

1. EXECUTIVE SUMMARY

The Ministry of Fisheries in the year 2003 experienced great challenges despite its many limitations in terms of resources available to deliver its mandate. The year also welcomed opportunities to rejuvenate and refocus on the ministry's core functions.

A total of 91 permanent staff against a total of 105 approved permanent posts was engaged in the Ministry of Fisheries services. During the course of the year, 12 officers left the Ministry through retirement, resignation, transferral and dismissal. A significant number of staff received opportunities to further develop their skills in various aspects of fishery management and approximately 37 overseas funded training courses and meetings, local and overseas, were attended by Ministry's staff.

The cost of service delivery for the FY 2003/04 was increased by 39.17 % when compared with FY 2002/2003 as a result of increased activities in the outer islands. Similarly, established staff salary allocation was increased by 40.91%, from \$760,464.00 in 2002/03 to \$1,286,892.00 in 2003/04 while the un-established staff allocation was decreased by 58.14 %. Other services followed suit where Travel and Communication was increased by 20.82 %, Maintenance and operation increased by 21.06 %, Purchase of Goods and Services increased by 0.65%, and the Capital expenditure increased by 90.04 %.

New recruitments and staff appointments were made at the third quarter of the year, particularly the appointment of Ms. 'Apisake Soakai, Principal Assistant Secretary, Ministry of Lands Survey and Natural Resources, to the vacant post of Deputy Secretary for Fisheries (Corporate Services). Mr. 'Ulunga Fa'anunu, Principal Fisheries Officer was also appointed to the vacant post of Deputy Secretary for Fisheries (Technical Services). The appointments were a move in the right direction where it provides leadership for the new structure.

The Ministry of Fisheries functional structure was reviewed as part and parcel of corporate planning and the AusAID funded Tonga Fisheries Project took the lead in this initiative. All staff and the industry were engaged in the review process and the result of which were approved by the Hon. Minister of Fisheries. The outcome of the corporate planning recommended four main divisions: Personnel and Administrative; Economics and Finance; Fisheries Research and Development; and Access and Compliance. Additional to reorganising the Ministry's functions,

human resource needs as well as asset management were under review and the suspension of the MV Takuo's commercial operation the vessel was transferred to the Ministry of Education for training purposes. The staff of the MV Takuo were maintained by the Ministry and later reassigned to other appropriate operations.

During the last quarter of the year, the resignation of Mr. Manase Felemi, Secretary for Fisheries was approved by Cabinet in November 26th 2003 to take up a new position at the FAO regional office in Apia. The Ministry acknowledges Mr. Felemi's contribution during his tenure as a head of department. This loss of leadership presented the Ministry yet again with a new set of challenges associated with leadership and direction. However, the leadership role was shared by the Deputy Secretaries: Ms. 'Apisake Soakai and Mr. 'Ulunga Fa'anunu.

Additional to the institutional development during the year, delivering of technical services as an integral part of the Ministry's function continued for the benefit of the industry and the communities. Efforts were focused on fisheries management issues particularly policy and planning, conservation, and research and development. A number of development management plans were developed in consultation with the industry and regional agencies, such plans included Tuna, Deep-Water Line Fishery, Marine Aquaculture, Seaweed and Charter Vessel Fishery.

Work under the Waqa Project experienced satisfactory result. The achievements of the project included 7 new small fishing boats were built and 19 fishing boats were repaired at Vava'u. In addition, about 24 outboard motors were distributed to fishermen whose requests were approved by the Waqa Management Committee set up by the project to oversee the implementation of the project. A cost sharing arrangement was also introduced by the project whereby the project provided 75% of the cost of repair and engine while boat owners contributed to the balance. The Waqa Project is expected to extend its assistance to the Ha'apai Group and due to limited capacity; the involvement of the Ha'apai Group will follow the completion of the Vava'u programme.

The Ministry continued to receive both financial and technical assistance from regional and international organisations and donor countries. Of particular note are the assistance and cooperation provided by the Forum Fisheries Agency, the Secretariat of the Pacific Community,

the Food and Agricultural Organization of the United Nations, Japan International Cooperation Agency and the Australian Government.

In terms of the industry's performance in 2003, the total estimated FOB value of fisheries export for 2003 from registered companies was at T\$13.7 million compared with T\$14.0 and T\$14.6 million in 2001 and 2000, respectively. This was an earning from the export of 573mt of tuna (fresh and frozen), 156.19mt bottom seas fish (snapper and grouper), 397.6mt of aquarium rocks and 341,280 numbers of fish and giant clams and pieces of soft/hard coral, 6.7mt of dried shark fins, 223.0mt of seaweed and other miscellaneous fishery products.

Before the year closed, the Ministry hosted its first National Tuna Conference in Tonga for all stakeholders, particularly the commercial fishing companies, government agencies, regional agencies and the outer island communities engaged in local small scale fishing. The conference aimed at developing strategies that would ensure the long term viability and competitiveness of the Tongan Tuna Industry given its recent decline. Major sponsors of the event were shared by the Ministry of Fisheries, EU, and the AusAID funded Tonga Fisheries Project well as contributions made by the Diplomatic Community, fishing agencies, and some government departments. A set of recommendations were submitted by the conference to the Hon Minister of Fisheries and subsequently to Cabinet. A Committee was proposed to look at the recommendations and determine the course of actions appropriate for implementation the recommendations. Following positive responses received from all sectors regarding the positive impact of such an initiative, the Ministry of Fisheries plans to host similar conferences for other sub-sector of fisheries.

The Ministry wishes to acknowledge contributions made by government agencies, non government organisations, regional and international agencies, and the industry. Efforts and contributions of staff is also acknowledged.

2. EXECUTIVE MANAGEMENT

Executive management involves leading and guiding the Ministry's strategic direction and daily operations and such roles are designated to the Hon. Minister of Fisheries, the Secretary for Fisheries, and supported by the Deputy Secretaries.

(i) Office of the Minister

The Hon. Minister was engaged in various events throughout the year including the opening of the Workshop on the Application of Argos VMS & CATSAT Remote Sensing System; the first National Tuna Conference; and the 25th Meeting of the FAO COFI, Rome Italy. He was also instrumental in setting policies for the application of the VMS systems for the domestic fleets.

(ii) Office of the Secretary

The appointment of the new Secretary for Fisheries, Mr. Manase Felemi, strengthened the leadership role in the Ministry after a period of no leadership due to the appointment of Hon. 'Akau'ola (former Secretary) as the Governor of Vava'u. Mr. Felemi, formerly Deputy Director for Agriculture, brought with him many years of experience in government and the region.

The service delivery of the Office of the Secretary was supported by Mrs. Katalina T Fifita, Technical Officer Gr.II, and Mr. 'Etuini Kaufusi, Driver.

Mr. Felemi, in his capacity as the head of department, represented the Ministry and the Government of Tonga at various forums and conferences locally and abroad and a list of gatherings overseas in which the Secretary participated appears below.

1. FAO 25th Session, Rome Italy
2. 15th Annual Consultation on the Multilateral Treaty with the US Government, March, Marshall Is
3. PREPCON IV – Tuna Commission, May, Fiji
4. 53rd Annual Forum Fisheries Committee Meeting, May Fiji
5. 16th Meeting of the Standing Committee on Tuna & Billfish, July Australia
6. 3rd SPC Head of Fisheries Meeting, August, New Caledonia
7. PREPCON V & FFC 54, September, Cook Is
8. Broader Cooperation Talk between FFA member countries & the USA, October, USA

The Secretary also visited the Ministry's regional offices in the islands of Ha'apai, Vava'u and Niuatoputapu to meet staff and to follow up on the status of the service delivery in the outer islands.

At the end of the year, Mr. Felemi resigned from the service to take up a new position as a Policy Advisor in the FAO's regional office, Apia Samoa. The Ministry acknowledges Mr. Felemi's contribution towards fisheries development in the Kingdom.

(iii) Appointment of the Deputy Secretaries

Mr. Mafi 'Akau'ola, Deputy Secretary for Fisheries, resigned from the service in the first quarter of the year and the Ministry acknowledges his contribution and leadership during his years of service in the Ministry.

Following Mr. 'Akau'ola's departure from the service, two Deputy Secretary appointments were made in the last quarter of the year in which Mr. 'Ulunga Fa'anunu (Principal Fisheries Officer, Ministry of Fisheries) and Mrs. 'Apisake Soakai (Principal Assistant Secretary, Ministry of Lands, Survey & Natural Resources) were promoted.

The spheres of responsibility for the Deputy Secretary positions were separated into corporate services (which concerned mainly with organisational issues) and technical services (which largely involved fisheries management). Given the resignation of the Secretary, Mr. Felemi, the duties of the head of the department were shared by Mr. Fa'anunu and Mrs. Soakai.

