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## **STANDING COMMITTEE ON NATURAL RESOURCES**

### **Report of the Ministry of Fisheries 2016 & 2017 Annual Report**



**PARLIAMENT OF THE REPUBLIC OF FIJI**

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## Chairperson's Foreword

The Standing Committee on Natural Resources was referred with the Ministry of Fisheries 2016 and 2017 annual report by parliament to deliberate on and make its recommendations to parliament as way forward for the Ministry.

***The Standing Committee is established under section 109 (2) (c) of the Standing Orders (SO) of the Parliament of the Republic of Fiji.***

The Committee had strongly recommended in its report to parliament, for the Ministry of Fisheries to finalize its first ever version of the National Fisheries Policy 2018-2028, that will provide an overarching framework explaining how Fiji will manage its fisheries. The Committee noted that the policy has been submitted together with its Cabinet Paper and has been with Office of Solicitor-General.

In its deliberation, the Committee was impressed by the Ministry's achievements in essentially brining the fisheries markets to these localities to "avoid urban drift "by having two approaches which is;

- 1) Path to Market Initiatives
- 2) National Fisheries Service Centres.

The Ministry has developed a total of 32 service centres related programmes from the 2 above-mentioned approaches.

To contextualize this first approach, the Committee noted that the Ministry anchors its economic and social development initiatives for Fijians in the rural and maritime sectors. This approach is through the provision of ice production and cold storage facility for maritime and rural fisher folks, but also to close that cycle by facilitating trade between these fisher folks and buyers from the urban centres.

The second part to this approach is through Fisheries Service Centres. These are spread across the Fiji Group. Through these service centres, the Ministry provides licensing but in particular advisory support services, which allow the Ministry to promote and sustain Fisheries as a viable economic option for the nation.

The Committee wishes to echo the Ministry of Fisheries Vision and that is "to be the best Fisheries in the Pacific Region "and its Mission "is to sustain, manage and protect Fiji's Fisheries".

It was noted that the Ministry of Fisheries Vision and Mission is achieved through the management and compliance of its National Fisheries Legislations and associated Regulations

through the provisions of licensing, advisory and support services through the Fisheries Service Centres, Research and Marine Conservation activity and Fisheries Sector Development activity.

The Ministry work through five (5) functional Divisions along with the nationwide service centre network. The five (5) existing functional Divisions are listed below:

- 1) Inshore Fisheries Management Division 2) Offshore Fisheries Management Division 3) Aquaculture Division 4) Research and Marine Conservation Division 5) Fisheries Development Division.

Activities of the Fisheries Service Centre Network with 32 Service Centres and 28 Ice Plants were supported by Central, Eastern, Western and Northern Divisions.

The Committee met with the Ministry officials at its Headquarters in Suva and were briefed on the initiatives of the Ministry of Fisheries. The Committee also conducted its site visit and viewed that some of the areas of operations such as the Makogai Mariculture Station, the Naduruloulou

Fisheries station and the Galoa Research station in Galoa needed the support of the Ministry. This is in terms of providing for proper infrastructure such as construction of jetties, setting up of communication networks and transportation. Staffing and proper training developments to up skill the employee is important so that relevant skills and knowledge is maintained at all levels of the Ministry operations.

To promote SDG 5, the Ministry has two pronged approach to the achievement thereof these are not limited to the organization, therefore they are:

- 1) Organizational, within the Ministry;
- 2) Outwardly, in the Community with the programmes undertaken by the Ministry.

The Ministry also made efforts to have an inclusive and united society and involved the women, youths, elderly and the young of the communities in income-generating fisheries activities to benefit the disadvantaged people. These activities were carried out through the various aquaculture and coastal fisheries projects.

I wish to extend my appreciation to the Management and Staff of the Ministry of Fisheries for their dedicated work in protecting our ocean, revival of extinct species and giving awareness to public in fisheries sector.

I take this opportunity to also thank my committee members for compiling this bipartisan report.

  
.....  
Hon. Sanjay Kirpal, MP

**Chairperson,**

**Standing Committee on Natural Resources**

## Acronyms/Glossary

<b>ACIAR</b>	Australian Centre for International Agricultural Research
<b>CITES</b>	Convention on International Trade in Endangered Species
<b>EEZ</b>	Exclusive Economic Zone
<b>EIA</b>	Environment Impact Assessment
<b>FAO</b>	Food and Agriculture Organization
<b>FF</b>	Fisheries and Forestry
<b>FFA</b>	Foreign Fishing Agencies
<b>FRCS</b>	Fiji Revenue Customs Services
<b>GDP</b>	Gross Domestic Product
<b>GL</b>	General Ledger
<b>IDA</b>	Inside Demarcated Areas
<b>MoF</b>	Ministry of Fisheries
<b>MPA</b>	Marine Protected Areas
<b>NDF</b>	Non- Deliverable Forward
<b>NRS</b>	National and Regional brood stock hub
<b>OFCF</b>	Operating Free Cash Flow
<b>OMRS</b>	Open Merit Recruitment and Selection
<b>PSIP</b>	Public Sector investment Portfolio
<b>PSMA</b>	Port State Measures Agreement
<b>RDSSD</b>	Roadmap for Democracy and Sustainable Socio – Economic Development
<b>SDG</b>	Sustainable Development Goal
<b>SPC</b>	Secretariat of the Pacific Community
<b>WCPFC</b>	Western and Central Pacific Fisheries Commission
<b>Hapa</b>	A specialized net used to breed baby shrimps and tilapia
<b>Pond Dykes</b>	Part of a fish pond that keeps the necessary volume of water impounded to form the actual pond.
<b>Hermaphrodites</b>	Animals that releases both the sperms and eggs
<b>Tridacna gigas</b>	Scientific name for giant clams
<b>Commensals</b>	An animal, plant, fungus, etc. living with, on, or in another, without injury to either.
<b>Spat</b>	oyster larvae attach to a surface such as other oyster shells
<b>Vannamei prawns</b>	Tropical prawns that are farmed in areas near the equator, generally along the coast in artificial ponds. This farming is increasingly being certified as

	sustainable in accordance with the Global GAP, BAP or ASC standard. Under ideal conditions, the <b>prawns</b> can grow up to a length of 20 centimetres.
<b>ASC</b>	The Aquaculture Stewardship Council ( <b>ASC</b> ) is as an independent, not-for-profit organisation co-funded by the World Wildlife Fund (WWF)
<b>GLOBALG.A.P.</b>	Global Partnership for Good Agricultural Practice- is an internationally recognized standard for sustainable farm production.

## Recommendations

During the period of review, the Committee concurred and made the following recommendations as way forward for the Ministry of Fisheries:

1. The Ministry's National Fisheries Policy needs to be regulated immediately for the implementation of programs;
2. To facilitate the promulgation of the Aquaculture Bill 2016 [Bill 9 of 2016];
3. The Ministry to prioritize and place more emphasis on all existing fisheries' research centres;
4. The Ministry needs to review its manning structure to be able to carry out its overall function;
5. The need to centralize data collections in terms of survey, inventory on existing and new species;
6. Create more awareness and engagement with communities on the importance of the Marine Protected Areas and conservation of other marine resources;
7. The need for the Ministry of Environment to speed up its process in terms of assessing EIA on fisheries programs;
8. Upgrade the overall infrastructure of the Makogai Mariculture station including the jetty, transportation and communication that is convenient and accessible;
9. To disseminate information and decentralize the Ministry's services Fiji wide hence the need to increase the Ministry's annual budget allocation;
10. Importation of proper hatchery feeds such as live algae, artemia and larvae rearing feeds, harvesting and sampling materials from overseas countries such as Australia, Thailand and the United States of America. These feeds are not available locally.
11. Refurbishments of the aquaculture facilities such as infrastructure and pond repairs, high risk of flooding (NRS- National and Regional brood stock hub) and pond dykes needs to be raised;
12. Capacity building and specialized technical training for all staff based on commodities;
13. Offshore Fishing- continue to Promote Fiji brand in fish export;
14. Strengthening the establishment of bilateral agreements with Fiji's neighboring countries;
15. Inshore Fishing - Strengthening the establishment and registration of Fishing Associations.

## 1.0 Introduction

The Standing Committee on Natural Resources was referred with the Ministry of Fisheries 2016 and 2017 annual report by parliament during the February sitting held on Monday 11<sup>th</sup> February, 2019.

Pursuant to the Standing Orders of Parliament, 109 (2) (c), the Standing Committee on Natural Resource's mandate is to look into matters that relates to agriculture, forests, fisheries, land, minerals, environment, water and marine services.

As a result, the Committee had conducted its investigation and inquiry on the operations of the Ministry of Fisheries based from its 2016 and 2017 annual report.

The Committee then undertook a 3 days site visit to the Ministry of Fisheries HQ, the Makogai Mariculture station, Naduruloulou Research station and the Galoa Hatchery from 16<sup>th</sup> April – 18<sup>th</sup> April, 2019. On Friday, 12<sup>th</sup> April, the Committee visited the Fisheries Office in Walu Bay then proceeded to the Daunibota Fisheries in Lami to verify some of the fisheries operations. The Committee also visited the PAFCO in Levuka, as of the fishing agencies listed under the Ministry of Fisheries to validate its role and its link to the Ministry. PAFCO supports the Ministry as it sustains the socio-economic benefits for Levuka town, the 28 villagers and the islands of Lomaiviti.

The Committee's visit was for the Members to understand more on the operations of the Ministry of Fisheries and other fisheries agencies. This is in terms of gathering evidences and collate data that contribute immensely towards the final compilation of its report to parliament.

Whilst deliberating on the annual report, the Committee was aware that the Ministry endeavored to improve its research and development competencies to assist resilience of coastal – based villages and settlements to natural disasters through adaptation coastal strategies by restocking the reefs, re-establishing Makogai Mariculture Station and improving the enforcement to minimize illegal, unregistered and unregulated fishing and better manage their iQoliqoli or customary fishing grounds.

The contribution of the fisheries sector to the economy was 1.8% GDP during the financial year and the Ministry furthered its performance with the continued assistance from its development partners like FAO, FFA and SPC to draft its first ever National Fisheries Policy.

The Ministry also made efforts to have an inclusive and united society and involved the women, youths, elderly and the young of the communities in income-generating fisheries activities to benefit the disadvantaged people. These activities were carried out through the various aquaculture and coastal fisheries projects.

The Ministry's draft National Fisheries Policy had been developed and awaiting for vetting from Solicitor General's Office.



The Review and Development of Fisheries Legislations – the Aquaculture Bill 2016 [Bill No.9 of 2016] was presented on 13<sup>th</sup> April 2016 during the information session of Parliament.

Lastly the Review of the Tuna Management and Development Plan 2014 -2018 was completed in the 1st Quarter of 2016/2017 financial year.

## **1.1 Committee Remit and Composition**

The Members of the Standing Committee on Natural Resources are:

1. Hon. Sanjay Kirpal, Chairperson; Government MP;
2. Hon. Jale Sigarara, Deputy Chairperson, Assistant Minister for Agriculture, Rural & Maritime Development, Government MP;
3. Hon. Alexander O'Connor, Assistant Minister for Health; Government MP;
4. Hon. Mitieli Bulanauca, Member, Opposition MP;
5. Hon. Peceli Vosanibola, Member, Opposition MP;
6. Hon. Jese Saukuru, Member, Opposition MP (alternate Opposition MP);
7. Hon. Veena Bhatnagar, Member, Government MP (alternate Government MP).

## **1.2 Procedure and Program**

The Committee conducted its meeting on 09<sup>th</sup> April, 2019 to discuss its activities to undertake in regards to the Ministry of Fisheries 2016 and 2017 annual report scrutiny. Firstly, the Committee started its inquiry into the report on Wednesday 10<sup>th</sup> April, 2019 and heard submissions from the Ministry of Fisheries senior officials based on the set of questions prepared by the Committee.

Copies of written and oral submissions were received from the Ministry of Fisheries officials.  
**Refer to Annexures 1-2 - Oral and written submissions**

The Committee then undertook a 3 days site visit to the Ministry of Fisheries HQ, the Makogai Mariculture, Naduruloulou Research and the Galoa Research station from 16<sup>th</sup> April – 18<sup>th</sup> April, 2019. The reason of the site visit was to provide the Committee Members with a clear understanding on the operations of the Ministry and to be able to gather evidences and collate data that would contribute immensely towards the final compilation of its report to Parliament.

During the visit to the Ministry's headquarter in Toorak, the Permanent Secretary, Deputy Secretary Operations and the Director Fisheries briefed the Committee on the current and the overall operations of the Ministry.

## **1.3 Evidences and Advice Received**

The Committee travelled to the Makogai Mariculture Station and the Naduruloulou Fisheries stations on 16<sup>th</sup> to 18<sup>th</sup> April, 2019 and heard from the following Officers;

- 1) Principal Fisheries Officer, Ms. Saras Sharma – Makogai Research Station

- 2) Senior Research Officer, Mr. Jone Varawa, Naduruduruloulou Fisheries Station

### 1.3.1 Makogai Mariculture Research Station

The location of the Bay makes it very ideal for Research and Mariculture to take place because it is protected from heavy wind swells which makes it ideal to place ocean nursery. In Makogai Mariculture Research Station, after the devastation of tropical cyclone *Winston*, the station focused on rehabilitation for the last two years and it is now operational. Makogai is one of the eight islands in the Lomaiviti Group which is State owned and the *iqoliqoli* waters are under the jurisdiction of the *Vanua of Levuka*.

The establishment of the Giant Clam Hatchery took place in the 1980s. This was after an extensive survey was undertaken and it was found that most of the species were in an extremely endangered state. The *Tridacna gigas* (*T.gigas*), one of the fastest growing species, was literally extinct; there were no more of this species found. This was due to the Taiwanese illegal poaching of giant clams in the South Pacific as well as a target by Asians. So this species was then reintroduced in 1982, and in 1986, juveniles was also imported from James Cook University to start up an actual culture hatchery.

### 1.3.2 Advantages, Productivity and Challenges of Projects in Makogai

In the context of a free diver and the giant clam, the maximum it can go to is 1.5 metres. This is the largest growing species, which is *Tridacna gigas*. Giant clams are hermaphrodites so one animal releases both the sperms and eggs and it then collected in jars. Clams are kept in different raceways, and as soon as the larva starts to set, then they are placed on slabs when they are big enough.

There are eight of the giant clam species found in Fiji: *Vasuamatau*, *Vasuadina*, *Cega*, *Katavatu*, *Teveoroa*, *Teke-ni-ose* and the two that do not have local names are the two that are targeted by the Aquarium Industry. So they do not grow bigger than 6 centimetres and this is why it makes them very ideal for the Aquarium Industry. The Ministry have two companies that are interested in exporting it however, because of the CITES requirement and the process by the Department of Environment, the Ministry are still awaiting on that process.

