \$234,000 of its United Nations allocation. This includes the cost of the project manager up to 31 October 1973 and the shipbuilding expert to the end of his tour on 31 December 1972. As of the same date SPIFDA had about \$169,000 of United Nations funds yet to be spent. Although these figures are only approximate, they give a good idea of the current financial status. Because of the very high costs of the long distance travel necessary, a disproportionate amount has been spent on travel: \$79,000. This is more than was budgeted, so transfers will have to be made to keep SPIFDA moving. The overdraft is a matter of concern to the project manager.

52. The first project manager apparently overdid things in purchasing equipment and supplies. Some has been used but considerable is still on hand, to a value of about \$10,000. Although most of the laboratory and field equipment is usable and will be put to use if ever SPIFDA gets out into the field, much is not. An estimated 40 per cent of the fishing nets, 45 per cent of the glassware, 95 per cent of the chemicals, and 75 per cent of the oceanographic gear are unusable and merely take up storage space.

53. The weakest part of the financial picture is the contribution made by counterpart funds, in cash and in kind. As specified in the Plan of Operations, SPC is responsible for collecting counterpart funds from member governments and disbursing them (in cash or services) to SPIFDA. The member governments pay annual support funds to SPC for all the commission's activities. These are based more or less on the ability of the members to pay. SPC sets its budget for all activities, of which SPIFDA must surely be one of the smallest. At least, SPC does not seem to set aside much for SPIFDA. Of the \$410,000 called for in the Plan of Operations SPC has expended only a fraction. The project manager estimates

expenditures of about \$45,000 in cash and \$40,000 in kind. This leaves considerably over \$300,000 that has not been contributed, most of which probably will not be available. The project manager estimates a possible \$45,000 could be obtained by making "strong representations to SPC". Presumably because of its own slim budget, SPC has been reluctant to ask its sponsor nations for enough funds to carry SPIFDA. With the review mission about to visit its area, the commission's Planning Committee, meeting on 13 April 1972, received a recommendation from its Special Committee on SPIFDA to make provision for cash contributions of \$15,000 in 1973 to ensure the settlement of accounts between SPIFDA and SPC; \$20,000 in 1974 and \$25,000 in 1975.

54. According to the Plan of Operations, SPC was to provide the co-manager (its own Fisheries Officer) and all support such as secretarial help, translators, vehicles, etc. The co-manager, up until the time of his separation last December, put in no more than 10 per cent of this time on SPIFDA activities, according to both project managers and other observers, instead of the required full time. Since his departure the post has remained unfilled. Recruitment is moving forward and a new man is expected soon. The Secretary General of SPC promised the reviewing officer that the new man would spend all his time on SPIFDA work. This will be of great help to the project, if it happens.

55. The duties of the co-manager should be re-defined, as those presently listed are more of an administrative nature than as a project supervisor. It is not possible for one man to fulfil the functions of SPIFDA co-manager and SPC fisheries officer. There are two alternatives: there should be a full-time co-manager independent of SPC activities, which would leave SPC without a fisheries officer which it probably wants to keep, or to recruit an assistant fisheries officer for SPC with either the fisheries officer or the assistant assigned full-time to SPIFDA and the other to concentrate on SPC programmes.

56. Meanwhile the other support services of SPC have fallen short of expectations. The secretary furnished by SPC is excellent but she receives little help in typing, translation, etc. If absent on leave or sick there is no one to fill in for her. Vehicles and transportation are conspicuous by their absence. A van is available at times. The project manager is one of the few, if not the only, FAO project leader with neither car nor driver. Not only does he have to drive his personal car, but he has to run all official errands, which is a time consuming job. The week before the mission's arrival, SPC promised to reimburse him for mileage previously driven and for future official use of his own car. It remains to be seen

if this payment is actually made. SPC provides airport transportation for visitors. Its travel office is extremely helpful in making travel plans, which would otherwise be a real burden.

57. As noted previously, most of the member governments are short-handed as far as experienced and qualified fisheries officers are concerned, so counterpart contribution of personnel is generally weak and will be for some time to come. In general, the United States and French Territories are well funded and well staffed, as is the fisheries service in Papua New Guinea. Fiji has sufficient money but is short of qualified people at all levels. The rest are in a bad way, with at most one man to carry on a host of activities.

58. Actually, the establishment of fisheries services in the Pacific Islands is a recent thing. As of 1970 there were active fisheries services, small as they were, in half of the territories included in SPIFDA: American Samoa, Guam, United States Trust Territory, French Polynesia, Papua New Guinea (the largest by far), Cook Islands, Fiji, Gilbert and Ellice Islands, and Western Samoa. Several were newly organized as though to be ready to receive a helping hand from SPIFDA. Since 1970, fisheries services have been established in New Caledonia (well funded) and the Solomon Islands. Another one is in the process of formation in New Hebrides.

59. Two territories, and probably a third, are in a position to make large counterpart contributions to proposed SPIFDA projects. The United States Trust Territory is said to have about \$80,000 available from various sources to match SPIFDA funds if and when the Koror (Palau) aquaculture project is approved. New Caledonia has invested US\$113,000 for 1972 and is moving ahead with its share of the proposed St. Vincent Bay aquaculture project. SPIFDA has asked SPC for a laboratory assistant. The field station will be operational before the end of June, and if United Nations funds and the requested expert become available, cultural activities can commence at once. Fiji has funds for its share of the aquaculture programme, but no personnel. The representative of the French Government informed the writer that over a million dollars will be spent on behalf of the fisheries of French Polynesia over the next three years, and presumably some of this could be used as counterpart contribution to SPIFDA's projects.

60. With its low funding and meager counterpart contribution, SPIFDA is largely a one-man project, unlike the usual fishery development programme. The Plan of Operations recognized that a regular staff would not be possible with the funds available, and set up the project to work principally with short-term consultants. The only

exception is the shipbuilding expert who is on a two-year assignment. Seven other consultants visited the area on field trips for periods ranging from two to eight and one-half months. For various reasons the system did not work out too well. The one long-term consultant is really the only field man on the project manager's staff. Hence, compared to other projects, SPIFDA can accomplish a minimum of constructive work. It has no administrative staff to take care of routine jobs on the spot, not to mention the burdensome task of coping with the administrative requirements of FAO and UNDP. It has no scientists or master fisherman, no research vessels or laboratories. Without these its hands are tied.