3. CORPORATE PLANNING & POLICY

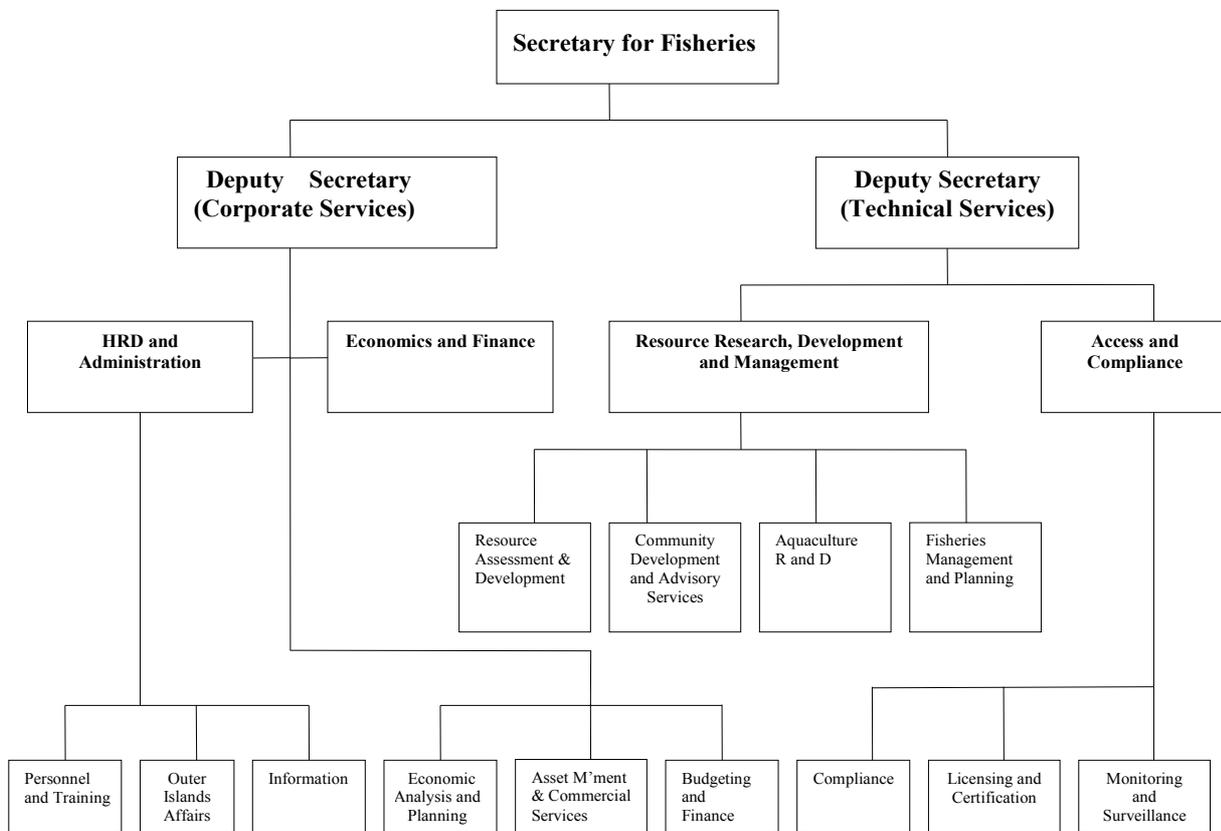
Strategic planning was an essential element of fisheries management in 2003 and a review of the corporate plan was undertaken which involved several workshops with staff and followed by a stakeholder audit to gauge stakeholder aspirations for fisheries development in the Kingdom. The outcome of the audit showed that the Ministry's performance was under par and that improvement in its in-house operation and service provision needed immediate attention.

The Ministry developed its Plan, ahead of other government agencies, within the framework of Government's strategic and corporate planning procedures whereby the Plan attempts to link the ministry's aspiration with that of the economy and social aspirations while at the same time

ensure that the concept of sustainable development is maintained through conservation measures and practises.

A new organisational structure that reflects a clear demarcation of corporate services and technical services, each receiving equal priority, was established and it also reflected the new functional responsibilities of the ministry in terms of the new Fisheries Management and the Aquaculture Management Acts as well as regional obligations stipulated in international conventions. Figure 3 below shows the new organisational structure.

Figure 3: Organisational Structure, 2003



The Ministry’s vision statement stipulates that *‘we envision that through effective and efficient management and development, Tonga’s living aquatic resources will continue to contribute to the sustainable development of Tonga by providing management, administration, training and research.’*

The overall fisheries goal aims at *'the development of Tonga's living aquatic resource industries to the highest level of use compatible with ecological sustainability with structures of ownership, participation and technology that maximise the benefits to the people of Tonga.'*

4. HUMAN RESOURCE CAPACITY

The Ministry had a total of 105 approved permanent posts for the year and as at December 31 2003, only 91 posts were filled. Of the 14 posts which were vacant, 13 of which arised from resignation, retirement and dismissal from the service while 1 post remained unfilled. Details of the approved posts and vacancies for 2003/04 are shown in Table 4.1 below.

Table 4.1: Permanent Posts as at December 31 2003

Level	Post Title	Post Abbreviation	No. of Posts	No. of Vacancies
L/1	Secretary for Fisheries	SF	1	-
L/2	Deputy Secretary	DS	2	-
L/5	Principal Fisheries Officer	PFO	5	3
L/7	Senior Fisheries Officer	SFO	2	-
	Senior Computer Programmer	SCP	1	-
L/9	Fisheries Officer	FO	8	1
	Technical Officer Grade 1	TOI	3	1
	Computer Programmer	CP	1	-
	Accountant	ACC	1	-
L/11/9	Technical Officer Grade II	TOII	9	1
	Computer Operator Grade 1	COI	1	-
L/12	Master (M.V Ekiaki, MV Takuo)	MA	2	2
	Chief Engineer (MV Takuo)	CE	1	1
	Engineer (M.V Ekiaki)	E	1	-
	Second Engineer (M.V Takuo)	SE	1	1
	Computer Operator Grade III	COIII	1	-
	Senior Fisheries Assistant	SFA	13	1
	Fisheries Assistant	FA	17	1
	Mate/Leading Fishermen	M/LF	2	1
L/13	Computer Assistant	CA	2	1
L/14	Fisheries Trainee	FT	29	-
L/14A	Driver	D	2	-
Total Established Staff Post			105	14

(i) HRD Section

The HRD section was responsible for general administration, human resources development, planning and coordination of HRD initiatives. Table 4.2 lists the names of the Officers engaged in HRD services.

The Principal Fisheries Officer, Mrs. L Tafea, who was in charge of the Unit, retired in August 2003 and the Ministry, acknowledges her years of dedicated service.

Table 4.2: Staff of the HRD Section

Name	Post
Mrs. Losaline Tafea	Principal Fisheries Officer
Mrs. Losilini Loto'ahoa	Computer Operator Grade III
Mrs. Mele Fukofuka	Fisheries Trainee

(ii) Staff Appointments, Promotions and Retirements

Tables 4.3 to 4.5 below outline staff appointments, promotions and resignations, retirements, and dismissals during the year.

Table 4.3: Staff Appointments, 2003

Name	Post
Miss 'Ana Taholo	Computer Programmer
Miss 'Ana 'Akauola	Fisheries Trainee
Mr. Vuna Maea	Fisheries Trainee
Mr. Mosese Moala	Fisheries Trainee
Mr. Ioane Finau	Fisheries Trainee

Table 4.4: Staff Promotions, 2003

Name	Designation	Present Post
Mr. 'Ulunga Fa'anunu	Principal Fisheries Officer	Deputy Secretary for Fisheries (Technical services)
Mrs. 'Apisake Soakai	Principal Assistant Secretary (Ministry of Lands, Survey & Natural Resources)	Deputy Secretary for Fisheries (Corporate services)
Mr. Poasi F. Ngaluafe	Technical Officer Grade I	Fisheries Officer
Mr. Vili Tonga Vaka	Senior Fisheries Assistant	Technical Officer Grade II
Mr. Palu Faupula	Computer Assistant	Technical Officer Grade II

Table 4.5: Staff Resignation, Transfer, Retirement and Dismissal from the Service, 2003

Name	Post	Reason
Mr. Mafi 'Akau'ola	Deputy Secretary for Fisheries	Resigned
Mrs. Losaline Tafea	Principal Fisheries Officer	Retired
Mr. Samisoni Naupoto	Senior Fisheries Officer	Laterally transferred from Ministry of Agriculture and Forestry
Mr. Pouha Hasiata	Fisheries Officer	Resigned
Mrs. Keasi K T Pongi	Technical Officer Grade II	Resigned
Mr. Sione Vai Taunga	Chief Engineer	Laterally transferred to Education
Mr. Paea Tai	Master-Takuo	Laterally transferred to Education
Mr. Hopoate Fine	Second Engineer	Laterally transferred to Education
Mr. Folosita Loloa	Mate	Laterally transferred to Education
Mrs. 'Emeline Tonga	Fisheries Assistant	Resigned
Mr. Taniela Taungakava	Fisheries Trainee	Dismissed
Mr. Ului Pele	Fisheries Trainee	Termination of appointment

(iii) Short-Term Training, Workshops, Local & Overseas Meetings

Staff continued to benefit from participation at short term training courses and meetings organised and funded by regional and international organizations.. Table 4.6 below outlines local and overseas training courses and meetings in which staff participated.

Table 4.6: Training Courses and Meetings during 2003

Course/Meeting/Workshop	Duration	Location
Official visit of New Secretary for Fisheries	1 week	Vava'u & Ha'apai
Restocking of Tilapia at Niuatoputapu	1 week	Niuatoputapu
25 th Session of the FAO Committee on Fisheries (COFI)	1 week	Rome
15 th Annual Consultation-Multilateral Treaty on Fisheries	1 week	Majuro
Aquaculture Market Conference	1 week	Manila
4 th Annual meeting of the South Pacific Whale research Consortium (SPWRC)	1 week	New Zealand
Ethics Training	2 days	Tonga
SPC/FAO/COM.SEC/WPRFM coastal Fisheries Management	1 week	Fiji
Coastal Fishing Technique for Sustainable Resources Use	4 months	Japan
Course/Meeting/Workshop	Duration	Location

53 rd Forum Fisheries Committee	1 week	Fiji
Market Study Tour on Seaweed	1 week	Japan
Market Study Tour on Seaweed	1 week	Hawaii
Fourth Session of the Preparatory Conference	1 week	Fiji
Sub Regional Seafood inspection	3 weeks	Fiji
Observer Training	1 week	Fiji
Leadership Seminar for Senior Fisheries Managers	1 week	Hawaii
Study Tour HACCP System	1 week	Thailand
Standing Committee on Tuna and Billfish	2 weeks	Australia
Case study writing project	1 week	Fiji
Handling and Primary Processing	5 months	Japan
Agriculture sector review	3 days	Tonga
Pearl oyster farming and grafting	1 month	Cooks islands
Marine Farming on stock Enhancement	6 months	Japan
6 th FAO Roundtable Meeting for PIC on WTO provisions	1 week	New Zealand
Observer Practical duty	4 months	US Fishing Tuna Vessel
Second Session of FAO Sub Committee on Aquaculture	1 week	Norway
Special Fifty Four Forum Fisheries Committee	1 week	Cooks Islands
Fifth Session of the Preparatory Conference	1 week	Cooks Islands
Preparatory Conference		
Monitoring Control and Surveillance	1 week	Fiji
Project Leader Meeting for ACIAR Pearl Oyster	1 week	Kiribati
Implementation of the Code of Conduct for Responsible Fisheries	1 week	Fiji
Pacific Ocean Remote Sensing	1 week	Australia
Safety of Pacific Island Fishery Product	2 weeks	Fiji
3 rd Meeting of SPC heads of Fisheries	1 week	Noumea
Marine Environment Ecosystem and conservation in Coastal area	1 week	Japan
ACIAR –PIC consultation	1 week	Fiji
Safety Management	1 week	Fiji
Impact Illegal, Unreported and Unregulated fishing	1 week	USA
Fish Preservation	1 week	Tonga
Pearl farm hatchery	1 week	Tonga
Skipper Training	1 week	Tonga
Pearl culture	1 week	Tonga
Fish Smoke	1 week	Tonga
National Biodiversity	2 days	Tonga
Fish Handling	1 week	Tonga
Sea food production and Business Management	1 week	Tonga
Tuna Conference	1 week	Tonga
Pearl seedling	1 week	Tonga
Culture of Live feed	1 week	Tonga
Course/Meeting/Workshop	Duration	Location
Whale	1 week	New Zealand
Sub-region workshop on seafood inspection	1 week	Fiji

Seaweed farming	1 week	Fiji
Fishing Gear Technology	2 weeks	Korea

Due to the limited number of scholarships available to the fisheries sector, the Ministry continued to heavily rely on short training courses as a means of upgrading the technical knowledge and capability of its staff additional to opportunities provided by regional and international forums where national issues and concerns were raised and noted.