In terms of the importance of giant clams, the following are ecosystem benefits:

- Acting as shelters for coral reef fish;
- Food for predators and scavengers;
- Productivity and biomass; and they are
- Hosts for commensals.

In terms of economic and social benefit, it is a source of food security, and the Ministry have projects

through eco-tourism development where giant clams have been used as an attraction to advertise for tourism opportunities.

### 1.3.3 Naduruloulou Fisheries Station

For aquaculture activities, the main hub is Naduruloulou and the Ministry wants to disseminate the freshwater activities to Dreketi in Vanua Levu, Ba and Caboni in the Western Division. At the moment, the Ministry have about 450 farmers, both covering tilapia and freshwater prawn farming and only 19 staff looking after all the freshwater activities. The

Ministry have requested for additional staff and additional budget to undertake such activities. The Ministry aims is to produce tilapia production to 200 metric tonnes annually and for prawns around 12 to 15 metric tonnes and this is all based from the annual target of 1.5 million tilapia fries (baby tilapia) and around 750,000 prawn post larvae.

Aquaculture is one of the mitigating factors for adaptation to climate change. For example, in areas where there is a very limited water, tilapia is a very hardy fish which can survive in those hard areas.

### 1.3.4 Advantages of the establishment of Aquaculture Program

- It has been identified by Government as one of the key sectors for further development;
- Very important in terms of export earnings (E.g. pearl and seaweed farming)
- Food security, especially for our rural Communities.

In terms of food security and adaptation to climate change, the Ministry of Fisheries working very closely with the Ministry of Health in identifying specific areas where there is nutrition deficiency. The Ministry target to establish and encourage awareness on the importance of tilapia farming as a food security.

## 1.4 Galoa Fisheries Station, Galoa

Galoa Station is one of the engine rooms for the Ministry's aquaculture activities in Fiji and a hub for shrimp. The station mainly focuses and responsible on seed supply and research for farm development activities. At the moment, approximately four commercial farmers and 16 semi or subsistence farmers for shrimp, but this is one of the areas in which the Ministry really need to develop as soon as possible considering the amount of importation undertaken.

With the two species in hand, the native species which is *monodon* (Local Name: *bale*) and the introduced species which is *vannamei*, the Ministry's technicians and industries are working very closely to revive some of the dormant farmers and encourage areas that are being intruded with seawater to be developed for shrimp farming.

At the moment, it is about \$25 million worth of shrimp imported to Fiji and the Aquaculture Division is keeping an eye close on that. The Ministry is working very seriously with the associated industries and farmers to reduce by 1 million on a yearly basis.

## 2.0 Committee Deliberation and Analysis

### 2.1 Committee Findings

The Committee during its period of review, noted that the Ministry has five (5) functional divisions along with its nationwide service centre network.

The functional divisions highlighted were:

- Inshore Fisheries Management Division
- Offshore Fisheries Management Division
- Aquaculture Division
- Research and Marine Conservation Division
- Fisheries Development Division.

It was highlighted that the Ministry of Fisheries Service Centres Network had four (4) Regional Support Offices to support activities in the Central, Eastern, Western and Northern Divisions. Throughout the Fiji Group, the Ministry has 32 Service Centres and 28 Ice Plants. Through its fisheries service centres across the Fiji group, the Ministry provides licensing and advisory support services to promote and sustain fisheries as a viable economic platform.

One of the highlights of the Ministry of Fisheries was the Offshore Fisheries Management. The Committee was informed by the Ministry officials that Offshore fisheries refers to any fishery that occurs from outside the baseline i.e. (12 nautical miles) towards the EEZ boundary and beyond whereas any fishery inside the baseline is inshore fishing. Offshore fishing within Fiji generally applies to commercial scale fisheries involving vessels of 10 meters in length or greater, mainly targeting Tuna, deep-water snapper and associated species.

In terms of the Ministry's response to the SDG 14 "Life Below Water" the Ministry has a lot of work to do. It is a moving target and it is something that the Ministry needed to report back annually. The Coastal Fisheries Management Division is one of those actions or an achievement of the Ministry and the seasonal ban on *Kawakawa*, *Donu*, which helps the Ministry to achieve the SDG 14.

The Committee noted that the Ministry of Fisheries have plans to further improve the 1.8 percent GDP contribution of the Fisheries sector to the economy.

The Ministry's Offshore Fisheries Management have plans to improve its services to be the best fisheries in the Pacific region:

- Certification of the fishery to world renowned eco-labels
- Promote the "Fiji" brand in fish exports.
- Accession and implementation of the Port State Measures Agreement (PSMA)
- Adoption of zone based measures including the control and capping of effort.
- Stringent monitoring, control, surveillance and enforcement regimes.
- Electronic monitoring of fishing vessels
- Electronic reporting tools used by fishing masters
- Biological sampling, tagging and other research programmes
- Mandatory use of the FFA, Vessel Monitoring System
- Inter-agency cooperation with regards to Offshore fishing

The Committee through its site visit observation, highlighted the following for the Ministry to address;

<b>Division</b>	<b>Committee's observation</b>
Headquarters	Offices for Fisheries and Forestry to be clearly separated.
Walu Bay	Temporary office space – will move to Draunibota once building construction is completed.
Draunibota	New Fisheries Building needed to be constructed as early as possible to cater for the Ministry office needs.
Fiji Fish	Needed proper Diplomatic Dialogue and agreement to control the Tuna Fishing at Fiji's Economic Zone boundaries (EEZ)
Nakasi	A good example of a multi-product tilapia farmer diversifying to root crops, vegetables, legumes, honey, chickens, etc. Such farmers needed to be assisted through net-working data, the need and demand for information from the fishing agencies through Ministry of Fisheries.
PAFCO	This needed to be supported as it sustains socio-economy benefits for Levuka Town, 28 villagers, and the islands of Lomaiviti.

Fiji's Fisheries Legislation does not currently define inshore fishing. Internationally, coastal or inshore fisheries - most often artisanal or smaller scale in nature. For the Aquaculture Division, the Ministry focuses on two major commodities and these are shrimps and prawns. For future Aquaculture Development, the Ministry is looking into areas like Koroivatu in Macuata to develop into aquaculture farms.

Other areas prone to sea water infiltration like Tailevu and the Western Division are to be developed into Aquaculture farms whilst Makogai to focus on marine fin fish like Kawakawa and Donu on trial cage farming.

Part of the Ministry's plan is to ensure that all primary production data which will illustrate the contribution of the fisheries sector to the economy is properly captured, recorded and verified.

The Committee noted from the submission made by the Ministry of Fisheries that the Ministry's final draft updated version of the National Fisheries Policy 2018-2028 had been developed and together with its Cabinet Paper had been submitted to the Solicitor-General's Office in November, 2017. The Ministry awaits the legal vetting from Solicitor General's office for the policy to be executed by those involved in the fisheries industry.

The Committee highlighted the Ministry's response to the Auditor General's Report. The errors made and the omissions that arose from the audit after two follow-ups; the Ministry took note of the issue raised and acknowledged that it was an oversight that could have been avoided.

The Ministry further stated that enquiries from the Office of the Auditor-General were around the same period when the Ministry of Fisheries Accounts team was engaged in the separation of the Ministry of Fisheries and the Forestry Department. The registration of FNPF and the FRCS compliance issues, recruitment of Accounts staff under the OMRS, the opening of new GL allocations, and the setting up of a payroll for the Ministry of Fisheries were necessary so that normal operations were not affected.

### **2.1.1 Office of the Auditor General (OAG) Audit Opinion**

The Committee was made aware that the Auditor has audited the financial statements of the Ministry of Fisheries and Forests which comprised of the Statement of Receipts and Expenditure, Appropriation Statement, Statement of Losses, TMA Manufacturing Account, TMA Trading

Account, TMA Profit and Loss Statement, TMA Balance Sheet, Trust Account Statement of Receipts and Payments for the year ended 31<sup>st</sup> July 2017, and notes to and forming part of the financial statements, including a summary of significant accounting policies.

In the Auditor's opinion, except for the effects on the matters described in the Basis of Qualified Opinion paragraph, the accompanying financial statements are prepared, in all material respects, in accordance with the Financial Management Act 2004 and Finance Instructions 2010 and Finance (Amendment) Instructions 2016.

### **2.1.2 Trust Fund Account**

2.1.2.1 The Ministry did not maintain a detailed listing of the beneficiaries of the Trust Accounts. Consequently, Auditor was not able to substantiate the completeness of the closing balances of \$190,095 reflected in the Statement of Receipts and Payments for the Trust Fund Account.

### **2.1.3 Challenges faced by the Ministry of Fisheries in 2016 & 2017**

The two key challenges faced by the Ministry can be demarcated in to two (2) distinct areas. This was highlighted by the Ministry of Fisheries during its submission to the Committee in Parliament:

#### **2.1.3.1 Organizational Challenges;**

- The Ministry of Fisheries is a new organization and it needed to lay effective strategic platform for the organization.
- Human Capital – There is a need for the Ministry to reinforce its executive bench strength to drive change and innovation to increase service delivery which is currently in process.
- Service delivery – The Ministry had commenced on the opportunity to implement continuous improvements in its governance structures across the organization.

#### **2.1.3.2 Environment or the Ecosystem in which the Ministry operates.**

The challenges are;

- Food Security – It is an issue that the Ministry is tackling on behalf of the Fiji Government and the Fijian people. Mitigation is really focusing on aquaculture.
- Climate Change - It is an issue for the Ministry to mitigate and to focus on aquaculture, coastal fisheries management that is sustainable and protects resources and work towards a new fisheries development. This will improve on the Ministry's work on research, science and development.
- Regulatory Environment - The opportunity to review some of the Ministry's legislation as it pertains to fisheries.
- Economic Development – It is something that the Ministry is focused through their work on aquaculture, coastal fisheries, and in particular the Ministry's
- Development programmes and research.

### 3.0 Gender Analysis

The Gender Survey Report for the first time, covers a solid evidence that women play major roles in the development of aquaculture in Fiji. The Report confirmed the growth in women participation in aquaculture and can only be fully realized if the roles of women are identified, formalised and supported through development of appropriate gender-sensitising policies in aquaculture training and in financing.

Women participation in fisheries has been a success.

The Ministry of Fisheries promotes Gender Equality and Women in Fisheries Development for the 4 Divisions;

Tacilevu Women's Group	Spat
Diseini Lewaca	Freshwater aquaculture

Western Division	Fisheries programs/projects
Namarai Women's Group	8 women involved in value adding of Melamela shells for jewelry
Rakiraki	7 license fisherwomen
Tavua	5 licensed fisherwomen (Crab fishers/BDM)
Ba	32 women licensed fisherwomen and 2 women appointed as fish warden during Votua fish warden training
Sigatoka	9 Women issued with inshore license - for fresh water mussels

#### 3.1 Central Division

- Inshore Fishing License issued to women

#### 3.2 Eastern Division

- Inventory of women activities in fisheries
- Number of women with IDA license – 12
- Women group at Vunisea engaged in fish parcel sale at Vunisea Fisheries Station
- Aquaculture training at Natokalau Hall with 10 women participate.
- Sustainable Fisheries Management Cicia SFM training at Natokalau Village, Cicia with 6 women participated



## 4.0 Conclusion

The Ministry endeavored to improve its research and development competencies to assist resilience of coastal-based villages and settlements to natural disasters through adaption strategies by restocking the reefs, re-establishing Makogai Fisheries Station and improving the enforcement to minimize illegal, unregistered and unregulated fishing and better manage their *iQoliqoli's* or customary fishing grounds.

The contribution of the fisheries sector to the economy was 1.8% during the financial year and the Ministry furthered its performance with the continued assistance from its development partners like FAO, FFA and SPC to draft its first ever National Fisheries Policy.

The Ministry also made efforts to have an inclusive and united society and involved the women, youths, elderly and the young of the communities in income-generating fisheries activities and benefit the people. These activities were carried out through the various aquaculture and coastal fisheries projects.

The Ministry of Fisheries is currently renovating the office block at Draunibota in Lami, to accommodate the Offshore Fisheries Management, Inshore Fisheries Management and the Research and Marine Conservation.

The timing of the Post Disaster Needs Assessment did not allow the collection of new data to quantify the impact of Cyclone Winston on fisheries-dependent communities. Without this data, it was difficult to quantify the degree and extent to which different coastal villages, districts and provinces were impacted, and therefore the strategies needed to support communities in their recovery process.

On the request of the Department of Fisheries, the Wildlife Conservation Society developed a post-disaster socio economic questionnaire with inputs from Fiji-based partners, to assess the impact of Cyclone Winston on fisheries dependent communities in Fiji to inform national recovery and rehabilitation efforts.

Specifically, the assessment aimed to:

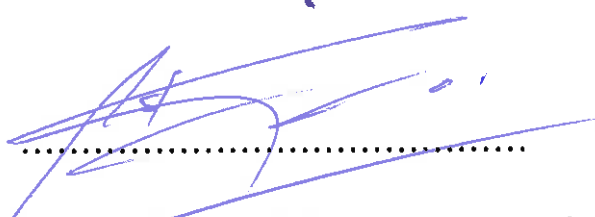
- estimate the impacts of *Tropical Cyclone Winston* on fishing infrastructure (e.g. boats, engines and gear) and provide a monetary estimate to government of damages and losses;
- assess the communities' dependence on local fisheries to determine the impact on food security and livelihoods; and

- provide a transparent system for ranking impact to local Communities to help guide the recovery and rehabilitation efforts of government and development agencies.

Overall, the performance of the Ministry of Fisheries in 2016 and 2017 was satisfactory even though the Ministry of Fisheries became independent as a standalone Ministry two (2) years ago.