61. It would appear that the Plan of Operations should be revised to provide SPIFDA with at least a minimum staff as well as consultants; to more clearly define the project's field of activities; to clarify its relationship with SPC; and to either obtain counterpart contributions or recognize that they will not be forthcoming and adjust United Nations funding accordingly. The difficulty of getting all the original signatories, plus three new ones, to agree on any changes seems almost insurmountable. It would perhaps be simpler to adopt a uniform acceptable interpretation of the Plan of Operations that would govern all operations.

62. The selection of Noumea in a French territory as SPIFDA headquarters seemed to annoy some of the English-speaking territories quite unreasonably. Selection of Suva in Fiji, the only other possibility, would probably have nettled the French-speaking members. Noumea is an expensive place for a headquarters because of the high cost of everything, and because of its distance from the other territories. Fiji would be somewhat more centrally located, as its nickname would denote "Crossroads of the Pacific". However, the round trip airfare between Noumea and Suva is not too bad as Pacific ticket prices go: US\$175 approximately. The presence of SPC and all its facilities is convenient. Working areas and meeting room are superior to anything in Suva. Library facilities are much better. All in all, there seems to be no point in moving now. It remains to prove to some of the doubting territories that SPIFDA is not "under the domination of the French authorities" in Noumea.

63. Another troublesome problem is the existence of other UNDP projects in SPIFDA's area that have no connection with SPIFDA. At present these consist of the aforementioned Fiji tuna project and a TA master fisherman working on skipjack tuna in Western Samoa. There is talk of short-time TA type projects in Tonga and the Cook Islands. None of these have any connection with SPIFDA and no system of inter-communication has been provided. Some remedy should be found for this rather awkward situation.

64. After going over the above list of built-in and extraneous handicaps with the project manager, the writer asked him to list any other problems he faced. His reply read as follows: "Main current problem is impediment to development of field programme that has been created by UNDP Apia going against the decisions of the Consultative Committee and FAO. Otherwise: lack of transport facilities in Noumea; lack of logistics for prompt assistance to appeals from territories; delayed communications between island territories and with central agencies in New York and Rome; impossibility of administering adequate funds without long and complicated procedures (note: both projects managers have had to use personal funds at times - the first manager as much as \$3,000); no adequate facilities to enable SPIFDA to act as an intelligence nerve centre for the territories".

65. Any project faced with the multiplicity of problems listed in the preceding paragraphs needs strong direction from the outset. SPIFDA failed to get it. From all accounts the choice of the first project manager was a grave mistake. The man is a loyal employee of FAO, dedicated to his work, of high integrity and with many good qualities, but not the dynamic type to get this kind of project off to a good start. Granted that no one could have succeeded a **hundred** per cent in this impossible situation, a better man could have done a better job of it. As it was, his appointment was neither fair to the project nor to the man himself. He ran head on into all sorts of problems, received little co-operation from SPC, and downright opposition and personal insults from others. Some observers said that there was actual opposition to SPIFDA from SPC. The manager fought back as best he could and did everything possible to make his project succeed. The record indicates that neither FAO, UNDP nor SPC did much to make his painful job any easier but rather the contrary.

66. The first project manager, who spent about a year as manager-designate before SPIFDA became operational, participated in drafting the Plan of Operations and organized the first meeting of the Consultative Committee. He did the preliminary planning for the second meeting of this Committee and was transferred to other duties two months before it was held. The new man was named manager-designate in time to be briefed by the outgoing manager. Shortly after the October meeting he was confirmed as manager.

67. The project was without a manager for about three months from December 1970 to March 1971 while the incumbent was away on leave and performing other duties. During this time, the recently appointed expert on boatbuilding was required to fill in as acting manager. This effectively postponed commencement of his own work for three months. After the first manager left in August 1971, there was another break of over two months during which the new manager-

designate was merely a temporary consultant. In most projects with adequate staffs and co-managers these breaks are not so serious, but for SPIFDA they caused difficulties.

68. The first manager, although his hands were full with other projects, had to handle all the arrangements for the seven short-term consultants, a headache for anyone. At least the manager cannot be held responsible for the rather sorry performance of several of these experts. He did not select them himself.

69. A rather good selection of subject matters was chosen, and theoretically the surveys made by the consultants should have laid the foundation for SPIFDA's future programme. In the case of the expert on molluscs, this has held true. He not only did a good job, but before leaving any territory or the general area, he told everyone concerned what his tentative conclusions were so they could act on them. The turtle experts also left some ideas behind which have been acted on.

70. Most of the others did not leave anything tangible behind, either because they did not accomplish much or because their reports have not become available. To be useful, consultants' reports have to be in hand promptly, not months after the work was done. As it was, the second meeting of the Consultative Committee could not act on most reports because they had not been received. All of the experts had finished long since with their field work except one who attended the meeting and gave an oral summary.

71. There is something wrong with a system that allows reports to dribble in months late. For example, the "final tentative" report of the best consultant, who finished his field work on 30 June 1971 (after presenting usable field reports), and the report of another who finished his work on 8 August 1971, were both received at project headquarters in mid-May 1972 while the review mission was in Noumea. Others are still missing. The rumours out in the area are that either the reports were never written, they were too bad to print, or that FAO Rome is just sitting on them for no good reason. Although the delay is due to no fault of the project, SPIFDA gets the blame.

72. SPIFDA has found no good way to provide an interchange of information and ideas. Granted that it is difficult to find time to put out news bulletins due to the staffing situation, it would, nevertheless, be worthwhile to give more emphasis to this kind of activity. The two principal complaints from the far flung territories are, "We never get any news from SPIFDA and the project manager never comes to see us". The latter situation is impossible to correct, because travel is so time consuming and furthermore, when

the manager is away from the office things grind to a halt, and then the complaint is, "The manager is never in the office to answer our correspondence". If and when a co-manager is appointed, both complaints can be somewhat mollified.

