

UNDP/FAO/SPC
SOUTH PACIFIC ISLANDS FISHERIES DEVELOPMENT AGENCY

R E P O R T
OF THE
SECOND MEETING
OF THE
CONSULTATIVE COMMITTEE

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Noumea, New Caledonia

18 - 22 October 1971

C O N T E N T S

	<u>page</u>
Introduction	1
Report of the Project Manager	2
Consultants and experts	3
Introduction to projects	3
Aquaculture project	4
Beche-de-mer project	16
Marine turtle project	18
Fishing boat project	21
Bait-fish project	23
Provision of training fellowships	25
Summary of budget requests	25
Determination of priorities	26
Other business:	
Biotoxin survey	26
Recommendation of Eleventh South Pacific Conference to the South Pacific Commission	27
Dr Clutter's report on reef and lagoons	27
Plan of Operations	28
Closure	28
Annexes:	
I. Opening address by Mr John E. deYoung, Acting Secretary-General of the South Pacific Commission	
II. Agenda	
III. Report of the Project Manager	
IV. Recommendation of Eleventh South Pacific Conference to the South Pacific Commission	
V. List of Working Papers and Information Documents	
VI. List of Participants	

UNDP/FAO/SPC

SOUTH PACIFIC ISLANDS FISHERIES DEVELOPMENT AGENCY

REPORT OF THE SECOND MEETING
OF THE CONSULTATIVE COMMITTEE

Noumea, New Caledonia
18 - 22 October 1971

INTRODUCTION

At the request of the Secretary-General, South Pacific Commission, and in accordance with the Plan of Operations which requires that intervals between meetings should not exceed twelve months, the Second Meeting of the SPIFDA Consultative Committee was convened at SPC headquarters, Noumea, on Monday, 18 October 1971.

Members representing the Territories were: Dr Stanley Swerdloff (American Samoa), Dr Barry White (Cook Islands), Mr J.S. Manikiam (Fiji), MM. Sixte Stein, Warren Ellacott and Philippe Siu (French Polynesia), Mr Sam Rawlins (Gilbert and Ellice Islands), MM. Sauvée, G. Guerlain and J. Boyer (New Caledonia), M. B. Sorin (New Hebrides), Mr Gregory K. Graham (Papua/New Guinea), Mr W.W. Nauck (Tonga), Mr Peter Wilson (TTPI) and Mr William Travis (Western Samoa).

Also attending as Consultative Committee members were: Mr Harry C. Winsor (FAO), Mr Michael Priestley (UNDP), Mr Alan Harris (SPC), and Professor François Doumenge and Mr Valentine Hinds (respectively SPIFDA Project Manager and Co-Manager).

SPIFDA consultants attending were: Dr D.K. Villaluz (Philippines) and Mr John Fyson (Fiji).

The Government of France was represented by M. Jean Emond.

Mr P. Logan, (US Peace Corps, Fiji) and Dr C. Nash (Oceanic Institute, Hawaii) were present as observers.

The meeting was brought to order by Mr Peter Wilson, TTPI, Chairman of the First Meeting of the Consultative Committee, who briefly commented on the progress of SPIFDA during the past year and then introduced the Acting Secretary-General of the South Pacific Commission, Mr John E. deYoung, who made the opening address (copy of speech at Annex I).

Mr William Travis (Western Samoa) was unanimously elected Chairman (proposed by Dr Barry White, Cook Islands, and seconded by Dr Stanley Swerdloff, American Samoa).

Dr Stanley Swerdloff was elected Vice President (proposed by Mr Peter Wilson, TTPI, and seconded by Mr Sam Rawlins, GEIC).

A Drafting Committee was appointed consisting of -

	Mr V.T. Hinds	SPIFDA Co-Manager, Noumea
assisted by	Dr Barry White	Cook Islands
	Mr Peter Wilson	TTPI
and	M. Philippe Siu	French Polynesia

REPORT OF THE PROJECT MANAGER (copy at Annex III)

Following adoption of the proposed Agenda, the Project Manager's report was reviewed and the critical financial state of the Agency emphasized. It was pointed out that there was a need for concentration of a small number of experts in a few places for longer periods of time as it was obvious, in the light of the first year's operations, that SPIFDA would not be able to operate in all territories and in all disciplines at the same time.

The Project Manager emphasized the need for completing certain projects successfully to secure a sound foundation for the future of the Agency. In order that this might be achieved he recommended the establishment of certain projects including

- 1) the demonstration of new and improved fishing techniques in mangrove areas and the harvesting of under-developed resources;
- 2) the establishment of one or more pilot farms for the cultivation of Macrobrachium;
- 3) the establishment of pilot experimental mari-culture farms in Koror and New Caledonia.

Considerable emphasis was placed on the selection of suitable projects to be presented in order of priority to ensure the sympathetic consideration of the funding agencies.

CONSULTANTS AND EXPERTS

The Consultative Committee expressed its appreciation of the service provided to SPIFDA by the various consultants and experts who had visited the area under the auspices of SPIFDA. The Consultative Committee also appreciated the presence at the meeting of Dr D.K. Villaluz, consultant on aquaculture, and Mr John Tyson, boatbuilding consultant. The Committee also noted that efforts had been made to have other consultants attend the meeting.

The Consultative Committee also expressed its appreciation for the reports and recommendations received from consultants, which were of great value in considering the future work programme of SPIFDA. The Committee noted, however, that reports were not yet available from some of the consultants and recommended that action be taken to speed up the circulation of such reports to ensure that they could be given full consideration well before the next meeting of the Consultative Committee.

INTRODUCTION TO PROJECTS

The Chairman moved, on opening the session, that the reports as provided by the SPIFDA consultants be taken as read and that the delegates be divided into groups forming sub-committees to discuss the several subjects. Both points were carried.

The sub-committees were asked to appoint their own recorders and to ask consultants and observers to attend their meetings as required but not to form an integral part of the sub-committee.

Recommendations of the sub-committees were submitted to the full session.

AQUACULTURE PROJECTS

The Consultative Committee discussed the proposals contained in CONCOM.2/71/WP.9, WP.11, WP.13 and WP.14. Various amendments were proposed and accepted and the final recommendations were as follows.

The Consultative Committee,

- BELIEVING** that one of the main requirements of fisheries development being the introduction of skilled techniques in the application of aquaculture and
- RECOGNISING** the lack of such scientific and technical skills in the SPIFDA region,
- RECOMMENDS** after due consideration and establishment of priorities that SPIFDA implement - with the help of the funding agencies -

	<u>Funds required (cash)</u>
	US \$
A coastal aquaculture demonstration centre at St. Vincent Bay, New Caledonia (see WP.11 which follows)	100,000
A marine culture demonstration centre at Koror in the Palau Islands, Trust Territory of the Pacific Islands (see WP.14 which follows)	100,000
A demonstration centre in French Polynesia for controlled high-density reproduction and rearing of giant fresh-water prawns (<u>Macrobrachium</u>) (see WP.13 which follows)	90,000
Coastal fisheries in mangrove channels and sandy muddy beds (see WP.9 which follows)	14,750
Total	<u>304,750</u>

Note: The Project Manager and experts attached to these projects to be available to travel to other territories to advise on, and assist in, implementation of related projects on request by the various territories.

PROPOSED SUB-PROJECT

1. Title: A coastal aquaculture demonstration centre at St. Vincent Bay, New Caledonia.

2. Background and justification

2-1. The work of many specialists and in particular the last report by Mr Glude, expert in oyster farming, has emphasized the exceptional suitability of environmental conditions in St. Vincent Bay, New Caledonia.

2-2. Scientific research, especially since 1960, has produced a great deal of preliminary documentation on the hydrological and biological conditions.

2-3. Types of environment are exceptionally varied in St. Vincent Bay where there are:-

- The deltas and estuaries of the Ouenghi, Ouamenie and Tontouta rivers which bring fresh water and mineral salts.
- Numerous mangrove channels and large salt marshes easy to bar and to dam.
- Large inland muddy and sandy-muddy bays.
- Peninsulas and archipelagos with different kinds of sheltered shores sandy or rocky.
- Large coral formations fringing or barriers with a good interchange of ocean water through the St. Vincent pass.