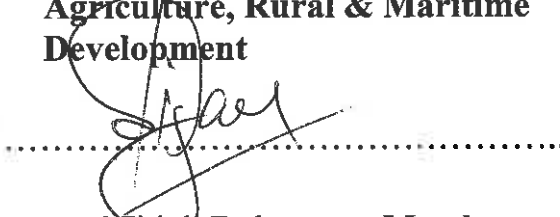
## Members Signature:

1. Hon. Sanjay Kirpal, **Chairperson**



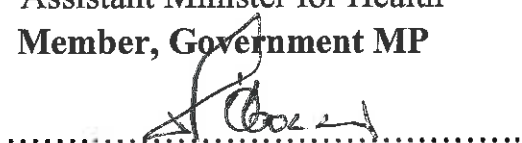
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2. Hon. Jale Sigarara, **Deputy Chair, Member, Assistant Minister for Agriculture, Rural & Maritime Development**



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3. Hon. Alexander O'Connor, **Assistant Minister for Health Member, Government MP**



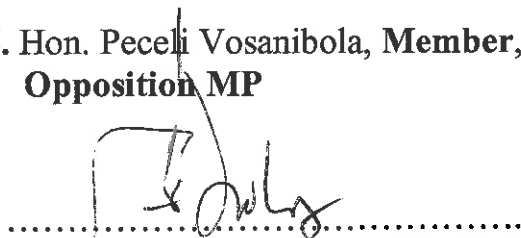
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4. Hon. Miteli Bulanauca, **Member Opposition MP**



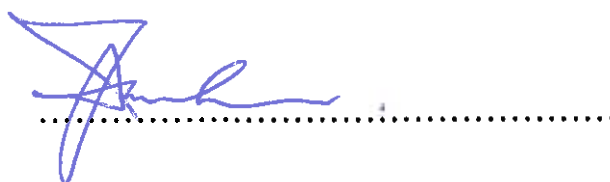
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5. Hon. Peceli Vosanibola, **Member, Opposition MP**



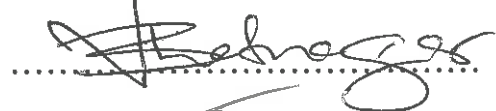
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6. Hon. Jese Saukuru, **Member Opposition MP (Alternate Member)**



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7. Hon. Veena Bhatnagar, **Member Government MP (Alternate Member)**



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## Appendices

- 1) VERBATIM
- 2) PRESENTATION SLIDES
- 3) RESPONSES TO MEMBERS QUESTIONS
- 4) SITE VISIT REPORT - PHOTOS

No	Date	Agency/Organisation	Written Evidence ✓	Oral Evidence ✓
1	10 <sup>th</sup> April, 2019	Ministry of Fisheries, HQ	✓	✓
2	25 <sup>th</sup> April, 2019	Principal Fisheries Officer, Makogai	✓	✓
3	25 <sup>th</sup> April, 2019	Senior Research Officer	✓	✓

## **ANNEXURE 1**

**1. Verbatim - Ministry of Fisheries, HQ submission – 10<sup>th</sup> April, 2019**

**2. Presentation Slides - Responses to Members questions**

<b>Name</b>	<b>Position</b>
Mr. Craig Strong	Permanent Secretary
Mrs. Atelaite Rokosuka	Deputy Secretary
Mr. Taniela Naulu	Manager Finance
Mr. Richard Veeran	Principal Fisheries Officer, Inshore

**STANDING COMMITTEE ON**  
**NATURAL RESOURCES**

*[Verbatim Report of Meeting]*

**HELD IN THE**

**COMMITTEE ROOM (EAST WING)**

**ON**

**WEDNESDAY, 10TH APRIL, 2019**

**VERBATIM NOTES OF THE MEETING OF THE STANDING COMMITTEE ON NATURAL RESOURCES HELD IN THE SMALL COMMITTEE ROOM (EAST WING), PARLIAMENT PRECINCTS, GOVERNMENT BUILDINGS, ON WEDNESDAY, 10TH APRIL, 2019 AT 2.14 P.M.**

**Interviewee/Submittee: Ministry of Fisheries**

In Attendance:

- |    |                        |   |                     |
|----|------------------------|---|---------------------|
| 1. | Mr. Craig Strong       | - | Permanent Secretary |
| 2. | Mrs. Atelaite Rokosuka | - | Deputy Secretary    |
| 3. | Mr. Taniela Naulu      | - | Manager, Finance    |

MR. CHAIRMAN.- Welcome back, Honourable Members, and the staff from the Ministry of Fisheries. We will now hear your submission and we will not interrupt to allow the constant flow of your submission. The floor will be open for questions after your submission, so now the floor is yours, Sir.

MR. C. STRONG.- Thank you, Mr. Chairman, and again, thank you, Honourable Members. There should be a hard copy of the submission in front of you which will help guide the discussion.

So, in response to the Standing Committee on Natural Resources' questions, on the 2016-2017 Annual Report:

**Q.1: What is the current progress of the National Fisheries Policy?**

The final draft updated version of the National Fisheries Policy 2018-2028, and the Cabinet Paper have been submitted to the Solicitor-General's Office in November, 2017.

**Q.2: As stated in the report, "one of the intervention areas was to bring the market to these localities to avoid urban drift". Has the Ministry managed to achieve this target?**

We have essentially two approaches or aspects to these for the Ministry:

- Path to Market Initiatives; and
- National Fisheries Service Centres.

We have 32 of these across the Fiji Group. But I just would like to contextualise this in the first instance and talk about how our Ministry anchors its economic and social development initiatives for Fijians in the rural and maritime sectors.

Our Vision for our Ministry is to be the best and have the best Fisheries in the Pacific region.

Our Mission is to sustain, manage and protect Fiji's Fisheries, and as a Ministry, we achieve this through the management and compliance of our national Fisheries legislation and associated regulations through the provision of licensing, advisory and support services through our Fisheries Service Centres, through our research and marine conservation activity and through our Fisheries sector development activity.

Our Work: we work through five functional Divisions along with our nationwide service centre network. Our functional Divisions are our:

- Inshore Fisheries Management Division;
- Offshore Fisheries Management Division;

- Aquaculture Division;
- Research and Marine Conservation Division; and our
- Fisheries Development Division.

Our Fisheries Service Centres Network: we have four Regional Support Offices to support activities in the Central, Eastern, Western and Northern Divisions. Throughout the Fiji Group, we have 32 Service Centres and 28 Ice Plants.

As mentioned, our approach is two-fold: our Path to Market Initiative is through the provision of ice production and cold storage facility for maritime and rural fisher folk, but also to close that cycle by facilitating trade between these fisher folk and buyers from the urban centre.

Part of the strategy of having storage or containment such as ice plants or the solar-powered freezers is to allow fishermen to contain and store for us to partner-up with the buyers from Suva to use our Fisheries vessels such as the *Bainitakali* to then collect those fish and meet those fishermen with buyers.

The second part of this approach is through our Fisheries Service Centres. These are spread across the Fiji Group. Through these Service Centres we provide licensing but in particular advisory support services, which allow us to promote and sustain Fisheries as a viable economic option.

**Q. 3: How does the Ministry promote Sustainable Development Goal No. 5 of Gender Equality in the workplace?**

In order to promote SDG 5, again the Ministry has a two-pronged approach to the achievement thereof. These are not only limited to our organisation, therefore they are:

1. Organisational, within our own Ministry;
2. Outwardly, in the community with the programmes that we undertake.

Firstly, in terms of our organisational work around SDG 5:

1. our commitment and compliance to the Open Merit Recruitment System (OMRS);
2. to conduct awareness programmes on gender equality in the workplace; and
3. the evidence of gender equality, particularly in our middle and senior management.

Of note, if we talk about the Permanent Secretary (that is myself); our Deputy Secretary, and Director, Fisheries, are both females. Therefore we have gender inequality perhaps at the top level of our organisation currently.

In terms of community, our collaboration with regional and multilateral organisations with development partners and non-government organisations in the implementation of gender inclusive specific programmes. The Ministry initiated gender inclusive programmes include, but are not limited to, fish farmer training and fishing equipment construction training. This is a nice flow on to Question No. 4.

**Q.4: What are some of the success stories for women groups and rural communities that the Ministry may have assisted through our training programs?**

We have assisted a total of nine (9) women's groups and individuals with farming materials and technical advisory support as a result of these programmes. These include:

- i) Northern Division - 4 women's groups;



- ii) Western Division - 1 women's group and 2 individual projects;
- iii) Central Division - 1 individual project; and
- iv) Eastern Division - 1 women's group.

In Annexure No. 1, you will find details on the above-mentioned projects.

**Q. 5: Can you elaborate on the MOU between the Ministry of Fisheries, Republic of Fiji and the Hainan Provincial People's Government of the People's Republic of China on Fisheries Development?**

The specific areas of cooperation between the two parties are outlined under Article 2 of the MOU as attached, and they include:

- 1) To develop, encourage, promote mutual cooperation and secure mutual benefit in the field of marine and fisheries, aquaculture, applied research and infrastructure development;
- 2) The Ministry of Fisheries will allocate a piece of State land on the Island of Makogai and support the Hainan Province for the purpose of research and marine aquaculture of giant clams, pearl oyster, sea cucumber, and high-valued fish and other commodities;
- 3) The areas of cooperation, development and exchange under the MOU shall include, but is not limited to, the following:
  - i) The promotion of sustainable aquaculture development through research, breeding and culture of giant clams, prawns, groupers and high-valued marine species of special interest and the development of commodities, cultures, through the development of storm-resistant net-cage culture in deep water;
  - ii) The development of aquatic hatcheries, research laboratories and other facilities as required;
  - iii) Exchange of expertise include, but not limited to, capacity-building and the training of local officers;
  - iv) Cooperation in the areas of fishery culture, fishing, processing, promotion and marketing;
  - v) The exchange and sharing of all research and technological development relating to the areas of cooperation between the parties and;
  - vi) The Promotion of Hainan Provincial People's Government's Scholarship in Fiji.
- 4) The guidelines for exploring, developing and implementation of the above areas of cooperation shall be embodied in separate subsidiary agreements in accordance with the provisions of the signed MOU.

**Q6: What is the status of pearl development through spat collection which was established within the 25 communities in the Central, Western, Northern and Eastern Divisions?**

Pearl development through spat collection continues to be one of the key capital projects for our Ministry. These farms have been assisted with farming materials and technical advisory support at the preliminary stages.

We have also assisted to monitor these projects for the purpose of data-gathering and for the purpose of measuring performance as a form of return on investment for the assistance rendered.

Again, I can refer you to Annexure 2 which provides detailed information on the status.

**Q.7: Can you inform the Committee about the Pearl Project MOU with the University of the Sunshine Coast/ACIAR?**

The Pearl Project MOU with the University of the Sunshine Coast/ACIAR was signed on 4<sup>th</sup> September, 2017. The Project entails the planning, purchase, transportation, distribution and deployment of new research infrastructure recovery, post-*TC Winston* at specific pearl farms and spat collecting communities in Fiji.

**Q. 8: The Committee noted misreport and no standardisation on the reporting system as a whole. Can the Ministry provide reasons why it does not follow the sequence of Targeted Outcomes as outlined in the Table on Page 6?**

The Ministry is currently undertaking a drastic system improvement strategy on the development and production of our Annual Report, and you will see improvement.

**Q.9: Why does the Ministry only emphasize on seven (7) targeted outcomes while it previously stated that it is aligned to eight (8) targeted outcomes on Page 6?**

To Note: The Annual Corporate Plan for August 2016 to July 2017 Fiscal Year was for the combined Ministry of Fisheries and Forests. The corresponding Outcome Report is on the activities of the newly-created Ministry, therefore the missing targeted outcome is a Forestry one.

**Q.10: Can the Ministry provide all the long forms of the acronyms provided in the Report?**

If you can refer to Annex No. 3, you will have the list of our acronyms.

**Q.11: Can the Ministry enlighten the Committee on the difference between “inshore fishing” and “offshore fishing”?**

“Offshore fisheries” refer to any fishery that occurs from outside the baseline of 12 nautical miles. Any fishery inside the baseline is deemed “inshore” or “coastal fisheries”. Within Fiji, “offshore” generally applies to industrial scale fisheries involving vessels 10 meters in length or greater, and these vessels are largely targeting Tuna, deep-water Snapper and associated species.

Fiji Fisheries legislation does not currently define “inshore” and/or “inshore fishing”. Internationally, “coastal” or “inshore fisheries” most often artisanal or smaller scale in nature.

**Q.12: What plans does the Ministry have in place to further improve the contribution of the fisheries sector to Fiji’s economy?**

In line with our Vision to have the best fisheries in the Pacific region, some of our plans we highlight are:

**1) Offshore Fisheries Division:**

- Certification of the fishery to the world-renowned eco-labels;
- Promote Fiji brand in fish exports;

- Accession and implementation of the Port State Measures Agreement (PSMA);
- Adoption of zone-based measures, including the control and capping of effort;
- Stringent monitoring, control, surveillance and enforcement regimes;
- Electronic monitoring of fishing vessels;
- Electronic reporting tools used by fishing masters;
- Biological sampling, tagging and other research programmes;
- Mandatory use of the FFA Vessel Monitoring System; and
- Inter-agency cooperation.

2) **Inshore Coastal Fisheries:**

- Strengthening the establishment and registration of Fishing Associations;
- The strategic placement of Fish Aggregation Devices (FADs) so as to alleviate pressure on our inshore fisheries system and the overfishing carried out in certain coastal areas;
- To encourage cage farming by new investors;
- To create new fishing schemes such as small scale long line fishing and the vessels such as the 'Bai ni Takali' and taking to the market the rural maritime islands.

3) **Aquaculture Division:**

- To focus on two major commodities – Shrimp and prawns;
- To look at development areas like Koroivatu and Vanua Levu; and looking at developing those into aquaculture farming areas;
- Other areas where sea water infiltration is prevalence such as in Tailevu and the Western Division and also to those in Aquaculture farm development areas; and
- At Makogai – to focus our research on marine finfish, that is Kawakawa and Donu and to trial Cage Farming;

- 4) Part of our plan is to ensure that all primary production data which will illustrate the contribution of the fisheries sector to the economy is properly captured, recorded and verified.

**Q.13: Can you advise on the review of the Tuna Management and Development Plan 2014-2018? What does this Plan encompass; and what was the outcome of the review?**

To note is that the review was undertaken in 2018.

The plan will entail policies on the following:

- The number of licences;
- The total allowable catch;
- The area closures;
- Decisions on licence holders;
- Licensing tenure; and
- Effort control limits.

The outcome of the Review: Two of the main outcomes are:

- That the plan will entail guiding principles with an M & E process and mid-term review; and

- That the plan will also allow for newly-designed fisheries to be included as annexures should they come up during the period of the plan.

**Q.14: Can you enlighten the Committee regarding the trial on night fishing in the Central and Western Divisions?**

The objective of this was to introduce an alternative fishing method, to draw fishermen away from targeting vulnerable slow recovery, demersal reef species to target a more robust inshore pelagic species.

The fishing method was also seen as a possible method to use after a cyclone when reefs may be disturbed or impacted. Training was delivered by SPC in June, 2017 and was trialled. The trial concludes that it was unsuccessful as fishermen needed more time and practice to accustom themselves to such new fishing methods, as they were more predominantly divers and handline fishers. We have not since then continued with further trials.

**Q.15: What does the Ministry have as alternative livelihood programme to those affected by bans?**

- The seaweed project development (this is a very good source of income);
- Spat farms for youth and women; and
- Freshwater and aquaculture.

I will, at this stage say (it is not written) that the Ministry has and must draw a line in the sand when it comes to protecting the resources of our coastal fishery systems. We will continue with bans as we work through their replenishment but also balancing off providing economic development opportunities for the people of Fiji.