73. Neither the first nor present project manager has proven to be eager to establish a regular news dissemination service. The first manager released only two newsletters. However, both were excellent. The former co-manager contributed to a very informative section on "News from the islands". For some reason, the response to his frequent requests for new items from fisheries officers fell on deaf ears. They continually asked for more information but were reluctant to contribute.

74. The present manager has issued two newsletters, the second of which was released just after the mission was in Noumea. Both are most informative.

75. Every effort should be made to issue the newsletters monthly. A thin one is better than none at all, and it is not necessary to wait until enough material is on hand to produce a book. Issuance of a newsletter on a regular basis would at least put an end to the question heard by the mission, "Oh, is SPIFDA still in operation? We haven't heard anything in months".

76. When the Consultative Committee met for the second time in October 1971, criticism of SPIFDA was already a popular pastime. Hence the Committee members made special efforts to ensure a successful outcome. Representatives attended from all but one of the territories that are really interested in SPIFDA: American Samoa, Cook Islands, Fiji, French Polynesia, Gilbert and Ellice Islands Colony, New Caledonia, New Hebrides, Papua New Guinea, Tonga, Trust Territory of the Pacific Islands (U.S.) and Western Samoa. FAO Rome and UNDP Apia, as well as SPC, were also represented. The report of the Committee contains all the recommendations approved during the meeting.

77. The Consultative Committee looked at the future programme from two viewpoints: what SPIFDA should really be doing if sufficient funds were available; and what SPIFDA should do if no more than presently available funds are forthcoming.

Study of the official report does not really give much clue as to recommended priorities, as all proposed activities are described without any order of rank. The press release (copy not available) gave the following order of priority: 1) New Caledonia aquaculture, 2) Palau marine culture, 3) boat design, 4) culture Tahiti, 5) fisheries in mangroves and deltas, 6) bêche-de-mer, 7) turtle studies, 8) bait-fish, and 9) fellowships.

78. During a Committee meeting the representatives took a ballot on projects, awarding points to projects they thought most

important. Leading the list with the most points was bêche-de-mer, tied for second were boat design, marine culture Palau and fellowships, next was culture Tahiti, followed by aquaculture New Caledonia and bait-fish, with the others not listed.

79. Correspondence from SPIFDA indicated two priority lists were being considered. Projects to be continued, as long as prospects for additional funds were dim, were boat design, bêche-de-mer, mangrove fisheries, and turtles, in that order. If additional funds become available, the following projects would be initiated: aquaculture New Caledonia, marine culture Palau, culture Tahiti, bait-fish, and fellowships. The first three were given rather high price tags.

80. Having been advised that no additional funds were likely to be approved, the Consultative Committee found itself in a dilemma. Those projects most likely to produce results were too expensive, so the Committee had to recommend lesser programmes. The UNDP representative explained how tight funds were going to be.

81. To further complicate the situation, some of the Committee members felt that they had been pressured unduly by the project manager-designate and the French and American delegations to vote for the big projects in French and the United States territories. In the end, all the confusion tended to negate the serious consideration given to the situation by the Committee members.

82. The relatively high price tag for several of the proposed projects was enough to scare everyone, especially in view of the reduced availability of UNDP funds for any purpose. Even if spread over several years, \$100,000 for a sub-project sounds like a lot of money. In spite of all the furore over the proposed projects and dire warnings of a shortage of funds, the price does not seem to come down. The review mission, believing that some of these proposals would be more useful than frittering money away on small jobs, asked the project manager to recalculate his figures and give a reasonable estimate based on the obvious scarcity of funds. The price is still high, as shown in Annex IV.

83. With all of its problems, and in spite of the criticism levelled against it, SPIFDA is generally supported by the member governments, most of whom favour its continuance. The sampling of opinion expressed to the mission, either personally or in cablegrams, indicates the following line-up:

American Samoa. Discouraged with SPIFDA and unethused over the proposed aquaculture projects.

Western Samoa. Also discouraged with SPIFDA. Opposed to the aquaculture projects.

Tonga. Has not seen any results from SPIFDA. Opposed to the aquaculture projects.

Cook Islands. Supports SPIFDA but is opposed to the aquacultural projects. This opposition may stem from the rejection of Cook Islands' request for United Nations funding of the culture scheme that had been started there and subsequently collapsed (Oceanic Institute scheme).

Fiji. Has been very critical of SPIFDA, but has come around to moderate support of the aquacultural projects and would be happy to support cultural work done in Fiji.

Gilbert and Ellice Islands Colony,

Solomon Islands Protectorate,

New Hebrides Condominium,

Papua New Guinea

New Caledonia,

Wallis and Futuna Islands,

French Polynesia, all gives strong support for SPIFDA and the proposed aquaculture programmes.

United States Trust Territory. Not sampled. However, its representative made strong representations at the second Consultative Committee meeting in favour of the aquaculture programme, so support can be inferred.

SPC. Strong support for SPIFDA and its proposed programme.

FAO Rome. Its representative at the Consultative Committee meeting went along with the proposed programme. FAO approved appointment of experts to initiate the aquaculture projects.

UNDP Apia. Doubtful of SPIFDA's value and critical of its proposed programme, as noted above.

FINDINGS AND CONCLUSIONS

84. As a basis for the recommendations made in the next section of this report, the mission presents the following findings and the conclusions reached.

85. Although lagoon and sea fisheries are the source of most of the animal protein throughout the entire area, a commercial fishing industry scarcely exists. Most of the fishing is at the subsistence level. Only in the neighbourhood of the few cities and large towns is there any commercial activity. Originally the islanders were great fishermen, but they were forced to forsake the sea to work in the early coconut plantations and lost their motivation. Today it is easier to buy canned mackerel, tuna and corned beef than to go fishing.

