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SOUTH PACIFIC COMMISSION

EIGHTEENTH REGIONAL TECHNICAL MEETING ON FISHERIES
(Noumea, New Caledonia, 4-8 August 1986)

COUNTRY STATEMENT - FIJI

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INTRODUCTION:

1. In 1985/1986 the major emphasis in the Fisheries Sector was placed on the consolidation of rural and commercial artisanal fisheries. Constraints such as inadequate infrastructure and support services which were earlier identified as imperative to enhance developments were established in several rural centres, i.e. ice plants, fisheries offices and the National Marketing Authority Fish Marketing centres were established.
2. In spite of depressed tuna markets, ways and means were under investigation to promote tuna fisheries to generate foreign exchange and provide employment. By the end of 1986, Fiji Government will be the major shareholder in PAFCO because C. Itoh has decided to pull out. This will strengthen Fiji's own marketing capability. PAFCO tuna is regarded as one of the highest quality tunas in the world and provided this quality can be maintained it is felt that the current market could also be retained.
3. Efforts were expended to develop aquaculture. While technical advances were achieved with several species during the study period, additional work is required before it could be proved economically viable and could be transferred into commercial development.
4. An overall review of the Commercial Fishing Sector was effected and suggestions for improved institutional arrangements within the Sector was made. During the review the Fisheries legislation were also reviewed and appropriate draft new legislation and amendments prepared. (1)

Staffing

5. At the beginning of 1986, there were 108 staff manning the Fisheries Division. Their activities were facilitated by the presence of 21 vehicles and 14 vessels distributed within the four administration divisions. These resources were complemented by the support provided through aid in kind and by a number of technical advisers seconded for short periods from various institution and Governments.

FISH PRODUCTION:

6. Marine products landed in 1985 totalled 27834.28 MT. (Over the previous year's landing). The breakdown by sector shown below shows an increase of 10%.

Tuna Landings (Pole and line, longline)	8428.8	MT
Artisanal Fishing Landing	5863.48	MT
Baitfish & Miscellaneous Marine Products	1546.76	MT
Subsistence Landing (Estimated)	12000.00	MT

T	O	T	A	L	=	27835.04	MT
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Artisanal Fishing Sector

7. Landings in this sector comprise fresh and frozen fish, non-fish, and salted and smoked fish. The records were derived from the Municipal Markets, retail shops, restaurants and butchers, the National Marketing Authority and roadside sales. The landings have increased by approximately 15% yearly. Sales over the last four years is shown below:

FISH	1982		1983		1984		1985	
	MT	VALUE	MT	VALUE	MT	VALUE	MT	VALUE
Municipal Market	973.71	1832.67	840.6	1575.8	925.3	1625.2	980.93	1638.2
NMA	136.13	660.78	290.6	365.56	276	277.13	379.33	656.93
Other Outlet	1755.76	3265.71	2360.6	4484.3	2728	5353.74	2691.04	5727.2
Smoked Fish	21.5	54.5	35.82	123.13	21.3	43.99	27.3	61
Salted Fish	26.7	80.1	33.6	141.73	9.7	38.63	5.1	20.5
Sub-Total	2913.8	5903.76	3561.42	6690.52	3960.3	7338.69	4083.7	8103.83

NON-FISH PRODUCTS								
Municipal Market	1443.1	2879.1	1450.3	880.96	1547.16	766.39	1175.1	643.83
NMA & Other Outlet	57.1	113.91	502.9	782.2	233.4	910.37	423.38	359.4
Sub-Total	1500.2	2993.01	1953.2	1663.16	1780.56	1676.76	1599.08	1003.23

RURAL FISHING SCHEME	99.4	133.32	143.8	192.03	121.76	169	180.7	256.94

TOTAL	4513.4	9030.09	5658.42	8545.71	5862.62	9184.45	5863.48	9364

Subsistence (Estimated) 10000	-		10000	-	10000	-	12000	-

Industrial Fishery Sector

8. Due to the depressed tuna price in the world market the Industrial Fishery Sector has shown decline in production as well as reduced foreign exchange in 1985. Of the total landings, pole and line vessels still dominated the catches (40%), the others were made up of longline (20.%) and purse seines (6.5%) and due to the poor season in 1985, 28% of the fish were also imported. (Details shown in table below)

