
FISHERIES DIVISION

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MINISTRY OF AGRICULTURE AND FISHERIES

Fisheries Division

Apia, Samoa

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1 MISSION STATEMENT

The Fisheries Division committed to the Strategic Vision, Goals and Objectives identified in the Strategies for the Development of Samoa (SDS) 2005-2007 and the Ministry of Agriculture and Fisheries Corporate Plan (2005-2007) goal of:

"Growing and Healthy and Wealthy Samoa".

The Strategic Mission Statement below highlights the aims of the Fisheries Division:

"Promotes the optimum and ecologically sustainable use of the country's fishery resources and the development of suitable alternatives to harvesting depleted resources in order to maximize benefits to Samoa".

2 OVERVIEW

The fiscal year 2006-2007 demonstrated the ongoing services of the Fisheries Division for stakeholders to support and initiate development as well as promoting sustainable management of fisheries resources. The following highlights illustrate the major achievements attained by the Division through the implementation of activities stated in its 2006-2007 Annual Management plan.

2.1 Inshore Fisheries Services

- ***Fishery annual landings:*** The estimated total volume of inshore fishery products landed and sold via domestic markets and outlets for the period of 2006-2007 was 126.47mt and valued at approximately \$1.5 million tala. There are four main groups sold domestically of which fin fishes accounted for 67% of the total landing volumes.

- ***Fish reserve monitoring:*** A total of 11 Community-owned fish reserves have been re-surveyed with two newly established fisheries reserves being surveyed where the status, adverse impacts and health of substrates such as coral reefs, sea grasses, fishes and invertebrates' abundance were monitored and assessed. The overall results show the live corals with an average of 30% which is predominant with the abiotic group with an average of 33%; the other major groups such as algae recorded an average of 29%, the dead corals with 5% and bleached corals with just 1%. This compare to last year is not any changes with the average percentage of live corals which was also 30.5%, the abiotic group slightly higher with 34.4%.

Eight fisheries reserves under the Global Coral Reef Monitoring Network (GCRMN) as permanent monitoring sites were also re-assessed during the year. Overall, live corals accounted for 53% of the substrate coverage on the reef as compare to the 37% live coral coverage in 2004. This is a positive sign or impact of using fish reserve as a management tool to rehabilitate and enriching biodiversity in depleted reefs.

- ***Research:*** Four major inshore fisheries researches are currently being implemented.

- (i) ***Monitoring and Evaluation of Community-base fish reserves:*** This research was completed in March 2007 with seven villages being selected, consulted and trained on simplified coral reef monitoring and reporting methodologies with assessment exercises been conducted by village members and the Fisheries staff. As a result of the project, the communities are now equipped and fully trained to carry out basic and simple coral reef and biodiversity monitoring within their fish reserves.

- (ii) *Managing inshore spawning fish species, aggregating sites and spawning grounds*: This project is to investigate aggregating, spawning times and breeding sites of inshore fish species. Appropriate management regimes that will promote the conservation of the breeding species will be formulated and applied. The fish-sampling phase for the 10 indicator fish species have been completed for 4 species while 6 other species are still ongoing for example the line surgeon fish (*Acanthurus lineatus*).
- (iii) *Fish & Shellfish Poisoning Project*: The first phase of quarterly sampling for the suspected host algae *Padina sp* and the *Sargassum sp*, were completed in June 2007. This was the alternative method now used to identify the level of the ciguatera causing bacteria known as the *Gambierdiscus toxicus* and quarterly sampling is ongoing in the next fiscal year.
- iv) *Trochus Extension Project*: The extension phase of the trochus project started in 2005 at the completion of the two year Trochus Project funded by the ACIAR in 2003. The main aim of the extension phase is to have more time to see the establishment of the brood-stock seeded from the initial project as the two years of its lifespan was not sufficient time for the establishment to take place. Four quarterly assessments for the introduced trochus (*Trochus niloticus*) were carried out at Saleapaga and Saoluafata in Upolu and Papa i Puleia and Foailalo in Savaii in which all have more than 500 broodstock seeded in their reefs in the initial phase. The project extension phase was completed in May 2007. The project ongoing monitoring has revealed small or juveniles trochus settle on reefs of 3 or all sites stocked.

2.2 Offshore Fisheries Services

- *Commercial Fisheries*

- a) *Tuna Longline fishery*: Total catch estimates from the tuna longline fishing fleet have shown vast improvement as suppose to those landed in the last fiscal year. June has continued to be the peak month for the total catch. Albacore catches are very encouraging across all vessel classes with alia vessels often recording eighty albacore tuna caught from just on set of 350 hooks. An estimated total landing from tuna longline fishery in FY2006-07 period was 2,370.8 metric tonnes as compared to 1,979.3 metric tonnes landed in FY 05-06.
- b) *Troll and bottom fish fishery*: An estimated 32.9 metric tones of bottom fishes was landed and sold at the main fish markets in Samoa with an average price of \$11.74 per kilo. Skipjack and other surface pelagic species estimated at 102.4 metric tones from trolling were land and sold at the main fish markets at an average price of \$4.98 per kilo.

- *Onshore Commercial Supporting Facilities*: The Apia wharf and Extension of Fisheries related facilities project funded by the Government of Japan was officially completed and opened in December 2006. The project has resulted in the improvement of fisheries commercial supporting facilities such as the extension of the Fisheries Ports and the Fisheries main office. Moreover, several onshore facilities were also improved with a new Ice Making Machines was established at Salelologa and the Operation of the Fisheries Fuel Depot outsourced to the PPS company.

During this financial year, very few boats were communicating through the system despite thousands of tala spent for maintenance and repair. One search for distressed vessel was successfully coordinated and rescued. The cabinet also approved the transferring of the operation of the Fisheries wharf to the Samoa Port Authority.

- ***Fish Export and Seafood Safety:*** With the improvement of catch rates from the tuna longline fleet, the export of fish also increased by 15% from 1,332mt in 2005-06 to 1,575mt in 2006-07. However, total fish export is still lowered by 5% since 2001-02 period. Currently only two fish processing establishments are operating from the three that were exporting fish within 2005-06. The two canneries in American Samoa continue to be the major markets for Samoa's frozen albacore exports which constitute 80% of the total fish exports.
- ***Management Advisory Committee Meetings:*** Within this fiscal year, four meetings of the commercial fisheries management advisory committee (CFMAC) were conducted in which Tuna industry stakeholders discussed and provide direction in partnership with the Government on strategies for the forward progress developments for the tuna longline fishery. Also, three meetings were carried out for the Monitoring, Surveillance and Safety Committee (MSSC) to address compliance measures to ensure safety of fishermen at sea.

2.3 Aquaculture Fisheries Services

- ***Giant Clam Lagoon Monitoring:*** In the beginning of this fiscal year, 12 communities contained giant clam lagoon grow-out nurseries but at the end of the year 11 communities with giant clams remained in the programme. The total number of remaining giant clams is about 1,343 with average sizes ranging from 176.4mm – 322.9mm in length.
- ***Tilapia hatchery production and restocking:*** Tilapia culture was the major focus during this fiscal year due to all the marine hatchery activities being postponed. New fish farms were stocked and restocked. Tilapia aquaculture activities undertaken include about 15,000 fingerlings stocked at Satoalepai Lake as part of the project by ACIAR and SPC. Other sites that were stocked include Letogo, Faleao Isaako of Satupaitea, Le Penina Golf Course, the Samoa Small Business Association and Sapapalii with distributed fingerlings of about 16,540 during this fiscal year 2006/2007.
- ***Research:*** Feed trials were carried out using different local ingredients such as the dry penu, breweries waste from the Vailima breweries, chicken pellet, dried breadfruits, as well as fish meal and flour. Different combination of ingredients for tilapia food process is on the way. At the moment, locally found ingredients are used to manufacture tilapia feeds, since it's much cheaper rather than importing pellet fish food from overseas.
 - a) ***ACIAR/FD Trochus Replenishment:*** Brood-stock were shipped in from Fiji in July 2006 and immediately transported to Toloa hatchery for quarantine purpose. Another shipment of brood-stock arrived in September from Vanuatu. These brood-stocks were distributed to sites allocated.
 - b) ***Tilapia Hatchery Propagation:*** A total of 10,000 fry were produced during hatchery activities

2.4 Community Fisheries Advisory Services

- ***Community-Based Fisheries Management Program (CBFMP):*** Within this fiscal year 2006/07, four new villages (Salimu, Sataua and Neiafu in Savaii and Matatufu in Upolu) had approved and declared their Fisheries Management Plans. Two other villages expressed interests but later delayed the process because of other commitments.