86. Nevertheless, throughout the islands there is a very heavy demand for seafood. The people not only buy imported frozen and canned fish, but snap up all fresh fish as soon as it reaches the market. Development of commercial fisheries, even on a small scale, depends on finding a way to motivate the local people to go fishing and to finance their boats and equipment.

87. In some islands shore employment is more attractive than fishing. For example, there is no unemployment in New Caledonia where the nickel industry has brought prosperity. The only fishing there is for sporting purposes. In other islands there is unemployment and the governments are attempting to make fishing attractive. In yet others, the inhabitants are cared for by government and do not really need to exert themselves. However, a small pilot project by the Territorial Government of American Samoa has proved that with attractive monetary inducement in the form of big catches at good prices, the people are happy to go fishing.

88. Several potential markets exist in all the inhabited islands:

- a) The local market to meet the demands of the town and village people.
- b) The growing tourist market. The resort hotels now import most of their seafood.
- c) Export markets. High priced products, such as spiny lobster, shrimp, oyster, tuna, bêche-de-mer, and pearl shell, would find a ready market abroad.

89. Development of the fisheries would bring economic and sociological benefits in the following ways:

- a) Provide employment. In some of the islands unemployment or under-employment is a serious problem. Where it is not, development of a fishery would attract people from other islands. For example, a few Tahitian boats now operate in New Caledonia.
- b) Curtail excess migration to the cities. In a few places people are moving to the cities to seek non-existent employment. Enabling them to fish gainfully would be useful.
- c) Overcome the present deficiency of animal protein in the diet. In many islands the people receive insufficient protein.
- d) Generate business through import substitution. The import of seafood for both local inhabitants and the tourist trade is a very real drain on foreign exchange.
- e) Generate business from export of both raw material and processed seafood.

90. It is possible for a United Nations fisheries project to meet the needs listed above. The majority of the island territories have expressed their support of a regional project. However, as presently constituted, SPIFDA cannot meet the need entirely. It has passed through its first phase as a feasibility survey and has identified those fields most likely to yield results in the form of increased fishery production. If it can be financed adequately and supported by UNDP, FAO and SPC it will become an effective agency. If it cannot be supported more strongly it should be allowed to phase out on schedule. As someone has expressed it, "It's either double or nothing".

91. There is nothing sacred about the form of SPIFDA. Although the island territories seem to prefer a regional project, it would probably be acceptable to have a series of projects tied together by a region-wide coordinator.

92. In any consideration of promoting increased yields of fish and shellfish by means of a United Nations project, it would appear that only three types of activities will yield substantial results:

- a) Increased fishing effort in the mangrove and delta areas. This is feasible primarily in Melanesia and scarcely at all in Polynesia and Micronesia.
- b) Culture (or rearing) of fish, molluscs, crustaceans and turtles; region-wide.
- c) Increased coastal fishing just outside the outer reefs; region-wide.

93. Although SPIFDA was originally conceived as a "reef and lagoon" project, the fact must be faced that the outer lagoon area is not potentially very productive in spite of the popular misconception that it is. Generally speaking, the outer lagoons fall into two broad categories:

- a) Those with abundant fish and shellfish resources. The local fishermen are capable of catching more fish if they want to. Local fishery officers can motivate them and teach them additional techniques. Small-scale TA projects can sometimes be useful.
- b) The majority of lagoons adjacent to large human populations are badly over-fished. If possible, conservation measures should be applied rather than introducing new fishing techniques.

94. Another disadvantage of attempting to develop fisheries in the outer lagoons is the presence of ciguatera or fish poisoning in that area. Many species of fish in many of the islands cause fish poisoning which is often fatal to the consumer. The subject is not well understood and further research should be conducted, although such work would seem to be beyond the reach of SPIFDA. At any rate, it would be counter productive to foster fishing that might result in deaths. The poisoning (or ciguatera) is found only in the outer lagoons and does not affect outside ocean waters nor the mangroves and potential culture areas.

95. Whatever the future form of SPIFDA may be, an over-all guiding policy should be that any sub-project, no matter where it may be located, should be designed to benefit as many island groups as possible. In other words, all sub-projects should be operated as demonstrations. A concurrent fellowship or training programme would be a necessary part of all sub-projects. Fishery officers, fishermen, and prospective culturists would be brought to the projects for observation and training, and the experts would accompany them back to their own islands to help establish production projects. Needless to say, such a system would require a high degree of counterpart participation and follow-up.

96. Policy decisions at a very high level are required on a number of subjects. The recommendations made in the next section relate to these. They are:

- a) Whether to continue SPIFDA as a regional fisheries project, break it down into individual sectoral projects with a regional coordinator, or terminate it altogether.
- b) If SPIFDA or a successor project is to continue, there should be a clarification of its relationship with:
 - i) SPC, especially as regards the level of counterpart contributions;
 - ii) UNDP-Apia;
 - iii) Other United Nations fishery projects in the area.
- c) Whether the project should operate in all member territories or only in the so-called "poor" ones. This refers particularly to the question of operations in United States and French territories.
- d) Interpretation of the Plan of Operations, as regards the operating scope of the project:
 - i) Is it confined to the waters inside the outer reef - the lagoons, deltas and mangrove marshes?
 - ii) Does it include coastal waters on the outer side of the reef and just beyond it?
 - iii) Does it include high seas fisheries?

RECOMMENDATIONS

97. The mission's recommendations are presented in three sub-sections: suggestions on policy determinations; a recommended programme for SPIFDA; and procedural improvements.

A. POLICY DETERMINATIONS

98. The mission has the following suggestions to make in relation to the policy questions raised in paragraph 96.

99. SPIFDA should be continued in one form or another as it can fulfil a real need from several viewpoints: economic, sociological and political. The structure is not too important. However, if it is broken down into sectoral projects there must be a strong type of coordination provided to prevent duplication of effort and general confusion.

100. SPIFDA is ready to phase into a developmental project. This will involve additional funding and it is recommended that more money be made available. To do its job adequately, even at an austerity level, the project will need about three times its present funding, as noted in the next sub-section.