- 2-4. Easy access by road and by boat facilitates transport of materials, equipment and products. With Tontouta International Airport close by, reproduction stock larvae and juveniles, can be brought in from elsewhere (Australia, Japan, Hawaii, Tahiti).
- 2-5. Noumea being near affords logistics support in personnel and equipment, scientific support through the ORSTOM laboratories and easy liaison with the Headquarters of the South Pacific Commission and the Fisheries Agency.
- 2-6. There is a considerable local demand because of the high standard of living, especially from the 60,000 inhabitants of the Noumea complex.

The increase in local consumption has led to increasing importations:-

<u>Purchases made by New Caledonia</u>	US \$	
	1969	1970
Fresh, salted and frozen products -		
Fish	69,680	85,130
Crustaceans and molluscs	241,680	316,890
Tinned -		
Fish	380,190	419,770
Crustaceans and molluscs	<u>63,330</u>	<u>105,960</u>
Total	<u>754,880</u>	<u>927,750</u>

This represents importing from outside per inhabitant US \$ 6.56 in 1969 and US \$ 7.41 in 1970, the increase affecting mostly molluscs and crustaceans.

At present in New Caledonia for the oyster market alone about 300,000 dozens per year are sold at very high prices (US \$ 1.40 to 2.00 per dozen). The crustacean market, mostly prawns, amounts only to approximately a 100 tons because of supply difficulties and too high prices, US \$ 6 to 8 per kilo.

3. Objectives

To create and develop an experimental sea water and brackish water culture and farming centre to improve some activities under way (osyter farming) and to launch new productions (culture of other molluscs beside oysters, culture of prawns, culture of certain species of fish).

4. Work Programme

1 November 1971 - 29 February 1972:

- (1) Selection of sites and planning of major works.
- (2) Thorough reconnaissance to ascertain the availability of natural prawn stock in mangrove channels and inland bays.
- (3) Experimentation of fishing methods with set gear to catch predators, evaluation of the dynamics of the stock of crustaceans and fish and harvesting of adults in large size ponds.
- (4) Additional documentation to be obtained by the Project Manager in Australia, New Zealand, Japan, United States and Europe.
- (5) Submission of the detailed project to FAO and to the New Caledonian administration.

1 March 1972 - 31 July 1972:

- (1) Building of major works (dams and banks, supply and discharge of water), fitting of pumps and electricity.
- (2) Development of Japanese oyster culture and of spat from the United States.
- (3) Start of culture of some species of penaeid prawns in controlled 200 cubic metre tanks with local, Australian and Japanese stock.

1 August 1972 - 31 December 1972:

- (1) Study of growth rates of the major oyster species up to marketable size.
- (2) Study of growth rates of penaeid prawns and use of a wide variety of natural and artificial foodstuffs.
- (3) Storing controlled tanks some species of fish especially mullets (mugilides) to study feeding and reproduction.

5. Draft budget for the Fisheries Agency

Expert services:	US \$
3 months expert qualified skipper fisherman	7,500
10 months expert molluscs culture	25,000
12 months expert prawn culture	30,000
Travel by experts and the Project Manager	15,000
Specialized scientific equipment	12,500
Fishing gear and other equipment	10,000
	<hr/>
	Dollars US 100,000
	or 10,000,000 fr CFP

6. Draft budget for the Territorial counterpart

Per diem of experts	20,000
Transport (Land Rover, van, light craft with outboard engine)	10,000
Infrastructure work -	
Buildings and shelters	20,000
Dams, earthmoving, work on banks	15,000
Hydraulic supply and discharge pipes	5,000
Concrete controlled tanks	10,000
Pumps and sluices	15,000
Electrical installation	10,000
Purchase and transport of breeding stock (oysters, prawns)	4,000
Purchase of natural and artificial foodstuff	4,000
Staff -	
2 qualified assistants	25,000
2 professional manual workers	12,000
	<hr/>
	Dollars US 150,000
	or 15,000,000 fr CFP

That is split 40% for SPIFDA and 60% for the Territory of New Caledonia.

Note: It should be noted that part of the territorial counterpart may be provided by the administration in kind (Public Works, Agriculture Civil Engineering, Fisheries Service) and that part of the equipment can be made available temporarily (vehicles, electrical installation, pumps).

7. Recruitment of experts

M. John Glude should remain in charge of the oyster development programme with if necessary a second expert to follow up problems of controlled reproduction of various species of molluscs.

An expert in crustacean culture with scientific qualifications as a laboratory manager and practical experience of managing experimental farms during at least two years will have to be recruited. A skipper fisherman qualified in backwater and delta channel fishing will be recruited for three months for the preliminary phase. Depending on M. Villaluz's conclusions an expert may be recruited later for fish farming.

PROPOSED SUB-PROJECT

1. Title: A marine culture demonstration centre at Koror in the Palau Islands, Trust Territory of the Pacific Islands.

2. Background and justification

- 2-1 The topographical conditions in the Palau Islands especially around Koror are particularly suitable for the organization of a marine culture experimental centre, as there are large dissolving basins in the elevated reef formations which constitute natural ponds of different sizes easy to control with limited investments. In the Palau Islands there are also large inland bays bordered by mangroves and which have an input of fresh water through the deltas.
- 2-2 There is a good deal of scientific documentation in Japanese publications built up from studies carried out in 1937 to 1943.
- 2-3 The marine resources development service and the Fisheries Department of the Trust Territory of the Pacific Islands are in Koror and are already conducting experiments in edible oyster culture and turtle hatchery and farming.
- 2-4 A considerable quantity of feeding stuff is available from the waste of the Van Camp Company bonito freezing plant. With 10,000 tons of fish being processed at present some 1,000 tons of feeding stuff are already available.
- 2-5 Small scale pearl culture is functioning with a Japanese operator.
- 2-6 Guam is a worthwhile outlet for these products and exports by air can easily be developed.
- 2-7 Experts (Glude, Clutter, Doumenge) in conclusions in their reports all favour the organization of marine cultures in Palau.

3. Objectives

To create and develop an experimental centre for sea-water cultures and farming, especially for edible oysters and pearl oysters and also for turtle and certain species of fish.

Training of qualified personnel in order to create economically viable centres and to spread the most suitable techniques to other areas of the territory or other interested areas.

4. Draft budget

Fisheries Agency -	<u>US \$</u>
24 months experts services	60,000
Travel by experts and Project Manager	15,000
Scientific equipment	25,000
	<u>100,000</u>
Territorial counterpart -	
Equipment:	
Buildings, laboratories, shelters	20,000
Ponds and fencing	20,000
Pumps and hydraulic installation	15,000
Electricity	15,000
Culture equipment and feeding stuff	5,000
Transport	10,000
Personnel:	
Subsistence and local transport of experts	20,000
2 biologists	25,000
2 assistants	5,000
Manual workers and fishermen	5,000
	<u>150,000</u>

PROPOSED SUB-PROJECT

1. Title: A demonstration centre in French Polynesia for controlled high density reproduction and rearing of giant fresh-water prawns (Macrobrachium).

2. Background and justification
 - 2-1 Giant fresh water prawns (Macrobrachium) are found in most high islands of territories of the South Pacific Commission's area and they are sometimes in great demand.

 - 2-2 There is little if any information on the quantity available in the islands, on the species or their dynamics. However, it seems that constant fishing even on a small scale rapidly causes a crisis in the natural stock.

 - 2-3 It seems that controlled tank breeding could be developed successfully and several experts, in their reports, have advocated that such activities should be organized (George, Glude, Clutter). A start has been made in Tahiti.

 - 2-4 For such farming to be sustained a large quantity of juveniles, bred in controlled tanks, must be available so as not to depend on natural reproduction.

 - 2-5 The success of farming on a commercial scale will depend on the densities which can be achieved, the availability of cheap feeding stuff and on the selection of quick-growing species.

 - 2-6 The laboratories which specialize in Macrobrachium studies, in particular in Honolulu and Abidjan as well as the FAO specialists already have sufficient experience to assist in the development of an experimental centre in the South Pacific Islands.

3. Objectives

They are:

To obtain a massive production of breeding stock using selected indigenous species and well-tried imported species.

To study techniques for maintaining high densities.

To obtain the most economical artificial or natural feeding stuff having regard to local conditions.

To secure technical assistance for the professionals engaged in the culture of Macrobrachium and train qualified personnel for these establishments.