- *Village Fisheries Bylaws:* Four bylaws of the new villages mentioned above have been written and forwarded to the MAF Principal Legal Officer (PLO) for legal advice and processing. These added to the other twenty (20) bylaws that are also in the process of formal approval.
- *Management Plan Six-Monthly Reviews:* A total of 35 six monthly reviews were conducted from July 2006 to June 2007. There were 16 on Upolu and 19 in Savai'i.
- *Villages' Fish Reserves:* Within this fiscal year, three newly established Fish Reserves (out of the total four) were initially surveyed by the Fisheries Division. A total of 20 Fish Reserve Area (16 Upolu, 4 Savai'i) has been measured and recorded.
- *Community Consultation Workshop:* Consultation workshops were conducted including Salua Manonotai village, Salua Manonotai Youth Group, Vaiusu women's committee, Tafatafa and Apolima's Fisheries Management Advisory Committee (FMAC), Apai Manonotai village, Tafatafa Primary School and Faleaseela Lefaga's mayor's (pulenuu) committee.

Fisheries Socio Economic Survey: The fisheries socio-economic study to determine the contribution of fisheries to the social and economic wellbeing of Samoa at village level was conducted in 49 villages (29 on Upolu and 23 in Savaii) in which 939 households or 7,778 people or 4.3% of the current total population were surveyed. Information such as fish consumption, fishing effort and methods, and family income from fishing in rural areas were gathered. The survey results indicated that 22% of households claim income from fishing. In households with fishing incomes, fishing contributed to an average of 41% of the total household income with an average income of \$532/week generated from fishing. Other forms of household income came from remittances (\$ 237/hh/week), and salary as \$271/hh/wk.

Fresh fish is consumed in household at an average of 2.8 days/ week with invertebrates at 0.8 days/wk. The average consumption per person per year is 59.4 Kg, (163g/ day). Overall, total fresh-fish consumption annually is estimated as 10,508mt (7,900mt for Upolu, 2,608mt for Savaii). The total volume of fresh-fish consumed has a value of \$ST 84 Million. However, it was also revealed that a household ate more tinned fish than fresh-fish. The average tinned fish consumption was 4.5 days/wk at a rate of 206 g/person/day or 73 kg/person/year. Approximately 8,120 mt of tinned fish was consumed annually and it has a value of about \$30 million tala.

2.5 Regulations and Enforcement Services

- *Licensing of Fishing Vessels:* A total of 59 local fishing vessels were licensed, representing 78% of the total number of active fishing vessels in 2006-07 periods.
- *Boarding Inspections:* Sixteen (16) boarding inspections were conducted for foreign fishing vessels which are licensed to fish in the Cook Islands namely Island of Pukapuka and Te Ravakai and five local fishing vessels were also boarded after returning from overseas undergoing maintenance and repairs.
- *Economic Exclusive Economic Zone (EEZ) Surveillance:* A total of four (4) patrols were conducted on the Nafanua patrol boat. These patrols were coordinated with two (2) aerial patrols conducted by the New Zealand and Australian defence forces when aircraft are available.
- *Size Limits monitoring & enforcement:* During this fiscal year there were 82 reported cases; 57 undersized fish, 13 undersized and 5 eggs bearing lobsters, 5 undersized crabs and 2 undersized giant

clams. During enforcement procedures, 24 cases were prosecuted in court. As a result, 12 defendants were issued warrant of arrests for not appearing in court.

- **Village By-Law Cases:** Enforcement of village bylaws resulted in 2 by-laws court cases. One was withdrawn and the other was completed and processed by the Principal legal officer.
- **Fish Export Certificates:** The main destinations for faaoso were New Zealand, American Samoa, Australia, USA, Hawaii and Fiji. Highest months of fish exportation for Faaoso were January, March and August.
- **Seafood Processor Licensing:** Annual seafood processing licences were issued to Apia Export Fish Packers, CJ Exports Company Ltd and the Tradewinds Fish Company.

2.6 Fish Market Services

- **New face lift:** The old fish market has undergone a new face-lift under the Government of Japan Aid project throughout the 2006. The new market was officially opened in December 2006.
- **Sellers:** A total of more than 6,000 fishers or fish sellers have used the fish market outlet through the years to trade their fishery products to the public. The number of fish vendors peaked in the months of July to March, hence correspondingly to the good fishing season.

3 SUMMARY OF ACTIVITIES

3.1 Inshore fisheries services

▪ **Fishery annual landings:** Surveys of inshore fishery landings were conducted throughout the reporting period as an ongoing activity. Volume and values of domestic landed and traded fishery products were obtained from surveys carried out at the Apia Fish market, Fugalei market, Apia - Faleolo roadsides and the Salelologa market. The data is normally collected from the Fugalei and Apia Fish Markets three times a week whilst survey from Apia - Faleolo roadside is carried out once a week. Information collected is divided into groups (Table 1) such as bivalves, crustaceans, echinoderms, finfish, mollusc, invertebrates and processed forms (such as seafood cooked with coconut cream, wrapped and bottled). The estimated total volumes of inshore fishery products for the 2006-2007 periods are 126.47mt and valued at \$1,553,140.70.



Reef fish strings sold along road side

Table 1: Inshore Fisheries Landings by groups in 2006-2007

Groups	Estimated Value (ST\$)	Estimated Weight (mt)	% weight	Avg.Price (ST\$/kg)
BIVALVE	\$23,797.76	9.80	7.75	2.43
CRUSTACEAN	\$69,365.26	2.93	2.32	23.68
ECHINODERMS	\$11,194.90	5.55	4.39	2.02
FINFISH	\$795,187.85	85.32	67.46	9.32
MOLLUSCS	\$5,919.33	0.38	0.30	15.48
OTHER	\$121,981.64	8.27	6.54	14.75
PROCESSED	\$525,693.96	14.22	11.25	36.96
TOTAL	\$1,553,140.70	126.47	100.00	

The finfish group generated a value of \$795,188 with 85.3 metric tones reported, making up 67% of the total volume of inshore fisheries products landed and traded domestically. The least of the seven groups were the molluscs (octopus) that accounted for 0.3% of the total volume of inshore fisheries products. For finfish, the major common species are the *Acanthuridae* - surgeonfish that dominated with 27% and was sold at \$8.60/kg, the *Scaridae* - parrotfish with 16% and was selling at \$8.70/kg, the *Acanthuridae* - unicornfish also with 16% and valued at \$9.60/kg, the *Mugillidae* – mullet with 8% sold at \$12.30/kg.

