

5 August 1985

ORIGINAL : ENGLISH

SOUTH PACIFIC COMMISSION

SEVENTEENTH REGIONAL TECHNICAL MEETING ON FISHERIES

(Noumea, New Caledonia, 5 - 9 August, 1985)

COUNTRY STATEMENT - SOLOMON ISLANDS

SUMMARY

A description is given of the development of the fisheries sector, in Solomon Islands, over the period 1972 - 1984. This includes details of supporting Government programmes, 1984 production levels, and brief comments on the perceived potentials for further development.

SOUTH PACIFIC COMMISSIONSEVENTEENTH REGIONAL TECHNICAL MEETING ON FISHERIES

(Noumea, New Caledonia, 5th-9th August, 1985.)

COUNTRY STATEMENT - SOLOMON ISLANDSFISHERIES DEVELOPMENT IN SOLOMON ISLANDS1. Introduction

Fish has comprised a traditional component of the protein diet of the Solomon Island population and fishing has always been of importance in the national economy. Until the early 1970's, however, catching activities were largely limited to near-shore reef and lagoon areas and pursued mainly at a level sufficient to meet only immediate family or village subsistence requirements. Some limited surpluses of fresh fish were offered for sale in the local markets, and quantities of trochus shell, beche-de-mer, shark fins and other locally-processed items were produced for sale to export markets. Nevertheless, the cash income generated was comparatively small and it is only in recent years that the sector has come to be of major economic importance.

Three principal factors have contributed to this. In the first instance, the overall growth of the cash economy, associated with that of urban population centres, has greatly increased the potential offered by inshore fishing, as a source of cash income. Secondly, a commercial tuna fishing joint venture, Solomon Taiyo Ltd (STL), was established in 1972. Thirdly, in 1978, Solomon Islands declared a 200-mile Exclusive Economic Zone (EEZ), which laid claim to some 1.3 million sq. km. of ocean, together with the associated fisheries resources.

The establishment, in 1973, of a Fisheries Section within the (then) Department of Agriculture, followed from that of STL, with the Fisheries Section being charged with the monitoring and control of the developing commercial tuna fishing company. Subsequently, and as a Division within the Ministry of Natural Resources, the Fisheries Department also assumed responsibility for promoting the development of small-scale fishing activities in rural areas and for undertaking research into national fisheries resources and their management.

Since 1975, in keeping with the Government policy of decentralisation (devolution), increasing attention has been given to promoting fisheries development in rural areas. This has been pursued more or less separately from the development of the industrial tuna fishery, however, and the fisheries sector is now comprised of two distinct sub-sectors, the Rural or Provincial, and the Industrial.

## 2. The Provincial Sub-Sector

### 2.1 General

This sub-sector remains largely subsistence-orientated, with village-based fishermen seeking products from the sea as a supplement to their normal diet of root crops, vegetables and rice. Fishing activities continue to be pursued mainly on a part-time basis and remain primarily confined to lagoon and nearshore reef areas, although some deepwater fishing is also done.

Reflecting the diversity of the resources fished, a wide variety of fishing methods is employed. Traditional gears continue to be used in many areas but imported gear components are being widely adopted and there has been a general trend towards the use of fishing gears which are less species - specific than those previously worked. The most common fishing methods are now hand collection, cast fishing (rod and line), diving, handlining, trolling, gill-netting and beach-seining.

The boats used are typically non-motorised, 3-8m, L.O.A., dug-out canoes. Where mechanised boats are being operated these are normally either 5-8m, L.O.A., dug-out canoes, fitted with 15-25 h.p. outboard motors, or locally constructed 5-8m., L.O.A. FRP canoes powered by 12-25 h.p. outboards. All serve for both fishing and general transportation and the motorised boats are often used primarily for the transport of passengers and agricultural produce.

Men undertake most of the diving, net and handline fishing but women and children also often fish with handlines from dugout canoes and, in some locations, their involvement in this, and hand collection and cast fishing, on nearshore reefs, is becoming of increasing importance in the meeting of subsistence requirements.

### 2.2 Development Programmes

Efforts at encouraging development of parts of this sub-sector, as pursued by the Fisheries Department since 1975, have centred on promoting artisanal fishing activities, generating cash income for village fishermen through the supply of fish to meet market needs in the growing urban population centres.

Supporting programmes, which in recent years have received substantial capital assistance, have included:

- the undertaking of exploratory and experimental fishing studies;
- the provision of training and extension services;

- assistance in the procurement of fishing gear and associated equipment;
- the establishment of ice-making facilities in rural areas; and
- the development of retail fish markets in the major urban and rural population centres.