4. Draft budget

	<u>US\$</u>
Fisheries Agency -	
12 months expert services)	
Travel by experts and the Agency's Manager)	90,000
Specialized equipment)	<u> </u>
Counterpart by the territory concerned -	
Equipment:	
Buildings and shelters	15,000
Transport equipment	7,000
Aquariums and laboratory equipment	8,000
Pumps, compressors, water circulation systems	12,000
Electricity	10,000
Storage and growing tanks	6,000
Feeding stuff	2,000
Personnel:	
Subsistence for experts and Project Manager	10,000
1 biologist, locally recruited	15,000
1 assistant	8,000
2 manual workers	8,000
	<u> </u>
	100,000
	<u> </u>

PROPOSED SUB-PROJECT

1. Title: Development of coastal fisheries in mangrove channels and sandy muddy bays.

2. Objectives

- 2-1 Demonstrate the use of trap nets and other kinds of nets to catch fish and crustaceans moving in mangrove channels and along the shores of inland bays, until now these areas having been quite unused by indigenous or foreign fishermen.
- 2-2 Make a survey of the main species existing in such areas - in particular penaeides - to assess natural stocks and the possibilities of supply of mother shrimp if breeding in artificial tanks seems useful.
- 2-3 Experiment and subsequently train fishermen in fishing techniques to obtain stock for marine culture farming.

3. Draft budget for three-month project

US \$

SPIFDA -

Personnel	3 months wages and social charges for a skilled fisherman, specialised in certain fishing techniques US \$ 1,600 x 3	4,800
	Per diem allowance - US \$ 25 x 90	2,250
	Travel expenses	2,000
Material	5 nets "guanguy" for channels-US \$300 each	1,500
	6 nets of Travaques at US \$ 200 each	1,200
	Transport by air of 600 kg freight (US \$5 per kilo)	<u>3,000</u>
		14,750

COUNTERPART - local administration (estimate) -

Materials (Tiber posts, lead for nets)	1,000
Transport (Land Rover, boats)	4,500
1 Fishery officer to join the survey	1,500
2 Fishermen to be trained	<u>2,000</u>
	<u>9,000</u>

4. Territories which should participate in the programme

First experiments:	St. Vincent Bay, New Caledonia	6 weeks
	Fiji	10 days
	French Polynesia	10 days
Further development, if successful:	Papua/New Guinea	3 months
	TTPI	2 months
	Solomon Islands	2 months
	New Hebrides	1 month

BECHE-DE-MER PROJECT

The proposal for the bêche-de-mer project was read by Mr Wilson (TTPI) and, after a short discussion and minor revision, was accepted by the Consultative Committee.

The Consultative Committee,

BELIEVING that the bêche-de-mer project offers the prospect of immediate practical application to the economy of territories and, in particular, to the more remote areas,

RECOGNISING the value of the advice of the consultant and

NOTING that the species of commercial importance have been identified, underwater pictures taken of the animals in their natural habitat and promising markets identified,

RECOMMENDS that SPIFDA -

1. Immediately engage the services of an experienced processing and marketing technician, as an essential follow-up to the survey to bring this project to an early and successful conclusion, to conduct a training tour of interested territories, in particular Cook Islands, French Polynesia, Gilbert and Ellice Islands, New Hebrides, Papua/New Guinea, Tonga and Trust Territory of the Pacific Islands.

The Consultative Committee,

NOTING the need for the preparation of an illustrated handbook on the identification, processing and marketing of bêche-de-mer,

RECOMMENDS further that SPIFDA -

2. Publish such a handbook, illustrated with photographs and descriptions of
- a) the commercially important species as they appear underwater to the fisherman;
 - b) all steps of processing the various species;
 - c) the markets and approximate selling price of the various species of commercial importance.

3. Adopt the following budget to complete this project:

	US \$
Salary, processing specialist	25,000
Travel: Hong Kong-Fiji-New Guinea and eight months subsistence TTPI	5,000
Publication of handbook - 1000 copies @ \$5 each	5,000
Total	<u>35,000</u>

MARINE TURTLE PROJECT

The Consultative Committee discussed the proposed project and, having taken into account the advice of the two turtle experts and made one major amendment, the submitted proposal was accepted.

The Consultative Committee,

BELIEVING that turtles constitute an important but endangered resource in the South Pacific region and

RECOGNISING that little background material is available for wise management of this resource,

RECOMMENDS that SPIFDA -

1. Arrange, by contract, for a turtle-investigator to compile and produce a "Basic Field Guide for Marine Turtle Management" which should include sections on
 - a) identification
 - b) life history
 - c) field study techniques
 - d) population management
 - e) rearing
2. Initiate a comprehensive turtle-tagging programme in selected territories.
3. Arrange that pertinent turtle information, both from territorial and outside sources, be compiled, summarised and circulated to the territories, utilising the existing framework of the SPC Intelligence Service.
4. Adopt the following work plan and schedule.

WORK PLANA. Field manual

- 1) Compilation and edition to be contracted to a competent investigator-writer with broad experience in the practical aspects of turtle investigation.
- 2) Production of the manual to be entrusted to the SPC Publications Bureau and SPC requested to finance publication.

B. Tagging programme

- 1) 2,000 standardised turtle-tags and appropriate tagging tools to be purchased and distributed by SPIFDA to participating territories.
- 2) The participating territories undertake the actual tagging and submission of tagging records to SPIFDA.
- 3) SPIFDA maintain a central data bank and circulate to the territories a bi-annual summary of turtle-tagging activities.
- 4) SPIFDA provide funds for the reward of returned tags and the reward be set at US \$5 in line with world-wide turtle tagging programmes.
- 5) Wording and coding of the turtle-tags to be determined by the Project Manager and Co-Manager.

SCHEDULE

- Field manual: a) contractual arrangements to be completed by 31 December 1971
 b) completion of the manual by 1 July 1972
 c) publication to be effected by 31 December 1972
- Turtle tags: to be received by territories on or before 1 April 1972
- Tagging data: first bi-annual tagging summary to be received by territories by 1 October 1972

5. Adopt the following budget:

	US \$
Contractual fee (field manual)	1,000
Equipment and materials:	
turtle-tags - 2,000	560
tools	100
Rewards (estimated 100 returned tags @ \$5)	500
	<hr/>
	2,160
Contingency - 25%	540
	<hr/>
Total	<u>2,700</u>

FISHING BOAT PROJECT

Discussion followed presentation of the sub-committee's proposals; after considerable amendment from the floor the following was agreed.

The Consultative Committee,

RECOGNISING that the provision of suitable designs and vessels is essential to the successful development of the fisheries of the region and that suitable craft do not exist in many of the territories

CONSIDERS THAT until such time as suitable vessels are designed and built the development of territorial fisheries will be delayed

COMMENDS the work of John Fyson to date but recognises the need for additional assistance in order to meet the varied needs of the territories within the shortest possible time and therefore

RECOMMENDS that SPIFDA -

1. Develop designs, based on territorial fisheries' requirements, of several classes of fishing vessel including
 - a) a 28 - 36 foot semi-displacement day-boat
 - b) a 35 - 40 foot general purpose ferro-cement displacement fishing vessel for small scale inshore fisheries operation
 - c) a ferro-cement live bait skipjack tuna fishing vessel
2. Furnish such technical expertise as is required to supervise the construction of prototype vessels.
3. Provide an advisory service on other boat problems that may arise in the territories.

The Consultative Committee,

TAKING INTO ACCOUNT the wide geographic separation of the territories and the amount of travelling involved, in order to accomplish this programme

FURTHER RECOMMENDS that SPIFDA -

4. Increase assistance to include two experts for a further period of 24 man/months and, additionally, two associate experts to assist in the design work involved.
5. Adopt the following work plan and schedule:

WORK PLAN

28 - 36 foot day-boat - general work concept. A total construction package will be prepared including boat plans, constructional set-up, materials lists, tools and equipment and building instructions. Construction of the prototype vessel will take place in American Samoa to the order of the Department of Marine Resources. This prototype construction will serve as a model on which other territories can establish their own assembly programmes.

35 - 40 foot ferro-cement fishing boat - general work concept. Design of a general purpose displacement fishing vessel for small-scale inshore fisheries with supervision of construction of prototype on request in the countries which have expressed interest, i.e. Fiji, Tonga and TTPI.

Ferro-cement live bait skipjack tuna fishing vessel - general work concept. Design of a vessel in the size range 50 - 60 feet suitable for the pole-and-line, live bait fishing, with detailed material specification and supervision of construction of a prototype vessel in TTPI.