Table 2: Inshore Fisheries Landings by major groups from 2001-02 to 2006-207

Groups	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Finfish	69.8	432.2	58.8	28.3	72.3	85.32
Crustacean	3.6	28.5	2.2	0.4	2.8	2.93
Processed	39.1	65.5	29.8	17.4	13.3	14.22
Invertebrates	3.3	3	6.5	44.7	26.3	24
TOTAL	115.8	529.2	97.3	90.8	114.7	126.47

- **Fish Reserve Monitoring:** For this fiscal year, 10 fish reserves were re-assessed with additional 2 newly established fish reserves initially assessed as part of the ongoing responsibilities of the Inshore Section. The ten fish reserves re-assessed were Vavau, Aufaga, Fuailolo’o, Tafatafa, Matautu, Tafagamanu, Savaia and Saolufata in Upolu as well as Fagasa in Savaii. The two initial assessments were done at Matatufu in Upolu and Sataua in Savaii.

The other set of monitoring is for the eight fish reserves selected as permanent sites under the Global Coral Reef Monitoring Network (GCRMN), these eight sites include Saleapaga, Samatau, Safaatoa and Palolo Deep in Upolu and Vaisala, Papa Puleia, Fagamalo and Siufaga of Faga in Savaii. The assessments consisted of two major components, one is the assessing of the substrate coverage, with corals, algae, dead corals bleach corals, sand and rubbles as major substrate groups use to categorize their abundance. The other component is the fish and invertebrate count, where the selection of the indicator species base on their abundance are tallied and estimated in lengths, for their dominance and biomass in relevant to the total area of the fish reserve.

- **Research:** Research activities implemented by the Inshore Fisheries section within the 2006/2007 reporting period include three (3) PDF-funded projects – the Monitoring of Aggregate Spawning Species and Sites project; the Monitoring of Community-Owned Fish Reserves project; the Fish and Shellfish Poisoning project and monitoring under the ACIAR Trochus Replenishment Project.

- i) **Monitoring of Aggregate Spawning Species and Sites Project:** Ten key inshore fish and invertebrate species were selected and their gonads had been further analysed to determine spawning times. Traditional management, knowledge and understanding of critical spawning and aggregating areas were also gathered to verify correlations with scientific evidences. The research observation for the fish grouper has been completed. The first phase of sampling of fish species using the gonad somatic index (GSI) has been completed thus the second phase is in progress at the moment. Four out of ten fish species have been sampled and the results have been produced. Two new species namely the parrotfish and soldier fish have now been included into the second phase sampling. Preliminary outcomes of the research revealed that sampled fish species are likely to spawn from September to October annually. Final outcomes of the research will be detailed later upon the completion of the project.

- (ii) **Monitoring of Community-Owned Fish Reserves Project:** This project was completed in March 2007. There were four main objectives of this project designed to achieve the four main outputs

proposed for the project. These included: 1) A simplified and adaptable monitoring and evaluation manual in Samoan for the local communities; 2) Skilful and full participation of communities in monitoring and evaluation techniques; 3) Harvesting and Management Guidelines and 4) Simplified report format. The achievements of this project briefly include the four main outcomes which results in the existing of the monitoring manual in Samoan for the use of local communities, committee members of these communities with the basic skill of monitoring and proper snorkelling and more understanding on the need to manage and what to harvest from within their reserves.

- (iii) *Fish and Shellfish Poisoning Project*: The research component of the project included the sampling of the suspected fish species using the Cigua-check testing kit for identifying the poisonous causing cigua-toxin. However results from other Pacific Islands that have used these kits have shown the unreliability of the kit for significant results. So the project team was left to find alternatives for the testing of cigua-toxin. It was advice from the SPC to use the cheaper alternative which was the sampling of the algae known to be hosts to the poisonous dinoflagellate, the *Gambierdiscus toxicus*. Eight sites identified from traditional knowledge with poisonous histories have been targeted by these sampling. The first quarter samplings have been completed and analysed. The results however have shown little positiveness with the number of *Gambierdiscus sp* identified. However more sampling on a quarterly basis is needed to be continued.
- iv) *Trochus Extension Project*. The two years of the extension phase of the ACIAR trochus project was designed with two main objectives in mind:
- Strengthen and reinforce the Community Base Fisheries Management (CBFM) framework for community participation in sustainable marine resource management;
 - Trochus stock enhancement.

The two objectives were the main feature of the project's annual general meeting in June which also closed the project. This extension phase was considered a success as its objectives were all achieved.

The outcomes known included:

- a) The seeding of extra 150 broodstock in each of the three sites;
- b) The improve awareness of the three communities through their support and participation during the quarterly surveys which also improve the results of the surveys;
- c) The finding of juvenile shells which indicated the success breeding of the initial broodstock in two of the three sites;
- d) The support of the Fisheries Division to sustain this initiative through the continuous surveys of these sites for juvenile identifications, on an annual basis as past of its annual activities.

At the end of this project, three sites namely Saleapaga, Saoluafata and Papa Puleia have all shown signs of success breeding the old broodstock seeded in late 2004. Foailalo that was seeded from the spawning juveniles of these early broodstock in the hatchery was unsuccessful in finding any shells for the last two years, however there were three live shells found in the final quarter survey. This is again a surprise and an indication that shells might still be alive in the area.

3.2 Offshore fisheries services

The planned activities for this financial year had been heavily affected by the budget reduction in the later part of the year plus implementation of other unplanned emergence activities were given priority like the relocation of the Fish Market.

▪ *Commercial Fisheries*

- a) *Tuna Longline fishery*: The total catch estimates from the tuna longline fishing fleet have shown vast improvement as suppose to those landed in the last fiscal year. June has continued to be the peak month for the total catch. Albacore catches are very encouraging across all vessel classes with alia vessels often recording eighty albacore tuna caught from just one set of 350 hooks. An estimated total landing from tuna longline fishery in FY2006-07 period was 2,855.1 metric tonnes as compared to 1,979.3 metric tonnes landed in FY 05-06. Table 3 summarises the estimated landings from tuna fishery since the FY2002-03 to 2006-07 periods. As more data is collected from the fishery, it has become more apparent that albacore occurs seasonally in Samoa's EEZ and high catch rates occurs from May to November and sometimes extends to December while low catch rates occurs from January to April. The combined catch per unit effort (CPUE) has improved slightly as compare to the 3 years and as well as the total fishing effort has increased to 5 millions hooks deployed.

Table 3: Total Estimated Catches from Tuna Longline fishery over the past 5 years

Year period	Estimated Weight (mt)	Total Fishing Effort (No. hooks deployed)	Combined CPUE (kg/100-hooks)
2002-2003	3,977.3	7,492,729	53.1
2003-2004	2,220.6	5,262,957	42.0
2004-2005	2,020.3	4,595,439	44.0
2005-2006	1,979.3	3,799,366	52.1
2006-2007	2,855.1	5,686,408	50.2

Species composition of targeted tuna species harvested saw the albacore (*Thunnus alalunga*) as the dominant types of which accounted for 80% of the total landings in 2006-07. Albacore tuna species was the main target fish of which accounted for 76% of all fish caught over the past 5 years. Table 4 summarises the total volumes of targeted tuna species landed annually.

Table 4: Estimated total weight (whole weight) in MT of targeted tuna species landed from Samoa's longline fleet.

Targeted tuna species	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2006-07 % Wt
Albacore <i>Thunnus alalunga</i>	3,102.1	1,721.6	1,352.9	1,511.2	2,286.2	80%
Bigeye <i>Thunnus obesus</i>	107.1	102.1	84.6	89.5	124.3	4%
Yellowfin <i>Thunnus albacares</i>	392.5	223.8	409.0	228.6	253.6	9%
Other species <i>Skipjack, Masimasi, etc)</i>	375.6	173.5	173.8	149.9	191.0	7%
Total	3,977.3	2,221.0	2,020.3	1,979.3	2,855.1	

Table 5 shows a summary of Samoa's fish exports from 2002-3 to 2000-07 fiscal years. Frozen (gilled and gutted) albacore tuna was the main fish type exported of which accounted for about 80% of the total fish exports and with all frozen products were exported to the two Canneries in American Samoa for canning. The total tuna exports for the 2006-07 period was 2,249.1 metric tonnes with an estimated value of 17.4 million tala generated. The frozen albacores generated an estimated value of 13.4 million tala whereas Yellowfin and Bigeye tunas over 25kg constitute the bulk of fresh chilled fish exports targeting mostly markets in the USA, New Zealand and occasionally Japan generated a total value of 4 million tala.

