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TWENTY-SIXTH REGIONAL TECHNICAL MEETING ON FISHERIES
(Noumea, New Caledonia, 5 - 9 August 1996)

COUNTRY STATEMENT

VANUATU

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VANUATU FISHERIES SECTOR OVERVIEW
COUNTRY STATEMENT

**This Country Statement is Part of the Project Title: Strengthening of National Fishery Policy -
Development of a Licensing Policy for National and Foreign Fishing Vessels in Vanuatu written by
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**Prepared for the Fisheries Department
Ministry of Agriculture, Livestock, Forestry and Fisheries
Government of the Republic of Vanuatu**

**Technical Co-operation Programme
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(Compiled by Moses Amos)

FISHERIES SECTOR OVERVIEW

Introduction

As a signatory to UNCLOS, Vanuatu claims sovereignty over a 200 n. mile EEZ, enclosing some 710,000 sq.km. of ocean. The fisheries sector of Vanuatu is an important provider of employment, food and income generation, and development of import substitution of food stuffs. Fisheries resources are exploited at the subsistence, artisanal and industrial levels. As is the case in many Pacific island states, fish resources provide the principal source of animal protein for ni-Vanuatu communities, especially those living throughout the many scattered islands of the country.

Current fishing activities in Vanuatu can be classified into the follow broad categories:

1. subsistence sector: near-shore reef fishing for subsistence purposes, targeting reef-associated and lagoon fish and shellfish and small pelagics; also reef gleaning, shell collecting.
2. artisanal sector: small-scale commercial fishing principally targeting shallow and deep-water bottom snapper (poulet) species and FAD associated pelagics using trolling and longlining techniques. Also collection of sessile organisms such as trochus, beche-de-mer.
3. big game/sports fishing: commercial charter boat sport fishing for tourists, targeting billfish, tunas and large coastal pelagic species. Some vertical droplining for deep-water bottom fishes also undertaken.
4. locally-based longliners: pelagic longlining for albacore and yellowfin, plus some bottom set longlining for snappers and groupers.
5. foreign access industrial fishing using longline mostly, some multilateral purse seining.

Subsistence fishing is an important aspect of village life and is second only to agriculture. Annual catches of fish and shell-fish from reefs and lagoons were estimated at around 1,360 t per year¹ in 1983, 93% of which is for subsistence consumption. Estimates of fish production and consumption patterns, and the importance of the near-shore fishing activities to the lives of rural people and the national economy in Vanuatu are not reliable, and would benefit from further study. Estimates of maximum sustainable yield (MSY) for deep-water bottom fish resources on the outer reef slopes are not precisely known, but are likely to be around 300 tonnes/year².

Traditional management practises have been used to conserve stocks, although with advances in fishing techniques and equipment, and increasing pressure for financial rewards from fishing, customary methods of fishing have declined in some areas, but increasing pressure on all in-shore resources has heightened awareness for the need to effect better management and control of fishing activities exploiting these resources. Customary systems of marine tenure and other village level management methods are reportedly making a come-back.

¹ Based on 1983 Agricultural Census figures.

² Lindley (1993) estimates total MSY at around 300 tonnes. However, biological estimates of MSY for these resource in Vanuatu should be viewed with caution, due to the constraints of the data on which estimates have been made, and paucity of biological indicators for these species in Vanuatu. The fishery does however require careful monitoring.

Commercial fisheries are centred around the exploitation of high value tuna and deep-water bottom fish. Such fisheries currently make a small but important contribution to national income and to the generation of other socio-economic benefits. Historically, Government has concentrated on the development of small-scale commercial activities through the initiation of fishing groups throughout the islands targeting deep-water bottom fish resources, and provision of extension and marketing services to them.

Demand for fish in urban centres such as Port Vila and Luganville have grown strongly in recent years. A sport fishing charter boat industry has developed in tandem with the growing tourist industry, targeting offshore tunas and billfishes, and plays an important part in supplying fish to Port Vila. The tourist industry offers prospects for further growth in fishing activities.

The off-shore, oceanic fish resources are considered modest in comparison to other island states of the western central Pacific. Tuna, in particular, tend to be highly seasonal in their availability, and are presently lightly exploited. The Government wishes to increase foreign investment in the fisheries sector through on-shore investments, and commercial ventures. Plans to re-activation of the moribund fishing base at Palekula on Espirito Santo have not been successful. The lack of an appropriate policy framework for the fisheries sector is urgently required.

Fisheries Department

Administration and management of the fisheries sub-sector lies with the Fisheries Department within the Ministry of Agriculture, Livestock, Forestry and Fisheries Government.

The Department is headed by a Director, and five functional divisions: Resource Assessment and Management, Administration, Extension Services, Training and Production, and Workshop. Licensing and enforcement are functions under the Resource Assessment and Management Division. In 1995, a total of 29 staff were employed.

Revenue received for fishing license fees and export permits was VT22.5 million and VT18.1 million for 1995 and 1994 respectively ³. In addition, VT16.8 million and 23.5 million were received under the terms of the multilateral Treaty on Fishing. The income budget estimate for 1996 is VT43.25 million and budgeted expenditure VT25.96 million. The Department has tended to operate with a surplus of revenue in relation to recurrent budget allocation since 1988, mainly due to receipts for licenses fees and other permits.

Fisheries sector policy

Apart from a brief mention in the current national development plan, there is no clear policy document in existence which could be taken as a framework guiding the development of various aspects of the sector. Fisheries Department is actively working with the National Planning Office to develop a clear policy framework.

Foreign investment in fisheries

As is the case in other developing Pacific Island nations, Vanuatu lacks the capital resources and expertise to establish industrial fishing fleets and associated shore facilities. Government aims to increase ni-Vanuatu involvement in the exploitation of commercially valuable tuna and deep-water bottom fishes. Current thinking is to encourage local basing and shore facility

³ Fisheries Department Annual Report 1995.

development in order to increase directly the share of returns from industrial tuna fisheries, as well as down stream benefits and spin-offs from the presence of an industrial fishing fleet.

In pursuit of improving Vanuatu's portfolio image for fisheries investment, a working group has been established under the Ministry of Trade to develop guidelines for foreign investment, composed of government and private individuals. Resource sustainability and the legal framework under which enterprises operate are primary concerns for investors in the fisheries sub-sector. The Minister for Finance in his budget speech this year stated that the present Government will undertake a revision of conditions to encourage foreign investors, such as revision of the tax structure, increasing period of licenses e.g. work permits, business licenses, and simplification of payment of license fees into a so-called one-stop-shop approach.

Foreign involvement will be required for the foreseeable future due to the fact that national capacity is slowly evolving, and the nature international marketing arrangement for tuna products makes foreign involvement almost mandatory. Vanuatu's experience of joint ventures as a means of enabling foreign involvement has not been too successful. Domestic basing of industrial fishing operations are restricted in the Port Vila area by lack of suitable land. Trans-shipment of longline catches for export by air is a possibility for Port Vila and Luganville, and would generate economic benefits to linked industries through shore-based employment, revenues through port fees, export fees, provisioning and bunkering⁴. Domestic basing of industrial operations also affords the opportunity for catch inspection, logsheet verification etc. at little cost to the Fisheries Department. The present Minister is keen to see increased ni-Vanuatu involvement and skills transfer in all locally-based commercial fisheries operations and development of long term partnerships with *bone fide* investors.

The Fisheries Department have indicated that there is a need to develop a standard approach to applications from individuals and companies wishing to invest in the fisheries sector. In addition, greater communication between the pertinent ministries and departments involved, e.g. finance, Tourism, Planning, as well as Local Government Councils, is required. The proposed Fisheries Management Advisory Committee would provide more co-ordinated guidance to the Council of Ministers when considering investment proposals.

Ship registration

Vanuatu operates a successful international ship registry. Government has contracted a New York based, private company, Vanuatu Maritime Services Ltd., to run the registry under the auspices of the Vanuatu Financial Services Commission. The Registry is open to ship owners, officers and crew of any nationality, and offers the full advantages of the International Open Registry System. A system of special agents representing Vanuatu interests are used in all major ports world-wide. Over 400 off-shore vessels are currently on the register. Although this is small by comparison to other states operating vessel registries such as Liberia and Panama, emphasis is placed on prompt, quality services at low cost. Most vessels are bulk carriers of all cargoes except oil. Vanuatu maintains high standards of safety for the fleet, and has adopted many standards of the International Maritime Organisation and International Labour Organisation.