SCHEDULE

Design work for vessels in the 28 - 40 foot range to be completed by June 1972.

Construction of prototype day-boat to begin around July 1972 and to be completed by December 1972.

Design of skipjack tuna vessel to be completed during the second half of 1972.

Supervision of construction of prototype vessels to be continued through 1973 as required.

6. Adopt the following budget:	US \$
Salaries: 2 experts for 24 man/months (total 48 man/months)	120,000
2 associate experts	-
Local subsistence	6,000
Travel	15,000
Equipment	3,500
Miscellaneous overheads	5,000
	<u>149,500</u>

It was noted that the existing contract of the boat design consultant will continue for a further twelve months.

BAIT-FISH PROJECT

The Consultative Committee discussed the proposals presented and major revisions were made. They were then accepted as amended.

The Consultative Committee,

BELIEVING that the regional natural bait-fish resource is of prime importance to the successful development of skipjack tuna pole-and-line fisheries planned for many of the territories and

RECOGNISING the frailty of the total bait-fish resource and its susceptibility to over-exploitation (and the consequent danger to the local ecology) and the need to develop alternate supply sources (including artificial baits),

RECOMMENDS that

1. The recommendations of the First Meeting of the Consultative Committee, under the heading of Bait-fish, should be carried out.
2. The services of an expert, knowledgeable in the practical cultivation of sources of live-bait (including tilapia, gambusia, etc.) be procured.
3. SPIFDA contribute towards the establishment of a pilot Alternative Bait-fish Evaluation Project centred on American Samoa, such contribution to consist of the partial services of the bait-fish expert. This project to include
 - a) captive rearing of several species of potential bait-fish
 - b) evaluation of their effectiveness as live bait
 - c) economic feasibility of such rearing
 - d) study of mortality rate
 - e) development of artificial lures to be used in conjunction with successful alternative live-bait species.

4. SPIFDA adopt the following work plan and schedule:

WORK PLAN

- A. Bait-fish expert. The expert will conduct an **initial short-term** assessment of potential alternative bait-fish species and techniques for rearing. The expert to be based in American Samoa, for a period of not less than six months, to advise the Department of Marine Resources on the operation of their bait-fish feasibility study. After completing his assignment in American Samoa, he would be available to assist other territories requiring his services.
- B. Bait-fish feasibility study. American Samoa will provide
- a) work sites
 - b) laboratory facilities
 - c) internal transportation
 - d) labour as required
 - e) office space
 - f) bait-fish stocks
 - g) limited equipment and materials
 - h) vessel and crew for bait-fish evaluation

and will keep SPIFDA informed of the results of their work.

SCHEDULE

- | | |
|--|---------------|
| A. <u>Bait-fish expert</u> contracted by | 1 April 1972 |
| Initial assessment completed by | 30 June 1972 |
| On station, American Samoa | 1 July 1972 |
| Terminated by | 31 Dec. 1972 |
| Final report by | 31 March 1973 |
| B. <u>Bait-fish rearing</u> to commence | 1 July 1972 |
| Feasibility trials to commence | 1 Oct. 1972 |

5. SPIFDA adopt the following budget:

	US \$
Salary bait-fish expert 12 man/months	30,000
Local subsistence	600
Travel (including interterritorial trips)	4,000
Equipment (specialised)	1,500
Equipment (for other territories, if required)	5,000
Contingency	7,000
	<hr/>
Total	48,100

PROVISION OF TRAINING FELLOWSHIPS

The Consultative Committee discussed the possibility of providing training fellowships, at centres where projects are undertaken, for the purpose of better disseminating the knowledge, technical skills and experience acquired through such operations. The possibility of granting training fellowships outside the sphere of SPIFDA projects should not, however, be precluded. The most important qualifications for such fellowships were felt to be practical skill and experience as fishermen.

The Consultative Committee,

RECOMMENDS therefore that the sum of US \$ 60,000 be set aside for this purpose, this sum being considered adequate to meet training requirements for all the projects proposed above.

SUMMARY OF BUDGET REQUESTS

Projects:	US \$	US \$
Aquaculture -		
St. Vincent Bay project	100,000	
Koror project	100,000	
French Polynesia project	90,000	
Mangrove channel fisheries	<u>14,750</u>	304,750
Bêche-de-mer project		35,000
Marine turtles		2,700
Fishing boat development		149,500
Bait-fish		48,100
Fellowships		60,000

In drafting the foregoing programmes for future activities of SPIFDA, it was accepted that some of the programmes concerned would not be finalised before the scheduled completion date for the SPIFDA Project, July 1973, and therefore assumes continuation of the SPIFDA Project beyond that date.

DETERMINATION OF PRIORITIES

The Consultative Committee considered that each of the projects in the above list should be regarded as having equal priority. If funds were to prove insufficient to meet all requirements in full, the Committee suggested that suitable budgetary adjustment be made wherever possible.

The Consultative Committee noted that funds presently available to SPIFDA would enable the following projects to be continued or put in hand immediately:

	US \$
Fishing boat project (continuation of Mr John Fyson's services for a further 12 months)	149,500
Bêche-de-mer project	35,000
Mangrove fisheries project	14,750
Turtle project	2,700

With regard to the remaining priority projects, additional funds would appear to be necessary before formal implementation, but the Committee recommends that preparatory organisational work be undertaken to ensure that the projects can be implemented as soon as the necessary approval for funding has been received.

OTHER BUSINESS1. Biotoxin Survey

During the course of the Meeting a cable was received from UNDP Regional Representative in Apia asking for the views of the Consultative Committee on a proposed wide survey of biotoxins affecting marine foods (and including a study of Ciguatera) to which a cabled reply was requested.

The Consultative Committee expressed full support for the establishment of a world survey of biotoxins affecting marine foods and recommended that participating governments give their support to the proposal. The Consultative Committee is not sufficiently aware of the details of the project to indicate whether SPIFDA could provide any substantial assistance to the project, but would like an opportunity to consider the possibility of providing such assistance when details were available.

Delegates drafted the following cable to UNDP Regional Representative in Apia expressing the views of the Committee:

"SPIFDA Consultative Committee, recognising the extremely detrimental effects of biotoxins in the South Pacific region, strongly supports the proposed WHO/FAO biotoxin study and anticipates results leading to practical solutions. Winsor will furnish details of work plan to SPIFDA members"

2. Recommendation of Eleventh South Pacific Conference to the South Pacific Commission

The Consultative Committee was presented with an extract from the report of the Eleventh South Pacific Conference to the South Pacific Commission, Agenda Item XIV - Other Business: "A. Relationship between SPIFDA and Member Territories". (Annex IV)

The Committee was informed that the resolution from the South Pacific Conference was initiated at that Conference by the Government of Fiji. Fiji was concerned at the lack of practical advice from SPIFDA and the delays which had occurred in the completion and distribution of consultants' reports. In any case, Fiji felt that consultants had been concentrating on very specialised aspects of marine resource development - what was wanted was more fish which could be eaten by the people of Fiji.

Reference was made to the very great difficulties which have been experienced in working under the approved Plan of Operations. Some of these difficulties arose from logistical circumstances.

It was decided that action on the SPC resolution be deferred until the Third Meeting of the Consultative Committee.

3. Dr. Clutter's Report on Reef and Lagoons

The Consultative Committee expressed the hope that the results of Dr Clutter's work would be available shortly. It was decided that the Third Meeting of the Consultative Committee would give full consideration to the report.

4. Next Meeting

It was proposed that the next meeting of the Consultative Committee be held in July/August 1972 in French Polynesia, the date to be decided by the Project Manager in conjunction with the SPC. The Committee tabled a request that consultants and experts be present at that meeting.

5. Plan of Operations

The Committee recommended that FAO, as Executing Agency, be asked to conduct a review of the SPIFDA Plan of Operations in consultation with the South Pacific Commission, including the question of the location of SPIFDA headquarters, to enable further consideration to be given to the matter at the next meeting of the Consultative Committee.

CLOSURE

The Chairman briefly expressed his appreciation to the members of the Committee for their work and the broad approach made to the matters under discussion.

He also expressed, on behalf of the Committee, sincere appreciation for the work of the Secretariat and of the Interpretation and Translation Service.