Early gill and tangle net fishing trials were conducted on the southern coast of Guadalcanal and subsequent studies included the implementation, in conjunction with the South Pacific Commission, of an outer reef artisanal fisheries development project, in Western Province, employing electric reels, for deep bottom line fishing. The latter demonstrated that bottom line fishing could contribute a viable activity for artisanal fishermen in Western Province and a number of smaller related studies were later initiated in Malaita Province.

Over the same period, initial fish collection and marketing trials were conducted in the various Provinces, utilising small-scale block ice-making equipment, insulated containers and Government and private shipping services. These led to the establishment of a number of fish collecting and marketing centres in the Provinces and in 1977, a public limited-liability company, SIACO Ltd, was formed to promote the organisation of artisanal fishing groups in rural areas and to market their catches, on both a wholesale and retail basis, in Honiara. This company was financed by loan capital provided by the forerunner of the Development Bank of the Solomon Islands, and run by a market manager provided through UK aid, under the auspices and direction of the Fisheries Department.

Between 1979 and 1980, SIACO Ltd operated its own Provincial fish collection service, utilising the MV "Ufi-Na-Tasi". This vessel was acquired by Government under Japanese Aid and operated by SIACO Ltd under a charter agreement with the Development Bank of the Solomon Islands. This agreement and the fish collection service, were both discontinued at the end of 1980, however, in consideration of economic factors and mechanical problems with the vessel.

Nevertheless, by 1980, fisheries extension, ice-making and market facilities, had been established in each of the seven Provinces, utilising limited capital funding provided by various aid donors. The further development of these was initiated in 1981, under the Rural Fisheries Development Project, and by the end of 1984, eight purpose-built, Provincial Fisheries Training and Market Centres, together with seven, sub-base, ice production facilities, had been constructed and were in operation; funding for the construction of the centres and provision of the ice-making equipment being provided under Japanese and Australian aid, respectively.

Both the centres and sub-bases are now administered by the various Provincial Governments, through a Provincial Fisheries Officer and support staff. Each provides administrative support and extension services to subsistence and artisanal fishermen, and functions as a fish collection and market facility, where the Provincial Government purchases and sells fish, and also sells ice and fishing gear.

### 2.3 Production

From negligible amounts, in 1976, when ice making and market facilities were generally unavailable, the quantities of fish marketed for cash through the various Provincial Fisheries Centres, rose to some 115 tonnes in 1982. Of this, some 64 tonnes was sold locally, at the Provincial Centres, and 51 tonnes was sold into the Honiara market, through SIACO Ltd. In addition, SIACO Ltd, received a further 96 tonnes of fish and shellfish, direct from individual artisanal fishermen and fishing groups throughout the Provinces, giving a total of some 208 tonnes of fish sold through the established marketing infrastructure, in that year.

Since then, provisional data suggest that the various Provincial markets have continued to handle similar quantities, overall. SIACO Ltd, however, handled only some 68 tonnes of fish and shellfish, from all sources, in 1984, and it is estimated that no more than about 15 percent, or some 750 tonnes, of the total estimated annual sub-sector catch of approximately 6000 tonnes, was traded for cash, in the same year.

### 2.4 Development Potential

Despite substantial financial and manpower inputs to this sub-sector over the last few years, the impact in terms of generating employment and cash-income - earning opportunities, and of increasing supplies to the domestic market, must be considered to have been limited.

Of the various factors contributing to this situation, perhaps the most fundamental relate to the nature of the resources being exploited by the sub-sector. The most readily accessible are those typical of reef and lagoon environments. These display considerable variety but their relative productivity is not great. As a result, a fisherman must normally employ a wide range of fishing gears and techniques simply to secure small or modest catches. At the same time, there is no one major fishery which could provide the basis for establishing onshore handling and processing facilities, and a supporting distribution infrastructure.

Market demand has also posed a significant limitation in that this has been restricted to a small number of developing urban centres.

In addition, the costs of handling and transporting small quantities of fisheries products have been high, whilst the fishermen's requirements for cash and the local consumers' abilities to pay cash for fisheries products, although showing some growth, have both remained limited.

Furthermore, the exercise of customary rights of access and resource usership, in inshore areas, have confined fishermen to working only particular grounds, whilst established work-sharing systems in many villages, and the use of small vessels have continued to restrict effective fishing effort.

Many of these constraints, however, have undoubtedly resulted in the preservation of inshore fisheries resources, with only slightly exploited or virgin stocks, remaining available in many areas. Opportunities, therefore, still exist for increasing fishing effort and catches in inshore areas. In addition, there is considerable potential for increasing catches of near shore pelagic fish (eg bonito, skipjack and scads) and it is likely that as yet unexploited stocks of valuable demersal fish, such as deepwater snappers and groupers are to be found on the outer reef slopes and offshore banks. At the same time, the existence of customary rights of access to most of the inshore fisheries resources offers a basis for controlling their exploitation in a manner consistent with sound fisheries management practices, and for ensuring that any "commercialisation" does not engender an unacceptable imbalance between the availability of fish supplies for subsistence consumption and cash sale.