The Ports and Marine Department are responsible for local vessel registration, survey and licensing. Re-flagging of foreign vessels to the Vanuatu flag is a straight-forward matter. Vessels are required to de-flag existing registration and pass a marine survey inspection. A new

⁴ A paper by FFA examining the economic viability of such operations is in preparation.

domestic shipping act for Vanuatu is planned. Some Korean vessels and US seiners are registered in Vanuatu, but based elsewhere.

COMMERCIAL FISHING ACTIVITIES

Introduction

Industrial tuna fishing in Vanuatu waters by Japanese, Taiwanese and Korean longliners has occurred since at least the mid-1950's, targeting albacore for canning in the US, Japan and other countries. A Japanese company, Mitsui, established the South Pacific Fishing Company (SPFC) base at Palekula on Espirito Santo in 1957, which served to handle the catch from the longline vessels. By 1983 twenty Taiwanese longliners based in Santo were targeting albacore in the Tasman Sea between April and August, Northern Vanuatu waters in September to October, and northeast of Santo and east of Santa Cruz in the Solomon Islands from November through to March.

Between 1974 and 1979, Japanese pole-and-line tuna vessels also fished in Vanuatu and landed at SPFC. Pole and line fleet effort was generally greatest between November and March, with fishing concentrated in northern areas to the west and north of Espirito Santo. Catches were in the order of 300-1,600 tonnes per year of skipjack, averaging 5 to 8 tonnes per boat day.

By the mid-1970's landings at SPFC were dominated by Taiwanese longliners under a special arrangement. However, in 1986/7 these vessels transferred their operations to Fiji and Pago Pago, American Samoa.

In 1988, Taiwanese vessel operators approached SPFC and the Government with a view to recommencing fishing in Vanuatu. After negotiations, an informal system was agreed between the Fisheries Department and the representatives of the Kaohsiung Fishermen's Association whereupon a fixed fee of US\$5,000 per vessel per annum for longliners was paid.

In order to formalise this arrangement, an access arrangement was signed between the Government of Vanuatu and the Association, on 29th August 1989. This constitutes a formal commercial arrangement governing the terms and conditions for access. No formal head agreement (Government to Government agreement) was negotiated in order to avoid possible diplomatic conflict with People's Democratic Republic of China.

The Government currently has plans to revitalise these facilities, and recover the economic benefits that were lost. Proposals have been submitted that plan to use the Palekula facility as a fish holding and export centre, but non have materialised to date.

Foreign Fishing Vessel's

Bi-lateral access arrangement for Taiwanese longliners

Today, the industrial fishery is dominated by Taiwanese longliners operating under the bi-lateral agreement. As was the case for the operations of the Korean and Japanese longliners active in the region in the 60's and 70's, the Taiwanese fleet take only a small proportion of their catch in Vanuatu waters, and land their fish to canneries in Fiji. Some 35 longliners in the 190-430 GRT range were licensed to fish in Vanuatu as at June 1996. The Agreement is a role-over arrangement, whereby the vessels pay US\$5,000 for a license period of one calendar year. Although provided for under the agreement, no annual consultations have been held since the

agreement was signed in 1989 in order to revise fees and other conditions, thus the agreement rolls over from year to year.

An important aspect of the bi-lateral agreement is that it provides employment for ni-Vanuatu as crew on board the fishing vessels. As of April 1996, 18 crewmen were employed on seven Association vessels operating in the Pacific ocean, 96 crewmen on 33 Association vessels in the Indian Ocean. In addition, SPFC were agents for 17 crewmen employed on board four Korean vessels. SPFC undertake to ensure regular payments of the salaries to crewmen are made, and handle the repatriation of money to the family and relatives of the crew, as directed. Terms and conditions for all ni-Vanuatu crewmen are stipulated in a standard contract, signed between the crewman, the captain or agent of the vessel on which he is to serve, and SPFC as agent. Term of employment is generally two years, mutually extendible.

SPFC is today wholly owned by the Government and acts as sole agent for the longliners, and is responsible for all aspects of obtaining fishing licences and the emplacement of ni-Vanuatu crew on board Association vessels, and represents the Government in all aspects of the agreement. SPFC's role reduces the administrative load involved in managing and co-ordinating vessel licenses, crew employment etc. SPFC takes US\$80 per vessel as agency fee for handling each license application, and enjoys a good working relationship with Fisheries Department.

Under the agreement, vessels can apply for a license at any time, upon application and payment of the \$5,000 fee. The 'lump-sum' license fee system employed is appropriate given Fisheries Department staff constraints, and the inherent problems in the reliability of data returned by the Taiwanese vessels.

Licenses for fishing in Vanuatu EEZ restrict fishing to the waters outside the Territorial Seas. Although required to provide daily catch and effort logsheets, the quality and reliability of data provided to date has been highly questionable. The Taiwanese longliners have flagrantly ignored the reporting conditions of the access arrangement since it has been in force. Data returned on logsheets is highly questionable; under-reporting and mis-reporting is suspected. In addition, logsheet returns is notoriously slow. During June 1996, logsheets were received by the Fisheries Department for trips undertaken during 1994.

Without access to reliable statistics, it has not been possible for the Fisheries Department to determine an accurate rate of return of the license fee as a percentage of the landed value of the catch. However, based on logsheet information received, the following catches were taken between 1989 and 1994: albacore - 6,000 tonnes yellowfin - 800 tonnes bigeye - 200 tonnes bluefin - 15 tonnes billfishes - 140 tonnes sharks - 10 tonnes others 60 tonnes. Total reported catch is therefore around 7,025 tonnes, taken by a total of 64 licensed vessels. A conservative estimate of the value of this catch is around \$4.7 million. The 64 vessels have paid \$320,000 in license fees, giving a rate of return of 7%. However, given the tendency to under-report catches, the real return from the fishery is probably far less.

Logsheets data indicates that the Fiji-based longliners, although licensed to fish in Vanuatu, take over 90% of their catch in Fiji waters and High Seas. Vanuatu waters therefore appear marginal to their operations. Although access fees are paid to Vanuatu, Fiji enjoys greater overall benefits through the local basing of these vessels⁵.

⁵ See Tuna Industry Development Study Regional Report. FFA Report No. 95/96.

Possible multi-lateral arrangement with Taiwan

A sub-regional grouping comprising Cook Islands, Fiji, Niue, Solomon Islands, Tonga, Tokelau, Vanuatu, and Western Samoa (the so-called FFA Albacore Group) have formed in an attempt to force Taiwan into a multi-lateral arrangement for access to their respective zones, with co-ordination and support provided by the FFA. It is anticipated that reporting and compliance with national and regional management regimes would improve under a multi-lateral arrangement. There is a trend within the FFA region for a multilateral approach to licensing, and if a sub-regional approach was successful, this would have considerable implications for bringing other distant water fishing nations active in the region, in particular Japan and Korea, to the negotiating table.

Cook Islands, Niue, Solomon Islands and Western Samoa have terminated their former bi-lateral arrangements. Taiwanese longliners continue to operate in Fiji waters through a commercial agreement with the national cannery, PAFCO. Many of these vessels are also licensed to fish in Vanuatu under the existing commercial arrangement, and most land their catch in Fiji.

At the time of writing, Vanuatu was still undecided as to whether a multilateral approach with Taiwanese is in the national interest, and have continued licensing under the existing bi-lateral arrangement. Unfortunately, Vanuatu has not attended a number of the recent meetings concerning this issue, nor other FFA meetings concerning regional co-operation for the in-zone management of tuna resources⁶. The current Minister has requested further information on the relative benefits of a multi-lateral approach with Taiwan before a decision can be reached.