Attendance at overseas meetings was funded by the host organizations and from the recurrent budget of the Ministry or from the Project Development Fund (PDF) facility administered by the Forum Fisheries Agency. The funding assistance available under this facility was mainly for fisheries development projects, including attendance at regional and international meetings.

(iv) Staff Movement during 2003

Table 4.7 provides details on staff movement that were effected during 2003 in response to manpower requirement in the various offices/stations of the Ministry. The Ministry's general policy requires Officers to serve a term of three years in any one station before s/he is relocated to another.

Table 4.7: Staff Movement During 2003

Name	Post	Pre-Location	New Location
Mr. Sione Mailau	Fisheries Trainee	Ha'apai	Nuku'alofa
Miss Moana Nau	Fisheries Trainee	Nomuka	Pangai
Mr. Fotu Tu'i'onetoa	Fisheries Trainee	Pangai	Nomuka
Mrs Silia Soakai	Computer Assistant	Vava'u	Nuku'alofa
Mr. Sioeli Valu	Fisheries Trainee	Vava'u	Nuku'alofa
Mr. Vea Kava	Senior Fisheries Assistant	Vava'u	Nuku'alofa

(v) AusAID-funded Tonga Fisheries Project

The Tonga Fisheries Project provided great assistance to the Ministry in terms of timely technical assistance for HRD; deployment of 11 FADS (fisheries aggregated devices) in the outer islands, particularly the Niua and Vava'u; convening the National Tuna Conference; formulation of the Ministry's Strategic Plan; formulation of workplans for section and divisional heads; drafting of proposals for the recruitment of Australian Youth Ambassadors

and AESOP; adoption of a domestic VMS systems; procurement of ice makers for the Ha'apai region; and refurbishing the office building at Sopu.

Against the achievements of the project was set back by a set of issues that challenged its smooth implementation. One of the main constraints on the project involved formal approval of project's 2003/04 annual plan; and the limited staff capacity in the Ministry of Fisheries who were capable of supporting the activities of the project as well as providing local counterpart role for short term consultants recruited by the project.

5. FINANCIAL SERVICES

The financial services involved budget planning and management as well as economic evaluations of services rendered and assets maintained at Sopu and the outer islands. Mr. Samisoni Naupoto, Senior Fisheries Officer, was appointed as the head of section. A list of staff in who supported the financial service delivery at the head office appears in the Table 5.1 below.

Table 5.1: Staff of the Finance Section

Name	Post
Mr. Samisoni Naupoto	Senior Fisheries Officer
Mr. Tevita Talakai	Accountant
Mr. 'Amanaki Tu'itupou	Fisheries Trainee

(i) Recurrent and Development Estimates

The total expenditure for the Financial Year 2003/04 increased by 39.17 % compared with the previous year. The staff salary allocation was therefore increased by 40.91%, from \$760,464 in 2002/03 to \$1,286,892 in 2003/04 contrary to a declined un-established staff allocation, by 58.14 %. Travel and Communication rose by 20.82 % and similarly 21.06% for Maintenance and operation, 0.65% for Purchase of Goods and Services, and 90.04% for Capital expenditure. Comparison of the current financial performance with previous years is provided in the following table.

Table 5.2: Expenditure Estimate by Major Components, 2001/02 – 03/04

Expenditure by Major Component	2001/02 (T\$)	2002/03 (T\$)	% Change	2003/04 (T\$)	% Change
Established staff	853,784	760,464	2.73	1,286,892	40.91
Un-established staff	88,014	86,005	-4.97	36,001	-58.14
Travel and Communication	94,533	85,758	-1.56	108,307	20.82
Maintenance and Operations	781,023	391,096	-14.01	495,405	21.06
Purchase of Goods and Services	1,021,904	467,537	12.35	470,605	0.65
Capital Expenditure	81,004	65,117	223.94	654,003	90.04
Total	2,920,262	1,885,977	0.85	3,051,213	-39.17

Table 5.3: Expenditure Estimate by Funding Source, 2001/02 – 03/04

Funding Source	2001/02	2002/03	2003/04
Government of Tonga Fund	1,037,449	1,037,449	1,048,579
Government of Tonga: Revolving Fund	1,695,804	805,011	201,009
Overseas Donor Funding (Cash/Token)	187,009	13,518	801,110
Overseas Donor Funding (In-kind)	0	0	1,000,515
Total	2,920,262	1,855,978	3,051,213

An additional amount of \$11,130 cash was injected to the Ministry's expenditure budget and approximately 66% of which was absorbed by staff remuneration and only 34% was available for actual development and operational activities. This budgetary imbalance had a negative impact on the Ministry's performance in 2003.

(ii) Revenue Collection

The total revenue collected during the financial year 2003/04 was approximately T\$948,136.12 of which T\$682,986.93 was received as proceeds from the Multilateral Treaty on Fisheries with the United States. The remaining balance was collected from sales of produce & products, fishing licenses, market fees and sundry sources.

(iii) Multilateral Treaty on Fisheries with the United States of America

Tonga remains a party to the Multilateral Treaty with the government of the US and part of that agreement provides Tonga a share of the annual fund which amounted to US\$21 million paid to the FFA in 2003, as the Treaty Funds Administrator. The annual fund is shared by the parties in an agreed formula. Tonga, being party to the Treaty received a share since 1997 and the annual share is paid directly to the Government's general revenue. The annual share for Tonga for the 14th to the 16th (the current licensing period) is shown in Table 5.4.

Table 5.4: Tonga's Annual Share for Licensing Period 14th – 16th.

Licensing Period (Year)	14th (2001)	15th (2002)	16th (2003)
Amount (US\$)	147,682.00	147,321.72	147,321.72
T \$	310,388.29	309,564.45	309,564.45

In terms of Tonga's share of the PDF fund, Tonga shared with other parties the annual allocation of US\$1.78 million equally distributed and Tonga's balance at the end of December 2002 was approximately US\$468,200.00. This fund is administered by the FFA and disbursed only by approval granted by the Government of Tonga and approval for utilising the PDF fund remains the discretion of Cabinet.

6. INFORMATION, COMMUNICATION AND TECHNOLOGY (ICT) SERVICES

The ICT Section facilitates the Ministry's requirement for disseminating information, and communication and it has fulfilled this through the effective application of technology, particularly computer technology, library, and audiovisual equipment. It continues to fulfil its obligations regarding the designing and developing of computer programs, storing and dissemination of fisheries information for MoF, Government Agencies, fishing communities and other regional and international organizations. In addition, the Section plays a key role in keeping the public and stakeholders informed through press releases and regular radio programs about fisheries development. A list of staff engaged in the Section is provided in Table 6.1. below.

Table 6.1: ICT Section Staff, 2003

Name	Post
Mr. Sosaia Tulua	Senior Computer Programmer
Mrs. Lavinia Vaikona Vaipuna	Computer Operator Grade I
Mr. Palu Faupula	Technical Officer Grade II
Mrs. Losilini Loto'ahea	Computer Operator Grade III
Mrs. Silia Soakai	Computer Assistant
Mr. 'Emeline Tupou	Fisheries Trainee (Librarian)
Mr. Matafonua Langi	Fisheries Assistant (Audio Visual Unit)

(i) Computer Services

Computer services are provided by the Computer Unit which operates and maintains all computer hardware and software, provides computer services to all sections, and trains

Fisheries personnel how to use computer equipment and applications. The Ministry's inputs are coordinated into regional computers and network systems. Services are also provided for the ministry's offices in the outer islands.

(a) Information Network Services

The operating system for TONGAFISH network continued to run under Windows NT Server 4. The Network has one NT Domain file server and one backup domain server.

(b) E-mail Server

All staff have access to email through a system domain of *tongafish.gov.to*. Vava'u and Ha'apai Fisheries are also linked with the head office via the e-mail network.

(c) Computer Hardware

The following table shows the current applications by types of hardware/computer equipment and its locations available in the Ministry.

Table 6.2: Inventory of Computer Equipment, 2003

Specification	No.	Use
Nuku'alofa		
Server PIII	1	Domain Server
AMD System	3	1 Secretary for Fisheries, 1 Head Aquaculture
Pentium IV	1	Surveillance - donated by FFA
Pentium III	10	3 Policy & Planning, 2 Accounts, 1 Oceanography, 1 library - donated by SPREP, 1 Audio Visual, 1 computer room donated by SPC, 1 Computer room.
Celeron	4	1 Aquaculture, 1 Filing, 1 Admin, 1 Accountant
Compaq Presario	2	1 Policy & Planning - donated by FAO, 1 Market Manager
Pentium 116	4	2 Extensions, 1 Market Clerk, 1 Engineering
Pentium II	1	Surveillance - donated by FFA
Notebook PII	1	1 Compliance Division (Principal Fisheries Officer)
HP Laser 5si	1	Server Printer
HP 5L	1	1 Market Clerk
HP LaserJet 1100	2	1 Secretary for Fisheries, 1 donated by FAO (Policy Planning)
HP LaserJet 1100A	1	Aquaculture
HP LaserJet 1200	3	1 Planning and Policy, 1 Accounts, 1 Audio Visual
HL-2600 CN	1	Colour printer - computer room
Vava'u		
AMD System	1	New Computer for Officer In Charge
Notebook PII	1	New Computer
HL 1440 printer	1	Officer in charge
HP 5L	1	Clerk
Ha'apai		

AMD System	1	New Computer
HP LaserJet 1200	1	New Printer

(d) Computer Software

The following computer software has been acquired by the Ministry over the past years and continued to be effective in 2003.