### 3. The Industrial Sub-Sector

#### 3.1 General

In January 1978, the Government of Solomon Islands extended its Fishery Limits to Two Hundred Nautical Miles. This extension was based on the conditions established in the Law of the Sea Conference Joint Composite Negotiating Text. In its proclamation, Solomon Islands declared its sovereign rights over the resources within the 12 nautical mile zone. Solomon Islands Act No. 32 of 1978, comprised the declaration of the archipelagos within Solomon Islands and of the base lines from which both the inner limits of the 12 nautical mile territorial sea and the outer limits of the archipelagic waters (12-200 nautical miles) were to be measured.

The proclamation of the extended limits had, and continues to have, very important implications. In the first instance, the extent of the resources which Solomon Islands could derive economic benefit from, and exercise management control over, was much extended. Secondly, and with particular relevance to the existing locally-based industrial fisheries sub-sector, the Government's abilities both to ensure a sustainable yield from the highly migratory tuna stocks, on which this sub-sector largely depends, and to foster the viability of locally-based industrial fishing operations, were considerably enhanced.

### 3.2 Development

The companies now comprising the industrial fisheries sub-sector are Solomon Taiyo Ltd (STL) and National Fisheries Developments Ltd (NFD). The former was established in 1972, as a joint venture between Solomon Islands Government (SIG) and the Taiyo Fishery Company Ltd (Taiyo), whilst the latter was established in 1978, as a joint-venture between SIG and STL.

STL was formed primarily to harvest skipjack tuna, using chartered Okinawa pole-and-line fishing vessels. The joint venture agreement, however, committed the company to establishing shore-based support and local processing facilities. The first base, comprising a dock, office, freezing and cold storage facilities was commissioned at Tulagi, Central Province, in August, 1973, and a 150,000 case-per-year cannery was commissioned at the same site, the following year. Soon afterwards the company opened a smoked fish (arabushi) plant at Tulagi.

A second STL base at Noro, Western Province, including a 60 tonne-per-day brine freezing system and 600 tonne cold store, was commissioned in 1975.

The second company, NFD, was formed mainly to provide for the increased participation of Solomon Islanders in the developing tuna fishing industry. It was established as the executing agency to implement an Asian Development Bank - assisted project providing for the local construction and operation of a ten-vessel pole-and-line fishing fleet, the vessels to be built using ferro-cement hull construction techniques, introduced by New Zealand technicians.

The company's first pole-and-line vessel was completed at its Sasape boatyard, adjacent to the STL base at Tulagi, in October, 1980. At the beginning of 1985, five of the company's vessels were fully manned by Solomon Island crews. The tenth vessel is scheduled to be commissioned in September, 1985.

Under its first joint-venture agreement, STL was limited to skipjack pole-and-line fishing activities. However, provision was included for the use of other methods, subject to SIG approval, and in 1976 the company undertook a tuna long-line fishing survey. This culminated in 1981, with SIG acquiring two "sashimi" long-line vessels, which were subsequently transferred to, and have since been operated by NFD.

These vessels, were granted to SIG as part of Japan's bi-lateral fisheries development aid programme. They are of modern design, of about 144 g.t., with a fish holding capacity of 65 tonnes. The carrying capacity is limited because the vessels have space allocated to multi-purpose training functions. Each carries a crew of 16 Solomon Islanders and 4 Japanese, the expatriates on each vessel holding the positions of fishing master, chief engineer, bosun and cook.

In 1980, STL also commenced purse-seine fishing trials, involving the deployment of numerous anchored rafts (fish attraction devices or FADS) around the perimeter of the main group archipelago. These trials proved successful from the outset and the company now operates a commercial "group seine" fleet, comprising one 112 g.t. purse-seiner (without onboard fish freezer or cold storage capacity), two 290 g.t. freezer carriers, and a 38 g.t. scout boat.

### 3.3 Production

With this diversification, the Solomon Islands Industrial tuna fishery has become of the largest of its kind among the Pacific Island States of the tropical central/western Pacific. Its pre-eminence, however, remains largely due to the pole-and-line fishery.

The number of committed pole-and-line vessels rose from 6 in 1971 to 26 in 1983. Of those operating in 1983, six were owned by STL, a further 14 were Okinawan vessels on charter to STL, and the remaining six were owned by NFD. In 1984, the fleet size increased to 31 vessels, nine of which were owned by NFD, with the remainder owned or managed by STL.

