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**COMMISSION FOR THE CONSERVATION AND MANAGEMENT OF  
HIGHLY MIGRATORY FISH STOCKS IN THE WESTERN AND CENTRAL  
PACIFIC OCEAN**

**FIRST MEETING OF THE TECHNICAL AND COMPLIANCE COMMITTEE  
[5 – 9 DECEMBER 2005]**

**and**

**SECOND ANNUAL SESSION  
[12 – 16 DECEMBER 2005]**

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6<sup>th</sup> December 2005

**NATIONAL REPORT**

**TONGA**

**1.0 Background:**

***History of the Fishery:***

In the early 80's, one vessel (FV Lofa) dominated the commercial tuna fishery in the whole Kingdom of Tonga. This single longline vessel caught an average of 200mt annually. By 2001, 25 fishing vessels were registered and licensed to fish in Tonga's undeclared EEZ. In 2003 and 2004 the total number of longline fishing vessels registered and fish in Tongan water were 33 and 22 respectively. The Tuna fishing in Tonga increased and achieved a record catch of 1,988mt in 2001.

Tonga has approximately 700,000 km<sup>2</sup> of undeclared EEZ which extends from Latitude 13 to 25 degrees and offers moderate potential for exploitation. Historically, the annual catches of tuna species are dominated by the deep swimming albacore species which makes up 70%, less than 20% are yellow fin and 10% are big eye. Skipjack and yellow fin are surface tuna species and they are known to occur more seasonally and are believed not to be fully exploited in Tonga's fisheries waters.

Non-target species which associated with the longline fishery such as billfish, mahimahi, opah, wahoo and sharks are sold locally.

Tonga's domestic longline fleets are based in the capital, Nuku'alofa. Prior to 2002 the fishing was carried out around the Tongatapu waters (the most southern part of the Tonga group where Nuku'alofa is located). This fishery is now fished in all waters beyond the 12nm zone of Tonga's fisheries waters.

Fishing effort has steadily increased by 2000 but decline in 2003 - 2004. Historically fishing vessels undertook relatively small number of sets before returning. In the past two years, vessels have traveled far distance between sets.

The main export markets for fish and fishery product from Tonga are Japan and United States with limited quantity to New Zealand and other countries.

Pole and Line have been done previously by local fishers but at a small scale while no tuna purse seine activity has been recorded in Tongan waters.

## **2.0 Fleet Structure:**

According to the number and sizes of fishing vessels operating in Tongan water, it is believed that the most economical vessel size for Tonga range from 20m-30m. The vessels above 30m would also be uneconomical as the crew costs would be too high, have high maintenance costs and high fuel costs as compared to high fishing uncertainties. For larger vessels (30m) crewing costs are a significant factor and smaller vessels (20m) lack the necessary range due to limitations on fuel and ice capacity. Interestingly, the foreign vessels which joined the longline fleet are generally larger than those considered optimal by the local companies and as such when fishing are not profitable they would be the first to leave the Tonga longline fishing. The locally based foreign fishing vessels were dominated by Chinese and Korean vessels.

Tonga has no access agreements with distant water fishing nations (DWFN) with the exception of the 1987 Multilateral Treaty on Fisheries with Government of the United States and the Government of Certain Pacific Island, in which Tonga is a party to.

**Table 1:** Number of fishing vessels, currently with a valid license

<b>No. of local vessels</b>	<b>Authorization Area</b>	<b>Type</b>	<b>Flag</b>
18	Tonga's EEZ	Deep Sea Bottom fishing	Tonga
11	Tonga's EEZ	Tuna Long line	Tonga
3	Tonga's EEZ & High Seas	Tuna Long Line	Tonga
1	Tonga's EEZ	Mini Long Line	Tonga

### ***3.0 Annual catches in the WCPO Convention Area, 2000 – 2004:***

As stated above, Tonga has no access agreements with DWFNs and all authorizations issued up to 2004 were for the fisheries water of Tonga.

### ***4.0 Annual catches in Tonga's EEZ, 2000 – 2004:***

#### ***4.1 The 2003-2004 tuna fishery:***

In 2003 the total catch of tuna species and associated non-targeted species was 1,308 mt. It is a significant decline from the recorded annual catch in 2001 (1,988mt). Furthermore, total catch in 2004 was further decline to only 373mt for the whole year.

**Table 2:** The table below gives the summary of the annual catches (mt) and total hooks used for 2003 and 2004 based on SPC logbooks from fishing vessels.