In order to accommodate the particular concerns of Fiji and Vanuatu, FFA has proposed that a review be undertaken by the Chairman of the FFA Albacore Group which would involve discussions with individual countries to discuss their concerns, and suggest options to accommodate these concerns under a multi-lateral arrangement. An assessment of the potential benefits from a multi-lateral approach and how these would be distributed among the countries concerned will be made, and a review of Taiwan's concerns relating to at-sea trans-shipment, fishing association responsibility, observers and high seas reporting requirements. This will culminate in an internal meeting to finalise a regional negotiating position and, if appropriate, commencement of talks with Taiwan. The review is scheduled to commence in mid-July 1996. The licence fees Vanuatu receives for access under the existing bi-lateral arrangement constitutes a major part of the revenue derived from fishing. In addition, the employment of ni-Vanuatu on Taiwanese vessels is an extremely important consideration, which must not be jeopardised should the existing bi-lateral arrangement be replaced with by a multilateral approach.

Should Vanuatu decide not to proceed with a multi-lateral arrangement, a review of the current bi-lateral access arrangement through a consultation with Taiwan is advisable. Topics for discussion should include an increase in license fees above the present flat rate, terms and conditions for ni-Vanuatu crew, establishment of regionally-agreed minimum terms and conditions of access, and reporting and compliance matters.

⁶ The Forum Fisheries Committee has formed a sub-committee to recommend options for future management arrangements for tuna. This Committee has prepared a report recommending the strengthening of existing tuna management arrangements, and enhancement of co-operation among FFA member countries in the conservation and management of highly migratory species in their EEZs by reviewing and strengthening existing internal arrangements. In recognition of recent international developments relating to the Law of the Sea and its Implementing Arrangement, FFA states have developed a strategy to engage DWFNs in discussions, and the components of an international structure for in-zone tuna management.

US flag purse-seiners

Vanuatu is a signatory of the multilateral Treaty on Fishing between certain Pacific Island States and the Government of the United States of America. Under the terms of this treaty, in force since 1987, US purse-seiners are entitled to fish in EEZ's of member states of Forum Fisheries Agency. Licensing arrangements for these vessels are the responsibility of the Treaty Manager at FFA Headquarters, Honiara. Legislation has been enacted in Vanuatu to allow entry of foreign vessels under management and administration of a competent regional fishery agency.

However, the Treaty vessels have undertaken very little purse seine activity in the Vanuatu EEZ; the only significant effort was in 1989 when a total of 656 metric tonnes was recorded for a total of 34 fishing days (19.61 tonnes per fishing day). In 1990, 35 tonnes of skipjack was taken in two fishing days. No further catches have been recorded since. Despite the low level of effort, Vanuatu has received a total of US\$1,457,912 between 1988 and 1995 under the Treaty.

USSR

Under the terms of a bi-lateral agreement entered into with the Soviet Union, Russian tuna purse-seiners operated in Vanuatu waters in 1987. The access fee agreed was US\$1.5 million. No data or operational report was supplied to Government on these activities, however the Russians claimed that a total of 12 t of tuna were caught.

Local and Locally-Based Foreign Fishing vessels

The development of the national fleet is still at a very rudimentary stage. Currently 3 commercial longliners; MFV's *Toho Vanuatu no.1*, *Marine Princess*, and *Oiseau Bleu*, and two purse seiners; *Chance no1* and *Chance no. 2* are licensed to fish in Vanuatu waters. A fish collection vessel, MFV *Azur*, has recently arrived, but has yet to commence operations.

Vanuatu Fish Investments Ltd.

Vanuatu Fishing Investments Ltd. (VFIL) trades as a joint venture fishing company owned by ni-Vanuatu and New Zealand fishing interests. The company was formed during 1995 by Investment Opportunities Ltd. (IOL) and Vanuatu Holdings Ltd. (VHL), both incorporated and registered in Vila. IOL is ni-Vanuatu owned, while VHL is the commercial wing of Government and holds shares in the many privatised government assets and private enterprises in Vanuatu. VHL has an option to purchase a majority shareholding in IOL.

VFIL is currently utilising the facilities of the former Natai fish processing and retail shop on the sea front in Port Vila, owned by Government through its company Port Vila Fisheries Ltd (PVFL). Natai has had a history of trading losses, primarily due to poor management and lack of marketing vision. The Natai facilities for retailing, processing and packaging fish, seafood and related products are rented under a preferential arrangement in order to try and develop export marketing, and return the facilities to operational profitability.

The current lease is for six years at a nominal VT1,000 per year plus 1% of retail turnover of the retail fish shop, rising to 3% per year by the third year. VFIL undertakes to sell all domestic retail and wholesale market product solely through Natai, thus generating sales revenues for PVFL. Foreign fish products are also imported to enhance trading in the retail shop.

VFIL is intended to contribute to the national economy, provide ni-Vanuatu employment, and generate down stream economic benefits. VFIL's aim is to base four New Zealand flag longliners at the Port Vila facility to fish for high quality tuna and bottom fish for export and supply to the

domestic retail market. VFIL is therefore an attempt to expand domestic involvement in fishing for tuna and deep-water bottom fish, fish processing, domestic retail and wholesale export of quality fish. Export of fish on Air Vanuatu cargo has meant financial gains for the national airline. Initial estimates of 12 tonnes of fish per week would realise VT50 million for Air Vanuatu per annum. Estimates for rental of Natai are VT280,000 in year 1 growing to VT 1 million by year 3. The investors have provided foreign management expertise and fishing expertise, capital investment in on-shore refrigeration and processing equipment, and operating finance.

VFIL management are preparing a report detailing capital and operating fund investment made to date, and quantifying the benefits accruing to Vanuatu under the existing arrangement. Management report that approximately NZ\$120,000 has been injected into the company to date, and that the company is currently trading at a loss. The Company received duty free fuel allowance for period February-April 1996, and have requested that this be re-established.

The New Zealand investors are lead by Beecroft Brothers Export Ltd., a well -established New Zealand fish merchandising company, which holds 70% of the shares. VHL and IOL hold the remaining 30% of shares on a 'free-carry/no payment' basis.

To date only one New Zealand flag longliner, *MFV Marine Princess*, has commenced longline operations, in February 1996. The company has the option to take up three other longline licenses. Whether other licenses are taken up depends on how the projected economics of *Marine Princess* turn out. The license fee for *Marine Princess* is VT50,000 per year (i.e. she is licensed as a local vessel). Her license conditions excludes fishing within the 6 n. mile provincial limits. From the licensing point of view, it is clear that this vessel is correctly categorised as foreign under the existing Fisheries Act, despite being operated as part of a joint venture.

Marine Princess targets albacore tuna using short pelagic longlines (approx. 1,000 hooks), with yellowfin and other tuna-like pelagic species making up the bulk of the catch. The vessel also undertakes deep water bottom-set longlining targeting snappers on off-shore plateaus and sea-mounts. Vertical droplining with terminal hook rigs is not practised.

All fish caught are landed at the Natai wharf in Port Vila, and 95% is exported. The company also buys export quality fish from local fishermen, but poor quality has resulted in little purchasing from this source. Export quality species of high grade is purchased from LTP (see below). Exports are sent on ice by air cargo. All marketing aspects are handled by the New Zealand partner, Beecroft. Most goes to New Zealand for re-packaging, adding to fish from other sources, and then either marketed in New Zealand or freighted direct to Japan. Some trial marketing of deep-water bottom fish has been undertaken in Honolulu and Sydney. Trial marketing of bottom fish in Japan is also planned. However, local marketing of poulet fish is presently more profitable.

Catches have not been good since operations started in February 1996, primarily due to the non-familiarity of the skipper and crew to Vanuatu waters. Catch rates should increase as the operators become better acquainted with the seasonal nature of Vanuatu fisheries, and the grounds over which they are operating. In addition, a significant amount of useful information resides at Fisheries Department which the management of VFIL should access.

VFIL have requested that license conditions for *Marine Princess* be altered to allow pelagic longlining and deep-water longlining within the 6 n. mile limits, stating that higher catch rates for both pelagic and deep-water bottom fish are expected closer inshore.

International Tuna Services

International Tuna Services Ltd (ITS), is a Vanuatu-based joint venture company, with 49% local shareholding with Nambug Fishing Company of Korea. ITS operates three Japanese-flag longline vessels; *Crusader*, *Hakuryu Maru no. 71*, and *Hakuryu Maru no. 81*, and one Korean-flag longliner *Chance 803* (GRT440). These vessels are licensed to fish in Vanuatu as foreign vessels at VT500,000 per vessel per year.