**Q.16: The Annual Report states that there was a wrap-up meeting for the SPC Gender Aquaculture Survey and Aqua Team Fisheries in Suva before the publication of the Gender Survey Report. Can you update the Committee on the Gender Survey Report and what does the Report cover?**

The Report covers, for the first time, solid evidence that women play major roles in the development of aquaculture in Fiji. The Report confirmed the growth and aquaculture can only be fully realised if the roles of women are identified, formalised and supported through development of appropriate gender-sensitising policies in aquaculture training and in financing.

**Q.17: The Committee would like to know why the Ministry did not respond to the Auditor-General in enquiring the errors and the omissions that arose from the audit after two follow-ups?**

The Ministry notes the issue raised and acknowledges that this was an oversight that could have been avoided. Enquiries from the Office of the Auditor-General were around the same period when our Accounts team was engaged in the separation of the Ministry of Fisheries and the Forestry Department, the registration of FNPF and the FRCS compliance issues, recruitment of Accounts staff, the OMRS, the opening of new GL allocations, and the setting up of a payroll for the Ministry of Fisheries so that normal operations are not affected.

Again I reassure the Honourable Members of the Committee that this is a one-off, that this was due entirely to the separation of the divisions, we note and accept that oversight on the part of the Ministry.

**Q.18: According to the Office of the Auditor-General, the Ministry did not carry out a Board of Survey. Please, clarify why this was not done?**

The Board of Survey (BOS) was done simultaneous with the audit, hence its non-reflection. The Board Of Survey Report has been completed and forwarded to the Ministry of Economy for a decision.

**Q.19: Can you provide an explanation as to why the TMA Account continues to operate at a loss for eight consecutive years from 2010?**

The Ministry of Forests is out to provide an answer for this question.

**Q.20: There were six qualified opinions by the PAG stated on Pages 34 and 35 of the Annual Report. Please, advise on the status of these qualified opinions.**

Qualified Opinions 1 to 5 TMA, Ministry of Forests has no answer to these qualified opinions.

Qualified Opinion 6, the Ministry of Fisheries to respond – The True Trust Account had been shared under the then Head 32, Ministry of Fisheries and Forests prior to 1st August 2017, when the Ministry of Fisheries was established in its own right. The True Trust Account was originally used for Fisheries one-third, two-third Subsidy Scheme since 2004.

The Subsidy Scheme has since lapsed and the Ministry of Fisheries and Forests continued to maintain the bank account since to transact performance bonds and retention monies for most of its construction projects, as per contractual agreements between the Ministry and her contractors.

The True Trust GL is still under Head 32, Ministry of Forests, and we are now currently liaising with FMIS to create new GL allocations for the Ministry of Fisheries under Head 31, to be able to reopen the GL and to substantiate the amounts with sourced documents at hand in order to arrive at the true balance of the performance bonds and retention monies, whilst the remaining were to be paid back to the Consolidated Fund Account as per the audit opinion.

We have the sourced documents, copies of revenue receipts and have liaised with FMIS to assist us in the reconciliation of these accounts. We are waiting for the Westpac Bank to open online accesses so that we can access bank statements as far back as 2013 in order to effectively conduct the reconciliation process.

**Q.21: Are you going to revive the subsidy scheme for the purchase of boat and engine for fishermen?**

At this stage the Ministry has no plans as such.

**Q.22: Can the Ministry of Forest update the Committee on investigations by FICAC relating to the TMA Account?**

This issue will be answered by the Ministry of Forests.

**Q.23: What are some of the challenges faced by the Ministry and how have these been overcome?**

Again, Honourable Chairman, I started prior to the meeting proper, I did indicate that I will be putting this into the context of having being in the role for three months and set against the backdrop of reporting against 2016/ 2017 fiscal activity. The two key challenges faced by our Ministry can be demarcated in to two distinct areas:

1. Organisational Challenges; and
2. Environment or the Ecosystem in which the Ministry operates.

These are but not limited to:

1. Organisational:
  - a) We are a new organisation - Even though we have been around since 1963, we are only two years old in our own right, and we needed to lay the effective strategic platform for the organisation. We are currently in the process of doing that.
  - b) Human Capital - The need for us to bolster our executive bench strength to drive change and to innovate for increased service delivery. That is in process.
  - c) Service delivery - Our opportunity for us to implement continuous improvement governance structures across the organisation. We have commenced that process.
2. Ecosystem or the environment in which the Ministry operates: Some of the challenges that are faced are issues of:
  - a) Food Security - That is an issue that we are tackling on behalf of the Fiji Government and the Fijian people. Mitigation around is really focusing on aquaculture (the work that Richard does in Coastal Fisheries Management and the Fisheries Development Programmes that we undertake).
  - b) Climate Change - It is an issue for us as a Ministry. Again mitigation work around focus on aquaculture, our coastal fisheries management of sustaining or managing and protecting that resource, work towards a new fisheries development and then upping our team in terms of our work, research, science and development.
  - c) Regulatory Environment - The opportunity to review some of our legislation as it pertains to fisheries.
  - d) Economic Development - Something that the Ministry is focused on through our work and aquaculture, coastal fisheries, particularly our development programmes and research.

Finally, in terms of our future plans, I can only stand or sit before the Committee this morning and outline that our vision is going forward. As I have mentioned from the start of the session, our key Vision is to have the best fisheries in the Pacific. Our Mission is to sustain, manage and protect Fiji's fisheries in our work that we do. On our Values, in everything we do that we act with excellence, integrity, innovation, inclusiveness, professionalism and accountability.

Honourable Chairman, that concludes my Report to the Committee on the 2016/2017 Annual Report and happy to take questions that the Committee may have.

MR. CHAIRMAN.- Thank you, Mr. Graig. Now the floor is open for the Committee if they have any questions, they can do so. Thank you.

HON. M. BULANAUCA.- Honourable Chairman. Thank you for the Report and also for the Report with regard to the SDG 5 on Gender.

Can you just briefly explain something about the achievements you have so far in relation to SDG 14 in regards to life below water. Probably you have covered that, can you give some brief on how you have managed to achieve those SDG 14?

MR. C. STRONG.- Thank you. Sir, SDG 14 again it is a perverting point of a lot of the work that we do. It is a moving target and it is something that as a country, as a Ministry, we need to report back on next year. What I can say is that a lot of our work is dovetailing into the achievement of that particular Sustainable Development Goal.

Last week, I attended the Inter-Governmental Ocean Commission for UNESCO for the Western Pacific in Manilla. It is the first time that Fiji had been in attendance for 26 years. This group of nations of which we are part, we were only the Pacific nation present at that meeting, primarily the Association of Southeast Asian Nations (ASEAN) nations but including Russia and the United States have got very good scientific capacity and scientific programmes in place which all feed into achievement of that particular Sustainable Development Goal.

So, what the success looks like for us as a Ministry coming away from Manilla: One, as I have said in our presentation, we need to upper our end in terms of our science. We are moving into the UN Decade of Ocean Science, we need to increase our investment and our capacity in ocean science to help us achieve that particular Sustainable Development Goal. So, for us coming away from Manilla, success to us looks like, one, hosting that meeting in 2023 as we are part way into the Decade of Ocean Science for our Ministry to dovetail the research work that we do in alignment with that Westpac group of nations because they are already part way down the part of research programmes on things that are relevant to us, such as coral bleaching, harmful algae blooms, so all these works have been going on. So, for us to now partner with them will help us achieve that.

Again, success for us, I think, in 2023 is to be able to host the Regional Training and Research Centre. This Westpac group of nations has four Regional Training and Research Centres (RTRCs), one is based at the University of the Philippines and throughout that region.

So, we have put our hand up to see if we can work with a regional institution here to establish that. It is a very good question, Sir, and it is one that unfortunately cannot be answered in a "Yes" or "No" answer because there is a lot of work that goes into it but I think what we have realised as a Ministry is that to operationalise any policy to deliver on that, we need to do the science first. So, we have to make informed decisions.

HON. M. BULANAUCA.- Sir, just to add on that one: I appreciate your response, Sir, because under this SDG Goal 14 – several years mentioned here 2020 achievements that you need to achieve by year 2020, 2025 and 2030 and you have got 2023 as mentioned, and may be as you go along in your future report, how you will achieve that just on those lines?

MR. C. STRONG.- We will take that on board, thank you, Sir. I have just been advised by our Coastal Fisheries Management Division that one of those actions or just an achievement is the establishment of the Coastal Fisheries Management Division and the seasonal ban on *Kawakawa*, *Donu*, which helps us to achieve that Sustainable Development Goal.

HON. P. VOSANIBOLA.- Thank you, Mr. Chairman. Again on behalf of the Committee, I would like to thank the Permanent Secretary and the team for the well and precise answers to all the questions which we sent

to you for this afternoon's deliberation. Looking through what has been deliberated, my question is: does the Department have an enforcement on this surfing decree?

MR. C. STRONG.- I think maybe I will pass that on to you and you can talk a bit more in detail about the coastal implication of the work that we do.

MR. R.V. VEERAN.- Absolutely, not perse on the surfing decree but in terms of surveillance compliance, the Ministry of Fisheries is responsible or has the mandate of compliance on Fisheries legislations that are effectively implemented across inshore and offshore sector which includes the surfing areas as well. If it does come into the jurisdiction of any persons doing fishing or undertaking fishing then, yes, the Ministry has a mandate to undertake it, otherwise, if it is a Surfing Decree issue on surfing areas, no, we do not.

If I may add as well, I am sorry, the responsibility also is in such areas that we do undertake the Fisheries Impact Assessments, understanding what the implications are of such areas with such developments and what the implications are for the communities who are supposedly using those areas for livelihoods and economic development so, yes, we undertake that based on the request coming through the District Officers (DOs).

HON. S.S. KIRPAL.- Sir, just a clarification: you said that any developments which are, say, for mangroves or foreshore, so once the application is made or done to the Lands Department then it comes to the Ministry of Fisheries for their view whether it is viable or they will be killing fish or whether it will be harmful to the marine environment, does that come to the Ministry of Fisheries?

MR. R. VEERAN.- Honourable Chair, yes, there is a sitting committee on that development for coastal areas. The Ministry of Fisheries is represented there by the Director's Office. Currently, the Ministry has a policy of no-tolerance towards the removal of mangroves.

HON. J. SIGARARA.- Mr. Chair, I thank the Permanent Secretary for Fisheries for his deliberation. It is very clear as they are the masters of Fisheries, they know everything and we, as policymakers in Parliament, are here to just ensure that the challenges you face are dealt with in order to achieve your vision and mission.

What I want to ask is: as you have mentioned that a challenge faced is climate change. On the relationship of your Ministry with the environment, lately, we heard in the news that a whale was caught found dead with how many tonnes of plastic it had. How closely are you working with the Ministry of Environment to avoid this impact of rubbish in the sea?

MR. G. STRONG.- Thank you, Mr. Chair and Honourable Sigarara. The Ministry of Fisheries is very passionate and heavily involved in terms of our work around ocean litter. Our Minister was in Vanuatu six weeks ago at the Commonwealth Ocean Litter Conference. It is something like: Ocean Litter, plastics and micro-plastics, something that is at the fore-front of a lot of scientific work and also a key focus for us. Now, how do we alleviate that? Part of our work we are embarking on doing is an awareness campaign to align ourselves of the work of the Ministry of Environment in terms of ocean litter. We are in the process of drafting internally a Ministerial Policy of: "No Use of Plastics or Polystyrene, Take Away Trays in our Offices Fiji-Wide" but that is still at development stage.

I am not sure if that answers your questions but by the sheer virtue of the fact that in Fisheries, we are involved in a lot of multilateral and bilateral engagements globally. This issue was very prevalent but Fiji multi-Ministry is looking at it, it is not only ourselves but other Ministries are looking at it as well.



MR. J. SIGARARA.- Secondly, regarding this ban, I think it would affect the policy but that is one of the Ministry's policy. Where was it based because many of our communities survive on this, especially, the *sucuwalu*. There are no other alternative that we give them, especially those who live in the islands who survive on this. For some, it is their only source of income. How does this ban come about; and for how long will it take?

MR. C. STRONG.- Thank you, Honourable Sigarara, that is a very, very good question. You will notice that there are three key aspects to the work that we do, and those being, to:

- 1) Manage;
- 2) Sustain; and
- 3) Protect our Fisheries.

The bech-de-mer as a fishery, we understand, as a Ministry, it is important to the economic sustenance of the people of Fiji. However, it is our duty to protect it in terms of its resources. So to answer your question, we cannot say at this point in time as to when will we lift the ban but, we are in the process of working through a management of that, to see that we ensure that as we go to lifting that ban, we actually have the right protection in place to maintain that fishery for a longer period of time.

I know that Mr. Richard will know because he has been doing some work on the *Sucuwalu*, the Sea Cucumber Management Plan and I will let him talk after this, but one of the things that we are really looking at going forward is that, by putting a ban, we have got to put that mindset of "If not, then what?" If we stop our people from fishing Species A, what can they survive on? So we need to work that into our policy which is why it is a very good question that you have raised. I will pass on to Richard to talk a little bit about the work that has gone into the Sea Cucumber Management Plan.

MR. R.V. VEERAN.- Thank you very much, Mr. Permanent Secretary. Honourable Chairperson and Honourable Member, if I take you back to a couple of decades when we first had the British coming over, the economy then was run by *sucuwalu* itself. It was a boom and bust industry, it took about 100 years for it to recover to what it is right now.

We have had the science done over the 10 years with partners from our researchers from across the universities - from the Fisheries Research Division as well as the Secretariat of the Pacific Community (SPC), so it was just not a Fisheries take on this, it was a multi-regional approach and the status, not just for Fiji, but across the Pacific is that, we are in dire straits when it comes to our resources for *sucuwalu*.

In Fiji per se, the status right now is that white tin fish, prickly red fish and black fish were very high sort, but the state right now, our fishermen or our communities are harvesting fish, bech-de-mer that are of the lowest quality and the sizes that have been exported right now are very, very small.

These are the fishermen that are going out more than used to be, that were fishing in the sand flats; 15 metres, 20 metres are now diving more than 60 metres across. So the signs is there telling us, "We had taken a precautionary approach to stop it internally, but then we have got the signs to it backup saying, 'Look, this is what is happening, if you continue in the next five years you will have absolutely nothing to fish for.'"

So it takes quite a while for the fish to recover, also in saying this, this was just not the fact that as Fisheries Managers, not just the signs behind what is happening on the fisheries itself, but what is happening to our communities. We were being ripped off, the communities were given \$30,000, but in overseas markets, they were being sold at 10 times or 20 times more.