Table 5: Volume in (MT) of Samoa's frozen and fresh chilled fish exports over the past 5 years

Fiscal Year periods	Frozen fish		Fresh Chilled		Total Volume (mt)	Total Value (ST)
	Est Wt (mt)	Est Val (ST)	Est Wt (mt)	Est Val (ST)		
2002-2003	2,259.0	16,257,543	567.2	7,480,845	2,826.20	\$ 23,738,388
2003-2004	1,345.3	9,376,849	430.3	5,457,612	1,775.60	\$ 14,834,461
2004-2005	1,477.7	10,825,626	481.0	6,246,017	1,958.70	\$ 17,071,643
2005-2006	1,042.1	7,626,230	144.6	1,775,155	1,186.70	\$ 9,401,385
2006-2007	1,819.3	13,405,456	429.8	4,008,088	2,249.10	\$ 17,413,544

Fishing vessels comprising up the Samoa's commercial fishing fleet are all locally based and all their catches are landed in Samoa ports. Commercial fishing vessels are licensed accordingly to length categorisation under the 2005-2009 Samoa Tuna Management and Development Plan. Table 6 summarises the number of active fishing vessels per classes - Class A ($\leq 11m$) Class B ($>11m - \leq 12.5m$) Class C ($>12.5 - \leq 15m$) Class D ($>15m - \leq 20.5m$) and Class E ($>15m$) licensed to fish every year. Again, the number of active licensed fishing vessels has increased from only 24 in 2002-2003 to 54 in 2006-07.

Table 6: Number of longline vessels fishing for albacore tuna in Samoa's EEZ

Yearly periods	Class A (alia)	Class B (11-12.5m)	Class C (12.5-15m)	Class D&E ¹ (15-20+m)	Total
2002	31	15	8	14	68
2003	6	4	5	9	24
2004	2	1	5	9	17
2005	17	3	3	9	32
2006	37	2	2	13	54

c) *Troll and bottom fish fishery:* Trolling for skipjack and surface pelagic species including wahoo and juvenile yellowfin tuna has continued to support and provide fish for the local markets. Skipjack and other surface pelagic species estimated at 102.4 metric tones were landed and sold at the main fish markets at an average price of \$4.98 per kilo with a total estimated value of \$509,542. The lowest price was recorded in September 2006 where the fish were sold at an average price of \$4.09 per kilo and the highest was recorded in February at \$6.05 per kilo.

Like the troll fishery, bottom fish fishery has also continued to support local markets. An estimated 32.9 metric tones of bottom fishes was landed and sold at the main fish markets in Samoa valued at SAT\$386,528 with an average price of \$11.74 per kilo. Highest price was recorded in September 2006 at \$SAT 15.95 per kilo and the lowest price was recorded in November 2006 at SAT \$7.40 per kilo.

Data shows that bottom fish are sold at far much higher prices as suppose surface pelagic species such as skipjack and juvenile yellowfin. It is also shows that far much more pelagic species landed and sold from troll fishery as suppose to bottom fish landed and sold from bottom fishing fishery.

- *Onshore Commercial Supporting Facilities:* The onshore activities are guided by the key projects identified in the Tuna Management and Development Plan for Samoa 2005-2009 which in cooperated in the Fisheries Annual Plan.

i) *Extension of the Fisheries Commercial Ports and associated Facilities Completed:* Construction of the Fisheries Port and associated Facilities (Fisheries Administration Building and Fish Market)

¹ The two Classes combined given that there were less than 4 vessels in Class E and all poses the same fishing capacity as with vessels in Class D.

began in March 2006 and was completed in December of the same year. The construction was made under the grant aid from the Government of Japan and cost \$17 million.



Ice machine at Salelologa

ii) *Ice Making Machines installed at Salelologa for Savaii fishermen:* An ice making machine was installed in Salelologa for Savaii fishermen. The work was carried out by the Super Cool Company with funds from the FFA Fishing Agreement with USA. Total cost of the work is \$75, 000 and was officially opened by the Minister Honourable Taua K.Tavaga Seuala on the 16 October 2006.

iii) *Security and Management of the Fisheries wharf leased to Samoa Port Authority for Five Years:* The cabinet has approved the lease of the Fisheries Wharf security to the management of the Samoa Port Authority for five years. However Fisheries activities towards the development of the commercial fisheries industries are always given priorities.

▪ *Catch Data Strengthening:* Samoa is developing its National Tuna Procedure Document to ensure that obligation under the Western and Central Pacific Fisheries Convention in regards to the collection and managing of tuna fisheries data are met. Port sampling activities has continued to provide estimates on total catches for the tuna longline fleet. Port sampling activities has extended to rural ports as to the increasing number of alia fishing vessels operating from such areas. Offshore has attempted introducing unload forms to alia operators in the rural areas engaging in tuna longline, troll and bottom fish fishing to record their catch. Initial response was encouraging however, more resources and attention is required for this project to become successfully.

Conduction of two observer placement for the domestic longline fleet has seen as a milestone in meeting Samoa's obligation to the commission in providing various fisheries information and data for better understanding of the dynamics, ecology and most important the status of highly migratory fish stocks in the Western and Central Pacific Ocean.

▪ *Seafood Safety and Fish Export:* As catch rates from the tuna longline fleet improves, improvement in fish exports is also observed. An estimated total of 2,249 metric tones of longline catch were exported to canneries in A. Samoa and fresh chilled fish to markets in New Zealand and the United States. There has been no rejection report received by the SSVB on Samoa's exported consignments of fish and fishery products. This can be attributed to effective HACCP programmes implemented by fish processing establishments (FPE) that tend to prevent or minimize contamination to the product. There are now two FPE operating from three that were exporting fish in the fiscal year 06-07.



Fish Quality Inspectors

▪ *Management Advisory Committee Meetings:* Four meetings of the commercial fisheries management advisory committee (CFMAC) were conducted. One of the important outcomes from the CF-MAC meetings is the Reduction of tariff on certain imported items crucial for commercial fisheries operations has been approved by cabinet. Three other meetings for the Monitoring, Surveillance and Safety Committee (MSSC) were conducted.

3.3 Aquaculture Fisheries Services

▪ **Giant Clam Community Lagoon Nursery:** During this fiscal year 2006-2007, 12 communities had giant clams in their lagoon grow-out fisheries nurseries. However, there are currently 11 communities left in the programme, since one of the villages (Vailoa Aleipata) had no more clams left. Moreover, no giant clams have been distributed to any community lagoon nursery due to the lack of giant clam seedlings produced as giant clam propagation programme was ceased due to the closed down of Toloa marine hatchery. Table 7 shows active villages with clam nurseries and the total number of giant clams remaining since the start (Jun 06) and those remaining based on the last monitoring (May/Jun 07) for this fiscal year 06-07. The *Tridacna derasa* is the only giant clam species grown in the community lagoon nurseries.