A vote of thanks to the Chairman was carried unanimously.

The Meeting formally closed at 18.45 hours on 22 October 1971.

OFFICIAL OPENING

Address by Mr J.E. deYoung, Acting Secretary-General,
South Pacific Commission

Gentlemen,

May I welcome you to Noumea for this Second Meeting of the Fisheries Consultative Committee established under the Plan of Operation for the South Pacific Islands Fisheries Development Agency.

In particular I would like to welcome some new faces:

Mr. H.C. Winsor is representing FAO in place of Mr. Kojima,
Mr. S. Rawlins is representing GEIC in place of Mr. Hughson,
MM. J. Sauvée, J. Boyer, and G. Guerlain are representing New
Caledonia in place of M. Eude, and
MM. Stein, Siu and Ellacott are representing French Polynesia and
M. Sorin is representing the New Hebrides, in place of Professor
Doumenge who last year represented both these territories.
Mr. Nash who is representing the Oceanic Foundation, Hawaii.

I am also pleased that the number of Territories represented has increased by one, and there has been also a small increase in the number attending.

At the First Meeting of the Committee, held in Noumea from 30 October to 4 November 1970, it was agreed by the representatives of the United Nations Development Programme, and the Food and Agriculture Organization that the functions of the Consultative Committee as set out in the Plan of Operations should be regarded as including review of the work done by SPIFDA in the preceding year, and review and comment on the detailed programme of work presented by the Project Manager, in order to ensure that the work programme properly reflects the needs and priorities of the region, and also to ensure maximum input to the project from the participating territories and the SPC.

In the intervening year, a number of consultants have surveyed the prospects of development in a number of fields of possible fisheries development. Two of these consultants are attending this meeting and you will be considering the reports presented by others. We had indeed hoped that all consultants who had completed surveys would have been in attendance, but this proved impossible to arrange. In general it will be for the countries and territories concerned to determine whether they can implement the various recommendations made by consultants. In some cases this may involve seeking further technical assistance, through UNDP country projects, through SPC or through other agencies. In some cases you may wish to consider whether there may be scope for further work of a regional character, and to assist in the identification of such regional projects.

At the beginning of August the former Project Manager, Mr. Alan Tubb, was transferred by FAO to a new post in Indonesia, and although FAO appointed Professor Doumenge to act as Project Manager for some weeks, Professor Doumenge was required to visit Rome for consultations, and has only one week ago returned to Noumea to take up duty as Project Manager. I wish him every success in his new appointment. I know that Professor Doumenge has a number of ideas concerning the future work programme of SPIFDA which he will be discussing with you. It may be that these ideas, if they are acceptable to you, will involve an expansion of the activities of SPIFDA, and may possibly involve additional finance, and therefore amendments to the Plan of Operations. I will await with interest your views in this connection.

I know too that a very important place is foreshadowed for Marine Aquaculture in the SPIFDA programme. In this connection I would wish to invite your attention to a Resolution passed at the recent Regional Symposium on the Conservation of Nature, conducted by the SPC in conjunction with the International Union for the Conservation of Nature and Natural Resources. The Resolution read as follows:-

"Aquaculture

The Symposium:-

Being aware that animal protein supplies in Pacific islands are scarce and are likely to be more scarce in the future:

Believing that aquaculture can supply substantial protein increments;

Considering that aquaculture can be coupled with other food diversification projects and utilise human and agriculture wastes;

Recommends to the South Pacific Commission and to all governments and administrations concerned that action be taken:-

- (1) to encourage, with appropriate safeguards, aquaculture by itself and in conjunction with other developmental projects to which it can be related;
- (2) to initiate aquaculture development research under appropriate auspices, giving particular attention to the economic aspects of aqua-farming;
- (3) to co-ordinate, through the S.P.C., information, research and development relating to aquaculture in the South Pacific region, including the activities of appropriate national, international and private agencies;
- (4) to initiate an urgent educational programme for the people of some territories to overcome lack of understanding and extreme prejudice against the potential usefulness of animal and human wastes as fertiliser after proper digestion and oxidation processes."

I might add that several other Resolutions passed at this Symposium will be of considerable interest to you, and arrangements have been made for copies of these resolutions to be made available to you. Professor Doumenge will also be having something to say to you on the subject of Marine Aquaculture.

I would like now to revert for a moment to the question of the relationships between SPIFDA, FAO, SPC and Territorial Administrations, a subject which I know has been of considerable concern to you, and which led to a good deal of discussion at the first Meeting of this Committee. This question was also discussed at the Eleventh South Pacific Conference which has just concluded. The Conference passed the following Resolution:-

"The Conference, realising the vital importance of orderly and timely development of marine resources to countries in the Commission area, and accepting that SPIFDA has had a difficult and disturbed establishment period, resolved that the relationship between the South Pacific Commission, SPIFDA and fisheries departments within the region be reviewed by the forthcoming meeting of the Consultative Committee with a view to ensuring that the work of SPIFDA and the South Pacific Commission is in accord with, and is much more positive relative to, the needs and wishes of territories; and further that a full report of the review and any actions taken thereon be submitted to the next Conference."

It would be appreciated if you could, during this meeting, give your consideration to this Resolution, so that your views can be conveyed to the Twelfth South Pacific Conference next year. In this, as in all other matters, I would like to say that the resources of the South Pacific Commission are at your disposal. If further work can be done within the framework of SPIFDA, it is for you to tell us what you want. If what you want cannot be done within the SPIFDA framework, then we can consider other means for achieving the desired results.

This brings me to my final point, namely the section of the SPC Work Programme dealing with Fisheries Development. At the Fisheries Technical Meeting last year, at the suggestion of SPC, consideration was given to a three year work programme in fisheries development, although it was realised that some of the proposals would be undertaken by SPIFDA and others by SPC. This programme, together with suggestions put forward by individual territories, was subsequently considered by the Planning Committee, which met at the beginning of June to draw up a three year work programme for the SPC. Most of you will have by now seen their report. It would be appreciated if you could set aside a little time during this week to consider this programme. See how far it meets your current needs, after considering the future programme of SPIFDA, and give me your views as to any changes which you think are necessary. Your views will be placed before a further meeting of the Planning Committee which is to take place early next year. In this connection, too, I might say that there was a belief expressed at the recent South Pacific Conference and Session that more effort should be given to the identification of longer term projects which could be sponsored by SPC.

I hope very sincerely that you have a profitable and, at the same time, pleasant meeting.

A G E N D A

1. Opening Address by Secretary-General
 2. Election of Chairman and Vice-Chairman
 3. Adoption of the Agenda
 4. Nomination of Drafting Committee
 5. Report of Project Director and Co-Director
 6. Reports on sub-projects
 - (a) Turtles - by Dr H. Hirth and Dr J. Henrickson
 - (b) Molluscs - by Mr J. Glude
 - (c) Rock Lobsters - by Dr R. George
 - (d) Bêche-de-Mer - by Mr K. Sachithanathan
 - (e) Fishing Boat Construction - by Mr J. Fyson
 - (f) Reefs and Lagoons - by Dr R. Clutter
 - (g) Fish Culture - by Dr D. Villaluz
 7. Review of future sub-projects and programme and determination of priorities.
 8. Consideration of Recommendation No. 39, "Relationship between SPIFDA, FAO, SPC and Member Territories", extracted from the Report of the Eleventh South Pacific Conference.
 9. Recommendations of Consultative Committee to UNDP/FAO/SPC and Chairman.
 10. Adoption of Report and Recommendations.
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PROGRESS REPORT OF THE
SOUTH PACIFIC ISLANDS FISHERIES DEVELOPMENT AGENCY

by

Professor François Doumenge
Project Manager Designate

1. Statement by Professor F. Doumenge on his activities on the project.

1-1. Participation as an expert

Meetings in Rome on 25 and 26 January 1971. These led to a decision to prepare an overall report on marine culture and fisheries problems in the South Pacific Commission area territories. There was also a decision that a review should be made of problems in the Trust Territory of the Pacific Islands in April 1971 taking advantage of experience gained during a study visit of marine culture in Japan.

Visit to the Trust Territory of the South Pacific Islands 12 April - 29 April. During this visit preliminary studies were made with a view to organising a marine culture centre in Palau. Also attended the Regional Fisheries meeting in Ponape.