Years	ALB	BET	YFT	<b>Total</b>	Marlin	Swordfish	Others	<b>Total</b>	Total Hooks
2003	660	80	227	<b>967</b>	40	14	287	<b>341</b>	6,901,756
2004	106	34	121	<b>261</b>	14	23	75	<b>112</b>	3,303,025

**Table 3:** The table below shows the number of vessels licensed for 2003 and 2004.

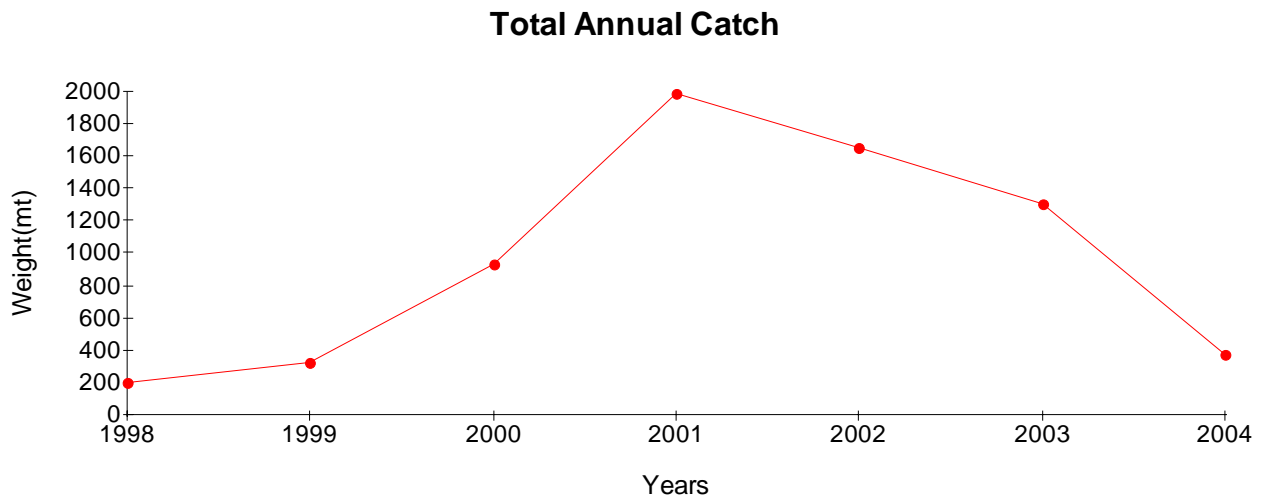
Years	Local Vessel	Joint Venture	Government	Total
2003	17	14	2	33
2004	12	8	2	22

There (Table 2) appears to be a clear decline in category “Others” which includes; mahimahi, wahoo, moonfish, swordfish and shark in 2004 compare to 2003. Marlin includes; stripe, Black and Blue Marlins, also decline during the same period. Similarly, three target tuna species shows a significant decline in 2004 as compared to 2003. Albacore has always made up a large amount of the total catches of tuna annually but it too shows significant decline with smaller proportion compare to yellowfin tuna.

The decrease in fishing vessels (*Table 3*) in 2004 indicate similar trend shown in the annual total catches of the reported years. It appears that the decline in catch in 2003 ensured the relocation of locally based foreign fishing vessels to other countries under joint venture agreement with local nationals. One government owned fishing vessel did not participate in any long line fishing in 2004. Due to fishing uncertainties in 2004 coupled with high operational costs, continued El Nino, most vessels only fished once a month.

The table and graph below illustrate the total catch from 1997 to 2004. The years 2001 and 2002 were seen as the best year for the longline fishery in Tonga.

<b>Year</b>	<b>Weight(mt)</b>
1997	214
1998	193
1999	327
2000	931
2001	1988
2002	1647
2003	1308
2004	373



#### 4.2 Status of the Stock:

SPC have developed stock assessment models for the three main tuna species fished in Tongan water. The assessments use MULTIFAN-CL together with tagging data, length frequency, catch and effort data to estimate abundance, mortality, etc. The models include spatial structure that divided the stock into fishery regions. The method incorporates fishing in other EEZ and provides regional perspective of the current stock.

##### *A Regional Look:*

Tonga is grouped in a region known as “Region 5” (a large area in the southwestern Pacific Area). They include New Caledonia, Vanuatu, Fiji, Wallis and Futuna, Samoa, American Samoa, Niue, Cook Islands and Tahiti. The majority of the tuna species caught in Region 5 use longline fishing method.