Table 7: Numbers of giant clams remained in community lagoon nurseries

Island	Village	Number of live clams remaining		Average size mm
		1 st quarter	4 th quarter	
Upolu	Safa'atoa	7	7	232.9
	Tafatafa	17	14	185.7
	Vailoa Aleipata	22	0	-
	Siufaga	75	-	-
	Fuailolo'o Mulifanua	85	80	275.4
	Apolima	88	81	176.4
	Matautu Falelatai	188	178	217.0
	Samatau	365	300	322.9
Savai'i	Savaia	407	327	306.8
	Auala	12	12	203.7
	Fatuvalu	48	39	281.8
	Vaisala	242	230	282.5
Total		1,549	1,343	

▪ **Palolo Deep Reserve:** A total of 170 clams were nursed at Palolo Deep in the beginning of the fiscal year 2006-2007, with 4 species types; *H. hippopus*, *Tridacna maxima*, *Tridacna gigas* and *Tridacna derasa*. However, the total number reduces throughout the year and at the end only 116 clams remained at the nursery with no more species - *Tridacna maxima*. According to observations, the reduction was due to predatory snails *Cymatium sp* that feed on clams causing death as proven by the clam shells still existed inside the cages indicating that the clams were not stolen but eaten by snails. A summary of monitoring through out the fiscal year is shown in Table 8 on a quarterly basis.

Table 8: Results of clam monitoring for Palolo Deep for fiscal year 06-07

Species	Total Number of Live Clams	
	1 st Quarter	4 th Quarter
<i>Tridacna derasa</i>	67	50
<i>Tridacna gigas</i>	101	65
<i>Tridacna maxima</i>	1	1
<i>Hippopus.Hippopus</i>	1	1
Total	170	117

- **Giant Clam Hatchery:** All the Toloa hatchery activities were ceased due to Hatchery relocation.
- **Tilapia production and stocking:** Tilapia production and farm stocking has been the main aquaculture activity in 2006 – 2007 as all seeding production operations at the Toloa marine hatchery

were discontinued. The Satoalepai Lake was stocked with 10,000 fingerlings on the 24 of July, and restocked with another 5,000 fingerlings on the 19 of June 2007. Other sites that were stocked include 120 fingerlings for Letogo, 120 fingerlings for Faleao Isaako's farm at Satupaitea, 600 fingerlings for Le Penina Golf Course and 600 for the Samoa Small Business Association. We also restocked another 100 fingerlings to Sapapalii. A total of 15,940 fingerlings were distributed during this fiscal year 2006/2007.



Setting cages for culturing tilapia

A spawning was done on the 7th and 9th of August using the tank method. At the hatchery, sizing of tilapia is done by separating big size species from fingerlings using a sinnet and scoops. Fingerlings are transferred to a hapa in one of the bonds where they are kept for future use such as stocking of a lake or farm. Table 9 shows the distribution of Nile tilapia fry supplied from the hatchery to villages and individual farmers in this fiscal year

Table 9: Tilapia (T.niloticus) produced at Fisheries hatchery and distributed to community farms

Date	Number	Farms / ponds
24 - 27 Jul	10,000	To stock the lake at Satoalepai
2 Mar	120	To stock a water spring at Letogo
09 Mar	120	Additional stock for Faleao Isaako of Satupaitea
19 Jun	5,000	To restock the lake at Satoalepai
27 Jun	600	To stock the pond at Falelauniu (Samoa Small Business Association)
Nov	600	To stock the pond at Le Penina Golf Course
	100	Sapapalii
Total	16,540	

- **Trochus Replenishment:** A shipment of 34 broodstock was brought from Fiji in early July 2006, but only 18 survived and made it to Samoa which were immediately transported to Toloa hatchery. At the end of July, these trochus were transferred to the Fishery Nursery at Palolo Deep. The species were monitored regularly and fed twice a week with seaweed (*Padina sp*).

In September, another shipment of 884 broodstock arrived from Vanuatu; 250 of this were given at the end of the month to Saleapaga Village. Additional trochus were given to Saleapaga, Saluafata and Papa, Palauli mainly for grow-out and enhancement of the village reefs. Quarterly monitoring were carried out by the Inshore Section with assistance from Aquaculture Section.

Currently, there are about 150 trochus remaining at Toloa and as planned these will be transferred to Foailalo Village at the beginning of the next fiscal year.

- **Experimental stocking of tilapia in Satoalepai Lake:** The experimental stocking of Lake Satoalepai with Nile tilapia (*O. nilotics*) was a result of the mini-project: “*Experimental stocking and community management of tilapia in Lake Satoalepai, Samoa*”. The research was a collaborative effort the Fisheries and SPC/ACIAR in order to develop better ways to utilize and develop lakes and ponds.

A total of 15,000 tilapia fingerlings were tagged and released in the lake on the 24th July 2006 and 9th June 2007. The released tilapia fingerlings were sampled monthly to take note of their lengths and weights to determine their growth rates. The final sampling results showed a total catch of 138 Nile

tilapia; 128 tagged fish with a mean weight of 141 g, 14 large fish from previous stocking and 3 fingerlings. A total of 171 wild *O. mossambicus* species were caught, with a weight of 60g each. The growth rate of fish in the lake is 0.44g/day. This growth rate is slow, but indicated acceptable sizes given the overall condition of the lake environment as shown by less primary production. The initial total weight of tilapia been released was about 298kg, and based on the average sampling of 140g/fish, a net gain of 1,143 kg was a significant achievement of fish for the community. Furthermore, *O. niloticus* showed some sign of hybridisation and this is due to the interbreeding between the *O. niloticus* and *O. mossambicus* tilapia species.

The *O. mossambicus* is considered a pest fish by some villages and *O. niloticus* was then selected for this experiment because it is a fast growing fish. The introduction of the Nile tilapia was hoping to naturally eradicating the former species. The result of the said experiment revealed an interbreeding and hopefully this will finally removed the pest fish type.

2.4 Community Fisheries Advisory Services

- **Community-Based Fisheries Management Program (CBFMP):** The CBFMP assist coastal village communities in Samoa to provide management measures and necessary actions to effectively manage, conserve and protect the limited inshore resources of our country. The facilitation process encouraged the local communities to identify problems, determine solutions and propose possible actions that would lead to the sustainable management of the fisheries resources under their jurisdiction. In the villages Management Plans the communities' undertakings to be implemented have been outlined as well as the technical support provided by the Division. Members from the villages were also selected and formed up their Fisheries Management Committee (FMC) to oversee the undertakings listed in the management plans.

Within this fiscal year 2006-2007, four new villages (Salimu, Sataua and Neiafu in Savaii and Matatufu in Upolu) had approved and declared their Fisheries Management Plans. To date, about 89 coastal villages participated in this programme and about 70% have proven successful. Two other villages expressed interest but later delayed the process because of other commitments. Table 10 below shows the Management plan formulation process undertaken in the new villages that joined the CBFMP.

Table 10: Formulation of Fisheries Management Plan in villages within the fiscal year 2006-07

Villages	First Fono Meeting (Introduction of the CBFMP)	Group Meetings (Consultation process)	FMAC Meeting (Draft preparation)	Final Fono Meeting (Approval of the Plan)	Fish Reserve Established	Draft By-laws submitted to PLO
1 Sataua	20 Oct 06	26 Oct 06	10 Nov 06	24 Nov 06	19 Feb 07	5 Jun 07
2 <i>Matatufu</i>	<i>30 Jan 07</i>	<i>6 Feb 07</i>	<i>13 Feb 06</i>	<i>22 Feb 07</i>	<i>28 Feb 07</i>	<i>5 Jun 07</i>
3 Salimu Faga	23 Mar 07	18 Apr 07	24 Apr 06	24 May 07	14 May 07	5 Jun 07
4 Neiafu	25 May 07	13 June 07	13 June 06	27 June 06		July 07
5 <i>Faleaseela</i>	<i>Delayed</i>					
6 <i>Satuiatua</i>	<i>Delayed</i>					

Upolu village in *Bold Italic*.