Additionally to this, there are a lot of fatalities associated with this, because the resources are being limited, the fishermen have to go and dive 60 metres further down which is not sustainable. Our human bodies are not actually developed to sustain that level of pressure within that certain time. We have a lot of cases now reported as mortalities, deaths, a lot of cases now with bans which are not reported, hidden within the communities, these cases are well-known to our fishermen, our officers, and even the police.

So all these factors have arrived to the complete ban of bech-de-mer harvest until we have a Regional approach on the size limits, on what are the species to be harvested; and on the limit on the baseline prices that provide the right value to our communities. So once we have sorted that out and once the Fisheries has recovered then the onus will be coming back to Government to reassess and open it. *Vinaka*.

MR. C. STRONG.- Mr. Chair, I think the important point was making sure that we have the right price. One of the things that we are also very focused on in terms of taking buyers out to the rural or maritime areas to purchase fishes is that, we want that value chain. So we want the fisher-folk to be able to be the price-makers and not the price-takers, so it is taking that same kind of mentality at the Regional level as well.

HON. S.S. KIRPAL.- You are talking about the size, so is there any regulation as we have seen in the markets that they have crabs and smaller-size fish, so we hardly see any officers to check on those. That is what I have seen, there may be some officers going around on Saturdays, but if you go around the market you can see very small-size fish and crabs caught and sold. So what are the programmes that the Fisheries Department is taking so that we can maybe warn offenders once, twice, but if they are still doing that after the second warning then maybe fine them. It maybe that in the Act, it is illegal to catch small-size crabs and fish, so is there anything in that regard?

MR. C. STRONG.- Thank you, Honourable Chairman. Again, that is a very good question and I am very happy to answer it. In the last 12 months, we have established the Inshore Fisheries Management Division. So if you put that into context, currently that is Richard and two others who manage the Inshore-Coastal Fisheries of the entire Fiji Group. Within that, it means that we have to have data collectors to record the species, size and the volumes of catches that are coming across into our market.

Secondly, it is about enforcement. We have worked very hard, firstly, to get additional funding to build our resources and the prosecution arena, but also the monitoring and compliance. So, you will see going into the next fiscal year, a lot more noise from the Ministry of Fisheries, not only on the ground in markets, but also from a prosecution perspective. We have played, I think, in the last 12 months and more of a "carrot and stick" approach, but we need to send a very strong message that our coastal fisheries stocks are under severe stress. As we are mandated to do, we need to sustain, protect and manage and we will protect moving forward.

MR. CHAIRMAN.- Like we have said that we have seen it and there has to be better enforcement. First, I think it will be better to give a warning, like six months before, if that continues then they are prosecuted, I think that will be much better.

MR. C. STRONG.- Thank you, Honourable Chairman. We have an operationalisation of it, we have got a compliance plan which is being developed in association with Richard and some bilateral assistance from MPI, New Zealand. We are ready to implement that which takes on board things like that, the stages of, say, if it is a first offence, or whether it is reoffending, what steps do we need to take. It has been a lot of good work done by Richard in the last 12 months to get us into a stage where we can now go out into the community to better manage, protect and sustain that fishery for Fiji.

MR. CHAIRMAN.- Thank you for that because we will be putting that maybe in our Report that the budget, et cetera, are required more in order to have better enforcement on small fish particularly.

MR. C. STRONG.- Yes, particularly for our inshore fisheries.

HON. P.W. VOSANIBOLA.- Thank you, Honourable Chairman. I also would like to commend the Ministry for the Solar Ice Plant Initiative in the Lau Group. Do you have any further plans to have more of those initiatives in the maritime areas?

MR. C. STRONG.- We do. Thank you for that question, Honourable Vosanibola. There are plans to roll that out over the next 12 months to 24 months. It is part of that two-pronged approach that we are looking at making sure that we are dovetailing into the Government's very strong drive to make sure that we leave no Fijian behind. So, in those remote rural areas and maritime areas where there is not a significant or a constant supply of water, that is where a solar-powered freezer provides a really good opportunity to have a containment system which is the first stage and then we look closer at the economic gap by bringing buyers to that community. We have that in our plans going forward to roll that out into other maritime and rural remote areas in Viti Levu and Vanua Levu.

HON. M. BULANAUCA.- Honourable Chairman, with regard to the request to the Auditor-General's Report, it is good now that you have separated the two: the Ministry of Fisheries distinct from the Forestry Department which is good, because Fisheries needs to concentrate on its area, it is quite distinct from the timber area (it is good that you have separated the two now).

The question we need to ask the Forestry Department, may be when you have the opportunity later you can do that, what is TMA Account all about, any idea?

MR. C. STRONG.- I pass this one to our Finance Manager.

MR. T. NAULU.- Thank you, Honourable Chairman and Honourable Members. Actually, TMA stands for Trading and Manufacturing Account, that is more like a semi-commercial business undertaking. It has a separate bank account from the Consolidated Fund Account. It runs on its own, pays its own staff, like in Nasinu, we have the Forestry setup where they manufacture furniture, for example, tables, and we have orders from the Ministries and the public at large. So, that is basically how a TMA runs. It runs on its own, it is a revolving account, separate from the main Consolidated Fund (Drawings) Account.

HON. J. SIGARARA.- Honourable Chairman, I just want to ask the team for their opinion because I was in Namuka last month. They had the intent to build one Community Hall or Evacuation Centre, but they have their *Qoliqoli tabu* which they said has plenty of bech-de-mer. I was telling them if we could ask the Ministry just to open for one to two months or one to two weeks in order to put up the project. In that case, we can let the flow of actually undertaking some of their projects. Is it possible?

MR. C. STRONG.- Thank you, Honourable Sigarara. I think I may have alluded to that when we initially discussed the sea cucumber. We are in the processes as part of our management plan is; how do we effectively reopen parts of that fishery? So, it is our desire to do it in a controlled manner. That is, as I stated, part of Richard's work in developing that management plan; how we do it in a controlled manner because we just do not want to open the floodgates and we are back to where we were, where we lose all the hard work.

We, as a Ministry, totally understand the situation of the people of Namuka and it comes back to what I have said before, as part of managing and building the best fisheries in the region, we need to make that decision. When we are looking at managing a species, if we are not going to do the species, then what? We have to always have an alternative. Unfortunately, with bech-de-mer, we did not go through that process, because as Richard alluded to, the stocks were at such a dire level. May be you can embellish a bit further on that, if you would like to.

MR. R. VEERAN.- The current ban at the moment is the bans on exports out of the country. So it would actually limit any harvest whatsoever. If it is undertaken within Fiji, there would be no possible way of exporting it. Unfortunately, that would not be, but yes, we are very close here and as for the Inshore Fisheries Management Division, it is more at looking at the management of species and implementation of controls or measures for holistic approach for Fiji rather than specific areas and we truly do understand. That is what we are working strongly towards, closing all the gaps within our management plans so that the communities receive the best value of their products, rather than everything that is being exported, comes at a loss to us and a value to the exporters themselves. So we are working very hard towards that.

HON. M. BULANAUCA.- Honourable Chairman, this MPA principle - I like the idea, the MPA areas where you do the protection and allow certain things to go at certain periods. How can you enlarge that to other areas? I know for residents in Kubulau, it is quite a success there and also in Lekutu and Navakasiga. I wonder whether you have got plans to expand that to other areas because once you have that, you will have controlled mechanisms whereby you can control all these things like the licences, whoever wants to come in and when you can do it, et cetera, I like the principle.

MR. C. STRONG.- Honourable Member, we are very happy because you speak our language and I am now going to pass you on to Mr. Richard Veeran to embellish on that.

MR. R.V. VEERAN.- Thank you, Honourable Member. That is a welcoming notion that is coming across from you. The Government itself has a commitment of 30 percent for marine-protected areas and we welcome such initiatives coming from the communities. The way forward from that is just a request coming across to us and then we will facilitate everything from our end. The only concern for us is that, it should have a holistic approach, a general consensus, consultations must be done so everyone is taken on board and everyone appreciates that, otherwise we want a holistic bind from the communities to establish that food bank for the future. So, yes, thank you very much.

MR. CHAIRMAN.- We will have one more question, if any. That is the last one.

HON. M. BULANAUCA.- Just one last one from me.

MR. CHAIRMAN.- Two questions only.

HON. M. BULANAUCA.- You have stopped and no longer have plans to help subsidise the purchasing of boats and engines because I suppose we should be encouraging more individuals or groups to go commercially rather than on subsistence level of fishing. In that way you can assist them in buying boats and engines for them to go into business. I am not too sure why you have stopped that. If you are still continuing, well and good.

MR. C. STRONG.- Thank you for the question and observation. I had an offline conversation with Mr. Chairman during the coffee adjournment on the same, and I think one of the roles of the Ministry is to be an enabling partner for those who are interested in Fisheries investment and so it is predominantly not our mandate to provide that subsidy. What we can be and to put it crudely, we can be the dating service, so we can talk with the bank and through our licensing regime, give confidence to banks to lend on that basis, from a commercial banking perspective and also from our development banks.

As a Ministry, in terms of it, it is the same approach that we take to managing the food bank of our Fisheries resources as we look to give a hand-up to our partners, and we do everything in our power as an enabler but there are other ministries that provide those types of leverage opportunities to get into that.

MR. CHAIRMAN.- Your questions, Honourable Member.

HON. J. SIGARARA.- Mr. Chairman, I have been visiting some parts of Fiji and just for your information, Vunikodi needs an Ice Plant. Also Nairai in the Lomaiviti needs an Ice Plant. Vunikodi is one of the remote areas but if not Vunikodi then the Namuka area as they depend on fish, just for your information.

MR. C. STRONG.- Thank you for that feedback and for the declaration of the conflict of interest, Honourable Member.

MR. CHAIRMAN.- Thank you, from the Natural Resources Committee and our secretariat, we thank you for this very interesting meeting.

When we started today, we had the Team from the Water Authority of Fiji before you and this has been more interesting than that, well-provided reports and since we know that you have just joined the Ministry but that report was for 2016. It is good that for the same token as the Honourable Mitieli Bulanauca had said, I was talking to him about the bankers when they came to me as the Honourable Member is also a Valuer by profession. So the banks also asked me the same thing that for the betterment of the fishermen, some commercial banks, especially Westpac, provide loan and they want some system in which they have a bill of sale where the licence is renewed, that goes to the bank so they will know that a licence has been renewed for three years or ten years. Or if it has been cancelled, the bank will be able to know if the licence has been cancelled, he would not be able to make payments so the same thing we were discussing as to how we can help those small fishermen do commercial fishing.

So, we were talking and I will come back to you, Mr. Craig, for that and he was happy for that one so that we can help and encourage our Fisheries which is good to see, like our new Ministry of Fisheries which is now two years. On the same token like the Fisheries have been protecting our species for our future generation, like we know, before when we used to go out to the foreshore, like 20 years back, we could see the fish and other sea resources like bech-de-mer floating around. But now if you go to our beaches, our kids do not know what bech-de-mer is because you cannot see it. But 20 years ago, they were all floating around the reefs, even if you go to Suva you will hardly find any.

So that is good in protecting the species for our future generation and for the betterment of our country because these small nations in our South Pacific Ocean have the best fish in the world, we can say that we have the best water in the world, the same thing as we have the best fish in the world. Everyone likes it, if you go to the United States of America (USA) or Australia, they will go for Fiji fish.

So, thank you for that, Mr. Permanent Secretary, and your team for the well-presented submission done today. Just a reminder, on Friday we will be visiting the Ministry for Fisheries' Head Office and a few more places that we will be going to.

MR. C. STRONG.- All right, thank you.

MR. CHAIRPERSON.- On 16<sup>th</sup> April (2019), we will be going to Makogai, so if the Secretariat can provide lunch for us.

MR. C. STRONG.- Can I ask: Has any Member been to Makogai? It is well worth the visit and you will thoroughly enjoy it, we look forward to welcoming you there.

The other thing I would just add is that just on the note of talking about the availability of fish that we used to have as children here in Suva, a study was done in January, February and the results of that show that currently, it is estimated that 85 percent of the fish that were consuming on Viti Levu is coming from Vanua Levu. So, if that ferry coming from Nabouwalu to Natovi is late, you will not see fish at the Suva Market or at

the Bailey Bridge. That is how serious this issues is which is why we thank you for your opportunity to lobby for some more funds for Richard and his team, *vinaka*.

MR. CHAIRPERSON.- Mr. Permanent Secretary, on Friday, we will be coming to Takayawa Building and then we will go to Lami Fisheries; so on the 16<sup>th</sup> will be Makogai.

MR. C. STRONG.- All right.

MR. CHAIRPERSON.- Mr. Permanent Secretary, it was supposed to be tomorrow but due to one of the Members' wife's death, we will not be able to make it tomorrow so we will be making it on Friday.

Thank you, and if you want to say anything, the floor is open for you, Sir.

MR. C. STRONG.- Just to say, "Thank you for the opportunity", we are a relatively new team but we are galvanised by our passion for the work that we need to do for this Ministry particularly because it is about ensuring the longevity of the resource.

I will give my card out because if there is anything you want to talk about offline, if you come across anything then, please, feel free to call me because it helps us shape the action that we can take rather than wait for a Committee meeting to do that.

The Committee adjourned at 3:14 p.m.

**RESPONSES TO THE STANDING COMMITTEE ON NATURAL RESOURCES  
QUESTIONS - MINISTRY OF FISHERIES 2016/2017 ANNUAL REPORT**

**1. What is the current progress of the National Fisheries Policy?**

The Final Draft Updated Version of the National Fisheries Policy 2018 – 2028 & Cabinet Paper had been submitted to Solicitor General's Office in November 2017.

**2. As stated in the report "one of the interventions areas was to bring the market to these localities to avoid urban drift". Have the Ministry managed to achieve this target?**

The Ministry anchors its economic and social development initiatives for Fijians in the rural and maritime sectors through:

<b>Our Vision</b>	<b>To have the best Fisheries in the Pacific region"</b>
<b>Our Mission</b>	<b>To sustain, to manage and to protect Fiji's Fisheries. We achieve this through:</b> <ul style="list-style-type: none"> <li>• Management and compliance of our national fisheries legislation and regulations</li> <li>• Provision of licensing, advisory and support services</li> <li>• Research and marine conservation</li> <li>• Fisheries sector development</li> </ul>
<b>Our Work</b>	<b>We work through five functional divisions along with a nationwide Service Centre network</b>
	<ul style="list-style-type: none"> <li>• <b>Functional Divisions</b> <ol style="list-style-type: none"> <li>1. Inshore Fisheries Management</li> <li>2. Offshore Fisheries Management</li> <li>3. Aquaculture</li> <li>4. Research and marine conservation</li> <li>5. Fisheries Development</li> </ol> </li> </ul>
	<ul style="list-style-type: none"> <li>• Fisheries Service Centers framework Four Regional Support Offices (Central, Eastern, Western, Northern)               <ol style="list-style-type: none"> <li>a. 32 Service Centres</li> <li>b. 28 Ice Plants</li> </ol> </li> </ul>

<b>Our Values</b>	<b>In everything we do we act with:</b> <ul style="list-style-type: none"> <li>◦ Excellence</li> <li>◦ Integrity</li> <li>◦ Innovation</li> <li>◦ Inclusiveness</li> <li>◦ Professionalism</li> <li>◦ Accountability</li> </ul>
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**Our approach is twofold:**

- **Path to Market**
  - Provision of ice production and cold storage facility for maritime and rural fishermen
  - Facilitating trade between fishermen/folk and buyers
- **Fisheries service centers**

Through our fisheries service centers across the Fiji group, we provide licensing & advisory support services to promote and sustain fisheries as a viable economic platform.