The company also operates two purse seiners licensed as local vessels, *Chance no.1*, and *Chance no.2*. These are Vanuatu flagged, but owned by Nambug. License fees are also set at VT500,000 per vessel per year, but in practise they do not fish in Vanuatu waters. Both vessels operate under the terms of the FSM agreement⁷, and are also licensed under individual licensing arrangements in Federated States of Micronesia, Kiribati, Papua New Guinea, and Solomon Islands. Although licensed as local vessels, their operations are based off-shore. The vessels transshipment in the Solomon Islands.

LTP Ltd.

LTP is a ni-Vanuatu owned company based in Port Vila. Small scale fishing operations commenced in north Efate in 1990, targeting quality poulet fish and selling them directly to the Natai fish market in Port Vila. The company provides ice, insulated containers, fishing gear to rural fishing groups around a base in north Efate, and buys fish from village fishermen on a regular basis. Cash is paid on the spot. In this way, the company is providing an important rural fisheries development function, and enjoys considerable support from Provincial authorities and Fisheries Department.

Much of the fish purchased in this way is sold through a retail fish shop in the suburbs of Port Vila, opened in 1993. The company has invested in refrigerated holding space, ice making equipment, processing facilities, and today provides marketing for a large number of rural fishermen on Efate, and increasingly elsewhere in Shefa Province.

In April 1996 the company imported a 10 GRT, 10 metre fibreglass fishing vessel, *MFV Oiseau Bleu*. She is licensed as a local vessel, with an annual licence fee of VT50,000. Six bottom longlines are set at a time, each with 60 hooks, in waters over 250m generally outside of the 6 n.mile limit. Target species are poulet fish and grouper. Before fishing a given area, the vessel supplies ice and eskies to rural communities, and purchases shallow water reef fish from rural villages which are excess to subsistence needs. Although authorised to fish within the 6 n. mile limit of Shefa Province, the vessel does not actually fish on shallow, near shore areas around Efate, as agreed with area council chiefs. Exploitation of such resources is reserved for ni-Vanuatu subsistence and artisanal fishermen. The village fish collection run is undertaken after

⁷ The Federated States of Micronesia Arrangement for Regional Fisheries Access aims to help FFA member states develop their locally-based purse seine industry by providing preferential access arrangements to purse seine fishing enterprises based in FFA member countries. The Arrangement is administered by FFA. Vessels that meet the eligibility criteria are entitled to cheaper, more secure access to western Pacific purse-seine grounds than would be the case under a separate negotiated bi-lateral agreement.

she has fished for 2-3 days offshore. The vessel has a 3 tonne hold capacity, which is ideal for holding the vessel's own catch plus the purchased fish.

There have been no licensing problems experienced to date for the operations of this vessel. Most of the catch is sold locally. Fish of export quality are sold to VFIL. The vessel tends to operate a 'pulse fishing' technique, where one area is fished for a period of 3 weeks, then the vessel moves to another area. In this way, management of the company state that catch rates and average size of poulet fish are maintained.

The *Oiseau Bleu* has only completed 5 trips since her arrival. No logsheet returns have yet been made to the Fisheries Department. The drop-line technique with terminal hook rigs has been tried around north Efate, but reported to result in poor catch rates. This may have been due to the lack of fish in the area fished, rather than due to the failings of the technique itself.

Toho Vanuatu Ltd.

Toho Vanuatu Ltd. is a joint venture between ni-Vanuatu and a Japanese firm, Matsuya Co. Ltd. of Osaka. The company is based and registered in Port Vila. The majority shareholder Japanese partner is based in Noumea, New Caledonia. The local agent for the company is Cabinet d'Affaires du Pacifique, which has been offered the option to purchase shares in the company should the venture become profitable.

The company charters a single, 284 GRT, low temperature longliner, MFV *Toho Vanuatu no.1*, and targets yellowfin and bigeye destined for the Japanese sashimi market, as well as albacore for canning. *Toho Vanuatu no.1* is owned by the Japanese partner, and is registered in New Caledonia. She commenced fishing in Vanuatu waters in January 1996.

The company applied for a local fishing vessel license for this vessel, but this was rejected since she was clearly a foreign vessel as defined under the definition of the Act, and as such should pay an appropriate foreign fishing vessel fee. The vessel was considered at the time by the Fisheries Department to be a locally-based foreign longliner. A fee level was set at VT500,000 per annum as a 'standard foreign license fee', pro-rated for the duration of the license, i.e. VT41,670 per month.

However, she was issued two consecutive "experimental licenses" of one month duration each, the commencing 29/12/95. This licensing arrangement terminated on 29 February 1996. These 'experimental licenses' were not processed by the Fisheries Department, but were issued directly by the Ministry and did not in fact specify the geographical areas over which the vessel could legally operate within Vanuatu waters. The licenses issued also did not specify target species, or permitted fishing method.

The vessel currently holds a valid license, but no license fee paid because the fee rate has yet to be determined. Her license technically allows her to fish in Vanuatu waters from the 6 n. mile limit to 200 n. mile. The local agent has stated that the operators would prefer a license that allowed entry within 6 n. mile.

The vessel off-loads catch in Noumea where it is air freighted to Osaka. All shore-side operations in Noumea are handled by the Japanese partner. However, some yellowfin tunas and other pelagic species are landed in Port Vila and supplied to Better Price Supermarket and the Port Vila Club. Minor maintenance and provisioning is done at the commercial wharf in Port

Vila, but support services such as spare part delivery has also proven to be very slow, which has recently adversely affected fishing operations. Fuel is taken on board in Noumea when conducting catch transshipments, where fuel is cheaper.

No other companies are operating a venture of this kind at present in Vanuatu. According to the Agent, although there is considerable commercial interest in this type of venture with a foreign partner, a 'wait and see' approach is being used. Ting Hong, a well-known Asian fishing company specialising in operation of small (<20 GRT) longliners in Micronesia are reported to be interested in establishing operations in Vanuatu.

Fisheries Department is currently reviewing the terms and conditions of the license under which *Toho Vanuatu no.1* is operating.

Other fishery-related activities

A single fish collection vessels, MFV *Azur*, was imported to Vanuatu during the first half of 1996 by a private businessman, and will function as a fish collection vessel, buying fish from rural fishermen and fishing groups. She has yet to commence operations. The owners have expressed an interest in expanding into fishing outside 6 n. mile provincial waters, in future.

The Fisheries Department currently does impose fishing license requirements on aquarium fish collection and commercial sport fishing operations.

Aqualife Exports Ltd.

This company exports live aquarium fish, and to a lesser degree dead coral for the aquarium trade. A single, 4m boat with outboard engine is used as a surface platform for the collection operations. Fish are taken exclusively in Shefa province, primarily around Efate. The company currently operates under a business license and fish processing establishment license. Shefa Province approval is required before these licenses are issued. The Company applies for export permits from the Fisheries Department for each shipment of live fish exported. All consignments are checked by the Enforcement Officer prior to an export permit being issued. Data from these applications forms provides feed back to the Fisheries Department on catches, areas fished and value of the fish.

Despite past problems experienced in live aquarium fish export, Aqualife Exports Ltd. is well established, has excellent working relationships with Fisheries Department, Provincial authorities and village communities and is trading profitably.

Sport fishing charter boats

The present fleet comprises four full-time vessels (*Ymer*, *Vicki's Choice*, *Cassi Nicole* and *Nikita*). Boat daily charge rates vary from VT39,000 for the smallest boat *Cassi Nicole* (6.5 m - 3 fishermen) to VT75,000 for a 10-12 m boats (*Vicki's Choice*, *Ymer*) carrying up six fishermen. In addition, three part-time vessels also undertake sport fishing charters on an opportunistic basis. These are generally small single engine craft which consequently do not venture far from land. The larger boats tend to be utilised for the more serious angler seeking large pelagic fish, and the smaller vessels tend to the needs of the amateur who wants to try out fishing, and just catch a fish.