- **Village Fisheries Bylaws:** There were 24 village bylaws (11 Savai'i and 13 Upolu) produced and delivered to the MAF Principal Legal Officer (PLO) for legal advice and formal approval. These bylaws were prepared after several consultations with village council of chiefs and orators. Once the bylaws approved, copies are distributed to every village to inform them about the importance of such laws.

After 14 days of approval, bylaws become effectively enforced. The Fisheries Division support communities in the prosecution process when a by-law has been violated.

- **Management Plan Six-Monthly Reviews:** A total of 35 six monthly reviews were conducted from July 2006 to June 2007. Sixteen (16) were from Upolu and 19 were done in Savai'i. About 51% of the total villages provided excellent performance and positively engaged in their fisheries management activities. Forty-three percent (43%) had average scores thus these communities need improvement and continuous support from Fisheries. Only 6% have shown poor results because of the lack in motivation and leadership of the management advisory committee. The Fisheries Division continues to support these communities so that their management plans are operating effectively.

- **Villages' Fish Reserves**

- a) **Newly Established Fish Reserves:** Once a Fisheries Management Plan is approved, communities always move ahead and establish a Fish Reserve. A Fish reserve usually is marked and identified with sticks and/or floats. "No Fishing is Allowed" signboards are placed mainly at the shorefront or roadside to inform pedestrians and the public as well as to keep fishers away. Small houses were built on the shoreline and the FMAC take turns to guard the reserve area.

Within this fiscal year, three newly established Fish Reserves were initially surveyed by the Fisheries Division from the total four that joined the programme. Reports have been prepared and distributed to communities as baseline information for further assessment.

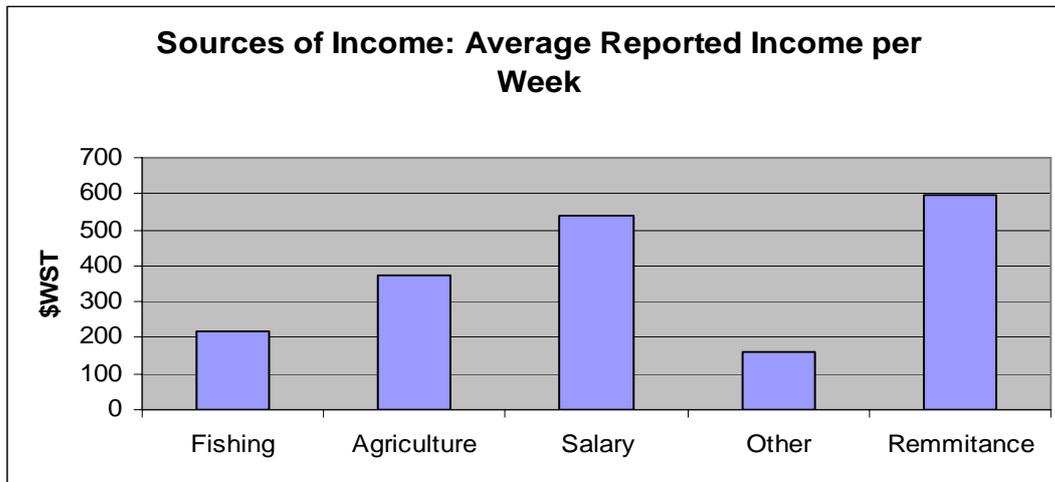
- b) **Existing Fish Reserves:** The collection and marking of coordinates of existing fish reserves boundaries using the Global Positioning System device (GPS) was one of the main component in our annual plan for this financial year. A total of 20 Fish Reserve Areas (16 Upolu, 4 Savai'i) has been measured and recorded. These measurements will be continued for other villages in the next fiscal year in order to design and establish a proposed Map of all Fish Reserves under the CBFMP.

- **Information Dissemination:** Ongoing activities for awareness included the production of one information sheet on 'Sustainable Harvesting of Sea Cucumber' and also the Fisheries Quarterly Newsletter and media advertisements and programmes through the radio, newspapers and television.

- **Fisheries Socio-Economic Survey:** The fisheries socio-economic study was conducted to determine the contribution of fisheries to the social and economic well-being of Samoa at village level. Information such as fish consumption, fishing effort and methods, and family income from fishing in rural areas were gathered. The survey also targeted villages with active fisheries management plans as well as those without such plans. This survey is an ongoing attempt to research the value of inshore fisheries as well as providing information that can also evaluate the status of Community-Based Fisheries Management Programme (CBFMP), which assists villages in managing their coastal resources. Many of the coastal areas around Samoa are threatened by over-fishing, using destructive fishing methods, pollution and marine environment degradation thus declining in the abundance of inshore fisheries resources.

A total of 939 households representing 7,778 peoples in 49 villages (29 on Upolu and 23 on Savaii) were surveyed. The average household income is \$492 per week, however, households with fishing incomes, fishing contributes to 41% of the total household income. Overall, 32% and 31% of all the households were generated their incomes from salaried jobs and overseas remittances respectively. About 14% of households get their incomes from agriculture and only 9% produce incomes from fishing. The graph

below summarized the level of incomes generated or received by households from four main sources of incomes.



Levels of household incomes per week

Purchasing information suggested that 44% of households fish for their fish themselves. Forty (40%) said they receive fish as gifts from other people and 72% buy it. This overlap means that people tend to get their fish from a variety of sources, even if they have fishers in their household. Twenty one (21%) said they fish for the invertebrates they consume while 19% receive them as gifts and 29% purchase them. Forty-one percent (41%) of people buy their fish at a market (either Salelologa or Apia), 38% buy from the roadside or a store, and 35% buy in their village. These results are similar for invertebrates, with less people overall buying invertebrates (14% buy invertebrates at the market, 11% road/ store, 14% in village).

Seafood consumption information from the survey showed the frequency of fresh fish consumption is higher on Upolu mainly the rural areas than on Savaii. The per capita consumption is 59.4kg per year, or 163g per day. The total consumption per year is estimated at 10,508 mt (7,900 mt for Upolu, 2608mt for Savaii). The average market price for the 2005-6 year was \$8.00 per kilogram. At this rate, the value of Samoa’s finfish subsistence fishery is approximately \$ST 84 million.

Tinned fish is reportedly consumed at 4.5 times per week on average. Tinned fish, specifically canned mackerel, is viewed as a low cost alternative to fresh fish, although its price per kilogram is \$6.59 (about \$1.50 less than fresh fish). The per capita consumption of tinned fish is 73 kg per year, or 206 g/day. This is the first time that tinned fish consumption has passed fresh fish. About 8,120 mt of tinned fish are consumed annually in Samoa, with a total value of about \$ST 30 million tala.

Fishing information implied that about 42% of households have at least one fisher, hence there are approximately 12,844 fishers in Samoa. The average fisher makes 3.1 fishing trips per week, with an average duration of 3.44 hours. The CPUE is approximately 2.24 kg per hour. Villages with Management Plans involved in this survey reported a higher CPUE than those without (2.52 kg per hour vs. 1.96 kg per hour). Total landings are estimated at 13,686 mt per year. Morning is the most common time to fish (49%), followed by night-time (42%) whilst 32% of the people reported fishing in the afternoon and evening. Sixty five percent (65%) of fishers prefer fishing at high tide. Fishing areas as reported included 86% who stated fishing in the lagoon and inner reef, 4% explained fishing offshore and 23% reported fishing along the back reef and outer reef crest.