Although there have been some fluctuations, the pole-and-line catch has generally risen as effort has increased. The total fleet catch for 1983 was 29,266 tonnes and in 1984 it amounted to some 30,599 tonnes.

The catch in the associated bait fish fishery has also increased roughly in proportion to the increase in tuna catches, amounting to some 1,759 tonnes, in 1984.



The catch rate of the NFD long-line vessels has averaged about 1.2 tonnes/day, comprising 70-75% yellowfin tuna and 5-8% bigeye. The vessels showed an operating loss at the end of their first five trips, however, and although recent trips have shown a profit, the total tuna catch taken by these vessels in 1984 was only of the order of 502 tonnes.

In comparison, the STL group seining operation caught some 17,789 tonnes of fish over the period July 1980 to December 1984, and the total tuna catch for 1984 amounted to 5,447 tonnes, comprising 58% skipjack and 40% yellowfin.

Tuna catches from this sub-sector, as a whole, therefore, amounted to 36,548 tonnes in 1984. This yielded some 36,000 tonnes of whole frozen, canned and smoked products for export, with a combined value of SI\$28.8 million, making the sub-sector the nation's largest export earner. The industry is also the nation's largest private sector employer and can take credit for considerable technological transfer and development of local skills.

### 3.4 Support and Monitoring

The policy pursued by the Fisheries Department throughout, with respect to the development of this industry, has been: "to promote advanced and innovative techniques and methods, thus ensuring the utilisation of the available resources on a continuing sustainable yield basis, for the maximum benefit of the people of the Solomon Islands". This has involved both promoting and monitoring the growth of the industry.

The Department initiated and developed the project which led to the establishment of NFD, in 1978, and played the leading role in the negotiations which led to the signing, in 1981, of the second joint venture agreement between SIG and Taiyo, providing for the continuation and further development of STL's catching and processing operations, to 1992. Over the years, the Department has initiated and/or undertaken various supporting studies, including a bait fish and tuna survey of the waters around Temotu Province (1980), a similar fishing survey (in 1983), and an aerial survey of pelagic tuna schools in the same area (1980). The Department also participated in the South Pacific Commission skipjack Survey and Assessment Programme (1977 and 1980).

In its monitoring role the Department has continued to collect, compile and analyse relevant statistics concerning all aspects of the joint venture companies' activities, as the basis for providing Government with appropriate technical advice.

Since the beginning of 1981, particular emphasis has been placed on upgrading monitoring activities with respect to pole-and-line bait fishing activities, to facilitate both better reporting and possible regulation. The changes made have included modifications to the Fisheries Regulations, the introduction of a new baitground definition system, the introduction of new bait fish catch record sheets, the training of ships officers in the completion of these records sheets, and the institution of a sampling programme for the biological investigation of the bait-fish stocks.

### 3.5 Fisheries Access Agreements

Since the declaration of the extended Fishery Limits, the provision of technical advice to Government, concerning the elaboration and negotiation of a regulatory regime for foreign industrial tuna fishing activities in Solomon Islands waters, and the licensing and monitoring of such activities, have also constituted major functions of the Department.

Government policy with respect to the exploitation of the resources available, generally, within the extended limits, has been:

- to ensure that the nation receives a financial return in respect of all resources taken from waters within the extended limits; and
- to ensure that all fishing activities pursued within the limits are fully recorded and the data made available to SIG for analysis.

Both objectives have been reflected in the terms of the three foreign tuna fishing vessel access agreements which have subsequently been negotiated, on a Government to Government basis, for vessels from Japan, South Korea and Taiwan. Under the terms of these agreements each nation's vessels have been allowed a maximum catch of specified species (which is set conservatively), in return for licence fees. In addition, requirements for the recording and supply of catch data have been included.

In 1983 a "no time limit " agreement was signed with the Japanese fishing industry (although either side may terminate the agreement by giving six months" notice) and to date the fees charged have yielded approximately 5% of the sales value of the fish caught. In 1984, under this agreement, a total of 46 vessels were given access and a total of 1,606 tonnes of tuna was taken.

### 3.6 Development Potential

Even with this effort, there is every indication that the tuna resources in Solomon Islands waters offer considerable potential for increased exploitation. Skipjack stock size estimates for the Main Group Archipelago alone, which represents only some 10% of the total area contained within the Fishery Limits, range from 50,000 to 90,000 tonnes, whilst the population turnover rate is estimated at between 15-23% per month and the throughput is estimated at between 135,000 and 160,000 tonnes per annum (South Pacific Commission Tagging Study).

It is therefore with at least considerable confidence in this area, that the further expansion of the locally-based industrial fisheries sub-sector is being pursued.