101. The relationship of SPIFDA with SPC should be re-examined, especially as concerns the level of counterpart contributions. If SPC, in fact, cannot meet its financial obligations, perhaps some concession can be made. This whole subject was the cause of much discussion and delay in the early negotiations for the Plan of Operations.

102. Inasmuch as UNDP-Apia is responsible for the operation of SPIFDA, even though the Western Pacific Region does not include all of SPIFDA's operational area, there should be a clear cut policy statement to that effect in order to clear the air of misunderstanding.

103. Some means of liaison or coordination between SPIFDA and other United Nations fishery projects within its area should be developed.

104. The areas or territories where SPIFDA operates its sub-projects should be determined on the basis of the greatest good to the greatest number of islands. In other words, projects should be located where both suitable environments and adequate support facilities exist. Whether in a so-called "rich" or "poor" territory, a sub-project should be designed to benefit other islands also. The mission recommends that the Consultative Committee be urged to use these criteria. It further recommends that work go ahead regardless of the political affiliation of any territory that has been selected on its merits.

105. To be a full-fledged development agency, SPIFDA must be allowed to operate in all coastal waters inside and beyond the reef wherever local fishermen can operate to the benefit of the local economy. Outside, high seas fisheries operated primarily by foreign fishermen for foreign companies are beyond the scope of SPIFDA. The foreign companies can do their own research.

106. To resolve the philosophical argument over whether United Nations projects should be designed to benefit any one segment of the fishery over another, the mission suggests that as far as SPIFDA is concerned, the objective is overall development of the local economy. Whether the fish taken by local fishermen are destined for the consumption of the local inhabitants on a subsistence, barter or cash basis, for tourist consumption, for improvement of the balance of trade through import substitution or exportation, is immaterial.

B. RECOMMENDED PROGRAMME

107. It is recommended that SPIFDA concentrate on three principal types of work, as follows:

- a) Conduct experiments in the culture of mollusks, crustaceans, fish and turtles.
- b) Conduct surveys and experimental fishing demonstrations in the river deltas and mangrove flats in Melanesia.
- c) Conduct surveys and experimental fishing demonstrations in coastal waters outside the outer reefs within the range of local one day boats.

108. It is further recommended that the small sub-project on bêche-de-mer be brought to its imminent conclusion, and the small-scale turtle tagging programme be continued.

109. The proposed action programme for SPIFDA, presented herewith, was designed to put the project on its feet and achieve substantial results in a minimum of time. It is based squarely on the mission's conclusion that SPIFDA should concentrate on a few significant lines of activity rather than try to do everything. Chosen for implementation were the three potentially most productive activities that had been identified during SPIFDA's Phase I or feasibility survey period.

110. The emphasis in all projects would be on demonstration. All are intended to be of more than local benefit. The so-called fellowship funds are not for university level studies, but would be used for bringing fishery officers, fishermen and culturists to the experimental or pilot sites for observation and training.

111. The review mission is solely responsible for the proposed programme, which was developed in consultation with numerous persons in the project area and refined in discussions with the project manager. Details, particularly cost estimates, were drafted in cooperation with the project manager and the Headquarters staff of FAO in Rome. (See Annex IV for detailed cost estimates).

112. Each of the three proposed sub-projects has been divided into three categories:

- a) The best possible use of funds now available to the project, to be expended before the scheduled termination of the project in July 1973;
- b) Work to be conducted within this same time period with additional funds; and
- c) An augmented programme for the future, after the scheduled termination of SPIFDA.

113. Each of the three categories is designed to get the most out of whatever funds may be available. If all the additional funds cannot be obtained, the work that has been done under the first or second categories will in itself produce results. Likewise, each of the three sub-projects (aquaculture, mangrove and outer reef) will stand alone so that if all three cannot be funded, any one or two will still be productive. However, it is urged that the complete balanced programme be funded.

114. Proposed for implementation immediately, with funds now available, is a pilot experiment in the culture of mollusks, crustacea and fish. It is recommended that the first experiment be a combined operation located at St. Vincent Bay, New Caledonia, and Bay of Islands, Fiji. Of necessity, cultural (or rearing) activities must be conducted where the environment is suitable and where counterpart participation and infrastructure are assured. The four places selected by the Consultative Committee meeting these criteria are: New Caledonia, Fiji, Palau and Tahiti. Palau and Tahiti are equally suitable perhaps, but one experiment is enough for a start. Palau is so far distant from the other islands, that it would be inordinately expensive to send people there for training. Furthermore, there are sufficient wild oysters there to meet the demand for both local and tourist consumers at present. Because environmental conditions at Palau are different from New Caledonia, a project there would be desirable but it can be deferred for the time being. As soon as the multiple culture projects at New Caledonia and Fiji are well in hand, consideration can be given to the fresh water shrimp (macrobrachium) project in Tahiti.

115. The government of New Caledonia has already committed over \$100,000 to the St. Vincent site. Ponds with pumps and control structures are being built and will be ready to operate during June 1972. An expert on crustacean culture has been engaged by the government and is at the site. Part of the pond is to be used for the rearing of local mangrove oysters and mussels from the Philippines and New Zealand. The remainder of the pond will be devoted to rearing fish, principally mullet, and penaeid shrimp. The young mullet and several valuable species of shrimp abound in the bay and can be captured readily for rearing. The Government of Fiji is now operating oyster rearing facilities with considerable initial success. In both areas, SPIFDA's principal contribution would be in providing international experts in rearing fish and mollusks and to finance training fellowships.

116. Other islands that could benefit from the pilot operations in New Caledonia and Fiji are: British Solomon Islands, New Hebrides, Papua New Guinea, Gilbert Islands, Samoa, and Cook Islands. In these places and perhaps others, production projects of small size could be set up by the respective governments. Continuing counterpart contribution can be expected in New Caledonia and Fiji, and follow-up participation should be forthcoming in some of the others which have expressed interest already.