3.4 Regulation and Enforcement Services

- **Fishing Licenses for Fishing Vessels:** All licenses for fishing vessels are annually renewed and issued before the end of August. Licenses are issued together with the required safety and seaworthiness certificates that are issued by the Ministry of Works Transport and Infrastructure. A total of 59 local fishing vessels were licensed, representing 78% of the total number of active fishing vessels in this fiscal year 2006-07.

The table 11 below shows the number of fishing vessels licensed within each category with various costs for 2006-2007.

Table 11: Fishing vessels licensed in categories in 2006-07

Class	Number of fishing vessels licensed	License cost	Revenue generated
Category A	44	\$200.00	\$88,000
Category B	1	\$500.00	\$500
Category C	2	\$3,000.00	\$6,000
Category D & E	12	\$7,000.00	\$84,000
			\$178,500.00

- **Boarding Inspections:** Ongoing boarding inspections by authorized Fisheries Officers is vital to ensure fishing vessels, foreign and local fishing vessels are complied with the Licensing and Transshipment Regulations and other policies governing fisheries sustainable management. Sixteen (16) boarding inspections were conducted for foreign fishing vessels which are licensed to fish in the Cook Islands namely Island of Pukapuka and Te Ravakai. On the other hand, one American Samoan vessel was boarded on arrival for maintenance at the Fisheries Wharf. Five (5) local fishing vessels were boarded when arrived at the Fisheries Wharf after maintenance and repair overseas.
- **Economic Exclusive Economic Zone (EEZ) Surveillance:** Periodic patrols of the Exclusive Economic Zone are conducted by the Maritime Police Division and are attended by an officer from the Compliance Unit. A total of four (4) patrols were conducted on the Nafanua patrol boat. These patrols were coordinated with two (2) aerial patrols conducted by the New Zealand and Australian defence forces when aircraft are available.
- **Size Limits monitoring & enforcement:** The enforcement of Size Limit Regulations is carried out in accordance to the Local Fisheries Regulation 1995 and the Fisheries Act 1988.

The enforcement of the above mentioned regulations is carried out in the Apia Fish market, Fugalei market, Shops and Fish Exporters. This is usually monitored weekly and inspected for undersized vertebrates and invertebrates.

As a result of these ongoing monitoring and enforcement of the Fisheries regulation, there were 82 reported cases; 57 undersized fish, 13 undersized and 5 egg bearing lobsters, 5 undersized crabs and 2 undersized giant clams. During enforcement procedures, 24 were prosecuted in court which resulted in the number of 12 defendants receiving warrant of arrests for not appearing in court. As a result of the court cases four defendants were to be reported to the Fisheries Division to sign in every week on Tuesdays or Wednesdays whilst other defendants signed in at the Police Department. This is to confirm that they are still in the country. Two cases were completed where two defendants were fined with \$200.00 on convictions by the District Court Judge, Vaemoa Vaepule Vaai.

- **Village By-Law Cases:** Collective efforts by Fisheries and village communities in enforcing village by-laws have resulted in two (2) cases. One was mentioned at the Tuasivi Court on the 19th July 06.

However this case was withdrawn because Fatuvalu's by-law has not been signed nor been published into the Government Gazette. On August 2006, Fagalii's by-law was mentioned in the District Court, this was withdrawn due to the application by Fagalii chiefs that the matter was settled within the village. Other by-law files for Safaatoa had been completed and handed over to the Principal Legal Officer for screening before registration in Court Registrar. Also, court case for Tafatafa regarding the use of ava niukini for catching fish is still under investigation.

- **Fish Export Certificates:** Inspections and certification of inshore fish and shellfish species exported for faaoso, family consumption and for commercial purposes were carried out during the year. The main destinations were New Zealand with 45% of total weight of inshore and offshore species exported for faaoso, 32% to American Samoa, 18% Australia, 3% USA and Hawaii and Fiji with 1% each.

The months of August, January and March experienced the highest percentages of total weight of inshore species exported for faaoso, respectively 11.7%, 9.7% and 11%. On the other hand the months of July, August 06 and January 07 respectively are representing 10%, 12% and 14.6% each.

3.5 Fish Market

- **Face lift:** The old fish market has undergone a new face-lift under the Government of Japan Aid project in 2006. The new market was officially opened in December 2006. It has improved the flooring and increase the number of tables used by vendors to display their products. The marketing service was shifted to the STEC old building whilst renovations were carried out and was later relocated back to the newly renovated market in January 2007.
- **Sellers:** A total of more than 6,000 fishers or fish sellers have used the fish market outlet this fiscal year to trade their fishery products to the public. The number of fish vendors peaked in the months of July to March, hence correspondingly to the good fishing season.
- **Hygienic:** Staff members continue their daily chores in cleaning and maintaining the fish market to keep the health standards as outlined by the Fisheries safety requirements and the Ministry of Health which ensures that all fishery products sold are properly preserve for human consumption.

Table 12 summarize the amount of money collected from the Fish Market within this fiscal year 06-07.

Table 12: Revenue Collected from the Fish Market and the number of users.

Months	Amount	Vendors	Months	Amount	Vendors
July	\$3,430.00	686	January	\$4,615.00	623
August	\$2,495.00	499	February	\$6,840.00	684
September	\$2,240.00	448	March	\$5,660.00	566
October	\$2,500.00	500	April	\$4,660.00	466
November	\$2,435.00	487	May	\$4,270.00	427
December	\$2,285.00	457	June	\$3,440.00	344
Total					\$44,870.00

- **Ice Machine at Mulifanua:** The Ice Machine at Mulifanua is containing difficulties due to the unannounced power shutdown or power fluctuations which have ruined parts of this necessitate machine.

There are also spells when the quantity of electricity required by the ice machine to activate is insufficient, basing all natures of mechanical predicaments for the machine.

Although our immobile have the above revealed difficulties, Fisheries Management persists to capture enquiry into fresh areas to decipher predicaments. Table 13 shows the revenue amount collected from the Ice Making Machine at Mulifanua.

Table 13: Revenue collected from the Ice Making Machine at Mulifanua

Month	Amount	Month	Amount
July	\$1,056.00	January	\$1,101.00
August	\$675.00	February	\$1,055.00
September	\$1,023.00	March	\$150.00
October	\$883.00	April	\$990.00
November	\$982.00	May	\$300.00
December	\$530.00	June	\$1,370.00
Total			\$10,115.00

4 TRAINING AND WORKSHOPS

The Division has delivered the following training and workshops during the year as to enhance the capacity of its stakeholders to promote and sustain viable fisheries developments and to effectively engage in managing their fishery resources.

4.1 Inshore Fisheries Services

Table 14: Training delivered to stakeholders by the Inshore Fisheries.