**3. How does the Ministry promote SDG 5 – Gender Equality in the workplace?**

In order to promote SDG 5, the Ministry has a two pronged approach to achievement thereof:

These are not only limited to our organization. These are thus:

1. Organisational – within the ministry
2. Community – with the programs we undertake

**Organizational:**

- Commitment to and compliance of OMRS
- Awareness programs
- Evidence of gender equality in middle and senior management

**Community:**

- Collaboration with regional and multilateral organizations, development partners and NGO's in the implementation of gender inclusive specific programs
- Ministry initiated gender inclusive programs including but not limited to
  - Fish farmer training,
  - fishing equipment construction training

**4. What are some of the success stories for woman groups and rural communities that the Ministry may have assisted through your training programs?**

The Ministry had assisted a total of nine (9) women groups and individuals with farming materials and technical advisory support as a result of our training programs. This includes:

- Northern Division – 4 women's group
- Western Division – 1 women's group and 2 individual project
- Central Division – 1 individual project



- Eastern Division – 1 Women's group

**Annex 1:** Provides detail on the above mentioned projects.

**5. Can you elaborate on the MOU between the Ministry of Fisheries, Republic of Fiji and the Hainan Provincial People's Government of the PRC on Fisheries Development?**

The specific areas of cooperation between the 2 Parties is outlined under Article 2 of the MOU as attached and include;

1. To develop, encourage, promote mutual cooperation and secure mutual benefit in the field of marine and fisheries, aquaculture, applied research and infrastructure development
2. MOF will allocate a piece of state land on the Island of Makogai and support the Hainan Province for the purpose of research and marine aquaculture of giant clams, pearl oyster, sea cucumber, high valued fish and other commodities
3. The areas of cooperation development and exchange under the MOU shall INCLUDE but is NOT LIMITED to the following;
  - a. The promotion of sustainable aquaculture development through research, breeding and culture of giant clams, prawns, groupers and high valued marine species of special interest and the development of commodities cultures, and through the development of storm resistant net cage culture in deep water
  - b. The development of aquatic hatcheries, research laboratories and other facilities as required
  - c. Exchange of expertise include but not limited to capacity building and training of local officers
  - d. Cooperation in areas of fishery culture, fishing, processing, promotion and marketing
  - e. The exchange and sharing of all research and technological development relating to the areas of cooperation between the parties and
  - f. Promotion of Hainan Provincial People's Government scholarship in Fiji
4. The guidelines for exploring, developing and implementation the above-cities areas of cooperation shall be embodied in separate subsidiary agreements in accordance with the provisions of the signed MOU.

**6. What is the status of pearl development through spat collection which was established within the 25 communities in the Central, Western, Northern and Eastern?**

Pearl development through spat collection continues to be one of the key capital project for the Ministry. These farms have been assisted with farming materials and technical advisory support at the preliminary stages. We have also assisted to monitor these projects for the purpose of

data gathering and for the purpose of measuring performance as a form of return of investment for assistance rendered.

Annex 2 provides detail information on the status.

7. **Can you inform the Committee about the Pearl Project MOU with the University of the Sunshine Coast/ACIAR?**

The Pearl Project MOU with the University of the Sunshine Coast/ACIAR was signed on 4<sup>th</sup> September 2017. The Project entails the planning, purchase, transportation, distribution and deployment of new research infrastructure recovery, post cyclone Winston at specific pearl farms and spat collecting communities in Fiji

8. **The Committee noted misreport and no standardize on the reporting system as a whole. Can the Ministry provide reasons why it does not follow the sequence of the Targeted Outcomes as outlined in the Table (Page 6)?**

The Ministry is undertaking a system improvement strategy on the development and production of our Annual Report.

9. **Why does the Ministry only emphasize on 7 Targeted Outcome while it previously stated it aligned to 8 Targeted Outcomes ( page 6)**

The Annual Corporate Plan for Aug 2016-July 2017 was for Fisheries & Forestry as a joint Ministry. The corresponding report is on the activities of the newly created Ministry. Therefore the missing targeted outcome is on forestry.

10. **Can the Ministry provide all the long forms of all the acronyms provided in the report?**

Refer to Annex 3

11. **Can the Ministry enlighten the Committee on the difference between inshore fishing and offshore fishing?**

Offshore fisheries refers to any fishery that occurs from outside the baseline [12 nautical miles] towards the EEZ boundary and beyond. Any fishery inside the baseline is inshore. Within Fiji, Offshore fishing generally applies to industrial scale fisheries involving vessels 10 meters in length or greater (largely vessels targeting Tuna, deep-water snapper and associated species).

Fiji Fisheries Legislation does not currently define inshore and/or inshore fishing. Internationally, coastal or inshore fisheries – most often artisanal or smaller scale in nature.

**12. What plans the Ministry have in place to further improve the contribution of the fisheries sector to the economy?**

In line with our Vision to have the best fisheries in the Pacific region, our plans are as follows:

**1. Offshore Fisheries:**

- Certification of the fishery to world renowned eco-labels
- Promote the "Fiji" brand in fish exports.
- Accession and implementation of the PSMA
- Adoption of zone based measures including the control and capping of effort.
- Stringent monitoring, control, surveillance and enforcement regimes
- Electronic monitoring of fishing vessels
- Electronic reporting tools used by fishing masters
- Biological sampling, tagging and other research programmes
- Mandatory use of the FFA Vessel Monitoring System
- Inter-agency cooperation with regards

**2. Inshore fisheries:**

- Strengthening the establishment and registration of Fishing associations;
- The strategic placement of Fish Aggregation Devices so as to alleviate pressure on inshore fisheries systems and overfishing carried out in certain coastal areas.
- Encourage cage farming by new investors
- Create new fishing schemes such as small scale long line fishing and the vessels such as the Tuiniwasabula, Bai Ni Takali to assist in taking market to the rural and maritime islands to buy fish

**3. Aquaculture**

- Focus on 2 major commodities – Shrimp and Prawns
  - For Aquaculture Development
    - Turn areas like Koroivatu into aquaculture farm areas
    - Other areas prone sea water infiltration in Tailevu and Western Division to turn into Aquaculture farm areas
  - Makogai;
    - to focus on marine fin fish (Kawakawa and Donu)
    - to trial Cage Farming at Makogai
4. Part of our plan is to ensure that all primary production data which will illustrate the contribution of the fisheries sector to the economy is properly captured, recorded and verified.

**13. Can you advise on the review of the Tuna Management & Development Plan 2014-2018? What does this Plan encompass? And what was the outcome of the review?**

The review was undertaken in 2018.

The plan will entail policies on the following:

- The number of licenses
- The Total Allowable Catch
- Area closures
- Deciding on licenses holders
- License tenure
- Effort control limits
- Other

**Outcome of the Review:**

Two of the many outcomes are as follows:

- That the plan will entail guiding principles along with an M&E process and mid-term review.
- That the Plan will also allow for newly designed fisheries to be included as annexures should they come up during the period of the plan.

**14. Can you enlighten the Committee regarding the "trial on Night Fishing" in Central and Western Division?**

The objective of this was to introduce an alternative fishing method to draw fishermen away from targeting vulnerable, slow recovery, demersal reef species to target more robust inshore pelagic species. The fishing method was also seen as a possible fishing method to use after a cyclone when reefs maybe disturbed or impacted.

Training was delivered by SPC in June 2017 and was trialed. Trial concludes that it was unsuccessful as fishermen needed more time and practice to accustom themselves to such new fishing methods as they were predominantly divers and hand line fishers. We have not since then, continued with further trials.

**15. What does the Ministry have as an alternative livelihood programme for those affected by bans?**

- Seaweed Project Development: this is a very good source of income
- Spat-farm for Youth and Women
- Fresh water Aquaculture

**16. The Annual Report states that there was "wrap up meeting for SPC Gender Aquaculture Survey and Aqua Team Fisheries in Suva before the publication of the Gender Survey Report". Can you update the Committee on the Gender Survey Report – what does this report cover?(Page 20)**

This report covers (for the first time) solid evidence that women play major roles in the development of aquaculture in Fiji. The report confirmed growth in aquaculture can only be fully

realized if role of women are identified, formalized and supported through the development of appropriate gender-sensitizing policies in aquaculture training and financing.

- 17. The Committee would like to know, why the Ministry did not respond to the Auditor General in enquiring the errors and omission arose from the audit after 2 follow ups?**

The Ministry noted the issue raised and acknowledged that this was an oversight that could have been avoided. Enquiries from OAG were around the same period when our Accounts Team were engaged in the separation of the Ministry of Fisheries and Forests, the registration of FNPF and FRCS compliance issues, recruitment of Accounts Staff [OMRS process], opening of new GL allocations and the setting up of separate Payroll for the Ministry of Fisheries, so that normal operations are not affected.

- 18. According to the Office of the Auditor General (OAG) report, the Ministry did not carry out a Board of survey. Please clarify why this was not done?**

The BOS was done simultaneously with the audit hence its non --reflection. BOS Report has been completed and forwarded to the Ministry of Economy for a decision.

- 19. Can you provide explanation as to why "the TMA account continues to operate at a loss for eight consecutive years from 2010"?**

TMA Issues - Ministry of Forests to provide answer

- 20. There were 6 Qualified Opinions by the PAG stated on Pages 34 & 35 of the annual report. Please advise on the status of these qualified opinions?**

1 – 5 TMA Ministry of Forests has to answer on this qualified opinion.

6 – Ministry of Fisheries to respond

The True Trust Account had been shared under the then Head 32 - Ministry of Fisheries and Forests prior to 01/08/2017, when the Ministry of Fisheries was separated to be an agency on its own. The True Trust Account was originally used for the fisheries 1/3 & 2/3 subsidy scheme since 2004. The subsidy scheme has since lapsed and the Ministry of Fisheries & Forests continued to maintain the bank account since, to transact Performance Bonds and Retention Monies for most of its construction projects, as per contractual agreements between the Ministry and the contractors.

The True Trust GL is still under Head 32 [Ministry of Forests] and we are now currently liaising with FMIS to create new GL allocations for Ministry of Fisheries [Head 31], to be able to re-open the GL and substantiate the amounts with source documents at hand, in order to arrive at the true balance of the Performance Bonds and Retention Monies, whilst the remaining were to be paid back to Consolidated Fund Account, as per audit opinion.

We have the source documents [copies of Revenue Receipts] and have liaised with FMIS to assist us in reconciling the account. We are awaiting the Westpac Bank to open on-line accesses so that we can access Bank Statements as far back as 2013, in order to effectively reconcile the account.

21. Are you going to revive the subsidy scheme for the purchase of boat and engine for fishermen?

The Ministry has no plans as such.

22. Can the Ministry of Forest update the Committee on the investigations by FICAC relating to the TMA account?

TMA issue Ministry of Forests has to answer.

23. What are some of the challenges faced by the Ministry and how have these been overcome?

The key challenges faced by the Ministry can be demarcated into two distinct areas: (1) Organisational and (2) Environment or the ecosystem in which the Ministry operates. These include but are not limited to:-

(1) Organisational

- a. New organisation, need to lay the strategic platform (in process)
- b. Human Capital, need to bolster Executive bench strength to drive change and innovate for increased service delivery (in process)
- c. Service delivery, opportunity to implement continuous improvement governance structures across the organisation (in process)

(2) Ecosystem

- a. Issue: Food Security

Mitigation: Aquaculture, Coastal Fisheries Management, Fisheries Development

- b. Issue: Climate Change

Mitigation: Aquaculture, Coastal Fisheries Management, Fisheries Development, Research & Development



c. Issue: Regulatory

Mitigation: Legislative review

d. Issue: Economic Development

Mitigation: Aquaculture, Coastal Fisheries Management, Fisheries Development, Research & Development

**24. What are some of the Ministry's future plans?**

<b>Our Vision</b>	<b>To have the best Fisheries in the Pacific region"</b>
<b>Our Mission</b>	<b>To sustain, to manage and to protect Fiji's Fisheries. We achieve this through:</b> <ul style="list-style-type: none"><li>• Management and compliance of our national fisheries legislation and regulations</li><li>• Provision of licensing, advisory and support services</li><li>• Research and marine conservation</li><li>• Fisheries sector development</li></ul>
<b>Our Work</b>	<p>We work through five functional divisions along with a nationwide Service Centre network</p> <ul style="list-style-type: none"><li>• <u>Functional Divisions</u><ul style="list-style-type: none"><li>6. Inshore Fisheries Management</li><li>7. Offshore Fisheries Management</li><li>8. Aquaculture</li><li>9. Research and marine conservation</li><li>10. Fisheries Development</li></ul></li><li>• Fisheries Service Centers framework<ul style="list-style-type: none"><li>Four Regional Support Offices (Central, Eastern, Western, Northern)<ul style="list-style-type: none"><li>a. 32 Service Centres</li><li>b. 28 Ice Plants</li></ul></li></ul></li></ul>
<b>Our Values</b>	<b>In everything we do we act with:</b> <ul style="list-style-type: none"><li>• Excellence</li><li>• Integrity</li><li>• Innovation</li><li>• Inclusiveness</li><li>• Professionalism</li><li>• Accountability</li></ul>

## ANNEX 1

### Question 4:

What are some of the success stories for women groups and rural communities that the Ministry have assisted through your training programs?