117. Proposed expenditures for New Caledonia - Fiji aquaculture are as follows:

	CATEGORY I Available Funds to July 1973	CATEGORY II Additional Funds to July 1973	CATEGORY III Additional Funds After July 1973
Experts	24 months	-	36 months
Equipment , etc.	\$35,000	-	\$35,000
Training Fellowships	\$17,700	-	\$20,000
Housing for Trainees	-	\$20,000	-

118. By deferring activation of the cultural sub-projects in Koror, Palau and in Tahiti (fresh-water shrimp or macrobrachium), no expenditures will be incurred until after July 1973. Category III costs are estimated to be:

Palau: 18 months experts and \$20,000 equipment.

Tahiti: 12 months experts and \$60,000 equipment.

In both cases small amounts for trainees will be needed. The Palau pilot experiment will provide information useful to islands with a similar environment, particularly in Micronesia and the islands near New Guinea. Work done in Tahiti will be applicable to many islands in French Polynesia, Samoa, the Gilberts and Melanesia.

119. Any of the cultural projects should be producing useful results within two years of inception. If the several governments are able to follow-up in establishing production projects in their islands, commercial operations should begin to put seafood into the consumers' hands within another year. The actual market for oysters in the populated islands is already very large and is now sustained almost entirely by imports from Australia and New Zealand. The potential market for mussels is also large. The peneid shrimps would be mostly useful for export, although the tourist hotels would constitute an excellent local market. Mullet is in great demand and a market exists for all that could be reared. Eventually, the pilot experiments could turn to rearing bait fish. The scarcity of suitable live bait fish has been an obstacle to developing a high seas tuna fishery around most of the islands. To some of the territories, such as Gilbert and Ellice Islands, successful rearing of bait fish is of top priority.

120. Also proposed for initiation with funds now available is the developmental project on fishing in the mangroves. The river deltas and mangroves areas of Melanesia and a few places in Polynesia are a potential source of considerable quantities of fish, shrimp and crabs. They are at present scarcely fished at all. The delta area of the Rewa River now provides about half the seafood sold in the market at Suva in Fiji, yet the much larger mangrove areas on the north sides of both large islands are not even touched. With very little investment, these areas could provide at least three times as much fish as now reaches the market. The same could be said for the Solomon Islands, New Hebrides and New Caledonia, and the potential productivity of the mangrove flats of Papua New Guinea is unlimited. All that is needed is a minimum investment in surveys and demonstration fishing, followed up by construction of small boats.

121. The proposed project for mangrove fishing would be conducted in two stages with two teams; survey and demonstration. The survey crew would move through Melanesia from one island to another determining potentialities. The demonstration team would follow behind, concentrating on areas that had been shown to be most productive. Hence expenditures for the two groups would be different at any one time. Dollar for dollar, the mangrove project would result in greater results than any other. Fish production would increase markedly within months. Its only drawback is that it applies primarily to Melanesia, as there are few mangroves areas of any size in Micronesia or Polynesia. The principal expenditure would be for expert services (biologist and master fisherman). Local small boats would be used, which would constitute the major counterpart contribution.

122. Estimated costs of the mangrove project are:

	CATEGORY I Available Funds to July 1973	CATEGORY II Additional Funds to July 1973	CATEGORY III Additional Funds after July 1973
Experts	6 months	6 months	6 months
Equipment, etc.	\$2,000	\$6,000	\$6,000
Training Fellowships	-	\$10,000	\$10,000

123. The third sub-project is to develop fishing along the outside of the outer reefs and in nearby coastal waters. Fishing just beyond the reef with small boats and unsophisticated gear can be extremely productive. The outer reef project would be in three parts:

- a) A modest survey and demonstration programme involving bottom fishing along the outer face of the barrier reef with deep lines (vertical long lines). It would consist of two roving crews moving from one island group to another, with a survey crew preceding a demonstration fishing team. Although it would be more efficient to charter a suitably equipped boat and crew, it is proposed to use local boats only which would encourage greater counterpart participation. This sub-project would embrace all island groups in the SPIFDA area, but actual field work could only be conducted in a relatively few "typical" islands. Results would be forthcoming very quickly in the form of increased fish production: snappers, groupers, jacks etc.
- b) A similar small-scale survey and demonstration programme on surface fishing for skipjack and other schooling fish. It will consist of training local fishermen in the use of the pearl shell lure (otherwise known as Tahiti style fishing). It will include sending fishermen to islands where fishing is now carried on or bringing experienced fishermen to islands where there is no fishing. Skipjack abound close to nearly all the islands in the SPIFDA area and find a ready sale in local markets. This sub-project would benefit every island group.
- c) Use of the services of the boat building expert (existing position) in designing small boats suitable for fishing beyond the reef. He could be put to use solely on this work.

124. In the outer reef projects, the emphasis should be on small boats and unsophisticated gear and equipment. Whenever possible, island fishermen should be employed as instructors. The work now being done in American Samoa and Western Samoa on both bottom and surface fishing can be emulated and trainees could be sent to these islands for observation. The project should be started in Polynesia and eventually reach Melanesia. Because the mangrove project would be essentially in Melanesia, the offshore work would be the only activity carried on in Polynesia and Micronesia. Hence initial effort should be in those areas.

125. Proposed expenditures for the outer reef developmental work are:

	CATEGORY I Available Funds to July 1973	CATEGORY II Additional Funds to July 1973	CATEGORY III Additional Funds after July 1973
Fishing boat expert	2 months	7 months	12 months
Fishing expert	-	12 months	6 months
Equipment, etc.	-	\$35,000	\$12,500
Training fellowship	-	\$10,000	\$20,000

126. The small bêche-de-mer project should be brought to a successful conclusion, as there is widespread demand for the handbook soon to be released. SPC has undertaken to defray the expense of printing the handbook (\$5,000). The islands expect to cash in on the bêche-de-mer resource by starting large export fisheries. The report should include a strong statement on the need for conservation and urge that only small-scale operations under rigid control be permitted. An expert with the Government of New Caledonia reports on the world-wide history of bêche-de-mer fisheries: "two years to wipe out the resource; twenty years before it recovers".