The SCTB in 2003 concluded that the yellowfin species are not over-fished in the WCPO. It explained that whilst those stocks are not over-fished it may be closer to full exploitation. Moreover, it advised that any further increase in fish mortality would not be wise for the long-term sustainability of that stock. Thus for the entire WCPO, Tonga longline accounts for less than 2% of the total yellowfin catch. It would mean that Tonga long line as part of Region 5 does not contribute significantly to the exploitation of the entire WCPO yellowfin.

Bigeye tuna assessment in 2003 of Region 5 similarly indicates that Tonga only fished a small proportion of the catch from this region. However, the assessment indicated that there is a future risk to the bigeye stock in Region 5 and the stock has been known to have decreased by 20% in the past decades. Scientifically it is a relatively low impact but it signals that there has been a low recruitment in the past.

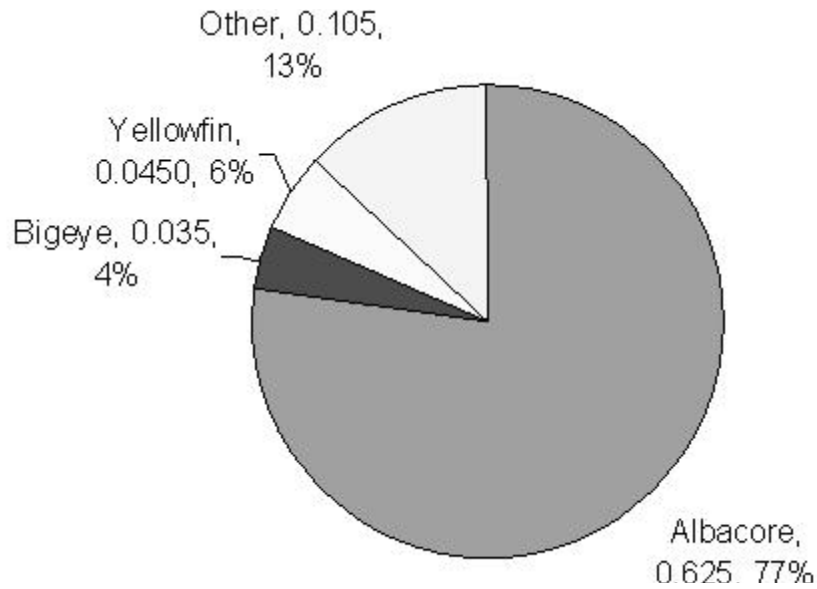
Currently, there are no existing threats to the albacore stocks in Region 5.

#### 4.3 The By product of tuna longline in Tonga

The decline in apparent abundance of Albacore has forced the Tongan Tuna fleet to

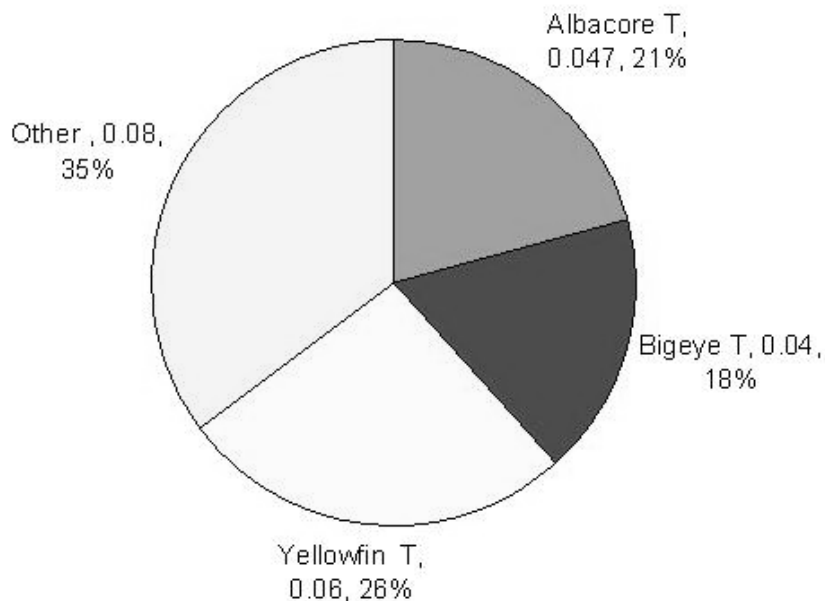
modify their fishing strategies. Many have resorted to increased surface longlining which has resulted in a shift in the composition of the Annual Tongan Tuna Catch. The catch composition prior to 2003 is presented below.