### Northern Division

1. Bula Dredre Women's Group of Natuvu, Wailevu West, Cakaudrove –
  - a. \$8, 157.00 earned from 2014 to date
  - b. Assistances – SPAT Collection materials, Deployment, Monitoring and Harvesting (fuel, ropes, buoys), Half Pearl Implanting, Implanting Tools, Training
  - c. Assistances needed - Need 40HP engine and fibre punt to assist them as they hiring boat from Vunidamoli (\$50 per day)
2. Raviravi Women's Group of Raviravi, Macuata –
  - a. Income earned: \$20,000.00 from when the group began 2004
  - b. Assistances –
    - i. Spat collection materials (ropes, buoys, collector material, empty bags & fuel) 25 lines
    - ii. Spat collection materials (ropes, buoys, collector material, empty bags & fuel) 25 lines
    - iii. Half Pearl Implanting
    - iv. Implanting tools
    - v. Training on Implanting
    - vi. 25 hp engine
    - vii. Fibre punt & 25 HP engine
  - c. Harvest Records - \$20,000.00 for Pearl, Spats and half pearl sales
3. Drodromalua Women's Group of Ravita, Vaturava, Cakaudrove –
  - a. Income earned: \$8, 116.00
  - b. Assistances –
    - i. Spat collection materials (ropes, buoys, collector material, empty bags & fuel)
    - ii. Deployment, Monitoring and Harvesting (fuel, ropes, buoys)
    - iii. Half Pearl Implanting
    - iv. Implanting tools



- v. Training on Implanting
  - vi. Value adding and handicraft training
  - vii. Fibre punt and 40 HP engine
4. Urata Youth Group of Urata Village, Nasavusavu, Cakaudrove "
- a. Income earned: \$1, 978.00
  - b. Assistances -
    - i. Spat collection materials (ropes, buoys, collector material, empty bags & fuel)
    - ii. Deployment, Monitoring and Harvesting (fuel, ropes, buoys)
    - c. Assistances needed:
      - i. Dive gears and Dive training for qualified divers to assist in monitoring spat lines
      - ii. Financial literacy training
      - iii. 40 hp engine & fiber punt to assist farming operations
5. Tacilevu Women's Group of Navunievu, Bua-
- a. Income Earned: \$266.00 from 2 lines harvested in 2016
  - b. Assistances -
    - i. Spat collection materials (ropes, buoys, collector material, empty bags & fuel)
    - ii. Deployment, Monitoring and Harvesting (fuel, ropes, buoys)
    - c. Assistances needed: Need 40HP engine and fibre punt to assist them with operation
6. Waitabu Women's Group of Navunievu Village, Group
- a. Income Earned: \$7, 530.00. Money with Group = \$4,000.00
  - b. Assistances -
    - i. Spat collection materials (ropes, buoys, collector material, empty bags & fuel)
    - ii. Deployment, Monitoring and Harvesting (fuel, ropes, buoys)
    - iii. Cage (Crab Culture) fattening
    - c. Assistances needed: Need 40HP engine and fiber punt to assist them as boat hiring boat is costly (\$50 per day)
7. Nakalou Women's Group of Nakalou Village, Macuata - Commodity - Seaweed Farming
- a. Income Earned: \$2,000.00 with targets to accumulate \$10,000.00 for construction of Kindergarten for villages of Nakalou and Naividamu
  - b. Assistances -
    - i. Ropes, Rafia, Construction of drying rack
    - ii. Harvesting and Marketing

iii. 19 \* 4 ft Fibreglass boat with 15 HP Engine by IHRDP (North)  
Further Rural Developments

1. Financial Literacy training for women's groups from Ravita, Raviravi and Qamea Island within the Pearl Project and Fish Farming business owners including Diseini Lewaca of Vusasio and other Fish Farmers of Cakaudrove.
2. Construction of Fry Ralseway at Vusasio Village, Natewa District, Cakaudrove Fish Farm for Ms. Diseini Lewaca.

**Western Division**

1. Taunabe Women's Group
  - Established in 2013 with a manually dug 50m<sup>2</sup> backyard fish pond
  - Made up of 7 women from Taunabe Settlement in the interior of Nadarivatu, Tikina Savatu
  - In 2015 assisted under FSP with a 20mX30m sized pond, fitting and fish feed.
  - Since the inception of this project, the returns gained from sale of fish have steadily increased from \$288.00 at first harvest to \$2,170.00; the group gave back to the community by purchasing roofing irons and bricks for the construction of the community church.
2. Laisiana Adivukivuki
  - Established in 2013; self-funded; affected by TC Winston; further re-established under 2016/17 FSP recipient;
  - Leased 100acres from her Matakaali land;
  - Attended numerous training on fish farming, prawn farming and financial literacy;
  - Successfully producing her own fries;
  - Savings from returns of her project resulted in her purchasing a 4x4 vehicle to assist her farming venture;
  - Also integrates her farm with cash crops, root crops, pawpaw farming and cattle raising
3. Makereta Rasuka, Naduri, Sigatoka
  - FDB loan in 2015; established 2 pond of 20X30m size each; farming both tilapia and prawns
  - First to integrate aquaculture and ecotourism.
  - Loan paid off from sales of tilapia and prawns;

### Central Division

1. Mrs. Katarina Baleisua of Lot 52, Saunigawa Street, Nakasi She Mrs Baleisua is a successful semi- commercial aquaculture farmer since 2012. She is the owner of Kaybee Farm Enterprises, an integrated agri-aquaculture farm with 4 tilapia ponds measuring 50m x 20m, thus a total pond area of 4,000m<sup>2</sup> with the total stocking capacity of the ponds is 40,000 tilapia fry's annually. Mrs. Baleisua was a part of a scoping tour of farmers for a 2-week fish hatchery course in Thailand see overseas hatcheries and returned invigorated to begin fish hatchery construction and successfully operate her private tilapia hatchery. Her first commercial sized batch of 20,000 (valued at \$1,400.00) all-male fish fingerlings, reared up to 2.5g or 1-inch size, have all been sold to Mr Laisasa Cavakiqali who operates a tilapia fish grow-out farm in Ba. The project provides a platform that would improve socio economic well-being of the farmer and it's contribution to food security and economic growth. Mrs Baleisua has been a primary role model on women empowerment in aquaculture since she is the first sole female entrepreneur operating a private tilapia hatchery in Fiji.

### Eastern Division

1. Women in Fisheries, Vunisea, Kadavu  
The Women Fisheries Group under the Kadavu Fishermen Association is currently operating the women café, which is accommodated with the office of the Ministry of Fisheries in Vunisea. Two women are currently operating the café to provide morning and afternoon tea and lunch consisting of seafood to the government employees that are based in Vunisea and members of the public who often come to Vunisea. The café operates on week days only from 8am to 4:30pm and price of food is \$7.00 per serve with tea/coffee and milo charged at \$1.00 each together with cakes, scones or pancake etc. at \$1.00, with an average of ten (10) customers per day. In one day alone, a maximum of 20 serves of seafood could have been served with 10 serves for refreshments. Twenty dollars (\$20.00) per day is often paid to the ministry as part of rental

## ANNEX 2

### Question 6:

What is the status of pearl development through spat collection which was established within the 25 communities in the Central, Western, **Northern** and Eastern Divisions?

### Northern Division

#### 1. Wairuku Youth Group

- i. Location: Manukasi settlement, Salia, Cakaudrove
- ii. Objective:
  - o Improve livelihood
  - o Generate income
  - o Assist village development
- iii. Brief Information of group:
  - o Newly established through trial in 2016 and later established as a collection site in 2018
  - o They also depend on marine produce apart from Yaqona.
- iv. Form of assistance received from Govt. or foreign body: Spat collection materials, deployment materials, 40HP Yamaha engine, 18ft fiber punt
- v. Future plan:
  - o Expansion on the number of collector lines
  - o Invested on other income generated project (Poultry & piggery farming, bee farming)
- vi. Assistances needed:
  - o Dive gears and Dive training for qualified divers to assist in monitoring spat lines
  - o Financial literacy training

vii. Harvest Record:

#	# lines harvested	Year	Market	# shells harvested	Value	Comment
1	1 lines	2018	Civa Fiji Pearls	142	\$284.00	Trial sold @\$2/spat

viii. Farm record:

#	# lines	Year deployed	Year to be harvested
2	10	2018	October 2019

2. Bula Dredre Womens Group

a. Location: Navutu village, Wailevu West Cakaudrove

b. Objective:

- o Improve livelihood
- o Generate income
- o Assist village development

c. Brief Information of group:

- o Established in 2013 as a trial spot which later established as a collection site
- o They depend on marine produce as a major source of income
- o They first started from sand fish culture which they established a MPA
- o Earned couple of thousand dollars from the harvest of sea cucumber which managed to renovate church, 1/3 contribution to the construction of new community hall, housing and donation towards the establishment of Uluivailii Secondary school

d. Form of assistance received from Govt. or foreign body: Spat collection materials, deployment materials, half pearl implanting, implanting tools, training

e. Future plan:

- o Expansion on the number of collector lines
- o Financial literacy training and other form of training to up-skilled women's group

f. Assistances needed:

- o Need 40HP engine and fiber punt to assist them as they hiring boat from

Vunidamoli (\$50 per day)

g. Harvest Record:

#	# lines harvested	Year	Market	# shells harvested	Value	Comment
1	6 lines	2014	Civa Fiji Pearls	1,700	\$2,400.00	@\$2/shell
2	6 lines	2017	Civa Fiji Pearls	1,500	\$3,000.00	@\$2.50/ shell
3	4 lines	2018	Civa Fiji Pearls	783	\$1,957.00	@ \$2.50/shell
4		2017	Ba Womens Forum	30 shells (melamela)	\$800.00	*Half pearl harvested from 70 shells implanted

Farm record:

#	# lines	Year deployed	Year to be harvested
1	6	2018	June 2019

3. Raviravi Womens Group

a. Location: Raviravi, Macuata.

b. Objective:

- o Improve livelihood
- o Generate income
- o Assist village development

c. Brief Information of group:

- o Established in 2005, before then, they were selling wild oyster to Taylor shellfish Farm now J Hunter Pearls
- o Due to surplus supply they decided to start with Pearl farming. They follow all SOP requirements with 2 represents them Hands on Training in 2006 (Savusavu)
- o They depend on marine produce as a major source of income
- o Spat farming established in 2013 after Pearl farming was unsuccessful due



to few reasons (financial constraint, natural disaster, geographical background)

- d. Form of assistance received from Govt. or foreign body: Spat collection materials, deployment materials, half pearl implanting, implanting tools, training, 25hp engine, Fiber punt
- e. Future plan:
  - o Expansion on the number of collector lines
  - o Financial literacy training and other form of training to up-skilled women's group
- f. Assistances needed:
  - o Need 40HP engine and fiber punt to assist them as they hiring boat for (\$50 per day)

g. Harvest Record:

#	# lines harvested	Year	Market	# shells harvested	Value	Comment
1	6 lines	2014	Civa Fiji Pearls	1,700	\$2,400.00	@\$2/shell
2	6 lines	2017	Civa Fiji Pearls	1,500	\$3,000.00	@\$2.50/ shell
3	4 lines	2018	Civa Fiji Pearls	783	\$1,957.00	@ \$2.50/shell
4		2017	Ba Womens Forum	30 shells (melamela)	\$800.00	*Half pearl harvested from 70 shells implanted

h. Farm record:

#	# lines	Year deployed	Year to be harvested
1	6	2018	June 2019

4. Drodromalua Womens Group

- a. Location: Ravita, Vaturova, Cakaudrove





h. Farm record:

#	# lines	Year deployed	Year to be harvested
1	2	2015	
	6	2016	
	17	2017	October 2019

5. Urata Youth Group

a. Location: Urata, Wailevu, Cakaudrove

b. Objective:

- o Improve livelihood
- o Generate income
- o Assist village development

c. Brief Information of group:

- o Established in 2014.
- o The main aim was to assist the youths in establishing a secure extra financial source to support them with their housing project and improve their skills and knowledge on marine eco system.
- o Improve standard of living as most of youth members are un-employed

d. Form of assistance received from Govt. or foreign body: Spat collection materials, deployment materials

e. Future plan:

- o Expansion on the number of collector lines
- o Invested on other income generated project (Poultry farming, bee farming)
- o Aquaculture- fresh water prawn and tilapia
- o Gradually emerge to half pearl culturing (Penguin oyster)

f. Assistances needed:

- o Dive gears and Dive training for qualified divers to assist in monitoring spat lines
- o Financial literacy training
- o 40 hp engine & fiber punt to assist farming operations

g. Harvest Record:

#	# lines harvested	Year	Market	# shells harvested	Value	Comment
1	6 lines	2015	Civa Fiji Pearls	450	\$900.00	sold @\$2/spat
2	9 lines	2018	Civa Fiji Pearls	431	\$1,078	@\$2.50

h. Farm record:

#	# lines	Year deployed	Year to be harvested
1	6	2014	Harvested
2	9	2016	harvested
3	10	2017	October 2019

**WESTERN DIVISION**

Current no. of spat collection sites: 12 (Yasawa=6 Soso/Yalobi/Yaqeta/Vuaki/Navotua/Malakati; Ra=4 Naocobau, Namarai, Verevere, Saioko, Nabukadra)

Year: 2016-2017

**Activities**

- Namarai Longline Deployment and Monitoring undertaken with a report submitted; 427 oysters harvested sold to Namarai Desci Pearls 38.5kg sold at \$4/kg; 25.8kg sold at \$5/kg totaling \$280.20;
- Liaison work with ACIAR Pranesh Kishore on updates on ACIAR pearl activities
- Yasawa Monitoring Survey undertaken; no report submitted
- Reach out to Ba Women Group on MOP Shell craft and Jewelry program
- Out of 12 sites in the Division 10 (Yasawa 4 and Ra 6) currently have standing active spat collection lines with monitoring done by the Pearl Team in Lami; any other reports can be accessed from the Pearl Team.