By international standards, sport fishing in Vanuatu is not renowned for big individual fish. Target species for the fishery include blue, black and striped marlins, sailfish, wahoo, yellowfin

tuna, dogtooth tuna and mahi-mahi (dolphin fish). Although all target species are present year round, there is a clear seasonal pattern to catches of marlin, yellowfin and mahi-mahi. Blue and striped marlin catches peak between late October - January, with blue marlin attaining around 250 kg, and striped marlin 130 kg. A new record blue marlin weighing in at 252.5 kg was caught by the charter boat 'Ymer' during the period of this consultancy. Black marlin are taken mostly between January and May, to a maximum size of around 250 kg. Yellowfin catches peak January - May. Some 90 kg specimens have been taken, with an average of 40-60 kg. Mahi-mahi are taken especially near FAD's, up to 25 kg, with a peak season between June and October.

Dog-toothed tuna reach 100 kg, and being non-migratory, are caught in equal numbers throughout the year. Sailfish and wahoo are also caught evenly throughout the year; with sailfish reaching 80 kg and wahoo 50 kg. It is noteworthy that other sport-fish species in demand by today's sporting angler, such as mako shark and broadbill swordfish, are not commonly taken in Vanuatu.

Trolling inside the 6 n. mile limit generally yields yellowfin, wahoo, dog-toothed tuna and mahi-mahi. Bottom fishing appears to be confined to fishing seamounts and deep-water plateaux far offshore, and beyond the physical reach of smaller vessels. In addition to FAD fishing, areas with excellent sport fishing development potential include Hat Island, Wot Rock and Mataso, Cooks Reef (Pula Iwa)/Emae Island, Tongoa, Epi Island. A number of tourists specifically request to go droplining as a break from pelagic trolling for larger species, and one established charter boat enterprise has entered into an arrangement with local fishermen to supply tourists with suitable vessels for this.

The Port Vila Game Fishing Club Ltd., was formed in 1987 to stimulate and organise interest in game sport fishing in Vanuatu. The Club is a member of the International Game Fishing Association, which sets the guidelines and standard of game fishing world-wide.

Benefits to the economy

It is difficult to determine the direct and indirect contribution to the tourist industry made by the sport fishing charter boats, or the 'draw' that the opportunity to go sport fishing has had on tourism. Charter boat owners are actively attempting to expand tourist numbers coming to Vanuatu for fishing through an advertising campaign. One operator has spent approximately A\$50,000 during 1995/96 to a Sydney-based advertising agency. Response to advertising is reported to have been good. According to the records of *Ymer*, in the 2 years that the vessel has been operating, around 600 anglers, principally from Australia have been chartered the vessel, and came to Vanuatu specifically for this purpose, fishing for four days out of seven. This would indicate a considerable tourist draw, with significant spin-off benefits to businesses in Port Vila and the national airline.

Most charter boats also actively involve in commercial fishing for both for pelagic and deep-water bottom during 'off-charter' days. Catches are sold in the main direct to local restaurant and hotel outlets. In addition, some of the smaller pelagics taken on charter, especially kingfish, yellowfin and wahoo, is also sold on the local market. All charter vessels currently operating have well established business relationships to supply certain hotels and restaurants with fish on a regular basis.

The overheads for sport fishing are high. All vessels use artificial trolling lures, which can cost up to \$100 a piece. With the prices charged at present, it is likely that with maintenance, fishing

tackle costs, crew and other costs. the profit margin on these vessels is low. Indicative fixed costs for a charter boat are currently: VT30,000 per year for Ports and Marine survey, VT50,000 per month maintenance, and VT400,000 per month fuel.

Due to the fact that the Fisheries Department do not receive catch report logsheets, it is difficult to quantify the contribution the catch from these vessels is making to the local market. However, vessel owners state that it is common to dropline on offshore seamount areas (30-40 miles offshore) and take at least 250 kg of poulet fish in 4 hours with 2 alvey reels. The charter boats do not use bottom set longlines, preferring instead vertical droplines with 5 or 6 hook terminal rigs. These are fished by drifting across the seamount/plateau. The operators maintain that bottom-set longlines are frequently attacked by sharks, resulting in gear loss and waste of hooked poulet, and bring far lower catch rates. Lost bottom longlines also pose environmental pollution concerns.

Licensing and management considerations for sport fishing charter boats

Under the existing Act "Fishing vessel" is defined as any vessel used for commercial fishing or related activities and includes game fishing. The Fisheries Department has not imposed any form of licensing to date to govern the activities of these vessels⁸. Currently, all the vessels currently operating as charter boats possess only a local business license,⁹ which is automatically renewed each year. The vessels are locally registered with the Ports and Marine Department, and kept in annual survey. The owners/skippers have a good working relationship with the Fisheries Department and Vanuatu Maritime Surveillance Centre fostered mainly through their reporting of suspect vessels seen operating in Vanuatu waters. Regular discussions are also held concerning fishing around the FADs.

The fact that sport fishing charter boats are not currently paying for any licenses issued by the Fisheries Department and are not returning any form of catch and effort is a constant complaint heard from local fishermen. The current Minister responsible for fisheries has directed that the Fisheries Department exercise greater control of sport fishing charter boat activities be improved. Shefa Province is considering options for controlling sport fishing charter boats wishing to operate within its jurisdiction.

Most operators reportedly tag and release all marlin less than 100 kg weight, unless the fish suffers shark attack or is exhausted to the point of death. The vessels do retain marlin if a specimen may be a new record, or a specific order has been made by a retailer. It is claimed that 80% of billfish are currently tagged and released after bringing alongside the boat. Tags are obtained from New South Wales fisheries authorities, to whom tagged fish numbers data is returned on standard forms. Unfortunately, the Australian authorities are now charging for tags, which is a considerable a dis-incentive for the vessel owners to participate in the tagging

⁸ Until the recruitment of the Surveillance and Licensing Officer in late 1992, the Fisheries Department did not enforce any of the requirements for licenses specified in the Fisheries Act Cap 158.

⁹ Administered under the Business License Act Cap 173, rev. 1988. All businesses conducted in Vanuatu require a business license issued under this Act, apart from those exempted under Schedule 2. The Minister for Finance represents the business licensing authority in the case of Municipalities, and local government councils are the licensing authorities for all other areas. Category E4 requires owners and operators of boats and vehicles used for tourism and recreation to pay VT10,000 for vessels carrying up to 6 persons, and VT20,000 for other boats. Category E10 requires local tour operators to pay a minimum charge of VT50,000, plus VT5,000 per employee. Under Schedule 2, Exemptions, fishermen are excluded from requiring a business license.

programme. The Fisheries Department should consider the introduction of a national tagging programme, perhaps in association with the Port Vila Sport Fishing Club Ltd.

Poulet, wahoo and mahi-mahi are sold for up to VT450 per kg, yellowfin tuna 350-400 depending on seasonal fluctuations in supply to the market, and 200-250 per kg. for marlin. Ymer gives away at least 300 kg of fish per month free villagers, prisons and provincial authorities. The complaint that the sport fishing charter boats are 'flooding' the local market with the fish they catch is hard to substantiate. The marketing of fish in Vanuatu requires study in order to determine the direct effect such sales are having on the profitability of small-scale artisanal fishermen. However, an important point is that were the sport fishing charter boats to stop landing fish, especially poulet, the high demand for good quality fish would not be met on a sustainable basis from other sources, causing shortages and price increases.

In terms of tourist charters, April and May are reported to be peak months. The 'serious' operators themselves complain that there are too many participants in the fishery, and that controls on vessel numbers would be a welcome development.

It should be noted that the sport fishing charter boats are major users of FAD's placed by the Fisheries Department, funded through aid projects. These FADs were placed primarily to assist local fishermen increase their catches. The introduction of a fishing license fee would be justified simply as a levy for use of the FADs. All FADs are more than 6 miles from shore, and therefore can be fished by any commercial vessel outside Provincial jurisdiction.

Licensing options

Regulations controlling the activities of sport fishing vessels differ widely throughout the world, depending on the state of evolution of the industry in the place concerned, and the relative importance of fishing to the national economy. In the US, state regulations differ widely and depend on the history of fishing in the area and the perceived status of the health of the target stocks. Political considerations are also important, especially in those areas where gear conflicts are possible. On the Atlantic coast of the US it is illegal to possess any billfish under a minimum size for any purpose, and the sale of billfish is totally illegal. Whether or not charter vessels are allowed by law to sell their non-billfish catch varies between states. Florida, for example, has developed a tag-and-release ethic and control the commercial sector so stringently that the charter boats have given up selling their catch in return for more control on commercial fishing vessels.