### Average Tongan Catch Composition prior to 2003



The catch composition for 2005 is presented below and shows the impact of an increased reliance on surface fishing by the Tongan Tuna fleet.

## Tonga Fleet Average Catch Composition 2005



### Billfish species:

The total catches of the Marlin species decline as compared to fishing effort in 2004. The species of Marlin are Blue, Black and other marlins.

### Sharks:

The Ministry of Fisheries is continuing its effort to make sure that sharks are not targeted by tuna longline vessels. Certain locally based foreign fishing vessels have been penalized for catching more than would be required percentage (10-30%) of by-catch.

## 5.0 Developments and trends in the domestic and/or offshore industry:

Some of the issues and developments affecting the domestic tuna industry in Tonga are discussed below.

### 5.1 Environmental Impact:

Historically albacore are more abundant in the southern part of Tonga's EEZ and yellowfin and bigeye are more abundant in the central and northern waters.

In 2003 the decline of catches was due to the effects of the El Nino phenomena. By December 2004 although the catch had slightly improved it was further realize that the El Nino condition was not profitable to all locally based foreign vessels under joint venture agreement. This is attributed by the fact that the location of Tonga's EEZ are in the subequatorial and therefore the abundance of the tuna species will be affected and influenced by the environmental conditions.

### Sea Surface Temperature:

The high catches of yellowfin in the months of January-May coincide with the highest surface temperatures. High catches occur in the warmer waters. In contrast, the catches of albacore are higher in low surface temperature.

Oceanographic conditions cause variations to the catches in every year. In the summer months of 2003, water temperatures were relatively high in the northern area of the EEZ. The conditions were similar throughout 2004. As a result low catches were recorded of albacore and higher catches of yellowfin.

## **5.2 Economic Issues:**

Total FOB revenue estimated was TOP\$813,498.00 from the total tuna catch of 2004. The maximum catch for 2004 was in June and the species with most contribution to the export earnings from tuna was Albacore. The export of tuna depends only on the capability of Exporters to meet their operating costs and thus allow them the opportunity to transport tuna to International Market.

The tuna industry employs around 500 people.

There were 730.13mt of fresh tuna exported in 2002 and valued at \$4,818,858.00. In 2001, 1,202.40 metric tonnes were valued at \$7,935,840. The tuna operators continue to benefit from duty free fuel, a subsidy provided by government to assist fishing such as tuna longline.

There was a decline in the exports of both valuable species of yellowfin and bigeye to Japan. Less than half of the volumes of tuna exported in 2002 were exported in 2004. With the export value of the Bigeye has increased, while a decrease in the value per kilogram for the Yellowfin.

At the end of 2004, there was an increase for the value of Albacore and a decline for the value of Yellowfin, but Bigeye fluctuates over the years and further decrease from 2003 to 2004.

The decline in the export of tuna during (2003-2004) was due to harsh El Nino conditions in the Tonga seas, operating costs and fishing vessels crew availability.

For 2004, Albacore were valued at T\$ \$450,733.50, Yellowfin with T\$126,633.50. The total earnings from the Tuna export in 2004 were a FOB value of T\$729,767.50.

## **5.3 Management Issues:**

The approved management plan for tuna has not been reviewed since its first adoption in 2001. These pose significant problems for the years 2003-2004. The SPC status report of the history assessments recommends that the assessment for the tuna species is to be considered in the regional context. There is some concern raised about the overall yellowfin and bigeye in the region.

Until 2004, the tuna fishery was the highest revenue earner fishery for Tonga. A Tuna Management Committee was established around year 2000, bringing together relevant stakeholders to provide advice and recommendations, thereby help with the management of this fishery. A cap of 50 fishing vessel approved by this committee was initially set, however, the committee brought this down to 30 licenses in 2004.

The tuna fishery has experience difficulties and over the past five years the vessel number have increased from 7 to over 30 and a move from smaller vessels to larger vessels. By the beginning of 2005 all foreign based companies and vessels have left the Kingdom due to the decline and uncertainty felt in the past two years.

Estimates of catches are still not properly recorded, this due largely to lack of funds and human resources within the Ministry of Fisheries. There is also a need for better monthly analysis of the data collected by the Ministry.