Training & Workshop	Date	Venue	Stakeholders
Final training for the Tafatafa village on monitoring of fish reserves	26 th Oct 06	Tafatafa village	Tafatafa VFMAC members and selected members of the coral reef monitoring committee.
Final training for the Savaia village on monitoring of fish reserves	27 th Oct 06	Savaia village	Savaia VFMAC members and selected members of the coral reef monitoring committee.
Final training for the Vavau village on monitoring of fish reserves	2 nd Nov 06	Vavau village	Vavau VFMAC members and selected members of the coral reef monitoring committee.
Final training for the Foailalo village on monitoring of fish reserves	6 th Nov 06	Foailalo village	Foailalo VFMAC members and selected members of the coral reef monitoring committee.
Final training for the Vaisala village on monitoring of fish reserves	7 th Nov 06	Vaisala Village	Vaisala VFMAC members and selected members of the coral reef monitoring committee.
Final training for the Luaa village on monitoring of fish reserves	8 th Nov 06	Luaa village	Luaa VFMAC members and selected members of the coral reef monitoring committee.
Final training for the Papa i Puleia village on monitoring of fish reserves	9 th Nov 06	Papa i Puleia	Papa Puleia VFMAC members and selected members of the coral reef monitoring committee.
Consultation workshop with the communities on Fish Reserves in Upolu	16 th Feb 07	Fisheires Office	Members of Upolu Village Fisheries Management Advisory Committees

Consultation workshop with the communities on Fish Reserves in Savaii	22 nd Feb 07	MAF office in Salelologa	Members of Savaii Village Fisheries Management Advisory Committees
Final and Evaluation workshop for the project 'Monitoring of fish reserves using the local communities' in Upolu	13 th Mar 07	Fisheries Office, Apia	Upolu village members of the Village Level Coral Reef Monitoring Project
Final and Evaluation workshop for the project 'Monitoring of fish reserves using the local communities' in Savaii	16 th Mar 07	Fisheries Office, Apia	Upolu village members of the Village Level Coral Reef Monitoring Project

4.2 Community Fisheries Advisory Services

Table 15: List of community workshops conducted by Advisory Service within FY 2006/07

Date	Community Workshop/Training	Participant
3 August 06	Review and reproduce Fisheries Management Plan	Salua tai village
Sept 06	Coastal Management Approach	Vaiusu village/women's committee
27 Sep 07	Management Plan review and village bylaws	Apolima FMAC
Nov 06	Coral Restoration and Fish Reserve	Apai tai Village
29 Mar	Roles and Function of Fisheries Division	Tafatafa Primary School
5 Feb 07	Facilitate Proposal Formulation process	Tafagamanu FMAC
7 Feb 07	Introduction of CBFMP	Pulenuu and his committee Faleaseela
4 May 07	Facilitate proposal formulation process	Salua tai youth group

5 INTERNATIONAL AND REGIONAL ISSUES

5.1 Western and Central Pacific Fisheries Convention (WCPF)

The WCPF Convention formally came into force on the 19th June 2005 after 13 contracting parties endorsed and signed the convention. Samoa has ratified this convention in 2000 and became one of its formal members. The convention resulted from the United Nations Fish Stocks Agreement (1995) which includes arrangements for ensuring that shared stocks including tuna are not damaged by uncontrolled fishing in the high seas and within national waters.

In the 3rd Commission meeting held in December at Apia 2006, Distant Water Fishing Nations and Pacific Island States Members agreed on additional and reviewed conservation and management measures and resolutions and these are:

- *Conservation and Management Measures for Bigeye and Yellowfin Tuna in the Western and Central Pacific Ocean*

Major concerns were raised by members on the effective of this CMM, hence it was then reviewed. Agai. The review now adopted Vessel Day Scheme in the High Seas, urgent need to reduce fishing mortality of juvenile bigeye and yellowfin from FAD fishing, and for purse seine industry to develop techniques to mitigate the catch of juvenile bigeye and yellowfin tunas.

- *Conservation and Management Measures for South Pacific Albacore.*

Given the importance of the albacore tuna in the domestic fishery of many small island states including Samoa, the Commission agreed that a stock assessment must be done to determine the latest status of the fishery. Moreover, non-contracting members were asked to submit effort and catch data information in respect to the CMM) as well as for the scientific analysis.

- *Resolution on the Reduction of Overcapacity.*

The major concern echoed by small island states was the restriction to develop their domestic tuna industries. However, the Commission ensure that the implementation of the said CMM does not have an adverse impact on the legitimate rights and aspirations of developing State Members of the Commission. This resolution is again under further reviewed.

- *Conservation and Management Measure for a Vessel Chartering Scheme.*

The above said CMM set out conditions for the chartering scheme, requirements to be submitted by charter vessels and the rights and obligations of flag States to exercise effective control over chartered vessels.

5.2 Forum Fisheries Agency

The Secretariat has assisted its members to improve their capacity and capability to deliver the WCPFC commitments and obligation effectively and diligently through the hosting of management option workshops and special FFC meeting prior to the Commission meetings.

Moreover, FFA also assisted member countries to develop strategies to ensure country's development aspirations are materialised and benefits are maximise from harvesting tuna resources.

6 CHALLENGES AND CONSTRAINTS

The Fisheries Division experienced some major difficulties and challenges that impacted on its planned and ongoing activities as well as new developments initiatives.

6.1 Regional Issues

The came into force recently of the Convention for the Conservation and Management of the Highly Migratory Species in the WCPO area has increased Samoa's obligations and workloads significantly in the implementation of endorsed measures for the conservation and management of tuna and related species within its EEZ. During the year, efforts have been made to deliver Samoa's national obligations and these are ranging from the Fishing License, EEZ Surveillance, National Observer and Port Sampling programmes to monitoring and record catches, fishing efforts, by-catches, discards, and compliance issues, and reviewing legislation.

The Legislative Framework Review was underway during the year to analyse gaps and weakness existed in the current framework and also identifying areas such as incorporating regional and international conservation and management arrangements to strengthening Samoa's new Fisheries Legal framework.

Samoa's commitment to deliver effective regional obligations also resulted in major constraints and challenges such as:

- Strengthening the current Legislative Framework
- Lack of staff attending and addressing regional issues
- Improving capacity of staff and fisheries users on the sustainable management while maximising benefits from harvesting tunas.

6.2 Division

- The relocation of the marine species hatchery at Toloa for tourism development is a major setback in aquaculture developments which has impacted significantly in promoting alternatives sources for

foods and income generation. Similarly, the production of seedlings from the hatchery also affected the Division's effort in promoting resource management through its stock enhancement programmes and alleviating existing fishing pressure from the reefs. Due to government's lack of funds, the Division is seeking financial and technical support to re-establishment a new multi-species hatchery which will produce seedlings and fingerlings to further promote aquaculture developments. As a result, participation of villages in the Community-Based Fisheries Management Programme has been weakened dramatically due to the lack of giant clam, sea urchin, and trochus seedlings available for community restocking enhancement and aquaculture programmes.

- Lack in operational budget to implement activities is another major problem that hinders the implementation of planned activities to strengthen the services of the Division for stakeholders.
- One of the major challenges faced by the Community-based fisheries management programme is the increase in the numbers of villages dropped away from the programme. It is noted that communities have obscure vision of the long-term benefits and results of the programme especially of the delay in physical benefits the communities received. Moreover, the dropped off communities tend to have lower level of commitments and ownership of the programme.
- Staff turnover resulted in several senior technical staff leaving work for other job opportunities. The sudden departure the highly competent staff has impacted immensely on the technical capacity available within the Division to deliver support and service diligently and effectively to its stakeholders.
- Insufficient operational budget to implement activities is a stumbling block particularly the implementation of the capacity plan based on needs to enhance capability and competencies required for provision of technical supports and service delivery to stakeholders.
- The current Fisheries legislative framework is urgently need a review as to provide more teeth and consistency with regional and international conservation and management arrangements. Furthermore, the current framework offers limited opportunity for expansion and development of the commercial fisheries, especially the tuna longline fishery.

7 RECOMMENDATIONS

The way forward for aquaculture in Samoa depends much on the existence of a proper and good hatchery and the government should support the re-establishment of a hatchery. Also, the budget to ministries for the operation of their activities should not be decrease and also channel more to develop fisheries and agriculture which are the main resources for the livelihood of Samoan people.

Currently the Fisheries Division is initiating programmes to encourage former villages to reactivate their fisheries reserves. This includes trainings and workshops for communities to strengthen monitoring as well as providing information on other development schemes.

There is a need to develop and implement the Aquaculture Development Plan in order to strengthen fisheries farming and culturing of different appropriate fresh water and marine commodities and species in Samoa not only as a mean of food but also for income generation.

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<u>INTERNATIONAL</u>	<u>REGIONAL / LOCAL</u>
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