In areas such as Hawaii, the charter boat industry was allowed to expand in an uncontrolled manner, to the stage where there are too many boats for the number of paying anglers. This has led to operators cutting their charter rates so much that the sale of the catch became the main mode of generating an operating profit. The fishery in Hawaii now caters for only 'true big game anglers' who visit to take part in the many tournaments staged there. In Australia, fish handling and sale regulations are so strict that most operators do not bother trying to sell the catch, since the extra effort required in order to produce a product that meets quality control guidelines makes it not worth the effort.

In Costa Rica and Mexico, locally-based foreign boats can not charter for sport fishing, but local fishing vessels can undertake charter work, retain the catch and supply direct to hotels, restaurants etc. The position of the sport fishing industry in any country changes as the destination becomes more developed, and its attractions better known internationally. It is generally easier to plan the development of a sport fishery in countries where little or no tourism

currently exists, such as Solomon Islands. The situation in Vanuatu is such that tourism is already fairly well developed, and a sport fishing fleet firmly established. The seasonal nature of the fishery and the generally small size class of fish taken make Vanuatu a destination where tourists can try their hand at catching a fish, rather than a venue for the serious big game angler, who is prepared to pay the higher fees and fish in Cairns or Costa Rica.

It should be noted that there is definite adverse international reaction to a 'sport fishing' fleet that kills and sells marlin caught on charter. The sport fishing market increasingly demands a tag-and-release approach; destinations where such methods are not applied are frowned upon.

In the longer term, if sport fishing in Vanuatu continues to develop where the sport fishing charter boat fleet is fully booked most of the time, and high demand results in the capacity to charge higher fees, then the Fisheries Department could review whether these vessels may continue to be licensed as both sport fishing charter boats and commercial fishing vessels.

STATUS OF BOTTOM FISH AND TUNA RESOURCES

1. Deep-Water Bottom Fishes

Considerable past research effort has gone into studying deep-water fish resources in Vanuatu and a wealth of documentation produced. Over one hundred species have been recorded, dominated by snappers (family Lutjanidae), groupers and cods (family Serranidae) and the emperors (family Lethrinidae). The main species taken by deep-water droplining and bottom-set longlines include the snappers, *Lutjanus malabaricus*, *Etelis carbunculus*, *E. coruscans*, *E. radiosus*, *Pristipomoides filamentosus*, *P. flavipinnis*, *P. multidentis*, *Aphareus rutilans*, and the groupers *Epinephelus magniscuttis*, *E. morrhua*, *E. septemfasciatus*.

The deep-water bottom-fish fishery target the high commercial-valued snappers (or "poulet" fish as they are known locally) which are sold to local fish markets, hotels and restaurants.

Exploitation of Vanuatu's deep-water bottom fish commenced as a result of surveys conducted by the South Pacific Commission's Deep Sea Fisheries Development Project between 1974 and 1981. Fishing surveys, using hand-reels mounted on 8 m catamarans or 5 m dories powered by outboard motors, demonstrated the existence of commercially important deep slope resources in Vanuatu. As a result of these trials, and in line Government's policy to promote the development of fisheries targeting off-shore resources, the Fisheries Department established the Village Fisheries Development Project (VFDP) in 1982. VFDP established village fishing projects using different boat types of catamarans and mono-hulls ranging between 5.0-8.6. Under the scheme, fishermen benefited from grants, the supply of equipment, training and technical assistance. Duty free fuel was available to fishermen who provided the Fisheries Department with details of fishing activities and catches.

Emphasis on rural fisheries development has centred on this resource, due to high quality high value. Catches are shipped to urban centres for restaurant/ hotel outlets or exported. The current fleet comprises small skiffs with 15-25 hp OBM, which are also used for purposes other than fishing. Production and marketing costs are high, and this has led to the collapse of enterprises in more remote areas. In some areas cases Government subsidies provided through aid-funded development projects and concessions e.g. duty free fuel have been the only means of maintaining production. The size and sustainability of the resource, and high production costs associated with the small vessels used are the main constraints on an area by area basis. Santo, Malekula and Efate provide the best options for commercial development by small-scale fishermen. Nearly half the estimated national MSY, around 150 tonnes, is currently caught from these areas. The catch from these three islands may be close to the maximum sustainable. There is no fishing in more remote areas, since production costs exceed revenues gained.

Stocks Status

Although the distribution of deep water species varies with bottom type, with rocky substrates tending to support greater abundance and species diversity, the amount of available reef slope habitat in a given area is an indicator of the potential for fisheries targeting these species. The largest fishing grounds within the country are off the east coast of Santo. Around Efate, the fishing effort is concentrated in the north east Efate region, Emao and Forari. The resource is currently thought capable of sustaining catches around 300 tonnes for Vanuatu.

Table 1: Maximum sustainable yield estimates, by area, within Vanuatu

Area	Length 100 m isobath (miles)	Estimated 100-400 m isobath surface area (ha)	MSY (tonnes per year)
Torres	64	20,596	14.1
Banks	136	45,826	30.0
Santo/Malo	235	142,970	51.9
Malekula	165	101,344	36.5
Maewo	70	33,468	15.5
Ambae	52	11,843	11.5
Pentecost	75	25,000	16.6
Ambrym	68	26,650	15.0
Paama-Lopesi-Epi	101	76,512	22.3
Sheperd	86	45,354	19.0
Efate	126	95,330	27.8
Erromango	75	53,658	16.6
Tanna	65	42,438	14.4
Anatym	40	14,816	8.8
Total Vanuatu	1,358	735,805	300.0

Management¹⁰

Due to the nature of fish marketing in Vanuatu, the Fisheries Department has found it difficult to collect accurate data on the fishery¹¹. Data collection is currently restricted to the forms filled in by village fishing groups, in turn for which they receive duty-free fuel. There is no collection of data for fish sold to retail stores, hotels, restaurants and the like. Given the current interest by industrial-scale operations such as VFIL, in deep-water bottom fishing, some form of management guidelines would need to be put in place. Licensing of the deep-water bottom fishery fleet should be implemented. License restriction could include:

- Closure of areas around main population centres to vessels greater than 10m.
- Restricted access to the fishery through a limited entry/non-transferable license approach. This would require close collaboration with Local Government Councils and village level support.
- Only ni-Vanuatu to be licensed within the 6 n. mile zone.

There is currently no legislation that specifically controls the exploitation of the deep-water demersal fishery.

¹⁰ Management options for this resource are discussed more fully in G. Preston's report.

¹¹ MacAlister Elliott and Partners Limited, (1992). Urban Fish Marketing in Vanuatu. Final Report. August 1992.

The Tuna Resource

Commercially important species present in the Vanuatu EEZ include skipjack (*Katsuwonus pelamis*), yellowfin tuna (*Thunnus albacares*), mackerel tuna (*Euthynnus affinis*), dog-tooth tuna (*Gymnosarda unicolor*), and albacore (*Thunnus alulunga*). Big-eye (*T. obesus*) and frigate tuna (*Auxis thazard*) have also been recorded.

Near-surface tuna include skipjack and juvenile yellowfin and bigeye, with deeper swimming tuna adult yellowfin and albacore. Tuna are known to be present year round in Vanuatu waters, although the abundance varies considerably.

Exploitation of offshore tuna resources by the subsistence/artisanal level fisherman has been a relatively recent development. Today, tunas are targeted by local artisanal boats, and the sport fishing charter vessels, using trolling methods. The emplacement of Fish Aggregation devices has greatly assisted in trolling catch rates for yellowfin, skipjack and dogtooth tuna. Catches are either sold to local wholesalers such as Natai or LTP, or direct to restaurants and tourist establishments often for sashimi. All of the tuna catches by the small-scale fishery are marketed locally. In rural areas, tunas are sold to the Fisheries Extension Centres on islands where they exist and where proper ice and freezer facilities are located, Santofish and Natai fish markets. In cases of over-supply on the outer islands, the excess fish are sent to the Natai Fish Market in Vila.

Industrial exploitation is currently limited to Taiwanese longliners operating under the terms of a bi-lateral access arrangement¹² and a small number of locally-based longliners. Although US flag purse-seiners are allowed access under the multilateral Treaty on Fishing, no activity has occurred since 1990.