There have been no efforts in the past to provide a stock assessment for all billfish and other non-target species that has been a major component of the tuna longline in Tonga. While there seems to be no concern for these species locally the stock would remain uncertain. While the last two years have recorded a drop in albacore catches, it is believed that some areas remained very productive.

#### **5.4 Onshore and Future Developments:**

There are five tuna packing facilities which all operate under HACCP certified conditions. Some companies are required to use these certified facilities. Two companies are exporting loins, fresh cut packed sashimi packets.

The tuna resources still offer opportunity for growth of the domestic industry. Any major growth would be from a combination of factors such as the fishing component which is able to fish beyond the Tonga's waters and a processing that is able to add value to the product. These will raise significant economic contributions. While the industry remains uncertain due to economic difficulties, it must remain flexible and implement good management measures so as to minimize unnecessary costs. More importantly are the subsidies that government has enabled to provide for this fishery and as such has given these companies opportunity to continue fishing in the face of uncertainties.

Tonga Government is making every change possible in its reform process to form conducive policies which encourages foreign investments and local fishers to assure profitability in this fishery. Foreign participation is restricted to tuna provided that all its catches are processed and exported from Tonga. Although Technical Assistance has been sought to assist commercial banks, banks are hesitant to approve loan amounts which are relevant to the running of fishing industry.

The Ministry is currently assessing various training programmes in collaboration with the Tonga Maritime Polytechnic Institute in facilitating crew needs typically for fishing activities.



## ***6.0 Application of conservation and management measures on the high seas and complementary measures in waters under national jurisdiction:***

Tonga maintains a fishing vessel register of fishing vessels she authorized to fish. Terms and conditions for each license/authorization are issued together with the license, in which the vessel must comply with. The terms and conditions for fishing described in Annex III of the Convention are all covered in the terms and conditions Tonga issued for each authorization.

A domestic vessel monitoring system (VMS), using ARGOS, and the regional VMS, using INMARSAT-C (FFA VMS) for foreign vessels, are both operational and are used to track vessel movement out at sea. All authorized vessels are required to carry an ALC on board the vessel, which must be kept on at all times. Currently, only two more long line vessels and three deep sea bottom fishing vessels are yet to be equipped with an ALC.

All authorized vessels are required to accurately and completely fill out SPC logbook while out at sea, and submit these, once the vessel arrive in port. The logbook data are collected by the Licensing Section as a condition to the duty free fuel concession scheme. The positions provided in the logbook data are validated against data collected via VMS, to check for discrepancies. These logbook positions are used for data analysis and further sent to SPC for a more detail analysis. VMS is also use to check that all vessels' trips have a corresponding log, submitted to the Ministry.

Moreover, under the terms and conditions of the authorization issued, the vessel is required to inform the Ministry of Fisheries, 24 hours prior to the vessel arrival in port. This is to allow the Ministry enough time to meet the vessel in port when it arrived for port sampling and for port inspection, if required. In addition, the VMS gives an indication of the vessels heading into port and an estimation of when it will arrive, alerting the Ministry in advance. If a violation is suspected, the vessel suspected is subject to full port inspection. If the inspection produces evidence of violations, than steps are taken to bring the vessel to court.

The deployments of observers on board the vessel to collect data for scientific and compliance purposes, is also a condition of the terms and conditions of the license and empowered by the Fisheries Management Act 2002. An in-country sub-regional observer training, courtesy of FFA and SPC, was conducted in 2004, training 13 private sector trainees and 3 Ministry staff. Fourteen of these locals qualified as national and regional observers. Deployments were made on the locally based foreign fishing vessels fishing in Tonga waters and in the US Treaty vessels, under the regional observer programme.

Further, suspension of license has been used as a means of penalizing vessels breaching its license terms and conditions.

In recognition that IUU fishing is a threat to food security and to Tonga's aspirations to develop a sustainable and viable tuna industry, Tonga, in consultation with FAO has formulated a National Plan of Action to prevent, deter and eliminate IUU fishing, in accordance with the IPOA-IUU fishing adopted in 2001 by FAO. The final copy of this

document is on its way from FAO.

Tonga's water was opened to locally base foreign longline fishing vessels through partnership or joint venture with local companies. However, in a bid to constrain expansion of fishing capacity and fishing effort, on 27 April 2004, a decision was made to freeze issuing licenses to locally based foreign longline fishing vessels. Limitations on percentage of by-catch of sharks, is specified in the tuna's license terms and conditions to prevent vessels from targeting sharks.