Returned to Japan and arranged for the despatch of a sample of 140 kilos of Japanese oyster spat for a breeding trial in the St. Vincent Bay in New Caledonia.

1-2. Tentative appointment as Project Manager of the Agency

Initial talks in Bordeaux beginning of March 1971 with representatives of FAO.

27 March 1971 - A letter was sent by the Director General of FAO to the Foreign Affairs Ministry of the French Republic requesting that Professor Doumenge be seconded to fill the post of

Project Manager of the South Pacific Islands Fisheries
Development Agency.

1 April 1971 - Formal proposal of appointment.

May 1971 - The University of Montpellier accepted secondment
of Professor F. Doumenge as from 1 November 1971. FAO was
informed of this eventuality by the Foreign Affairs Ministry.

1-3. Functions of Project Manager designate from 1 July 1971 to
31 October 1971

Meetings in Rome on 5 July 1971 which set the role and
the activities required of the Project Manager designate
according to the yearly programme.

7 - 14 July - At Noumea, study of the Agency's problems and
first briefing by Mr. Tubb.

15 - 31 July - Mission to the New Hebrides for the French
National Research Council.

1 - 15 August - Mr. Tubb completed briefing on the Agency's
problems. Attendance at South Pacific Commission's Symposium
on the Conservation of Nature - Reef and Lagoons.

16 August - 15 September - Acting Project Manager of the South
Pacific Islands Fisheries Development Agency. In addition
to current matters, the work involved included the organisa-
tion of the Second Meeting of the Consultative Committee of
the South Pacific Islands Fisheries Development Agency and the
preparation of the agenda and programme.

16 - 18 September - Visit to Rome and report on the state of
the Agency and prospects of projects.

5 - 7 October - Visit to Rome for final talks on problems re-
lating to the Agency (finance, personnel, projects).

9 - 17 October - Preparation of the Second Meeting of the
Consultative Committee.

18 - 22 October - Second Meeting of the Consultative Committee.

23 - 31 October - End of administrative functions as Project
Manager designate.

2. Activities undertaken for the South Pacific Islands Fisheries Development Agency between 9 July and 17 October 1971.

2-1. Oyster farming

During a study visit to Japan in April/May 1971, samples were obtained of oyster spat collected in the province of Miyagi in August/September 1970. Seven 20-kilo crates (140 kilos) were despatched to Noumea at the end of May 1971 for Mr. Guerlain's oyster farm located in St. Vincent Bay. Mr. Glude, the oyster specialist, was able to check on-the-spot delivery conditions and laying.

Mr. Guerlain's establishments were visited several times: in July twice, in August four times, in September twice and in October twice; thus the test was followed up and it was possible to make some improvements in oyster farming.

- 2-1-1. The Japanese spat (Crassostrea gigas) has adapted well and it is developing quickly, although there was a high mortality during transport and laying. The time of despatch was too late and the sample contained too much spat already developed by some centimetres. The youngest spat did best.
- 2-1-2. Laying on trays, oyster crates or on fences is not recommended as the oysters seem to perish when uncovered at low tide.
- 2-1-3. Raft culture produces very good results. The best results are obtained with wire netting or plastic bags. Strings of shells hung from rafts develop well but they must be immersed at more than 40 centimetres from the surface.
- 2-1-4. Some oysters were available to the market mid-October; most will be marketable by Christmas.

In addition to studies and work done in St. Vincent Bay, surveys have been made in other places in the territory of New Caledonia (East Coast, the La Foa River and bays around Noumea).

One working day was spent at the establishment at Maa Bay under concession to Mr. Vittecoq along the shore of the Schmitt property.

2-2. Preliminary survey on the setting up of an aquaculture centre and crustacean farm.

2-2-1. A preliminary study was made early in August in St. Vincent Bay, which lasted two days, with Dr. Ramo Pillay, fisheries expert with FAO in Rome.

2-2-2. Collection of samples of shrimp penaeids and research on the ecological conditions and the suitability of St. Vincent Bay with regard to fisheries: with Mr. Jean Guerlain in July (twice) in August (four times), September (twice), in October (twice) - altogether 20 days - and with Mr. Jean Boyer in August (1 day).

Samples collected were sent to the ORSTOM centre in Noumea and to the Queensland Fisheries Research Institute in Brisbane so that they could be identified and compared with other species in the South West Pacific.

2-2-3. Collecting of samples of macrobrachium in the estuaries and mangrove channels at the same time as sample penaeids shrimps were collected. Samples of fresh-water shrimps were brought back by Mr. Jean Guerlain from the Nassirah falls and other were collected in inland waters on the East Coast (Mr. Dubois at Ponerihouen, Dr. Arnold at Canala). The samples were despatched for identification of species to Dr. Yaldwyn of the Dominion Museum of Wellington in New Zealand.

2-2-4. Further samples of crustaceans were collected in St. Vincent Bay (stomatopodes, calianas, various crabs).

2-2-5. Conclusion: The natural resources of edible marketable crustaceans in many places seems high and would justify commercial small-scale development. Natural stocks could easily provide the necessary stock for controlled reproduction in laboratory.

2-2-6. On our advice, Mr. Guerlain is enclosing a salt-water marsh to create an experimental medium-size pond of the kind suggested by Dr. Pillay.

3. Use of Fisheries Development Agency's equipment.

It would seem that the Fisheries Development Agency has too much unusable equipment not backed up by logistic support in personnel, craft and laboratories, and not enough - if any - equipment for small-scale action in the field.

The Fisheries Agency has no vehicles. This means hiring transport or using private vehicles for visits in difficult terrain. It has no light craft, no outboard engines, no camping equipment nor other resources essential for action in the field; yet these were all provided for in the Operations Plan budget.

On the other hand, the Fisheries Development Agency has a great deal of scientific equipment which is unusable owing to lack of premises, specialised personnel and a set programme. All hydrological equipment delivered between June and September has remained unused; the same applies to part of the scientific equipment. In many cases the equipment was not unpacked in order to preserve the equipment in the best possible condition.

To make best use of existing equipment, temporary arrangements were made for storage with the Tahiti detachment of the Paris Natural History Museum who are working on reef and lagoon problems likely to give worthwhile results for the sub-project in this field. This equipment is also used for scientific work by students of Tahitian origin. It consists of a stereomicroscope Wild No.1-48588, a scale No. 62834 (type 1104) and a Beckmann oxygen monitor. This equipment will be returned to the Fisheries Development Agency on request but, at least, it will have been used in the meantime.

With regard to current equipment, the Nikonos underwater camera is used for taking slides on reef and in the lagoon and the two fresh-water aquariums are being used by Dr. Arnold for micro-brachium breeding.

A set of 40 Japanese nets was delivered mid-August and trials have been made. The equipment consists of 10 set nets with large mesh for shark and 30 drift nets (10 with 6" mesh, 10 with 8" mesh, 10 with 10" mesh). Eight nets of each category have been used in St. Vincent Bay, two nets of each category being reserved for an expedition which may be made to the Solomons under a draft project initiated by Mr. Valentine Hinds, Co-Manager of the Project.

The mid-August and mid-September trials in St. Vincent Bay consisted in one day's drift fishing, three days' set net fishing, and five nights' set net fishing. The drift fishing gave no results.

The weather, in any case, was abnormally calm and did not permit suitable drifting although the nets had been cast along St. Vincent Bay and across the tidal currents. This day-fishing was done with a trimaran belonging to Mr. Henri Gairan and a crew of five. Set net fishing was done with small craft belonging to Mr. Jean Guerlain and crewed by him.

The casting and lifting of nets, depending on circumstances, was done by three or five, with one at the helm. The shark nets gave no worthwhile results. On the other hand, the drift net when cast as set nets gave good results and sizeable catches were made considering the sector and the season. Some 50-metre nets brought in catches of 10 - 12 kilos of fish of very good quality in one spot.

The best catches were of "Croco" Pomadasys hasta (Blok), horse mackerel Caranx sp., soldier fish Lutjanus argentimaculatus (Forsk), bream Acanthopagrus berda (Forsk) together with crabs.

There was comparatively little damage done to the nets by dogfish but damage caused by crabs was at times quite serious.

These trials, carried out on a muddy bottom on the edge of mangrove, did at least show that there was an exploitable fauna comparatively rich in predators which are normally considered as migrators and therefore which could be exploited on a small commercial scale without upsetting the balance of the stock. A light craft of 6 to 7 metres with a 30 hp outboard motor is sufficient to lay 20 nets of 50 metres with a minimum and a maximum crew of three to five.