Table 6.3: Inventory of Computer Software, 2003

Type	Program Name
Operating System	Windows NT, Window Me, Windows 98, Windows 95,
Mapping	MapInfo
Graphics	Adobe Photoshop 5
Office	Office XP
Antivirus	Vet
E-mail Server	FTGate
Databases	Tuna database, Takuo Logbook database, Vote System Database, Staff Database, Aquarium Database, Vessel Registration Database, Export Marine Resource Database, Filing System Database, Home consumption, Hosts of system and software utilities.

7. ASSET MANAGEMENT

The Ministry maintains assets of significant value and the responsibility for maintenance rests with the Asset Management Division which provides services for boatbuilding and engineering to support internal maintenance work as well as servicing the private sector on a user pay basis.

(i) Boatyard services

The Ministry's role in relation to the construction and repair of small fishing vessels was maintained. Set up some 20 years ago for the construction of medium sized fishing vessels, the operations of the boatyard has significantly been downsized with a focus on repair and construction of small fishing vessels. Staff of the Unit, as outlined in Table 7.1, has also been tasked with the responsibilities of maintaining and renovating the Ministry's fishing vessels, boats and buildings. In addition this unit played a key role in the implementation of the Ministry's Waka Rehabilitation Project for the Vava`u group.

Table 7.1: Staff of the Boatyard Unit, 2003

Name	Post
Mr. `Aisea Tupou	Senior Fisheries Officer
Mr. Tevita Taulafo	Technical Officer Grade II
Mr. Sione Fine Tupou	Fisheries Assistant
Mr. Sekope Tiueti	Fisheries Trainee

The Officer-in-Charge of the boatyard services, Mr. `Aisea Tupou, retired during the year and his service and commitment during his career in the Ministry is greatly appreciated.

(ii) Engineering

The Engineering Unit is responsible for the overall repair and servicing of the Ministry's fishing vessel (MFV Ekiaki, MFV Vete), refrigeration plant and vehicle. It also offers repair maintenance services, at cost, to mariner and the general public. In 2003, the following major activities were achieved:

- Major repair works on the MV Ekiaki, funded by Tonga Fisheries Project which included the installation of hydraulic gear & pump and new Generator (10 kva) engine.
- An outboard motors training to outer Islands especially Niuatoputapu, and Pangai (Ha'apai). This training was funded by the New Zealand Government under the leadership of Mr. Ted Macdonald with assistance of Mr. Sioeli Pasikala.
- Leiola duty free shop donated a six seater mini-van for the Ministry of Fisheries.
- Under the approved organization structure the Asset Management and Commercial Services Division section was established to look after the Engineering unit, Boatbuilding and Carpentry unit, MFV Ekiaki and Tu'imatamoana Fish Market.
- The Asset Management and Commercial Services Division section was assigned a new supervisor, Mr. Samisoni Naupoto, Senior Fisheries Officer, also head of Economics and Finance Division.

The staff designation for the Engineering Unit in 2003 is detailed in Table 7.2. Most of the vehicles, boats, and ice plants were very old and were subject to frequent breakdowns, so the staff of the Unit were required to regularly travel to the other islands for repairs and maintenance.

In terms of staff movements in the year, Mr. Viliami Tonga Vaka, Technical Officer Grade II took 11 months special leave without pay with effect from November 2003 while Mr. Mangisi Tupou, Driver also took 12 months special leave without pay with effect from May 2003.

Table 7.2 Engineering Staff for 2003

Name of Officer	Title
Mr. Sioeli Pasikala	Fisheries Officer (Head of Unit 2003)
Mr. Lomio Tonga	Fisheries Officer
Mr. Viliami Tonga Vaka	Technical Officer Grade II
Mr. Pala'a Mausia	Senior Fisheries Assistant
Mr. 'Uluaki Vaipuna	Fisheries Assistant
Mr. Lisiate Pola	Fisheries Trainee
Mr. Fonuakite Fanua	Fisheries Trainee
Mr. Mangisi Tupou	Driver

Table 7.3 provides an inventory of all vehicles in operation in 2003. As will be noted, more than half of the vehicles are over 10 years old and some are in fair condition, while others are due for replacement which will minimize the cost of repair maintenance.

Table 7.3 Ministry of Fisheries Vehicle Pool, 2003

Year	Reg.No	Type	Location	Standard	Fund	Remark
1990	P936	Toyota Hiace	Sopu	Fair	PDF	Under repair
1990	P935	Toyota Hiace	Pangai Hp	Good	PDF	Need to write off
1992	P149	Toyota Hilux	Sopu	Good	Treaty Fund	Needs replacement
1992	P1118	Toyota Hilux	Sopu	Good	JICA	Needs replacement
1192	P1119	Toyota Hiace	Sopu	Good	JICA	Needs replacement
1994	P1026	Toyota Hiace	Sopu	Fair	PDF	
1997	P1120	Toyota Hilux	Sopu	Fair	JICA	for Secretary
1997	P152	Toyota Hilux	Sopu	Fair	PDF	

Year	Reg.No	Type	Location	Standard	Fund	Remark
1997	P39	Toyota Hilux	Vava'u	Fair	PDF	
1997	P103	Toyota Hilux	Pangai Hp	Fair	PDF	
2003	P1926	Toyota Hiace	Sopu	Fair	Leiola Duty Free Shop	

8. MARKETING & FISH MARKETS

Marketing is a critical function of the Ministry and a Section coordinates the development activities pertaining to marketing of marine food products both in local and overseas markets. The Head of this Section, Fisheries Officer, Mr. Po'uha Hasiata is also the Manager of Tu'imatamoana Fish Market resigned in 2003 and Mr. Uanoa 'Ahoafi, Technical Officer Grade I, was assigned to managing the Tu'imatamoana Fish Market.

A list of staff engaged in the operations of the Tu'imatamoana Fish Market is provided in the table below.

Table 8.1: Staff at the Tu'imatamoana Fish Market 2003.

Name	Title	Responsibilities
Mr. Po'uha Hasiata	Fisheries Officer	OIC of Tu'imatamoana fish Market
Mrs. Makalita Mafile'o	Senior Fisheries Assistants	Handle all financial aspects of the market and keep records
Mr. Mafi .T. Havea	Fisheries Assistants	Operate and control fish sales and fish landing, also collect market fees and ice sales
Mr. Malupo Moala	Fisheries Trainee	Night watchman
Mr. Uanoa 'Ahoafi	Acting Fisheries Officers	Replaced Po'uha Hasiata

(i) TU'IMATAMOANA FISH MARKET

The Tu'imatamoana Fish Market was built about 15 years ago, equipped with freezers, cool storage rooms, ice making machines and fully furnished trading area to facilitate local fish trade, storage and the production of ice for fishing vessels. The facility, however, has suffered from poor management and maintenance due to lack of funds. As a result, it has

been allowed to deteriorate to a situation where all freezers and cold storage facilities were no longer working, and most of fish handling equipment and accessories have broken down. The status of the refrigeration facilities of the Market are summarized below.

(a) Fish Landing

The Market recorded a total of 152.7mt of fish landed at the Market for sale in 2003 as compared to 183.6mt in 2002. While this was clearly a cause for concern, it was also noted that there were new outlets which opened in 2003. In addition, it was considered that there was under-reporting of the total volume of fish landed at the market for sale, due to shortage of staff, which was a result that was not possible to make a complete coverage of landed catch.

(b) Ice Production

In year 2003, the market produced about 430m/t of ice for sale. It has only one ice making machine which has a maximum production capacity of 2.5mt per 24 hours operation. This was considered insufficient to meet the existing demand and consideration should be given to adding another ice-making plant, if the Market is expected to continue this service to the fishing community and the general public. There would therefore be a need for consultation with the fishing community fishermen/general public to ensure that such a service is necessary and that the Government should continue to be involved in its operation.

Table 8.2: Status of the Refrigeration facilities at Tu'imatamoana Market, 2003.

Items	Status of asset
Air blast Freezer No. 1	Broken since 1998, need to be replaced
Air blast Freezer No. 2	Broken since 2000, need to be replaced
Freezer Store No.1	Broken since 1999, need to be replaced
Freezer Store No.2	Broken since 2000, need to be replaced
Freezer/Chiller	Broken since 1998, need to be replaced
Chiller Room	Broken, need to be replaced
Ice Store	Used for storage ice, Worked well
Ice machine	Worked well, except power failure

(c) Fish Handling and Processing Equipment

Table 8.3 provides a list of the fish handling and processing equipment currently being used at the Tu'imatamoana Fish Market. These were made available to fish traders on a hiring arrangement.

Table 8.3: Fish Handling & Processing Equipment, Tu'imatamoana Fish Market

Item	Current Status
6 Heavy duty trolley	All broken, and need replacement
2 Cutting bandsaw	One worked well and one need replacement
1 Small C/bandsaw	Broken and need replacement
4 Manual pallet truck	All broken and need replacement
24 Blue cooler (ice box)	Used inside the market, hiring pool some need repair
4 Hanging weighing scales	Used inside the market.
2 Platform weighing scales	One worked well, one need replacement

(d) Vehicle

Two vehicles were available to support the market's operation and the conditions of which are shown below.

Vehicle Type	Condition
Forklift	Working well
P1118-Double Cap	Working well but need to be overhaul

(e) Fish Processing and Packing Room

The packing and processing facility was rented by the Friendly Island Fishing Company from the Ministry of Fisheries at a monthly rental fee of T\$1,000.00. However, since the Friendly Island Fishing Company experienced financial difficulty, the facility was reposed by the Westpac Bank of Tonga.

(f) Constraints

The effective operation of the fish market is constrained by the following factors:

- Break down of all cold storage equipment
- Lack of qualified refrigeration engineer
- Shortage of ice
- Structure of market building doesn't meet hygienic and overseas market requirement e.g HACCP.

- Fish retail area is very hot during summer months, due to close down of eastern end by the processing and packing room.
- Regular power failure

(g) Future Needs

Future needs include the following:

- Need a new Air blast freezer of -30 to -50 °C temperature, one storage freezer of – 20 °C temperatures and one Chiller room to replace the broken facilities.
- A new ice machine of maximum production capacity of 3 m/ton production capacity per 24 hours.
- Improve the market building structure especially fish retail area, to lower the temperature and to equip with more hygienic and proper equipment. Also the roof of the main building is required to renew due to rust and leakage.
- A water blast compressor is required for the cleaning of the market.
- A standby generator

9. FISHERIES MANAGEMENT PLANNING & POLICY

The Fisheries Management Planning Section is responsible for: planning and the implementation of which, policy advice to management; and the coordination and monitoring of fisheries and related development projects. The achievements of the year included the development of Management Plans for key fisheries, particularly tuna, deep sea line fishery, aquaculture, seaweed and charter vessels. The names of staff engaged in the policy and planning function is outlined in Table 9.1.