A draft tuna compliance plan and a draft tuna regulation are also in place, under finalization, awaiting approval and gazettal.

***7.0 Monitor, investigate and penalize violations of the provisions of the Convention and measures adopted:***

A national MCS Committee was established in 2000, with the chair being the Commander of Tonga Defence Services and members consisting of relevant head of organizations. Its objectives is to look at various MCS related issues that affect the Kingdom, such as assistance with development of Niue Treaty initiatives, EEZ proclamation and others.

A Fisheries Operational Task Force of inter-agency law enforcement units, consisting of Ministry of Justice, Ministry of Police, Tonga Defence Services, Ministry of Fisheries and other line ministries operates under the Ad Hoc Ministerial Fisheries Council was also established to address fisheries related cases.

Major known recent IUU fishing activities in Tonga waters, are summarize below:

**7.1 Vessel Name: Yang Szu 666 , IRC: BJ4674, Vessel Type: Longline, Vessel Flag: Taiwan**

<b>Violation Type</b>	<b>Violation Date</b>	<b>Violation Location Lat/Long</b>	<b>Date Actioned</b>	<b>Date Completed</b>	<b>Detection Method</b>	<b>Amount of fine or compensation (local currency)</b>
Fishing without a license ( <b>plus</b> see report)	15 March 2004	Southwest of Vava'u, inside Tonga EEZ	15 March 2004	10 Nov 2004	Detected by Tonga Defence Services airplane on routine patrol and picked up by their patrol boat	TOP\$200,000 <b>plus</b> removal from the FFA Regional Register

**Background:**

On 15<sup>th</sup> March 2004, the Tonga Defence Services (TDS) airplane on patrol from the Vava'u group of Islands, spotted the Yang Szu 666 stopped about 25nm southwest of Vava'u. On return from its patrol to Ha'apai, the TDS plane noted that the vessel was steaming at high speed west to the boundary of Tonga's EEZ. The patrol boat apprehended and boarded the Yang Szu 666, a Taiwanese long line fishing vessel, still well inside Tonga's waters. The inspection revealed:

1. Fresh shark in the hold covered with iced bait fish – later found to be approximately 5.8mt of shark most being soft and hence fresh, with 293 kg of shark fins
2. No logbooks of any kind onboard (fishing, navigation, engineer or radio)
3. The FFA VMS turned off
4. The port of registry obliterated and painted “No Port” and the vessel identification markings partially obliterated and painted over to represent a different identification number

The vessel was found to be in contravention of several sections of the Tonga Fisheries Act 1989 and the Tonga Fisheries Management Act 2002 during the period of 1 March 2004 to 9 April 2004 and 10 April 2004 to 9 November 2004 respectively, the vessel was arrested and placed in the custody of the Government of Tonga.

Under the Fisheries Act 1989, the charges were:

- ❖ Against the Master for fishing without a foreign fishing vessel license, or any other permit or authorisation for such activities in Tongan waters (Section 11(1)(6))
- ❖ Against the owner for the same reason as above (Sec 11 (1) (6) )
- ❖ Against the Master for failing to provide fisheries catch information in such format as required by the Act (Section 28 (1) (2))
- ❖ Against the Master for the removal of evidence, namely 93 kg of shark fins contrary to the Act (Section 48)
- ❖ Against the Charterer, for fishing (allowing to fish) without a foreign fishing vessel license, or any other permit or authorization for such activities in Tongan waters (Sec 11 (1) (6) )
- ❖ Obstruction against a Tonga Defence Services Authorized Officer (Section 34 & 38)
- ❖ Obstruction against a Ministry of Fisheries Authorized Officer (Section 34 & 38)

Under the Fisheries Management Act 2002, the additional to be laid charge was:

- ❖ Removal of a further 200kg of shark fins, contrary to Section 77 of the FMA 2002

The Task Force conduct several meetings during the 7+ months that the vessel was under seizure to discuss ways on how to best proceed with this case.

The charges against the Yang Szu 666 were considered serious violations and hence, Tonga move to strike the vessel from the FFA Regional Register. In May 2004, the Yang Szu 666 was removed from the Regional Register, disabling it from fishing in any of the Pacific Islands Forum Fisheries Agencies' member countries.