TUNA LANDING AT PAFCO 1982 - 1985

CLASSIFICATION	1982		1983		1984		1985	
	WGT	VALUE (F\$000)	WGT	VALUE (F\$000)	WGT	VALUE (F\$000)	WGT	VALUE (F\$000)
INDUSTRIAL FISHERIES								
Pole and Line	4664.3	3830	5468.9	3426.2	4572.8	3900	3253	2325.1
Purse Seine	1006.7	812.6	1006	894.2	577.26	436.1	693	457.1
Long Line	2139.5	3371	1384.22	5581.8	1832.9	2200	2105.6	3791.5
Other(Import)	-	-	368	381.83	1987.3	1594.3	2374.2	1620.5
TOTAL	7810.5	8013.6	8227.12	10284.0	8970.26	8131.1	8428.8	8194.2

TUNA SALES	1985		1984		Value (F\$million)	
					1985	1984
Canned Tuna (Export)	555554	ctn	592484	ctn	12.50	16.09
Canned Tuna (Local)	7400	ctn	8678	ctn	0.11	0.12
Frozen Tuna (Export)	1153	tonnes	633.8	tonnes	1.90	0.67
Fish Meal (Local)	652.2	tonnes	682.2	tonnes	0.33	0.34
T O T A L					14.84	17.22

Fishery Trade - 1985

9. In 1985, Fiji fisheries products earned \$16.381 million in foreign exchange. Imports of fishery products totalled \$7.87 million. Details are shown below:

EXPORT OF FISHERY PRODUCT

	<u>QUANTITY</u>	<u>VALUE (F\$M)</u>
Tuna Canned	555554 ctn	12.50
Tuna Frozen	1153 tonnes	1.90
Trochus Shells	274 tonnes	0.53
Mother of Pearl Shells	16.1 tonnes	0.06
Beche-de-mer	66.2 tonnes	0.66
Shark fin	10.82 tonnes	0.11
Frozen Crab	0.042 tonnes	0.001
Frozen Local Fish	26.6 tonnes	0.13
Aquarium Fish (Live-No)	59404	0.10
Clam Meat	-	0.30
Coral	-	0.05
Seaweed	-	-0.04

\$16.381

The Work of the Division

10. Fiji's Fisheries Division is comprised of three major sections i.e. Extension and Technical Services, Resource Assessment and Development and Administration. The foregoing is the summary of the programme undertaken by each section during the 1985/1986 period.

Extension and Technical Services

11. The role of this section is two-fold while the Rural Fisheries Development Programme concentrates on promotion of fishing activities in rural areas. The Commercial Artisanal Fisheries Programme on the other hand provides suitable fishing gears, vessels and other requirements to the commercial fishermen to enable them to fish at a great distance from the larger urban centres both inside and outside and beyond the reef.

Vigorous attempts were made to transfer improved technology to the fishermen and expansion of support services to the fishermen to enhance their operation in 1985/1986.

12. 37, FAO designed 28 footer vessels were built and sold in 1985. 24 of these vessels were allocated to the students who participated in the 2, four-months Rural Training Programmes conducted at the Lami Training School. The remaining 13 vessels were sold to commercial fishermen. In 1986, one rural Training Programme concluded in late May and 12 of these 28-footers were allocated to the participants.
13. For the first-time in June 1986, a training course for women was conducted. There were 12 participants who came from various villages throughout the country. Special approaches were made to familiarise the participants on various types of fishing gears available now. Special emphasis were placed upon hanging and repairing gill nets.
14. Eight, one week training programmes for rural fishermen were conducted in their villages in Nabouwalu, Labasa, Savusavu, Kaba and at Nadave CATD Training Centre. The fishermen were trained on fundamental gear technology, legislation, engine maintenance and fish handling and processing.
15. One Fisheries Officer from Fiji attended the SPC Refrigeration Course in Cook Island. The course proved very beneficial as indicated by the Officer's performance following the attendance, it has considerably improved. In his recommendation the officer suggested that in future courses it could include additional lectures on electricity in Refrigeration.
16. Fisheries Officers from the region after completing in 4 months training course at the Nelson Poly Technique attended a 5 week practical fishing course in Fiji, at Lami. Major emphasis were placed upon deep sea fishing techniques. With the help of the SPC training officer the course went very well