Table 9.1: Staff of the Policy and Planning Section, 2003

Name	Post
Mr. Vilimo Fakalolo	Principal Fisheries Officer
Mr. Kolianita Lavemai Alfred	Fisheries Officer
Mr. Pau-mo-Levuka Likiliki	Technical Officer Grade I
Miss Melesia `Aho	Computer Programmer
Mrs. Keasi Takau Pongi	Technical Officer Grade II

Mrs. Keasi T Pongi resigned from public service at the end of the year to take up a career opportunity with the New Zealand High Commission office. Mrs. Kolianita L Alfred was

granted a 1 year special leave without pay with effect from May 2003. The loss of two trained officers of the section seriously affected the ability of the section to deliver its expected outputs.

(i) National Tuna Conference

A National Tuna Conference, first of its kind, was convened in November 2003 by the Ministry which involved the participation of all relevant stakeholders, particularly government agencies, industry small and large scale operators, financial institutions, outer island operator, and the donor community. The conference aimed at developing strategies that would ensure the long term viability and competitiveness of the Tongan Tuna Industry. The conference also provided the participants with first hand information on the latest developments as well as future prospects of the industry from the regional experts. The AusAID Tonga Fisheries Project, EU and the Ministry of Fisheries were the major sponsors of the conference.

The main outputs of the conference included a detail summary record of proceedings which outlined the main issues discussed and key recommendations made by participants. Feedback from participants proved that the initiative provided a very good forum and opportunity to share information on the constraints, challenges and opportunities for further development of the tuna industry. An important point that was noted by the participants was the fact that the industry has severely suffered from low catch rates in the past 18 months which threatened the viability of many if not all tuna fishing companies and unless the situation improves immediately, the tuna export industry will be virtually non-existent within the next 6-12 months.

The Ministry believes the most of the recommendations made by the conference are practical solutions to the constraints and challenges faced by the industry. About 22 recommendations were submitted the Hon. Minister of Fisheries and all of which highlights the economic, business and technological issues that will contribute to the advancement of the industry. Courses of actions proposed by the conference included: improving market access to the EU and improve Tonga's competitiveness in the region; develop modelling packages for albacore stocks and improve catch rates of which through technology application; relax tax and duty requirements applied to essential production input; review public policy to match neighbouring states (Fiji, Samoa & Cook Is) and improve on existing economic incentives; and strengthen the capacity of vessel crews through training and development programmes.

A Tuna Committee has been approved by Cabinet which will look at implementing the recommendations and due to existing limited capacity the Committee is anticipated to sit in 2004.

10. AQUACULTURE AND RESEARCH SERVICES

Aquaculture has been a long standing program aimed at the regeneration of depleting fisheries as well as farming new species that adds value to the industry therefore a number of ongoing projects that have been identified as suitable for Tonga involves the propagation and/or growing of marine organisms. Programs include enhancement of giant clams, introduction of trochus and green snails to create new commercial fisheries, pearl oyster farming and seaweed culture to earn foreign currency. Research and trials currently being conducted are aimed at the following:

- To relieve pressure on over-exploited traditional inshore fisheries
- Convert unused areas of natural water or agriculturally poor areas to useful production
- Revive and enhance over-exploited resources and introduce exotic species of commercial value

A list of staff engaged in aquaculture and research programs is shown in Table 10.1 below.

Table 10.1: Aquaculture and Research Section Staff, 2003

Name	Post
Mr. 'Ulunga Fa'anunu	Deputy Secretary for Fisheries
Mr. Vailala Matoto	Fisheries Officer
Mr. Siola'a Malimali	Fisheries Officer
Mr. Poasi Fale	Technical Officer Grade I
Mr. Feauini Vi	Fisheries Assistant
Mr. Sione Holopulu	Fisheries Assistant
Mr. Saia Niumeitolu	Fisheries Trainee
Mr. Sitiveni Sefesi	Fisheries Trainee
Mr. Tevita Sonatane Ha'unga	Fisheries Trainee
Miss Makeleta Vaikaka	Fisheries Trainee
Mr. Mosese Mateaki	Fisheries Trainee

The section staff was also redesignated as part of the restructuring process. Mr. Poasi Fale and Mosese Mateaki were assigned to the Resource Assessment and Development section. Mrs. Makeleta Vaikaka was transferred to Corporate Services.

(a) Training

Training programs and attachments, both overseas and locally, contributed to developing staff skills and knowledge. Mr. Vailala Matoto, Fisheries Officer, Head of the Stocks Survey Program, continued his Ph.D. studies in Fisheries Science, in Japan. Mr. Siola'a Malimali attended a two months Fisheries Management Course in Malaysia. Mr. Sonatane Ha'unga attended a one month course in Aquaculture Development in Korea. Mr. Sione Holopulu also attended a five months course on Marine farming and stock enhancement in Japan.

A training program in spawning and hatchery culture of the black-lip pearl oyster, *Pinctada margaritifera* was conducted at the Sopa Research Centre for both Ministry's staffs and private sector from 5th November to 10th December, 2003. The training was conducted as part of a project funded by the Australian Center for International Agricultural Research (ACIAR) called Pearl oyster Resource Development in the Pacific Islands. The training objectives were to:

- Provide skills in Pearl Oyster (*Pinctada margaritifera*) hatchery techniques.
- To produce pearl oyster spats as a basis for further training.
- To provide stock for pearl farming in Vava'u.

The training was conducted by Mr. Paul Southgate, an expert on Pearl Oyster culture from James Cook University, Australia. There were four participants, two representatives were from Vava'u, one representative from the industry, one Fisheries staff and the remaining were ministry officials from the head office.

(b) Shellfish Culture

(i) Giant Clam

The Division continued to supply requirements for the community's sanctuaries and export to aquarium markets. The overseas aquarium market offered good prices for relatively young clams. Clams of 1 to 9 inches shell length were sold to aquarium exporters. A total of 6939 clams (848 *T. derasa* or Tekanoa, 2993 *maxima* or Kukukuku and 3098 *T.squamosa* or Matahele) worth \$19761.60 were sold. The selling prices of the clams and market demand are given at Table 10.2 and Table 10.3 below.

Table 10.2: Selling Prices per Species of Giant Clam

Shell Length (inch)	1	2	3	4	5	6	7	8	9	10
\$/ <i>T.squamosa</i>	1.00	1.50	2.25	3.5	5.0	6.75	8.75	10.00	11.25	-
\$/ <i>T.derasa</i>	1.00	1.25	2.00	3.5	5.0	6.75	8.75	10.00	11.25	12.50
\$/ <i>T.maxima</i>	1.00	1.50	2.50	3.25	4.75	6.25	-	-	-	-

Table 10.3: Market Demand and Size Distribution of Giant Clam Species

Shell length (inch)	1	2	3	4	5	6	7	8	9 +	Total
<i>T. squamosa</i>	502	830	1593	173	-	-	-	-	-	3098
<i>T. derasa</i>	-	-	-	-	-	-	73	319	388	848
<i>T. maxima</i>	917	913	1102	60	1	-	-	-	-	2993

The demand for *T.squamosa* was the highest which accounted for 45 % of the total sale. The demand for the 3 inch giant clams was very high representing 43 % of the giant clams' total sale while others ranged from 16% – 27 %. The demand for *T.derasa* represented 12 % of the total sale. Although the market demands for *T. derasa* was highest for 2 - 4 inches the Ministry can only supply the 7 inch clams. The demands for *T. maxima* represented 43 % of the total sale and although the stock was limited, the demand was very high due to the beautiful mantle colour of the species.

As at December 2003, about 1500 *T. gigas* survived from the year's spawning. About 200 clams were transferred to 'Eueiki sanctuaries from the 2002 spawning. The growth rate of the *T.gigas* has more than doubled the common species (*T. derasa*, *T. squamosa*, *T. maxima*).

(ii) *Green Snail, Turbo marmoratus ('Elili lanumata)*

Spawning, rearing and releasing of green snail are conducted annually. The number of young snails already released and those still in hatchery are given at the Table 10.4.

Table 10.4: Record of Hatchery Produced Snails Already Released and those Still in Hatchery

Releasing Sites	Number / Year						Total
	1998	1999	2000	2001	2002	2003	
Tongatapu Islands	2850	200	900	3000	590	1555	9095
Vava'u Islands	1050	800	250	957	1000		4057
Ha'apai Islands	500		1050	850	1000		3400
Niuatoputapu Island			300				300
'Eua Island				1000	300		1300
Vanuatu	300						300
Ponapei		300					300
Samoa		300					300
Total	4700	1600	2500	5807	2800		19052
Snails in hatchery	Shell height of greater than 40 mm						757
	Shell height of 15 – 40 mm						8400
	Shell height of less than 15mm						2300

(iii) *Trochus, Trochus niloticus (Takaniko)*

About 2000 young trochus (with shell diameter more than 4cm) were spawned in 2000 are used in poly-culture with giant clam. The trochus helps to clean the weed that grows on the tank and clams. About 600 trochus of more than 50mm shell diameter were released at Uolanga Lalo reef.

There was no recruitment survey conducted this year. However evidenced that trochus harvest for subsistence need have been carried in many coastal areas by fishers. In addition, trochus shells have been sold at roadside handicraft stalls as well as jewellery shops.

(iv) *Pearl Oyster*

The experiment in pearl oyster (*Pinctada margaritifera*) spawning during the year was funded by ACIAR. About 3000 spats settled on the collectors after one month of larval rearing all of which were later transferred to the open sea and were reared at a long line outside the reef crest adjacent to Fisheries Centre at Sopa.

(v) *Seaweed (Cladosiphon sp. or Limutanga'u) Export*

This year, Tangle Nano Company remained the sole farmer of limutanga'u at the beginning of the season, July 2003 and it concentrated on harvesting wild stocks due to good weather conditions and prolonged favorable water temperatures. The wild stocks harvested were sufficient to fulfill the market's demands and about 270 tons of mozuku were exported in 2003 alone.