If the Fisheries Development Agency had a minimum of gear and transport it would be possible to pursue worthwhile trials on various techniques in areas which have been so far badly exploited, in collaboration with territorial service and the local professionals concerned.

4. Participation in the activities of the South Pacific Commission

The South Pacific Islands Fisheries Development Agency is required to participate permanently in the activities of the South Pacific Commission, in particular through its Co-Manager, Mr. Valentine Hinds, Fisheries Officer of the Commission. However, at the Regional Symposium on the Conservation of Nature which was held at the headquarters of the South Pacific Commission in Noumea, the Fisheries Development Agency was called upon to take a more active part through Mr. Alan Tubb, Project Manager, and Mr. Valentine Hinds, Co-Manager, who took a very active interest in the debate, as did Dr. Clutter, an expert recruited by the Agency, and Professor Doumenge, Project

Manager designate, who was requested to chair the preliminary symposium of territorial delegations held 5 - 7 August and who, in addition to the report on the Regional Symposium, made a number of statements and contributions on problems concerning reefs and lagoons.

5. Development of the documentation service

In order to improve the documentation service of the South Pacific Islands Fisheries Development Agency, a good deal of correspondence was exchanged with scientific and government specialised bodies in Australia, New Zealand, India, Japan, the United States, France and the FAO.

With the agreement of the South Pacific Commission library, some of the specialised periodicals have been transferred to the premises of the Agency. Special attention was paid to securing documentation on the following subjects :

- Japanese research on coral reefs, especially in Micronesia, during the period 1938 - 1943 and since 1960.
- Specialised French research on reefs.
- The development of aquaculture techniques, especially for crustaceans.
- Evaluation of social and economic conditions in the South Pacific Commission territories affecting the consumption of seafood.
- The development of foreign fishing in South Pacific Commission territories (longline tuna fishing by the Japanese, South Koreans and Formosans as well as bonito live-bait fishing).

This documentation will, on request, be made available to territorial departments concerned. An initial request by Papua/New Guinea with regard to bonito fishing with live bait has been met by Japanese firms. Furthermore, Mr. Valentine Hinds, Co-Manager of the Fisheries Agency, has published, in collaboration with Professor Doumenge, the second Information Letter on fisheries in South Pacific islands and this ensures regular liaison between the various departments and the specialists concerned in the fields within the scope of the Agency.

6. External relations

6-1. Call made by the Dimitri Mendeleiev in New Caledonia

During the call made at Noumea by the Dimitri Mendeleiev, a Russian research vessel, which had on board a sizeable team of specialists in oceanography, marine biology and study of

coral reefs, Professor Doumenge and Mr. Valentine Hinds between 24 and 27 August welcomed the many participants and arranged visits at the South Pacific Commission, at the Noumea Aquarium and around Noumea. On Saturday, 28 August a working trip was organised to the St. Vincent Bay by Professor Doumenge.

- 6-2. Professor Doumenge took part in the creation of a reef fauna natural reserve in the area of Sarcelle Pass/Havannah Pass, south of New Caledonia. There was a trip at sea and on the reef for preliminary survey on Saturday, 14 August.
- 6-3. Professor Doumenge attended the Consultative Commission for Maritime Affairs of New Caledonia on Friday, 13 August.

6. The financial situation

It reflects the structural organisation and the commitments clearly stated in the two attached information documents. It should be noted especially that

- 1) the post of Project Manager, alone, absorbed approximately one third of the budget commitment;
- 2) another important post is that of Sub-Project Consultant for ferro cement fishing boats which takes up more than a quarter of the monthly allocation for experts' services;
- 3) because of the very large geographical area covered by the project, funds earmarked for travelling are quite inadequate and there is, in fact, already a substantial overdraft.

With funds available at present it is practically impossible to envisage any development of activities. Additional funds must be made available immediately amounting to at least US \$ 100,000 for 1972 and \$ 100,000 for 1973.

In order to make the best possible use of these funds it seems necessary

- 1) to reduce travelling and to concentrate on a few sectors and activities likely to give early and concrete results;
- 2) to avoid scattering the action of consultants and to set up teams which would work in direct and close collaboration with the Project Manager and the Co-Manager of the Fisheries Development Agency.

Furthermore, and as provided in the Operations Plan, counterpart contributions by territories on their own or through the SPC must, in fact, be made available to the project.

These counterpart contributions mentioned in paragraphs 3.4, 3.5 and 3.6 and also paragraphs 3.7 and 3.8 of the Operations Plan (official document pages 15 to 21) should, if they are lodged with the Fisheries Agency, help in the organisation and development of activities other than the recruitment of experts. It should be noted that there is a delay of about one year between the Operations Plan and the execution of the project. Lastly, part of the Operations Plan remains to be clarified with regard to counterparts by both the Territories and the SPC.

As for equipment, funds provided under Table A of the Operations Plan, it should be emphasised that if heading 2 of paragraph A has led to purchases of doubtful value because of the lack of laboratory facilities and specialised technical personnel, urgent purchases remain to be made under headings 1 and 3 of paragraph A (Working Equipment and Vehicles).

7. Prospects and work programme

A first insight into this matter can be obtained from the report of proceedings of the meeting held in Rome at FAO headquarters on 17 September 1971 (drafted by Mr. G.N.S. Rao and revised by Mr. Kojima):

Professor Doumenge described the current status of the SPIFDA project and felt that the activities of the last one and a half years have been too dispersed and the limited resources of the project should now be concentrated on specific promising fields and only in certain areas. Consultants should be stationed in each selected territory for longer periods.

The work of the eight consultants assigned to SPIFDA until now was reviewed. The reports on turtles were very comprehensive and the possibility of some small projects relating to the resources, their food and their management, may be considered. Turtle culture may not be a practical proposition at present as, among other things, feeding will be a problem.

The report on lobsters is not likely to lead to any follow-up projects though a suggestion has been included in the recommendations of the report for a Lobster Biologist to be appointed to carry out further studies on this resource.

Regarding boats, the usefulness of Mr. Fyson's services to the SPIFDA was questioned, particularly as 20 percent of the allocated man/months are taken up by this post. It was recognized that there is a great need for his services by the

"territories covered by SPIFDA but SPIFDA's current programme of activities may not require his services. The meeting was informed that in view of this the UNDP, Apia, has been requested to look into the possibility of transferring Mr. Fyson to the Fiji TA budget as a large proportion of his time is taken up with work for this Government and subsequently transfer him to the proposed UNDP Regional Boat Specialist post for the West Pacific, if it materializes. This is to be followed up at a Consultative Committee Meeting.

Culture of molluscs and fish appears to offer the greatest possibilities of developing immediate action projects. Mr. Glude's report is considered to be the most practical of the consultant reports received up to date and future work of the SPIFDA should be concentrated on action projects following from this, as well as Mr. Villaluz's report on fish culture.

Dr. Clutter's project on Study of the Reef and Lagoon Productivity is important as it provides basic data on environmental conditions in the area. Appraisal of the resources of the reef and lagoon areas has indicated that there is not much scope for increase of production by an increase in fishing effort and there is a need for extending fishing operations to the periphery of the islands, just outside the reefs. This requires better and larger boats constructed to withstand local weather and ocean conditions and also knowledge of the resources - pelagic, midwater, as well as demersal. Development of this fishery will need the assistance of a Resources Appraisal Specialist, Masterfisherman, as well as a vessel. This will be beyond the services of SPIFDA and the possibility of providing UNDP assistance to develop this type of offshore fishery should be considered by the territories on a territory basis somewhat similar to local tuna fishery projects in Fiji and Western Samoa. Should Dr. Clutter be in Noumea at the time of a Consultative Committee Meeting, he will present his findings but his contract will not be renewed. Professor Doumenge will also submit his report on the fishery situation of the region, which was prepared under SSA, to a Consultative Committee Meeting.

It was noted that a large amount of scientific laboratory equipment and fishing gear has been purchased by the former Project Manager, Mr. Tubb, from the SPIFDA funds and the specific objectives of these purchases were not clear. Much of the equipment required storage in air-conditioned rooms which were not available to SPIFDA. Amongst the equipment

"lying in Noumea were Nansen bottles, oxygen analysis apparatus, salinity bridge, microscopes, plankton nets, large-meshed shark and drift nets comprising 40 pieces, etc. The existence of this equipment should be brought to the notice of the territories at the second meeting of the Consultative Committee who might find some use for them, and those not required by SPIFDA should be disposed of, to the best advantage, accordingly.