127. The small-scale turtle tagging project should be continued. SPC has offered to pay for the work (mostly the cost of tags) through July 1973 (\$2,700). The additional cost thereafter would be approximately \$3,000.

C. PROCEDURAL IMPROVEMENTS

128. The following recommendations are made in the hope that they will help improve the operation of the project.

- a) FAO is urged to use more care in selecting temporary consultants. No expert is better than a bad one.
- b) Some system must be developed for extracting usable reports from experts within a short time of completion of their work, even if it means withholding their fees.
- c) FAO is urged to speed up its processing and dissemination time for all reports. Late reports are useless.
- d) Both FAO and UNDP are urged to take steps to see that all special reports are distributed promptly to SPIFDA, to the governments involved, and especially to the consultants and mission team members who submitted the reports.
- e) FAO is urged to either provide SPIFDA with an Administrative Officer or to cut down on the multitude of red tape forms, regulations, etc., that annoy the project manager, take up his time, and generally slow down all operations. It should be understood by all concerned that this is a one-man show, virtually beyond the fringe of normal communications, and some leeway can be granted.

129. It is recommended that SPIFDA be required to release a newsletter at monthly intervals, regardless of size. This is extremely important. Maintaining channels of communication is essential.

1 June 1972

ANNEX I

TERMS OF REFERENCE

For Consultant Mission to Review Progress on UNDP Project RAS/69/102 -

South Pacific Islands Fisheries Development Agency

1. To investigate the potential for further UNDP assistance in fisheries development in the South Pacific, the Administrator of the United Nations Development Programme is sending a Consultant Mission to the South Pacific Islands to review current project operations.
2. The mission will have one member only, Mr R.S. Croker, Consultant to the Administrator.
3. Mr Croker will visit UNDP headquarters for briefing about 11 April 1972 and will depart from California for the South Pacific about 19 April. On route to the South Pacific, he will spend one day in Honolulu to call upon fisheries experts in Hawaii who are knowledgeable about conditions in the South Pacific. His first port of call in the South Pacific will be Apia, Western Samoa, where the UNDP Regional Representative for South Pacific, Mr W.B. Hussey, will complete his briefing. He will then proceed to Project Headquarters in Noumea and such other project sites as recommended by Mr Hussey and the Project Manager. On completing his visits to project sites, Mr Croker should hold final consultations with Mr Hussey, and if possible, should then return to UNDP headquarters in New York via Rome to permit him to brief FAO headquarters officials on his findings.
4. Mr Croker should meet local fisheries and government officials to discuss the role the project should play in fisheries development and the extent to which this role is being fulfilled. In this regard he should bear in mind that UNDP projects are normally concerned primarily with activities which lead to early investment or which have the earliest, most direct and widest possible impact upon economic development.

Annex I - 2

5. Specific recommendations already submitted by the project should be reviewed with emphasis on their economic viability and on prospects for financing and implementation. To the extent that present directions of project activity appear unlikely to be fruitful, possible modifications in the project should be investigated.

6. The mission report should be prepared in six copies and submitted to UNDP in final form not later than three weeks after Mr Croker's debriefing at UNDP headquarters. Comments that are strictly confidential in nature should be conveyed to the Administrator in a separate confidential report.

7. While Mr Croker should feel free to discuss his findings with Government officials, he should not enter into any commitments on behalf of the Administrator of the United Nations Development Programme.

ANNEX II

LIST OF PERSONS CONSULTED

Substantial discussions were held with the following listed persons. Somewhat less definite conversations were held with numerous officials, scientists, fishermen, etc.

Hawaii, 24 April 1972

Andrew Gerakas, Executive Secretary, Pacific Islands Development Commission.
Frank Hester, Director Hawaii Laboratory, National Marine Fisheries Service.
Tani Otsu, Hawaii Laboratory, National Marine Fisheries Service.
John Bardoch, Director, Hawaiian Institute of Marine Biology.
Garth Murphy, Hawaiian Institute of Marine Biology and University of Hawaii; also consulted later in Fiji.

American Samoa, 25 April

Stanley Swordloff, Director of Marine Resources, Government of American Samoa. Also consulted later in the week in Western Samoa.

Western Samoa, 26 - 30 April

William B. Hussey, Regional Representative for Western Pacific, UNDP. Also consulted later in Fiji.
William Travis, Fisheries Officer, Fisheries Division, Government of Western Samoa, and Chairman, Consultative Committee, SPIFDA
R. Barry Fisher, Associate Professor of Fisheries, Oregon State University, Newport.
Karl Schmidt, Psychiatrist, South Pacific Commission, Noumea

Tonga, 2 - 4 May

John Pitnan, Director, Department of Agriculture, Government of Tonga.
William and Janet Mauck, United States Peace Corps, husband and wife team, marine biologists for Department of Agriculture, Government of Tonga.

Annex II - 2

Susunu Kawakami, Fishing Master, F.V. EKIAKI, Government of Tonga Tuna Project.

Honourable Mahe U. Tupouniua, Deputy Premier and Minister of Finance, Kingdom of Tonga.

H.V. Bernard, Development Officer, Government of Tonga.

Suva, Fiji, 4 - 10 May

Robert Lee, Project Manager, UNDP/FAO Fiji Tuna Project

John Fyson, SPIFDA, Fiji, Boatbuilding Consultant

Earl Hald, Team Leader, United Nations Development Advisory Team and Liaison Officer, UNDP/Apia in Fiji.

Reuben Uatiao, Leader of Government Business, Gilbert and Ellice Islands Colony.

William Estall, Outgoing Minister of Works and Minister Designate of Economics, Government of the Cook Islands.

Carl Langendorf, UNDP Senior Economic Planning Adviser to the Government of the Cook Islands.

Fred Bethan, Secretary General, South Pacific Commission, Noumea, Also consulted later in Noumea.

Gregory Graham, Assistant Secretary of Agriculture for Research, Papua New Guinea.