11. OCEANIC & COASTAL FISHERIES

The Head of Oceanic and Coastal Fisheries, Mr. Sione Vailala Matoto, Fisheries Officer continued his study towards his PhD in Fisheries Science in Japan. As such, Mr. 'Ulunga Fa'anunu, Principal Fisheries Officer and Head of the Aquaculture and Research Division also assumed the duties of the Head of Section.

12. COMMERCIAL FISHERIES DEVELOPMENT

Processing of applications for fishing licenses and including the operation of the MFV Ekiaki and MFV Takuo are carried out by the Commercial Fisheries Development Section and staff engaged in this function is listed in the following table.

Table 12.1: Commercial Fisheries Development Staff, 2003

Name	Post
Mr. Silivenusi Ha'unga	Fisheries Officer
Mr. Mafi Makasini	Fisheries Trainee
Miss. Lupe Fakalelu	Fisheries Assistant

(i) MFV Takuo

The commercial fishing operation of the MV Takuo was not very successful with costs of operation far exceeding the revenue generated from the sale of catch and subsequently the vessel's commercial operation was suspended and later transferred to the Ministry of Education while the permanent positions were retained by the Ministry.

(ii) MFV Ekiaki

The MFV Ekiaki has largely been involved in research and training programs including the deployment of the FADs (fish aggregating devices) as part of the Tonga Fisheries Project. Staff of the MFV Ekiaki is listed in the table below.

Table 12.2: Staff of the MV Ekiaki for 2003

Names	Post
Vacant	Master
Mr. Haani Lave	Senior Fisheries Assistant
Mr. Paea Mapu	Chief Engineer
Names	Post
Vacant	Mate
Vacant	Greaser
3 Filled & 1 Vacant	4 AB Fishermen Crew

The AusAID funded Tonga Fisheries Project later took over the management and the operation of the MFV Ekiaki since May 2001 and will remain in the project for 4 years. The vessel has become a crucial part of the Tongan Government's contribution for the implementation of the Tonga Fisheries Project.

MFV Ekiaki surveyed Nomuka and Vava'u Islands for the deployment of the FAD in early 2003 and at the end of the year, the MFV Ekiaki deployed 8 FADs at Vava'u and 2 FADs were deployed at Nomuka. Additional to research programs, the MFV Ekiaki provides a mean of transportation for ministry officials' visit to the outer islands, such as Nomuka, Ha'afeva, Niuatoputapu & Niuafu'ou.

13. COMPLIANCE & LICENSING

The Compliance and Licensing Section was responsible for compliance, monitoring and control, which included surveillance, enforcement, licensing and legislation. The staff engaged in compliance and licensing role of the Ministry is listed in the following table.

Table 13.1: Staff of the Compliance and Licensing Section, 2003

Name	Post
Mr. Viliami 'Anitimoni Petelo	Principal Fisheries Officer
Mr. Tevita Finau Latu	Senior Fisheries Officer
Mr. 'Ofa Moala Fakahau	Fisheries Officer
Mr. 'Inoke Mapuhola	Senior Fisheries Assistant
Mr. Sailosi 'Alofi	Fisheries Assistant
Mrs. 'Ana Tapu Latu	Fisheries Trainee
Miss Telesia 'Uhatafe	Fisheries Trainee

The work programme and activities of the Division during 2003 involved the following:

- Coordinating fisheries enforcement operations and prosecution of offenders in accordance with the Act and its Regulations
- Surveillance programmes such as aircraft/boat patrolling in Tonga's 200 nm.
- Observer Programme in the FFA member countries under the Fisheries Treaty with the United States of America.
- Regional Register of foreign fishing vessels.
 - Quality control, inspection and certification of marine products for export.
 - Screening applications for licenses issued under the Fisheries Act 1989 and its Regulations such as fishing vessels (local, commercial & sports fishing), fish processing establishment, fish fences, marine products, etc.
 - Collection of resource rent of the local value of marine products commercially exported and other license fees.

Table 13.2 below provides details of the number of companies that have been registered with the Ministry and have been issued licences to export marine products.

Table 13.2: List of Registered Exporters of Marine Products, 2003

Name of Exporter	Address	Marine Products Exported	Established
Dateline Aquarium Fish Export Co.Ltd.	Navutoka	Live tropical fish, invertebrates, hard and soft corals, giant clams.	1994
Walt Smith International	Ma'ufanga	Live tropical fish, invertebrates, hard and soft corals, giant clams.	1980
Sesilia Trading	Fanga	Shark Fin	2001
Sea Star Fishing Co.Ltd	Ma'ufanga	fresh tuna and seaweed	1990
Maritime Projects Co.Ltd	Sopu	Snapper, grouper, shark dried fin	1980
Alatini Fisheries Co. Ltd	Small Industries	Fresh tuna, snapper and grouper	1990
Vanisi International Co.Ltd	Tatakamotonga	Live tropical fish, invertebrates, hard and soft corals, giant clams.	2000

Name of Exporter	Address	Marine Products Exported	Established
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Coral Kingdom Co.Ltd	Small Industries Centre	Live tropical fish, invertebrates, hard and soft corals, giant clams.	2001
Emerald Marine Products	Kolofo'ou	Shark fins	2000
South Pacific Paradise Co.Ltd	Kapeta	Live tropical fish, invertebrates, hard and soft corals, giant clams.	2001
G & J Fishing Co. Ltd	Ma'ufanga	Fresh Tuna	2002
Tangle Nano	Sopu	Seaweed	2001
George Nakao Farm Services Co.Ltd	Sopu	Seaweed	2002
South Sea Fishing Co. Ltd	Fanga	Fresh Tuna	2002
Riot Fishing Co. Ltd	Nuku'alofa	Fresh Tuna	2002
Fung Shing Co. Ltd	Nuku'alofa	Fresh Tuna	1990
Maui Fishing Co.Ltd	Ma'ufanga	Fresh Tuna and Seaweed	1994
Island Fresh Seafood Co.Ltd	Nuku'alofa	Shark fin and Giant clams	

(i) Marine Exports from Tonga

Fisheries products commercially exported include dried shark fins, aquarium fish, hard and soft corals, aquarium rocks, tuna, snapper, and grouper. Exports for home consumption included reef fish, octopus, pelagic and other marine products such as mollusk shells. Turtle shells and souvenirs made from black coral and oyster shells were also being exported and countries like Australia, Japan and New Zealand require letters from the Ministry certifying that such products have been harvested following the CITES (Centre for International Trade in Endangered Species) requirements.

(a) Dried Shark Fins

Sesilia Trading and Emerald Marine Products Ltd exported about **6762kg** of dried shark fins in **2003** valued at **\$540960.00** dollars, compared to **6838 kg** in **2002** and **4327.9 kg** in **2001**.

(b) Lobster

The Ministry does not encourage commercial export of this product as the stock is considered to be overexploited.

(c) Snapper & Grouper Fisheries

'Alatini Fisheries and Maritime Projects exported 156.19mt of snappers and groupers (cc.174.71mt in 2002) valued at fob \$1030854.00. Both years were based on \$T3.00 per pound fob value although the true returns to the kingdom are greater. Individual boat owners were catching snappers and selling their catch to the exporting companies.

(d) Tuna Fishery

About 573mt of fresh tuna were exported in 2003, valued at \$3,781,800.00. In year 2002, about 730.13 metric tonnes were valued at \$4,818,858.00. The FOB value for tuna in 2000-2003 remained at T\$3.00 per pound. Exporters included Sea Star Fishing, 'Alatini Fisheries, South Seas Fishing and Sea Star Fishing Company. Friendly Island Fishing ceased operation on the year 2003 due to administrative and financial problems. The tuna operators continued to benefit from duty free fuel. Some fishing vessels spent more time in port due to mechanical problems and poor catch.

(e) Aquarium Fishery

Five companies collected and exported live tropical aquarium fish, aquarium rocks (live rocks), live (hard) & soft coral, invertebrates and cultured giant clams. Aquarium exporters include Walt Smith International, Dateline Aquarium Fish Export, Vanisi International, Coral Kingdom and South Pacific Paradise.

A mean FOB value of T\$13.80 per kg was used to calculate the value of fish exported. For invertebrates, soft corals, cultured clams, aquarium rocks (slap, solid and branch rocks) a mean FOB value of T\$3.50 is used. For live (hard) corals, the FOB value depends on the species that was harvested. Since most of the live coral exports were small and medium pieces, the mean FOB value used was \$6.00 pa'anga per piece. Each company was restricted to harvest not more than 100,000 fish and 100 tons of aquarium rock per year. The total export from the five registered aquarium companies are summarised in Table 13.3 below.

Table 13.3: Quantity and Value of Aquarium Products Exported in 2003

Species	Total Weight (kg)	Total Pieces	FOB value	Total Value (T\$)
Live (hard) corals		46,622	6.00	279,732
Soft corals		44,699	3.50	156,446.5
Live tropical fish		57,646	13.80	795,514.8
Cultural giant clams		4,951	3.00	14,853.0
Aquarium rocks	397,597.3		3.00	1,192,791.9
Invertebrate		18,7362		655,767.0
Total	397,597.3	341,280		3,213,148.11

The value of aquarium exports for 2003 increased by 18% from the 2002 value of T\$2,725,650.20, and the 2001 value of T\$1,514,910.00. The live coral harvest continued throughout the year under CITES procedures and requirements.

(f) Seaweed

The seaweed industry exported 223,009kg in 2003 valued at T\$78,053.15 based on a FOB value of T\$0.40 per kilogram as compared to T\$10,004.40 in 2002; an increase by 57%. Seaweed exported were from the Tangle Nano company only. A summary of the estimated total value of all marine products exported in 2003 is provided in Table 13.4.

Table 13.4: Summary of the Marine Products Export (by species) in 2003

Fisheries Exported	FOB Value in 2001	FOB Value In 2002	% Change	FOB Value In 2003	% Change	Unit Price
Dried Shark fin	346,232	547,040	60	540,960	1	\$80/kg
Tuna	7,935,840	4,818,858	65	3,781,800	27	\$3/lb
Frozen locally	1,466,402	3,147,870	115	1,713,360		\$3/lb
Cannery	1,463,880	2,223,210	52	3,346,200	50.5	\$3/lb
Snapper & Grouper	1228920	1,153,086	7	1,030834	11	\$3/lb
Lobster			2,172			\$16/kg
Aquarium	1,514,910	2,751,477	82	3,213,148. 11	17	
Seaweed	42,672	10004.40	326	78053.15	680	\$0.35kg
Total	13,998,856	14,651,545	5	13,704,355.46	7	

As can be seen from the above table, the total revenue collected from the exports of marine products during 2003 was estimated to be over T\$13 million, compared to 15 million in 2002 which was a decrease of 7% from the total value of exports for 2002. In 2003 the tuna export industry was affected by poor catch as a result most of the vessels remained in ports for the most part of the year.