17. Support services such as sale of fishing gears at cost, ice sales, recommendation for Fiji Development Bank Loan and assistance to fishermen to acquire small grants from various Embassy's were provided. In 1985 fishing gear valued at \$36,463 were sold to the fishermen, 2708 tonnes of ice valued \$136,626 were made available and 156 loan applications were recommended which enabled fishermen to acquire FDB loans totalling \$449, 121.00. The grants and loans were utilised by the fishermen to either expand on their existing operation or start a new fishing scheme.
18. Opportunities for employment in the Fishery Sector was good as more and more people were attracted into the industry. Nearly 5,000 people were directly employed by the industry in 1985. As a result of the flux of people into the industry, take of fish by illegal practices were also on increase. The Fisheries Division recommended strengthening of the existing legislation to curb such practices such as dynamiting, using chemicals to catch fish etc. The Fisheries Law Enforcement Officers were on alert to ensure that anyone caught fishing illegally was treated accordingly.
19. Technical support and advisory services continued to be made available to rural fishermen on exploitation, processing and marketing. The Food Processing Unit continued to assist fishermen to land more and more Beche-de-mer. In 1985, 66.2 tonnes of dried beche-de-mer valued at approximately \$660,000 were landed and exported. Trochus shells in large volumes was also exported. Two blank-bottom factories were established in 1985. 274 tonnes of Trochus shells valued \$16,000 were exported.

Focal Point Development

20. There are now 12 Fisheries Division ice plants located in the various centres of the country plus 3 private ones belonging to PAFCO and Tip Top. It is now planned that future developments should be based around these focal points i.e. ice plants, small jetties, small ramps, possibly small marketing sheds, etc. should be established around the focal point to ensure that all infrastructures are present to facilitate fisheries operations.
21. Law Enforcement activity continued within the Territorial waters and 200 miles exclusive zone. Lack of manpower and other resources marred an effective regulatory work in 1985.

Resource Assessment and Development

22. The primary role of this section is to identify resources of commercial value and possibly develop techniques to assist fishermen to exploit these resources, bearing in mind the implications of resource management. The following programme were undertaken by this Section:
23. Recently a series of Fishery Resource Profile were produced by the section. The Profiles provide information on resource characteristics, potential, existing production and marketing, and investment possibilities.

24. Data collection and compilation of local fish sales have continued. The computerised data are used for stock assessment to determine patterns of exploitations for various resources. Surveys of municipal markets, retail shops, supermarkets, hotels, and roadside stalls were undertaken in 1985. Total volume of fish sold through these avenues were 4083.7 tonnes valued at \$8.1 million. Over the previous years this has increased by 3.1% by volume and 9.8% by value.
25. Data provided by the pole and line vessels, on baitfish and tuna stocks continues to be processed. Production of both resource has fallen in 1985 over the previous year's production. In 1985, bait catch totalled 31,788 buckets (appr. 57.2 tonnes) decrease of 40% and the tuna catch totalled 3252 tonnes a decrease of 25% over the previous year.
26. Resource survey activities include broad brush resource assessments at provincial or island level, individual resource assessments (giant clam, eel) and biological studies of particular species.
27. A joint Fiji-Tuvalu resource survey within the 200 mile EEZ which was initiated in 1984 is progressing well. The programme is funded by JICA. The Tuvalu vessel Te-Tautai was chartered for the survey until the recent switch to IKA 5. Progress reports on the survey are routinely produced. In general poor catches were made with drift gill nets used.