Stocks Status

The status of the important species constituting the offshore tuna resource in Vanuatu is not clearly known. Present opinion is that tuna resources are under-exploited. Should the fishery expand to the stage where catch or effort limitations are required under a management plan, the Fisheries Department might consider requesting assistance from SPC for a country analysis of the likely safe catch limits for the tuna resources. The current level of tuna fishing probably does not warrant specific in-country research. Regional research results for the main tuna species are summarised below.

Albacore

On a regional scale, albacore the status of albacore stocks are of potential concern, despite the cessation of fishing with long-driftnets by Asian fleets in 1991. Total albacore catches have remained relatively stable. Taiwanese longline catches have varied between 20,000-40,000 tonnes per year. According to available statistics, the Taiwanese catch and effort for 1992 was the highest on record, resulting from a large increase in effort in the southern part of the fishery. Taiwanese longline effort declined somewhat during 1993.

Catches of albacore by Taiwan longliners in Vanuatu currently appear to be well below historical highs, but this is thought to be more due to the seasonal movement of fish through the Vanuatu EEZ, rather than resource depletion due to overfishing.

¹² Agreement between the Government of the Republic of Vanuatu and the Kaohsiung Fishermen's Association.

In view of the modest catches taken by foreign access Taiwanese and local longliners, there is currently no concern for the status of the deeper swimming tuna stocks.

Yellowfin

Yellowfin catches in the western central Pacific have almost doubled since 1980, peaking at around 430,000 tonnes in 1993. Catches were dominated by longliners (mainly Japanese) prior to 1980. Since then, the purse-seine has become increasingly dominant in yellowfin catches.

Recent tagging-based stock assessment work by the South Pacific Commission's Offshore Fisheries Programme has indicated that western Pacific yellowfin stocks are in sound condition, and may be able to withstand some further increase in total catch above the present 400,000t. It is probable that the yellowfin stock in Vanuatu waters is not resident, but migrates freely to surrounding areas on a seasonal basis for reproduction and better feeding. The very large average size taken by sport fishing charter vessels and local longliners (to 80 kg) indicates that when present, the stock of yellowfin is healthy and able to sustain higher catches.

Bigeye

Total catches of bigeye have remained relatively stable in the Pacific at around 120,000 tonnes, with most catch attributed to longliners. Bigeye stocks and their exploitation status remain relatively poorly understood; they form a relatively minor portion of the catch, albeit the most valuable, and Vanuatu EEZ catches now and in the future are likely to be small relative to the overall western Pacific, or Pacific-wide catch.

Skipjack

Skipjack, which are targeted by surface fisheries employing purse-seine and pole-and-line gear, is considered to be under-exploited throughout the western Pacific, despite annual catches doubling from since 1980. Since 1991, the annual catch has remained between 800,000 and 1 million tonnes. Furthermore, as in the case of other southern Pacific Island states, abundance of skipjack in Vanuatu is highly seasonal. Based on the limited tagging undertaken by the SPC Skipjack Survey and Assessment Programme in the Vanuatu EEZ during 1977-1978, SPC were of the opinion that even with a ten-fold increase in the skipjack fishery in Vanuatu, would not cause concern for the sustainability of the resource. Limited aerial surveys conducted in 1982 by ORSTOM estimated the potential surface tuna catches at around several tens of thousands of tonnes.

Although tagging experiments have been limited in extent and duration in Vanuatu, it is safe to assume that current catch levels could be substantially increased, through increase purse-seining activity or the re-entry of pole-and-line vessels. However, the seasonal nature, and relatively low concentrations of skipjack in Vanuatu are factors that have meant little foreign or domestic industrial activity aimed at this species. Skipjack form an important part of the artisanal troll fishery, but catches are not known with any certainty. In addition, although suitable species of baitfish occur in the lagoons and bays around the islands, low abundance has indicated that establishment of a domestic pole-and-line fishery is not a viability. Although long-range Japanese pole-and-liners are licensed to operate, and sometimes do, in the Solomon Islands EEZ, there have been no approaches by the Japanese for access of this fleet to Vanuatu.

Management

Due to the migratory nature of the tuna species, management of the resource requires a regional approach. The member countries of FFA have established a number of management regimes and

mechanisms in order to enhance regional co-operation in tuna management matters. However, Vanuatu has not actively participated in the Forum Fisheries Agency Sub-committee meetings on regional in-zone management arrangements.

On a national basis, there would appear to be little need to impose restrictions to the tuna fishery for any gear type at present.

LICENSING

Present licensing policy and procedures

Licensing and enforcement functions fall under the Resource Assessment and Management Division. Licensing is currently the responsibility of a single Surveillance and Licensing Officer. His work is complimented by an Enforcement Officer, who is responsible for inspection of fish processing establishments, export consignments, and enforcement of license conditions. Support in information technology matters is provided by the Assistant Computer and Information Officer. The Surveillance and Licensing Officer reports to the Director through the Principal Biologist, who heads the Division. The incumbent possesses a Diploma in Tropical Fisheries from University of the South Pacific (graduated 1992). His duties include responsibility for enforcement of local and foreign fisheries legislation in Vanuatu; surveillance duties, monitoring fishing activities, licensing administration, and liaison with regional organisations such as FFA and SPC on licensing and management matters.

Data processing

The Fisheries Department is well equipped with Hewlett Packard desktop computers, laserjet printers, associated peripherals and software, housed in an air-conditioned environment. Desktop units are connected through a local area network, and an efficient E-mail system has been installed which facilitates access to Internet. The Department has benefited through the technical advice and assistance provided by FFA, with funding provided under the Project Development fund, under the multilateral Treaty on Fishing, and the Fisheries Computer and Information System Upgrade Project. This system has made communication and data sharing with regional institutions and other Pacific Island fisheries administrations easier as well as reducing the high cost involved in the use of telephones and fax machines. Custom designed relational databases have been installed in ACCESS which facilitate ease of handling all license applications.

Incoming license applications are received by post, or hand delivered by the vessel's local agent. License application forms are as specified under the appropriate schedule of the Regulations. In the case of Taiwanese vessels operating under the bi-lateral arrangement, applications are routinely processed and the system automatically checks whether the vessel is registered on the Regional Register of Foreign Fishing Vessels (the 'Regional Register'), maintained by FFA. Vessel details such as International Radio Call Sign (IRCS), the spelling of the vessel's name, stated tonnage, etc. are checked manually against the Regional Register, and any disparities taken up with the vessel owner concerned. The licensing System automatically updates a Vanuatu License Register, which can be interrogated to provide a summary of licenses issued in a variety of formats.

The licensing system generates a license in accordance with the appropriate form prescribed in the fisheries regulations. Special conditions attaching to the license as specified under the existing legislation is printed on the reverse side. Licenses require the Minister's signature before issuance to the recipient. Licenses are usually collected by the local agent or vessel owner direct from the Fisheries Department. In some cases, licenses are faxed in the first instance with originals sent by post. Copies of all licenses are distributed to the Minister's office and the Vanuatu Maritime Surveillance Centre.

Payments are usually made by cheque. The Surveillance and Licensing Officer passes the name of the vessel and the license number, and license period dates to the Senior Finance and

Administration Officer, whose desktop computer is linked by a local area network to the Revenue Section, Ministry of Finance. A cash invoice receipt number is generated automatically for the payment, and the payment credited against the appropriate revenue head. Cheques are then physically delivered to the Revenue Section. The system works well, saves time and reduces paperwork. The computer link between the Fisheries Department Finance Section and Ministry of Finance allows for continual updating of revenues received. Payments for fishing vessel licenses, processing establishment license, export permits etc. are processed in this way. Numbered paper receipts are provided to the applicant once payment has been processed.

All revenues generated through license and permit fees go to consolidated revenue in the Ministry of Finance, as does revenue collected through fines imposed for fisheries violations. The Senior Finance and Administration Officer acts for the Surveillance and Licensing Officer in his absence, processing license applications and generating licenses.

Reporting

Weekly reporting from foreign vessels is made to the Vanuatu Maritime Surveillance Centre. Logsheet returns are received from the Taiwanese longliners, and the domestic longliners. In the case of the Taiwanese longliners, logsheets returns are often very out of date; recently logsheets were received for trips concluded during 1994. This is not considered unusual for the Taiwanese fleet, and is an indication of the failure to meet reporting requirements as specified in the legislation and current access arrangement.