Bernardo Vunibobo, Secretary of Agriculture, Government of Fiji.

J. Spottiswoode, Acting Principal Fisheries Officer, Division of Fisheries, Department of Agriculture, Fiji.

Adriano Garcia, Deputy Director, Bureau for Asia and the Far East, UNDP - New York.

New Caledonia, 13 - 17 May 1972

François Doumenge, Project Manager, SPIFDA. Also later at FAO-Rome.

Raoul Derijard, University of Montpellier. Consultant on Aquaculture, Government of New Caledonia.

Edward McCrensky, United Nations Secretariat (New York), Inter-Regional Adviser on Public Administration.

Georges Guerlain, Oyster Grower, Baie St. Vincent

Jean Enond, Second French Commissioner to the South Pacific Commission.

FAO, Rome, 24 - 26 May

F.E. Popper, Assistant Director General, Fisheries Department.

N. Kojina, Senior Officer, Project Operations, Operations Service.

Mario Ruivo, Director, Fishery Resources Division.

William A. Dill, Chief, Inland Fishery Resources Branch.

T.V.R. Pillay, Senior Fishery Officer, Fish Culture Section.

G.N. Subba Rao, Project Operations Officer, Operations Service.

Annex II - 3

Michael Mistakidis, Chief, Shellfish and Mariculture Section.

F. Wathne, Chief, Fishing Techniques and Training Section.

W. Guckian, Chief, Fishing Harbours Section.

M.A. Robinson, Chief, Fishery Economics and Development Branch.

J.C. Marr, Programme Leader, International Indian Ocean Fishery Survey.

David J. Mackett, Chief, Fishery Data Centre.

Clarence Idyll, Consultant.

ANNEX III

COST OF TRAVEL IN SPIFDA AREA

The high cost of air travel in the South and West Pacific is indicated by the following sample round trip airline fares, as of May 1972. Prices are in U.S. dollars.

Nounea to Cook Islands (Rarotonga)	\$ 476
" " Tarawa, Gilbert Islands	588
" " Port Moresby, via Sydney	483
" " Nadi, Fiji	148
" " Tahiti, via Nadi	565
" " Western Samoa	310
" " Palau, via Honolulu	1,364
" " Palau, via Singapore	1,495

Per diem rates for UN personnel, as of April 1972, are as follows (in U.S. dollars):

American Samoa	\$ 38
Guam	35
Honolulu	30
US Trust Territory	30
New Caledonia	30
Tahiti	27
Solomon Islands	25
New Hebrides	23
Western Samoa	22
Fiji	22
Papua New Guinea	22
Tonga	20
Gilbert Islands	18

Although these subsistence figures seem high, they do not altogether reflect the recent decline in the value of the U.S. dollar. In most of the islands visited by the mission the allowance did not cover ordinary expenses.

ANNEX IV

PROPOSED PROGRAMME FOR PROJECT

FAO DEPARTMENT OF FISHERIES

Summary record of meetings with Mr. Croker,
UNDP Fishery Consultant for the South Pacific Area

Held: 24 and 25 May 1972

Present: 24 May Kojima (Chairman), Guckian, Mistakidis, Pillay,
Rao, Robinson, Wathne

25 May Kojima (Chairman), Doumenge, Mistakidis, Pillay,
Rao, Wathne

Mr. Croker explained his terms of reference which were to sound out the views of the governments of the area on the future of SPIFDA and the type of UNDP assistance needed by the territories. His visits covered Hawaii, American Samoa, Western Samoa, New Caledonia, Tonga and Fiji. He was able to meet representatives of other territories in Fiji. He found general support for continuation of the SPIFDA.

Mr. Croker's recommendations which will be presented to the UNDP are confidential but a general indication of these recommendations was given and, based on this, the attached programme of work for SPIFDA until the end of the project in July 1973 and beyond was strongly recommended. The work programme has been divided into three categories depending on funds available.

PROPOSED SPIFDA PROGRAMME OF WORK

CATEGORY I: Projects which can be taken up with funds available up to July 1973

Project	Man/months	Equipment, etc. U.S.\$
1. Demonstration Centres for Aquaculture at Fiji and New Caledonia	24	35,000
2. Development of coastal fishing in mangrove areas in Melanesia Phase I: Survey	6	2,000
3. Fishing Boat Adviser	2	
4. Fellowships for inter-island training programme		17,700
* 5. Bêche-de-Mer Handbook	-	-
* 6. Turtle tagging handbook	-	-
TOTAL	32	54,700

* It may be noted that publication of the bêche-de-mer handbook, and turtle tagging programme which were originally included are now to be financed by the South Pacific Commission.

CATEGORY II: Projects to be taken up before July 1973 for which additional UNDP funds have to be requested

Project	Man/months	Equipment etc. U.S.\$
1. Outer Reef Line fishing survey and fishing demonstration, Polynesia/Melanesia	12	25,000
2. Tahitian method of pearl shell lure fishing - demonstration		10,000
3. Development of fishing in mangrove areas. Phase II - Demonstration	6	6,000
4. Boatbuilder	7	
5. Fellowships for training in mangrove fishing, reef fishing, and Tahitian lure fishing techniques		20,000
6. Housing for trainees at St. Vincent Bay		20,000
TOTAL	25	81,000

CATEGORY III: Projects to follow up after July 1973

These projects are strongly recommended as a follow-up to the earlier projects. This is very necessary, particularly in aquaculture projects. Successive trials for the duration of at least two crops are essential to test the feasibility of commercial application.

Project	Man/months	Equipment, etc. U.S.\$
1. Aquaculture in New Caledonia and Fiji	36	35,000
2. Aquaculture in Koror, Palau	18	20,000
3. Macrobrachium culture in French Polynesia	12	60,000
4. Boatbuilder	12	
5. Turtle tagging		3,000
6. Development of fishing in mangrove areas	6	6,000
7. Outer Reef line fishing development	6	12,500
8. Fellowships, all sub-projects		50,000
TOTAL	90	186,500