Later in 1985, the survey was redirected to Seamount survey and bottom longline work. Results from the latter have proved very encouraging.
28. A total of 15 FADs were deployed by the section in 1985 in the depths of 64m to 1110m. By the end of 1985, most of these had been lost due to shark bites, and particularly damages during the 4 cyclones in 1985. To date in 1986, 6 FADs have been deployed by the Section. One was lost in April, the others are proving very effective. Very good catches of skipjack, yellowfin, pakapaka and dogtooth tuna were reported.
29. Following the training provided by the SPC on Deepsea Fishing, several local fishermen are landing large volumes of the deep sea snappers. A total of about 6 tonnes of deepwater snappers were exported to Hawaii in 1985. Records of export of snappers to Hawaii has already exceeded 20 tonnes this year.
30. Application for reclamation of mangroves for industrial developments, tourist, resorts and jetties were received. The Division continued the task of assessing the loss of marine resources. The findings were then passed onto the independent arbitrator, who announced the awards of recompense to the right holders. In 1985, 17 applications involving 60.02 ha for reclamations were received.
31. The seaweed project is now operating on commercial basis. Over 20 hectares of reef area is under seaweed culture. Over 30 tonnes of dried seaweed were exported in 1985 with farmers earning \$35,000. This project has opened up a new era for employment. As many as 300 people were employed on farms last year. There are now 60 farms in various stages of development.

32. The survey of giant clam stocks in Fiji's reefs, the primary objective of the Fiji module, is estimated to be 75% complete. Good progress was achieved on 10 survey trips during 1986, despite vessel problems.

The first estimates of natural growth rates of T. derasa from tagged individuals became available and indicate that growth of sub adult and adult derasa is very slow. This would seem to reinforce the choice of gigas as the preferred species for culture.

A probable new species of Tridacna was encountered during the surveys. It is apparently quite ~~rare~~ and its formal description must await the acquisition of further live specimens.

A start is about to be made on the long term goal of evaluating the feasibility of giant clam farming and reef restocking in Fiji. Plans are in hand for the introduction of gigas spat from JCUNQ. Grow out trials on selected reefs will follow the 6 month quarantine period. The progress of mariculture techniques in the other modules of the project will be carefully monitored, and if it is decided that Fiji requires a Giant clam mariculture facility, such a system could use the nucleus of the quarantine project at Makogai.

Commercial activity continued to be monitored and a sharp increase in exports was noted during 1985 (20 tonnes of meat).

1986-87 should see the conclusion of resource survey work with trips to Northern and Central Lau, the Yasayasa Moala group, Kadavu and the Northern Yasawas, and see the preparation of publications summarising the research results. Growth and reproductive studies will be continued.

33. Freshwater Fishery continued to be treated with importance. Study to understand the life history of Ika Droka continued.

The inland resevoirs, Vaturu Dam and Monasavu were continuously monitored for fish stocked and environmental parameters. Adult juvenile eels continued to be sampled.

Aquaculture Development Programme

34. In line with the Fisheries Division's aim to increase fishery productivity, an Aquaculture Development Programme was established in 1982. Since then the programme has slowly gained impetus. In 1985 the following aquaculture programmes were operating:

35. The Raviravi Prawn Hatchery is now capable of producing as many as 8 million post larvae in one batch. The total area for the growing out ponds have increased to 24 ha now. In 1985 the farm was fully commercialised and it is now operating under the name of Prawn (Fiji) Limited - a joint venture firm of France Aquaculture and FDB Nominee Limited.

36. At Naduruloulou Station the following programmes were in progress during the last few years:
- i) Aquaculture research and development project;
 - ii) Shellfish culture project;
 - iii) Red Tilapia project;
 - iv) Rural aquaculture programme.
37. The evidence of carps clearing the exotic Hydrilla weed from the Rewa River is now showing. Grass carp and silver carp were successfully bred for the first time in Fiji. Mass production of post larvae has been established as biologically feasible under Fiji conditions.
38. Green mussel has been transposed to Savusavu for growout trials. A test market on the shellfish proved successful which encouraged works to continue.
39. The red tilapia project is also showing some good signs. Cage culture of the fish in marine system has been also initiated.
40. The rural fish farming programme is looking at consolidating the already established farms.

Library and Information Services

41. Fisheries Library has continued to expand. Food Fishes of Fiji Chart No. 3 was printed and put out on sale in 1985. The Fishery Resource Profile, Revised version of Fishery, Laws of Fiji, Report on the Review of Institutional Arrangements of the Commercial Fishery Sector, Fisheries related journals, books, publications, etc. are available in the Library. A very close association with Pacific Information Centre based at the University of the South Pacific has been maintained.
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