(ii) Fish fences

After consultation with license holders in 2002 the consultation included mesh sizes, seasonal closure, distance from one fence to another, and total closure of fish fence located on the mullet breeding grounds and route. In terms of the current licensing practice for fish fences, a license is valid for a period of 12 months. In 2003, sixty six (66) fish fences were licensed compared to fifty nine (59) in 2002, although some license holders have yet to erect fish fences in the selected licensed sites.

The Hon. Minister of Fisheries has approved a code of practice for managing fish fences particularly the resolution of disputes that may arise during that licensing period.

(iii) Enforcement and Prosecution

Pursuant to the Fisheries Management Act, fisheries inspectors were appointed to monitor compliance with approved/stipulated fishing practices. The officers inspected landing sites, at least twice every week, to check for undersized lobsters and giant clams, as well as turtle fishing during the closed season of August through to February. In year 2003 one fisherman received a fine of 400 pa'anga for catching small size lobsters.

(iv) Tuna Management and Development

Currently, Tonga has no access agreements with distant water fishing nations (DWFN) with the exception of the Multilateral Treaty of Fisheries with the United States, which allows US purse seiners to fish within Tongan waters. However, there has been very little US purse seine fishing operation in Tongan waters, due to the low productivity of our zone as compared to the equatorial belt.

(v) Vessel Monitoring System (VMS)

The Forum Fisheries Agency Vessel Monitoring System (FFA VMS) network is hosted at the Ministry of Fisheries which is a system that tracks electronically the location of foreign fishing vessels allowed to fish in the region. Recently an accelerated growth in the number of fishing vessels (both domestic and locally based foreign fishing vessels) operating in Tonga highlights the need to closely monitor their operations to ensure full compliance with fisheries regulations. To this end, Cabinet approved (CD 1809) in November 13th 2003 “that an ARGOS VMS system for commercial fishing vessels operating in designated fisheries be established in Tonga commencing January 2003”. In addition, Parliament passed the Fisheries Management Bill 2002 which provides an opportunity to review the existing Fisheries Regulation to ensure it stays relevant. These achievements have contributed immensely to moving forward compliance efforts.

(vi) Fishing Vessels Licensing and Registration

All fishing vessels of 6 metres in length and above must be registered with the Ministry of Fisheries. At the end of 2003, a total of 59 fishing vessels were registered and were issued licenses. Following the decision to open up Tonga's waters to locally-based foreign fishing vessels, local fishing companies have utilised this opportunity to charter foreign fishing vessels to increase their fishing capacities. Fishing licenses were issued to locally based foreign fishing vessels on the condition that they were chartered either by Tongan nationals or by local fishing companies. The locally-based foreign fishing vessels are subject to certain terms and conditions

including the need to provide a weekly report on status of the locally based foreign fishing vessel, provide a catch report for each fishing trip using prescribed forms, the need to land all catch at specified ports and the prohibition of transshipments. A summary of registered fishing vessels, and their target fisheries, is provided in Table 13.5.

Table 13.5: Summary List of Local Fishing Vessels

Type of Fishing Vessel	Quantity	License Issued
Deep Sea Bottom Fishing	27	Nuku'alofa, Vava'u
Tuna Long Line	11	Nuku'alofa
Trap Fishing	2	Nuku'alofa
Locally Based Foreign Fishing Vessel	17	Nuku'alofa
Government Research and Training Vessel	2	Nuku'alofa
TOTAL	59	

(vii) Fuel Rebate Scheme

The Fuel Concession Committee met on a quarterly basis to consider the applications submitted by owners and operators of fishing vessels. Table 13.6 provides details of fuel quantity approved by the Fuel Concession Committee to be issued to qualified fishing vessels.

Table 13.6: Fuel Approved to be Issued Under the Fuel Concession Scheme, 2003

Type of Fishing	Diesel (l)	SAE 30 (l)	Hydraulic (l)	Refrig. (l)	Grease (Kgs)
Bottom Fishing 72 applications	328,151	2,563	0	0	80
Tuna Fishing 80 applications	2,578,152	12,660	2,880	220	160
Total 152 applications	2,906,303	15,223	2,880	220	240

**Table 13.7: Catch Data from Fishing Vessels Participating in the Fuel Concession Scheme
Year 2003**

Type of Fish	Landing (m/t)	Local Fish (m/t)	Export Fish (m/t)
Snappers	242.548	71.650	170.900
Tuna	1,215.755	352.566	863.189
Total	1,458.303	424.216	1,034.089

14. POST HARVEST AND QUALITY CONTROL

The Post Harvest and Quality Control section was responsible for quality control management to ensure compliance with international standards such as *Hazard Analysis & Critical Control Point (HACCP)*, therefore all marine exporting companies in Tonga are required to meet the certification requirements of HACCP standards. As such, most of the year's effort involved inspection of fish export packing facilities, certification and documentation, and the implementation of post harvest and processing activities.

The biggest challenge in regards to quality control and management was the need to develop a set of national quality standards for marine food products against which the quality of all imports and exports will be assessed. This is critical to Tonga in its effort to penetrate new markets with more stringent quality standard requirements.

15. COMMUNITY DEVELOPMENT

This Section is responsible for providing technical advice to fishermen on proper fishing practices, management issues and general fisheries development. Due to shortage of staff extension activities has been carried out by the same staff that was involved in resources management, monitoring control and surveillance and quality control.

16. 'EUA FISHERIES

The office in 'Eua was damaged by a tropical cyclone sometime ago and since then it has not yet been possible to open up a new office due to lack of funding. Fisheries development activities for 'Eua are being coordinated and monitored from the Ministry's head office at Sopa.

17. VAVA'U FISHERIES

The Vava'u office focused its effort on sustainable utilization of fisheries resources which involved community development which was largely constrained by limited qualified and experienced staff.

Table 17.1: Staff Posted at Neiafu in 2003

Name	Post
Mrs. Silika Ngahe	Technical Officer Grade II
Mr. 'Otenili Fisi'ikava	Technical Officer Grade II
Mr. Toma Kauvaka	Technical Officer Grade II
Mr. Vea Kava	Senior Fisheries Assistant
Mr. Koliniasi Hafoka	Fisheries Assistant
Mr. 'Aises Vailea	Fisheries Assistant
Mr. Sauaki Talasinga	Fisheries Trainee
Mr. Sese Malimali	Fisheries Trainee
Mr. Tekiteki Vailea	Fisheries Trainee
Mr. Mosese Moala	Fisheries Trainee
Mr. 'Ioane Finau	Fisheries Trainee
Mr. Tevita Tonga Valu	Fisheries Trainee

(i) Major assets at Vava'u Fisheries office

OIC. Office:	Clerk Office	Extension Room
1 computer	1 computer	1 table
1 printer	1 printer	1 chair
1 modem	2 x 4 plug	1 computer
1 x 6 face plug	1 cabinet	1 printer
1 photocopy machine	1 table	4 chairs
1 chair	Training Room	
1 table	1 telephone	5 tables
1 cabinet		5 stools
1 coffee table		1 white board
1 fax machine		1 white board
1 scanner		1 overhead projector
		1 TV set

Research & Aquaculture Room

1 screen

2 chairs

1 VHF Radio

1 SSB Radio

1 computer

1 printer

(ii) Staff Training & Development

Some of the staff had opportunities to attend at local and overseas training and workshop. Most of the fisheries trainings were conducted in Vava'u in 2003 were funded by the Peace Corps Office targeting youths from the Outer Islands. Senior Officers from the head office visited regularly during the course of the year to assess the status of fisheries projects and the operation of the office.

In May 29, 2003 the VDP3 under the EU furnished the Vava'u office with the following equipment:

1. 1 video set.
2. 1 white board.
3. 1 overhead projector with 1 screen.
4. 1 computer & hard disc.
5. 1 printer.
6. 1 scanner.

(iii) Aquaculture & Research

The aquaculture & research development function involved pearl oyster farming where emphasis was knowledge transfer and provision of technical advice for the Vava'u Pearl Farmers Association. The Ministry collected 287 young oysters although 84 of which were shortlived. The stock of pearl oyster are listed below.

140 Black lips (Medium size)

30 Black lips (small size)

87 Black lips (large size),ready for seedling.

46 Black pearls.

A survey of pearl farmers was carried out by Mr. Ferrari, the EU Programme manager, and the Vava'u OIC and it was found that only 5 farmers are still active. During the month of October and early November oyster traps were deployed which are expected to be harvested in April 2004.

(iv) Fish Aggregate Device (FAD)

The Tonga Fisheries Project deployed 8 FADs (funded by Vava'u Development Programme 3 and European Union (VDP3/EU)) and the locations of which are outlined below:

- NW Vava'u (3.2 Mi. 274 deg. From Houma Fakalele,
- W Vava'u (3.6 Mi. 288 deg. From Foelifuka),
- South Vava'u (3.2 Mi. 213deg. From Fatumanga),
- East Vava'u (2 Mi. East of Fonua 'Unga,
- Vava'u Vatukakau Bay and West Vava'u (Faihava – Port Refuge)

(v) Extension and Management

The Extension and Management sub-section continued to provide technical assistance for fishermen in fish handling for domestic and export markets. They also provided technical assistance regarding gear development, use of new technology and also fishing business management. In addition, information from fishermen are gathered regularly.

(vi) Public Awareness Program

The European Union under the Vava'u Development Project 3 had financed a radio program twice a month for the Vava'u Fisheries which aims at raising community awareness about fishing methods that has detrimental impact on coral reef and the marine environment.

(v) Local Fishing Vessel Licensing

In 2003, five local fishing vessels were licensed. However, a small number of privately owned fishing vessels were known to be engaged in illegal commercial fishing. The following table lists the local fishing vessels with licenses for bottom line fishing such as snappers.

The registration and licensing of fishing boats are renewed annually as authorized by the Officer in charge and such authority is restricted to fishing vessels between 6 to 10 meters in length. The delegation of licensing authority to the OIC improved the efficiency of the process.

Table 17.2: Licensed Fishing Vessels in Vava'u, 2003.