While reviewing the work of consultants it was felt that in future consultants should work as a team in close association with the Project Manager. The future work of SPIFDA should be in areas carefully selected and aquaculture, i.e. multi-culture, including oysters, crustaceans, fish which appear to offer the best area as a follow-up of the current activity. Likely places for aquaculture projects are Palau, Fiji, Tahiti and New Guinea. Subject to the local government's willingness to finance and provide counterpart facilities, a demonstration centre for aquaculture should be built at each of these places to carry out pilot studies on fish, shrimp, oyster and clam culture. The expertise to be provided from SPIFDA would be a team of four aquaculturists who would spend about 3 months in each centre, starting with the place where counterpart facilities are available. This would involve 48 man/months of consultants to be added to the SPIFDA budget. The present budget has enough funds to cover about 15 man/months of consultants only and additional funds from UNDP either through contingency funds or additional allocation should be sought after the above proposal has been approved by the SPIFDA Consultative Committee at its second meeting in October. Professor Doumenge has agreed to prepare detailed proposals of the aquaculture sub-project to be presented to the meeting.

It was emphasized that the selection of the sites for the establishment of demonstration aquaculture centres should take into consideration the markets for the product output. The four big cities in the South Pacific area (with population in parenthesis) are Papeete (60 000), Suva (80 000), Noumea (60 000) and Port Moresby (60 000) and these offer good markets amongst the non-indigenous and tourist population. Guam is also a good market.

¹ Guam has a permanent population of 60 000, plus 20 000 to 30 000 military servicemen.

" It was also noted that commercial production of shrimp by aquaculture needs to be considered as regards its economic feasibility and the availability of natural feeds and pelleted feeds at low prices. The project will probably have to start with oyster culture and expand the operations to clams and crustaceans and fish.

The possibility of bilateral assistance to the countries in the South Pacific, particularly in the development of off-shore fishing and other fields, needs to be looked into.

The need for holding the proposed Colloquium on reefs and lagoons was re-examined in the light of the consultants' reports and the priorities assigned to the future programme of SPIFDA. According to Dr. Clutter, the Colloquium is not likely to contribute anything of immediate practical application to the SPIFDA programme. In place of it, after the aquaculture projects have progressed to a stage when an evaluation becomes possible, an experts' consultation should be arranged by SPIFDA to determine the future action to be taken. "

As things stand, the action of the Agency should be limited to practical operations likely to give early results and any basic study or long-term project should be excluded. In organising projects special attention should be paid to projects most likely to bring early benefit to other territories from the lessons and the results of work done, whether it has been successful or not.

Funds should be provided for vocational training, education and promotion scholarships so as to train the managerial and executive staff who will be required to continue the activities of the Agency after the end of its present contract. It should be made clear that the Operations Plan provides explicitly in paragraph 6.7 (pages 35 and 36 of the official text) that the Project Manager must ensure that at the end of projects staff of territorial departments and of the SPC must be able to continue the activities. This indicates that a modification in the original plan of operations is desirable at this time to provide for the gradual handover of the Project.

The Project Manager must ensure that experts do not restrict their activities to quick visits to as many sites in as many islands of as many territories as possible, and then produce as many recommendations as possible to satisfy and to be of value to as many

territorial departments and local personalities as possible. Indeed, this approach to these problems - though good for public relations since it pleases many people and allows a general if superficial view of many islands and many territories of the South Pacific - has shown that it is completely ineffective as regard to proper organisation and effective demonstration work.

To be frank, I feel that up to now the Fisheries Agency has operated rather more like a travel agency than a specialised body designed for the effective development and exploitation of marine resources in the territories of the South Pacific Commission. This is in no way a slight on the competence of the experts nor on the soundness of their recommendations, but recruitment influenced by personal considerations, with no coordination of programmes or schedules, has led to a situation where it has been quite impossible to gather together anywhere, in the field or at a conference, all the experts so as to review and examine their work and their findings.

This is pungent today since we were not able to get our experts together to report on their work at your Consultative Committee.

In view of the complexity of the problems we face at all levels when trying to find practical solutions to the development of marine resources on reefs, in lagoons and in mangroves, it is more than ever essential that we train teams of specialists who can work together and who can exchange their views and compare results regularly and permanently. The required and crucial role of the Project Manager should be to train, to lead, to guide these working teams in the field so that all will have in mind the aim of the Project: that is to make all territories benefit from advances in scientific and applied technology so as to make maximum use of potential marine resources in the tropical Pacific.

This, of course, calls for a change in the method and concept for implementing the Agency's activities. Instead of dispersing our efforts in many different fields, we shall have to select a few projects most likely to succeed. Experts must work in teams on these projects with a limited programme and according to a reasonably accurate timetable so as to reach, as early as possible, conclusions which will enable the territories to size up results of trials and so that results achieved can be circulated to those who are interested.

I therefore propose to the Consultative Committee that, in the light of results obtained so far, it should deem that the preliminary phase of dispersed research and uncoordinated operations is ended and that therefore, in future, there must be a new "team work" approach concentrating from the start on activities with the most promising immediate future: that is to make the best possible use of marine resources - fish, crustaceans and molluscs - through aquaculture methods and techniques.

ANNEX IV

EXTRACT FROM REPORT OF THE ELEVENTH SOUTH PACIFIC CONFERENCE TO
THE SOUTH PACIFIC COMMISSION

"AGENDA ITEM XIV - OTHER BUSINESS"

"A. Relationship between SPIFDA, FAO, SPC and Member Territories

39. The Conference, realising the vital importance of orderly and timely development of marine resources to countries in the Commission area, and accepting that SPIFDA has had a difficult and disturbed establishment period, resolved that the relationship between the South Pacific Commission, SPIFDA and fisheries departments within the region be reviewed by the forthcoming meeting of the Consultative Committee with a view to ensuring that the work of SPIFDA and the South Pacific Commission is in accord with, and is much more positive relative to, the needs and wishes of territories; and further that a full report of the review and any actions taken thereon be submitted to the next Conference."

LIST OF WORKING PAPERS AND INFORMATION DOCUMENTS

Agenda	E & F	CONCOM/2/71/WP.1/Rev.1
Draft Programme	E & F	WP.2
Recommendations for implementation of molluscan aquaculture projects in the SPIFDA area - by John B. Glude	E & F	WP.3
Proposed sub-project: Rock lobster exploitation and management	E & F	WP.4
Proposed sub-project: Rock lobster resource survey, Marquesas and Gambier regions, French Polynesia	E & F	WP.5
Summary of report* on rock lobsters - by A.W. George	E & F	WP.6
Summary of report* on turtles - by J.R. Hendrickson	E & F	WP.7
Summary of report* on aquaculture (molluscs) - by J.B. Glude	E & F	WP.8
Proposed sub-project: Development of coastal fisheries in mangrove channels and muddy bays	E & F	WP.9
Extract from report of 11th SPC Conference, Agenda Item XIV.A.39	E & F	WP.10
Proposed sub-project: A coastal aquaculture demonstration centre at St. Vincent Bay, New Caledonia	E & F	WP.11
SPIFDA progress report - by Project Mgr.	E & F	WP.12
Proposed sub-project: A demonstration centre in Fr. Polynesia for controlled high density reproduction and rearing of giant fresh-water prawns (<u>Macrobrachium</u>)	E & F	WP.13
Proposed sub-project: A marine culture demonstration centre at Koror, Palau Islands, TTPI	E & F	WP.14
Report on fishing boat requirements - by J.F. Fyson	E only	WP.15
Report on fisheries and aquaculture in the SPC region	E & F	CONCOM/2/71/ Information Document 1
Study of turtle-grass ecology and productivity in S. Pacific waters - by Graham B.K. Baines	E only	Information Document 2
Japanese investigation on coral reefs and lagoons - by Sigeru Motoda	E only	Information Document 3
Commentary to accompany slides on rock lobsters - by R.W. George	E only	Information Document 4
Draft papers on reefs and lagoons - (by R. Clutter (E only	Information Document 5
	E only	Information Document 6

*Full report not yet available.

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