After extensive review of all the factors in the case, the advice from the Task Force, and further review of the value of the vessel and catch, the Hon. Minister for Fisheries followed the advice of the Task Force to utilize the power conferred upon him by Section 55 of the Fisheries Act 1989, and compounded the fisheries charges in the case of the Yang Szu 666, and released the vessel from custody of the Government of Tonga under set terms and conditions. On 10<sup>th</sup> November 2004, the charges against the Yang Szu 666 were compounded, bringing TOP \$200,000 (USD 100,000) to the Government of Tonga, the largest such settlement to date in Tonga.

On 13 November 2004, the Yang Szu 666 set sail from Nuku'alofa, on its voyage leaving Tonga EEZ.

7.2 Vessel Name: Ching Fong Hwa No. 1, IRC: BJ4639, Flag: Taiwan, Vessel Type: Longline

<b>Violation Type</b>	<b>Violation Date</b>	<b>Violation Location Lat/Long</b>	<b>Date Actioned</b>	<b>Date Completed</b>	<b>Detection Method</b>	<b>Amount of fine or compensation (local currency)</b>
Licence Non-Compliance	01/05/2004 to 13/05/2004	Tonga EEZ	13 May 2004	21 June 2004	ARGOS VMS	TOP\$45,000 plus cancellation of license

Background:

Chartered by a local company in Tonga, the vessel was granted a Locally-based foreign fishing vessel Tuna Fishing License, on 20 April 2004, to fish in Tonga waters. The Ministry briefed the agent, master and the whole crew of the vessel on its licence's terms and conditions prior to fishing.

On 1 May 2004, the vessel set sail on its first fishing voyage and on 13 May 2004, the vessel was ordered back to port for investigation of breaching the terms and conditions of its tuna fishing license. This was done after verbal and written warnings were issued to the agent of the vessel, that the vessel was breaching its license terms and conditions. Upon inspection in port, the vessel was found with 13.5 tonnes of sharks and 1.3 tonnes of shark fins.

The Fisheries Operational Task Force set to work in prosecuting this vessel. After the Task Force's review of the case, the potential charges were identified that could be laid against each of the master, owner and chartered in accordance with Section 31(7) of the Tonga Fisheries Management Act 2002.

Infractions of the Ching Fong Hwa 1 between 1 – 12 May 2004 of Section 31(7) – contravention of any condition of the license, include:

- ❖ fishing inside the 12nm territorial seas
- ❖ fishing inside the 1000m depth zone
- ❖ failing to submit its weekly catch report
- ❖ conducting a directed fishing for sharks
- ❖ exceeding its bycatch of sharks of 30%
- ❖ turning its VMS off

After extensive review of all the factors in the case, the advice from the Task Force, and further review of the value of the vessel and catch, the Hon. Minister for Fisheries cancel the current tuna fishing license for the Ching Fong Hwa 1 and forfeit its catch. The catch of the shark meat and fins were sold thus bringing a further \$45,000 pa'anga into the government coffers.

On 23 June 2004 at 0900 hours, the Ching Fong Hwa 1 set sail from Fuaa Wharf at Nuku'alofa, on its voyage leaving Tonga EEZ.

### ***8.0 Port State Measures:***

Tonga, in a bid to regulate access to her port as a means to control IUU fishing, under its Fisheries Management Act 2002, Section 68 (1), requires a foreign fishing vessel who intends to enter Tonga's fisheries waters, to give the Secretary at least 72 hours' notice of her intention to do so. The Secretary may order the vessel to leave or not to enter Tonga's internal waters if he is satisfied that the vessel has contravened international conservation and management measures. Details of fishing trip and quantity of fish on board are part of the information required; the vessel may produce upon inspection in port. Illegal importation of fish is also prohibited and carries a hefty fine of \$1million pa'anga or imprisonment up to 4 years or both.

Prior to issuing an authorization for a vessel to fish in Tonga waters, the vessel is required to come into port for a full inspection.

Transshipment at sea is forbidden under the current management plan for tuna unless it is conducted under "permitted transshipment operation" from the Secretary for Fisheries.

In 2004, FFA conducted a one week In-country Prosecution and Dockside Boarding Workshop, training officers from the Ministry of Fisheries, Tonga Defence Services and the Ministry of Police on fisheries laws and regulations and conducting dockside boarding and prosecution.

### ***9.0 Conclusion:***

In conclusion, recognizing the limited available resources and limited training of its human resources, Tonga is making every effort possible to adhere to both national, regional and international laws.