Name of Vessel	Owner	Registration No.	Licensed No.	Expiry Date
Leisina I	Mr. Pafilio Tangitau	LFV/036	BT018	08.07.04
Leisina II	Mr. Pafilio Tangitau	BT038NK	BT038NK	10.09.04
Maikolo H. Koli	Mr. Taniela Koli	LFV/07	BT04NK	01/03/05
Dora Malia	Mr. Paul Mead	LFV/03	BT03	30.07.04
Tavake	Mr. Ulaiasi Vaisima		BT043NK	24.06.04

(vi) Duty Free Diesel Fuel

Only three boats mentioned above were entitled for fuel concession. However, sometimes the boat owners were not able to utilize the full approved quantity of duty free diesel due to bad weather and faulty engines.

(vii) Game Fishing Boats

The game fishing vessels are licensed with the Ministry of Fisheries are listed below:

Table 17.3: Licensed Game Fishing Vessels at Vava'u.

Vessels	Owners	License No.	Expiry Date
Hakula	Jeff Le Strange	BTOSSNK	23.09.04
Kiwi Magic	Keith Olat Mickee	CSFV03V	14.10.04
Reel Addition	Steve Campbell	CSFV016V	3.12.04
Reel Devotion	“	CSFV015V	3.12.04

There was still a small number game fishing boats suspected of engaging in game fishing without any license from the Ministry.

(viii) Fish Fence

About 4 fish fence holders renewed their license in 2003 and five new fish fences were registered and are waiting for their fish fence wire. There has been a decline in the number of fish fence holders when compared with the previous year due to rising costs of materials.

(ix) Law Enforcement:

Pursuant to the Fisheries regulations, three officers were appointed as Fisheries Inspectors to ensure compliance with the Act. Enforcement has been a challenging role due to limited capacity and lack of appropriate tools. It is anticipated that the presence of the new fish market will reduce the pressure on enforcement.

(x) Engineering

This section was responsible for the repair and maintenance of the Ministry's boats, outboard engines, and vehicle. Assistance was also extended to private fishing vessels and where necessary, the engineering unit at the head office provided support.

The major issues for engineering included lack of training for the single staff in this section; unavailability of spare parts at local stores; and lack of appropriate tools and equipment, especially for outboard motors engine maintenance. The workshop needs refurbishment to allow for sufficient space.

(xi) Boats, Vehicles and Engines

Table 17.4 below lists the equipment engaged in the Ministry's operation at Neiafu.

Table 17.4: Equipment at Neiafu Fisheries.

Boats	Condition
1 x 22' fiberglass boat	Still in good condition
1 x 18' fiberglass boat	Still in good condition
1 x 8' fiberglass boat	Still in good condition
Vehicle	
Double cap van P39	Still in good condition
60HP Mariner	Still in good condition
40HP Yamaha	Still in good condition
5HP	Still in good condition

(xii) Boatyard

This section continued to maintain and repair the Ministry's staff living quarters and fishing boats as well as local fishing vessels. The major drawback to service delivery was the lack of electrical tools. With the commencement of the Waka Rehabilitation Project, the workload of the Boatyard increased significantly and new tools had to be made available immediately.

At the end of the year, repairs to two 28ft fishing vessel and 7 small new fishing vessels, and the repair of 17 fishing boat were completed. One 28 ft fishing vessel was not completed due to late arrival of the inboard engine and unavailable of the slipway. There were also 24 outboard engines (17 x 15HP & 7 x 25HP) that were distributed to the fishermen approved to be supported by the project.

(xiii) EU-funded Vava'u Regional Development Program

Under the Vava'u Regional Development Program funded by the European Community, the following fisheries development projects were implemented in 2003.

- i. New Local Fish Market
- ii. New fishermen wharf
- iii. New Boatyard building, dry dock facilities.
- iv. New Ice-block machine
- v. Outer Islands Smoke Houses.

(xiv) Major achievements of the year

The following provides a summary of the major activities that were accomplished as at December 2003.

- i. Deploying of eight FAD under the VDP3 project.
- ii. Deploying spat collectors for Black Lip Oyster.
- iii. Grafting of 200 pearl for private farmers.
- iv. Renovating of the Fisheries office funded by VDP3.
- v. Construction of five smoke houses for outer islands.
- vi. Construction of one fish drier used for fisheries training.
- vii. Construction of 7 x 18' new boats under the Waqa Project.
- viii. Repairing of 16 fishing boat (small scale) under the Waqa Project
- ix. Repairing of 4 x 28' bottom fishing boat under the Waqa Project
- x. Installing of 4 new Inboard engines for the four bottom fishing boats.
- xi. Distributing of 17 x 15HP for fishermen under the Waqa Project
- xii. Distributing of 7 x 25HP for fishermen under the Waqa Project.

18. HA'APAI FISHERIES

The Ha'apai office is responsible to implementing fisheries program in the region and eleven officers were involved in fisheries services, all of whom are listed in Table 18.1

Table 18.1: Staff stationed at Ha'apai, 2003.

Name	Post
Mr. Tevita Mafi 'Ahoafi	Technical Officer Grade 2, (Officer-in Charge, Ha'apai)
Mr. Tu'atalatau Tonga'onevai	Senior Fisheries Assistant, (Station Manager, Ha'afeva)
Mr. Fotu Tui'onetoa	Fisheries Trainee, (Station Manager, Nomuka)

Mrs. Sosefina Vili	Senior Fisheries Assistant
Mr. Tevita 'Atana	Senior Fisheries Assistant
Mr. Siosifa Fisi'ipeau	Fisheries Assistant
Mr. Talia'uli Napa'a	Fisheries Assistant
Mr. Sione Mailau	Fisheries Trainee
Mr. Moana Nau	Fisheries Trainee
Ms. 'Asela Lausi'i	Fisheries Trainee

One of major achievements of the year was the deployment of 2 shallow FADs at Nomuka of which were funded by AusAID-Tonga Fisheries Project. It is anticipated that more deep and shallow FADs will be deployed in Lulunga and Eastern Districts of Ha'apai in the future.

The sub-station at Nomuka continued to provide ice blocks for fishermen as well as providing other general extension work. The Ha'afeva sub-station service delivery was constrained by the break down of the ice making machine in February and the replacement of that ice machine is expected to be provided under the AusAID funded Tonga Fisheries Project in 2004.

(i) Aquaculture and Research

Two officers were assigned to promoting aquaculture development in Ha'apai by surveying and recording the growth rate of greensnails, trochus and pearl oysters.

(a) Greensnails and Trochus

The green snails at Uoleva and trochus and green snails in Matuku were monitored monthly by staff at Pangai and the Ha'afeva offices.

(b) Black-lip and Japanese Winged Oysters

The result of the survey conducted in 2003 showed that there was a decline in the brood stock line at the western reef (Hakau-tu'u-taha) facing Taufa'ahau Wharf at Pangai this decline was caused by delayed schedules attacks on the species other predators.

(ii) Extension and Law Enforcement

Extension staff continued to assist local fishermen in their needs for information, technical advice and demonstration of proper care and maintenance of fishing equipment. The same staff were also involved in law enforcement, monitoring, control and surveillance work. There were no prosecution cases in Ha'apai in 2003.

(iii) Fish fences

A total of 4 fish fence licenses were issued by the Ha'apai office in 2003. A decline from 12 fish fences in 2002 was evidenced due to high cost of materials, particularly the wires.

Table 18.2: Location of Fish Fences Licensed at the Ha'apai Office, 2003.

Location	Number
Faleloa	1
Ha'ano	2
Fakakai	1

(iv) Boatyard and Engineering

Due to lack of expertise in boatbuilding the Ministry has temporary discontinued this operation. However, the engineering section continued to provide needed service to the community, such as repair of outboard engines and boats, re-charge of batteries and welding of anchors for local fishing boats.

(v) Training

The New Zealand Government funded a training on maintenance of outboard engine for fishermen of Ha'apai in November, 2003 and staff and private engineers participated in the event.

(vi) Revenue Collected at Pangai in 2003

Table 18.3 shows revenue collected from fisheries services for 2003 except revenue from Nomuka which is paid directly to the head office.

Table 18.3: Revenue collection Ha'apai, 2003

Ice blocks	Boatyard & engineer	Haafeva	Others	TOTAL
19,894	488.39	944.00	189	21,515.39

(v) Major Assets at Ha'apai Fisheries

Table 18.4 below provides a summary of the major capital assets of the at the Ha'apai station.

Table 18.4: Capital Assets at Ha'apai, 2003.

Items	Quantity/Type	Condition	Remark
Staff Quarters	6	Good	Needs renovation
Ice Making Machine	3	1 recently refurbished 1 is very old and 1 is broken	Ha'afeva ice machine is broken. Pangai ice machine is very old & needs replacement.
Large Deep Freezer	2	Not Working	Need to be tendered
Vessels/Engines	2 Fiberglass 1 Inboard vessel (MV Vete) 1x40 hp Yamaha 1x15hp Mariner 1x25hp Yamaha	Good Good Good Old but still work Broken broken	Needs repair
Vehicles	1xP103 1XP935	Good Old but still working	Needs repair
Computer	2	Good	
Photocopier	1	Good	
Printer	1	Good	
Fax	1	Good	
SSB Radio	1	Good	

VHF Radio	1	Good	Need 1vhf radio for MV Vete
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(vi) Nomuka and Ha’afeva Sub-Stations

The ice machine in Nomuka operated with little difficulty. The problem of water shortage was resolved following the construction a new water tank. However, the staff living quarter in Nomuka is due for renovation.

The ice machine in Ha’afeva experienced problems since February, 2003. A replacement is expected to be provided under the AusAID funded Tonga Fisheries Project in 2004. In addition there was also a need to increase the water storage capacity to ensure the continued water supply for the ice making purpose.

19. NIUATOPUTAPU FISHERIES

The fisheries development activities in Niuatoputapu were managed by only one staff member and Officers from the head office regularly visited the island to assess the status of operation and to carry out general repair and servicing of machinery and equipment. Due to its remoteness and the transportation costs involved, it has not been easy to make regular visits to the island.

Fisheries in Niuatoputapu are not as developed as in the other islands; most fishing operations were for home consumption. There was an ice-making plant and cool storage room operated by the Ministry on the island which was powered by a diesel generator. The generator was quite old and was subject to frequent breakdowns.

To date, the Ministry has not been able to set up an office at Niuafu’ou due to funding constraints. There is plan however to set up a new office and staff quarter for the island of Niuafu’ou in the next financial year.