With regards local longliners, logsheet returns from *MFV Marine Princess* are accurate, complete and returned within a few days of the end of each month. No logsheets have yet been received from *MFVs Oiseau Bleu* and *Toho Vanuatu No. 1*.

The Licensing and Surveillance Officer currently enters all logsheet data into a logsheets database, which is periodically passed to SPC for addition to the Regional Tuna Fisheries Logsheet data base. Report forms are also received from the rural fisheries project boats which are active in the deep-water bottom fishery, detailing catch and effort data. These are input to a database by the Assistant Computer and Information Officer.

In addition to entering data from logsheet returns onto the purpose designed computerised database systems, and processing license applications, the Surveillance and Licensing Officer maintains a database on license fee revenues generated and licenses issued. Summaries of licenses issued are provided through an Excel file format to both the Vanuatu Maritime Surveillance Centre, Police Headquarters, and the Regional Surveillance Centre at FFA in Honiara. These are used for aerial and surface patrol sorties, and input to the regional vessel license database.

Summaries of revenues received through licensing are sent to the National Statistic Office and Central Bank for inclusion in their respective annual reports on the fisheries sub-sector.

Vanuatu Maritime Surveillance Centre

Under the terms of licenses issued, foreign vessels provide zone entry and exit advice, as well as weekly position and catch reports via fax or telex. These are made to the Vanuatu Maritime Surveillance Centre, which is stationed in the Police Headquarters building. Taiwanese longliners generally report via the fishing company's head office. The format for these provide

information in the format set under the vessel's license conditions, and specify vessel national license number, IRCS, date of report, position, effort and catch information by species.

All data received is input to a Vessel Database System, written in ACCESS, on the Centre's desktop computer. The VDS is linked to another ACCESS database containing up-to-date listing of FFVs registered on the Regional Register. Regular updates of the database are provided by e-mail to FFA. Trip termination dates are not reported. The database can be interrogated to provide printouts of defined vessel listings for a wide range of surveillance and enforcement purposes. The Centre also maintains a database of surveillance contacts provided from a range of sources, including legal fishing vessel intelligence reports, patrol boat sightings, information passed on by other MCS personnel within the FFA region, and the results of aerial sightings made by the RAAF, RNZAF and the French airforce, which actively patrol the region.

The Vanuatu Maritime Surveillance Centre operates a single patrol vessel, RVS *Tukoro*, for fisheries surveillance and enforcement, provided under the Australian Pacific Patrol Boat Programme. However, the Centre faces a significant funding shortfall in meeting recurrent costs and has suggested that a portion of licensing revenues and penalties paid for infringements to be dedicated to operations of the patrol vessel. Only 20% of total costs are being met by Government at present; the balance is provided under the Australian aid package.

Regular communication between the Commanding Officer of the Maritime Surveillance Centre and Director of Fisheries has resulted in effective monitoring of licenses issued, and evaluation of commercial fishing activities within the fishery waters.

License fees

Licenses currently required by commercial fishing operators are as follows.

License/Permit category	Governing legislation
Annual Licenses	
Local Fishing vessel license	Fisheries Act Cap 158
Foreign fishing vessel license	Fisheries Act Cap 158
Fish processing establishment	Fisheries Act Cap 158
Fish export license	Fisheries Act Cap 158
Business License	Business Act (categories E4 and E10 relate to sport fishing charter boats)
Provincial licenses for fishing, fish processing, business operation etc.	Decentralisation Act - by-laws concerning licensing are being prepared by the Local Government Councils.
Export permits (required per shipment)	Fisheries Act Cap 158
Commercial export permit	Fisheries Act Cap 158
Sample permit	Fisheries Act Cap 158
Home consumption	Fisheries Act Cap 158
Souvenir (shell, coral etc.)	Fisheries Act Cap 158

PRESENT DIFFICULTIES WITH POLICIES AND PROCEDURES

Licensing administration

Given the relatively low level of industrial fishing activity, the present procedures appear to work relatively well. The Fisheries Department staff have at their disposal an enviable array of

modern office equipment, including modern data processing hardware and custom designed software. The present licensing work load is not excessive for the incumbent Surveillance and Licensing Officer.

Incoming communications requiring the attention of the Surveillance and Licensing Officer include standard license application forms for fishing, fish processing establishment and export licenses, communications with regional agencies (FFA, SPC and others) relating to maintenance of the Regional Register and regional license database, and general enquiries concerning licensing and surveillance. These are not dealt with in an orderly fashion. Basic office management principles and filing practises are not observed. This has in some cases resulted in delays in issuing licenses and failure to respond promptly to requests for information. Numerous multiple files exist for the same subject matter in the Fisheries Department filing system, which contributes to confusion and complicates retrieval of specific items of information.

The current licensing categories for industrial fishing vessels (local, locally-based foreign and foreign) are based on nationality. The definitions for 'local' and 'locally-based foreign' vessels have proved too ambiguous, resulting in confusion regarding what license fee level to apply. The requirement for licenses and permits to be signed by the Minister has been problematic. If the Minister is on tour, license applicants must await his return. This has proved inconvenient for longliners wishing to urgently enter the Vanuatu zone, and exporters awaiting export permits and needing to meet airline schedules for the export of fresh fish and live aquarium fish, or shipping schedules for the export of beche-de-mer, trochus and other shells. Delays are experienced when applications are made on a Friday for exports on Saturday or Sunday flights. The Fisheries Department have requested applicants to better forecast their export dates, but this is not always possible due to the nature of the fisheries business. An arrangement is temporarily in place whereby the Minister has delegated authority to the Director to sign license and permits which has eased the situation.

There is a clear need to clarify licensing policy on each fishery, and set clear guidelines regarding allowed areas for fishing, level of fees payable, gear restrictions etc. Management plans for specific fisheries, provided for under the existing Act, have not been drawn up.

Under the Decentralisation and Local Government Act, Local Government Region's (or Provinces) are empowered to regulate licensing activities within 6 n. mile of their respective shores. Although no Local Government Region has yet to enforce licensing by-laws, the potential exists for considerable confusion and duplication of responsibilities between Fisheries Department and the Provinces. Recent concern over the activities of locally-based foreign vessels entering the domestic longline fishery and attempting to fish within the 6 n. mile limit, the role that the Local Government Councils might play in determining resource management issues within 6 miles, and the Fisheries Department's capacity to administer/manage the fisheries has resulted in the realisation that policy and administration require review. A number of existing operations are pending a review of the situation.

POSSIBLE SOLUTIONS AND IMPROVEMENTS

Management Guidelines

No clear policy guidelines currently exists for licensing commercial fishing vessels. This lack of a policy framework has caused confusion and complaints regarding the entry and activities of certain vessels in Vanuatu. The formulation of a policy framework would result in a better

business environment and a clearer picture of investment opportunities in the fisheries sub-sector.

Guiding Principles and Objectives

The development of Vanuatu's domestic capability for industrial fishing is rudimentary. Export marketing of sashimi-grade tuna through Vanuatu Fish Investments Ltd. commenced in February 1996, ending a long period of decline in the Port Vila based marketing centre, Natai. Since the loss of the SPFC fleet from Palekula on Espiritu Santo in 1986, the domestically-based tuna industry has been moribund. Sport fishing forms an important part of the established tourist industry, and is playing an increasing role in making Port Vila an attractive tourist destination, both for the serious angler and those who wish to have a combined fishing/diving holiday. Fish landed from the existing sport fishing charter boat fleet make a significant contribution to fish supply to restaurants and hotels frequented by tourists, and retail outlets. The local basing of commercial fishing vessels is modest, but forms an important part of current development aspirations.

In pursuit of the objective to generate increased fish export revenues, local employment, tourism attraction, local and overseas marketing of high quality fish and other down-stream benefits, an important guiding policy principle should be the preservation of the gains that have made by the existing operators.

A guiding principle is therefore suggested that policy guidelines for licensing should not jeopardise the success achieved to date and opportunities for growth of the fledgling domestic fishing industry.

In order to overcome present problems, changes to administration and procedural arrangements for licensing should be amended.