	2019 updates-3 Ra sites are ready for harvest in September whilst 3 new sites have been re-established post TC Winston (Verevere, Saloko and Veidrala)
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## **ANNEX 3**

### **ACRONYMS – 2016/2017 Annual Report**

**ACIAR** – Australian Centre for International Agricultural Research  
**AMA** - Agricultural Marketing Authority  
**BDM** – beche-de-mer  
**CCD** – Climate Change Division  
**CEO** – Chief Executive Officer  
**CMS** – Convention on the Conservation of Migratory Species of Wild Animals  
**DISMAC** – Disaster Management Committee  
**DO** – District Officer  
**EEZ** – Exclusive Economic Zone  
**EOC** – Emergency Operation Centre  
**FA** – Fisheries Assistant  
**FAD** – Fish Aggregation Device  
**FAO** – Food and Agriculture Organization of the United Nations  
**FELA** – Fiji Environmental Law Association  
**FFA** – Forum Fisheries Agency  
**FICAC** – Fiji Independent Commission against Corruption  
**FJD** – Fiji Dollar  
**FLMMA** – Fiji Locally Managed Marine Area  
**FSP** – Food Security Program  
**FTC** – Forestry Training Centre  
**GIS** – Geographic Information System  
**GTB** – Government Tender Board  
**HOD** – Head of Department  
**ICM** - Integrated Committee Management  
**IDA** – Inside Demarcated Area  
**IHRDP** – Integrated Human Resource Development Program  
**ITTO** – International Tropical Timber Organization  
**IUCN** – International Union for Conservation of Nature  
**JICA** – Japan International Cooperation Agency  
**MCS** – Management, Control, Surveillance  
**MFF** – Ministry of Fisheries and Forests  
**MOA**- Memorandum of Association  
**MoF** – Ministry of Fisheries/ Minister of Fisheries  
**MOU** – Memorandum of Understanding  
**MPA** – Marine Protected Area  
**MSAF** – Maritime Safety Authority of Fiji  
**NZ** – New Zealand  
**OFCF** – Overseas Fishery Cooperation Foundation  
**OIC** – Officer in Charge  
**OMRS** – Open Merit Recruitment and Selection  
**PFO** – Principal Fisheries Officer  
**PIPs**- Pacific Island Parties  
**PSC** – Public Service Commission  
**RIE** – Request to Incur Expenditure  
**SFM** – Sustainable Fisheries Management  
**SIDS** – Small Island Developing States  
**SPC** – Secretariat of the Pacific Community

**SPREP** – Secretariat of the Pacific Regional Environment Programme (  
**TLTB** – ITaukei Land Trust Board.  
**UBA** – Underwater Breathing Apparatus  
**UGMAP** – Urban Growth Management Plan  
**UST**– United States Treaty  
**VM** – Vessel Monitoring  
**WCPFC** – Western and Central Pacific Fisheries Commission  
**WCPFC RFV** – Western and Central Pacific Fisheries Commission Record of Fishing Vessels  
**WCS** – Wildlife Conservation Society  
**WWF** – World Wildlife Fund

## **ANNEXURE 2**

- 1. Verbatim – Makogai and Naduruloulou submission – 25th April, 2019**
- 2. Presentation Slides**

<b>Name</b>	<b>Position</b>
Mrs Saras Sharma	Principal Research Officer, Makogai
Mr. Jone Varawa	Senior Research Officer

**STANDING COMMITTEE ON**  
**NATURAL RESOURCES**

*[Verbatim Report of Meeting]*

**HELD IN THE**

**COMMITTEE ROOM (WEST WING)**

**ON**

**THURSDAY, 25TH APRIL, 2019**

**VERBATIM NOTES OF THE MEETING OF THE STANDING COMMITTEE ON NATURAL RESOURCES HELD IN THE SMALL COMMITTEE ROOM (WEST WING), PARLIAMENT PRECINCTS, GOVERNMENT BUILDINGS, ON THURSDAY, 25TH APRIL, 2019 AT 8.30 A.M.**

**Interviewee/Submittee: Ministry of Fisheries**

In Attendance:

1. Ms. Saras Sharma - Principal Research Officer
  2. Mr. Jone Varawa - Senior Research Officer
- 

MR. CHAIRMAN.- Thank you, Honourable Chair, Sir. We welcome Fisheries staff: Saras and Jone. Saras is looking after the Makogai and other projects; while Jone is looking after Naduruloulou - Tilapia and the other fisheries like prawns, among other things, so he will be telling us more about that. On the right, I think, both of you know Honourable Jese (we came that day); on the far left is Honourable Miteli; our other Honourable Member (he was not there, he is here now), Honourable Alex O'Connor. We have an apology from Honourable Jale, who is in Lau.

So, we would like you to introduce yourselves, after that we will hear your submission, during which time there will be no interruption. After your submission, Honourable Members can ask a few questions, the floor is yours now.

MR. J. VARAWA.- *Bula vinaka*, Sir: Jone Varawa, I am the Senior Research Officer for the Aquaculture Division. I am still four months old with the Ministry of Fisheries. I used to be with the Secretariat of Pacific Community (SPC) for the last six years, and thank you very much for the opportunity this morning. Thank you.

MS. S. SHARMA.- *Bula vinaka*, Honourable Members. My name is Saras Sharma. I am Acting Principal Research Officer with the Ministry of Fisheries. This is my 13th year with the Ministry. I started out my career at Makogai Island as a Project Officer in 2007. I was based out there conducting research on other commodities, as well as giant clam culture.

At the moment, I am travelling in and out of Makogai and a few of our other field sites, looking at more policy and administration of the Research Division. Thank you.

MR. CHAIRMAN.- Thank you, now you can present your submission, whoever wants to start first, it is all right.

MR. J. VARAWA.- *Bula vinaka*, Natural Resources Standing Committee. On behalf of the Honourable Minister for Fisheries, the Permanent Secretary and the Director of Fisheries, we would like to thank you again for the opportunity this morning to come forward and give a brief submission of activities we are actually undertaking on the ground. I will start with Aquaculture as a whole and my colleague, Saras, will touch-base more on Research and Makogai, specifically. Thank you.

**Aquaculture Program:**

- Identified by the Government as one of the key sectors for further development;
- Very important in terms of export earning, for example; pearl farming and seaweed farming;
- Vital for food security, especially for our rural inland communities. This is one area we are working very closely with the Ministry of Health in identifying specific areas where there is nutrition deficiency and that is an area we really target to establish and encourage awareness on the importance of tilapia farming as a food security.



- Crucial for improving livelihoods, income-generation and, of course, import substitution. This, we target more on shrimp and prawn farming. When I say shrimp, it is brackish water, that is *Penaeus monodon* (our native species) or *bale* in Fijian and tiger prawn which is an English name or prawn farming, an introduced species which is *Macrobrachium rosenbergii* or blue water prawn.
- Also, aquaculture is one of the mitigation factors for adaptation on climate change. For example, in areas where there is very limited water, tilapia is a very hardy fish which can survive in those hard areas.

Just a quick background of tilapia farming in Fiji:

- It started back in 1950. It was brought in as livestock feed, mostly for our piggery.
- In 1974, it was further introduced. A new species came in, which is *Niloticus* for ponds in Raviravi and this was for fish farming for food security.
- In 1975, *grass carp* was introduced mainly to clear up our clogging rivers, waterways and *grass carp* was mainly introduced for that. When it arrived in Fiji, it was also further developed to be a source of food.

Pearl farming started in 1960. My colleague, Saras, will touch-base more in detail in her presentation.

- In 1980, introduction of giant blue prawn, which is *Macrobrachium rosenbergii* from Hawaii and we started farming in Fiji up until the new strain was introduced in 2008.

Other key developments included infrastructures, for example;

- Naduruloulou Freshwater Research Station. I know most of the Committee Members sitting here were with me in Naduruloulou last week and I touched-base in detail of what is our current role in Naduruloulou; what are some of the challenges or constraints we are really facing which have prevented us from expanding further.
- Galoa Station is mainly for Brackishwater activity - **shrimp and sandfish which is *dairo*.**

We will be proceeding to Galoa after this session, and I will be taking you around. The main activity there is mainly on research, hatchery activity and farm development, mainly for brackish water activity - for shrimp and sandfish. Shrimp is onto its farming stage at the moment, compared to sandfish which is still on research, both on hatchery, nursery and on its grow-out phase.

As you may be aware, we have a current ban on sea cucumber and this is one of our mitigation factors on reef-restocking and export substitution for the general sea cucumber family.

Makogai and Pearl: The Pearl industry was well-established with about \$15 million worth of industry supported by six farmers over 30 spat collection sites. These six farmers are mostly commercial and they are exporting and mostly dominated by J. Hunter and everyone in Fiji and even in the world, they know about J. Hunter pearls.

Seaweed farming consists of 11 clusters with 32 communities and 249 farmers involved. In this seaweed farming, we are still trying to push for more involvement of our communities and even our Extension officers need to be well-trained and specialised equipment for farming need to be imported. Our projected target is 100 metric tonnes annually.

Giant Clamp in Makogai: As we visited last week, the aim is to produce 20,000 juveniles and to be distributed within five years. Also our Research team is looking into trochus and coral as other target commodity for exporting.

As mentioned earlier, Galoa Station is one of the engine rooms for our aquaculture activity in Fiji and hub for shrimp. They mainly do seed supply and research as I had mentioned and for farm development activities. At the moment, we have about four commercial farmers and about 16 semi or subsistence farmers for shrimp, but still this is one of the areas in which we really need to develop as soon as possible with the amount of importation we are undertaking.

At the moment, it is about \$25 million worth of shrimp imported to Fiji and the Aquaculture Division is not keeping an eye close on that. We are working very seriously with our industries and our farmers to at least reduce that \$25 million to at least \$24 million on a yearly basis. So, with the two species in hand, the native species which is *monodon*, the *bale* and the introduced species which is *vannamei*, our technicians and industries are working very closely to revive some of the dormant farmers and encourage areas that are being intruded with seawater to be developed for shrimp farming. We are trying to identify areas, working very closely with our line Ministries, the Ministry of Lands and the Ministry of iTaukei for identifying areas that are no longer suitable for sugarcane farming, to be re-assessed and re-classified for aquaculture activities.

For aquaculture activities, our main hub is Naduruloulou and we want to disseminate our freshwater activities to Dreketi in Vanua Levu, Ba and Caboni in the Western Division. At the moment, we have about 450 farmers, both covering tilapia and freshwater prawn farming and we have only 19 staff looking after all the freshwater prawn activities. I will be discussing more in detail about the staffing for freshwater and for brackish water.

For tilapia production, our aim is to produce 200 metric tonnes annually and for prawns around 12 to 15 metric tonnes and this is all based from the annual target of 1.5 million tilapia fries (baby tilapia) and around 750,000 prawn post larvae.

Other activities that the Division is undertaking for Research and Development is on the strain and species improvements which we are working very closely with the WorldFish in Malaysia, the Secretariat of the Pacific Community and the Asian Institute of Technology in Thailand.

Seed and Feed Production: At the moment, we have our new feed machine. As you all know, tilapia fish feed on water surface and for the last how many years we have been using sinking pallets. Late last year, the Fisheries Department was working very closely with SPC, where we managed to purchase floating feed machine which will roll-out to farmers this year.

Yes, we do a lot of educational awareness on government expos, schools. We also do some technical activities/awareness to our Correctional Services and institutional sectors. This is the very important part of the slide - Gaps and Constraints the Aquaculture Division is going through at the moment.

As mentioned earlier, on staffing, for the 450 farmers Fiji-wide, we only have 19 freshwater aquaculture staff. So, with submissions coming through for this year's budget submission, we are requesting for additional staff and additional budget to undertake our activity.

Taking us back to the Honourable Minister for Fisheries' submission in Parliament where he was emphasising more on aquaculture development, and this is one of the areas we really want to target and we really need to reduce constraints on. Also, in Fiji we hardly see any areas or places supplying specialised aquaculture equipment. We are working very closely with some of the importers, for example, Marco Polo, in order to bring in specialised aquaculture equipment and to encourage our farmers instead of importing directly and they can just go to in-house supply and purchase it off.

With the new technology developed in Asia globally, we need to start disseminating those to our aquaculture staff as well. So we will need specialised technical training to our aquaculture staff as we develop aquaculture in Fiji.

Lastly, on our constraints, we need to establish an Aquaculture Management System. When I joined the Department of Fisheries late last year, there was no aquaculture database software in place so I am working very closely with our bilateral government, especially Korea in trying to develop an aquaculture database software. This is for identifying, for example, for the Northern Division, at a press of the button, you can easily know - there are "x" number of farmers in Cakaudrove, "x" number of farmers in Bua, "x" number of farmers in Macuata, and from there you can tell - there are "x" number of kilograms produced, and "x" number of kilograms sold at that value.

So, we need to develop a certain software in order to capture this, for presentation to our Policy Unit or Economist, at least we can inform them "All right, this is the budget that was given to us and this is the impact." One of the opportunities we really want to develop is private sector development. We try and work very closely with our private sector mostly on freshwater aquaculture, tilapia and prawns and on our shrimp development. So, this is one of the areas that our senior management is trying to target and apply a Private Public Partnership (PPP) in order to develop the aquaculture industry.

Even though we are currently farming our commodities, we still need to work closely with our research team in identifying new species available locally to be developed to be a cultured species.

For the last three to five years, Naduruloulou has been running on a \$300,000 Annual Budget which is to look after both hatchery, farm development and administration.

For Galoa, we have \$380,000 and \$280,000 for hatchery. You might be asking: Why \$280,000? Because shrimp development is a very expensive exercise, so a lot of feed is being imported and it is where most of the funds are going.

Dreketi: \$50,000 is our Operational Budget and a new programme which has been initiated by the Government is the Food Security Programme targeting tilapia farmers, we have \$300,000 budget for that.

Our Staffing: We have the Principal Fisheries Officer (Aquaculture), Senior Research Officer (myself), and for Naduruloulou Research Station, we have 21 staff (19 at the moment, three positions still vacant).

Galoa looks after our freshwater development, where we have only nine staff. From that nine staff, we only have one Established staff and seven Government Wage Earners.

Sigatoka: We have one staff; and in Vanua Levu, we have three, and in these three, only one is doing farm development exercise covering Cakaudrove, Bua and Macuata. So in total, we have 36 Aquaculture staff.

So, Honourable Members of the Standing Committee, that is all from the Aquaculture Division and I will handover now to my colleague, Ms. Saras Sharma, who will elaborate more on the Research and the Makogai Development. *Vinaka*.

MS. S. SHARMA.- Thank you, Honourable Members. Before I begin, I would like to show a video of Makogai. Most of the Honourable Members visited Makogai last week, I just like to show the progress we had made in the last three years after *TC Winston*. So in February 2016, we were left with what is shown now and I will elaborate on how we went further from thereon.

(Indicates through PowerPoint Presentation)

The location of the Bay makes it very ideal for Research and Mariculture to take place because it is protected from heavy wind swells which makes it ideal to place our ocean nursery.

This island was purchased by Government in 1906 and from 1911 to 1969, a Leprosarium was operating out of Makogai, and in the 1980s when the Agriculture Project started with the sheep farming, the island was used by Agriculture and after its feasibility, then Fisheries took over with their Giant Clam Project. So this was the condition it was left after *TC Winston*. So, basically, all these houses have fallen down and debris everywhere, the jetty was damaged as well. That is the jetty that you got off on, so you can see our land nursery was spread all over, but, they were damaged during *TC Winston*. So this was just to give a context of what was out there.

(Short Video Shown to Honourable Members)

Due to the time constraint that we were advised on of the schedule to visit Galoa next, we have limited the slides to just focus on the Makogai Station. However, Research looks at three capital projects which are Fisheries, Research and Conservation Unit; looking at *Qoliqoli* Resource Management, Pearl Industry Project and Pearl Spat Farm Development Project which is now more of a developed industry, started out as research.

The next one is Makogai Mariculture Research Station. So after the devastation that we all witnessed, the Station focused on rehabilitation for the last two years and it is now operational. So this is one of the eight islands in the Lomaiviti Group where the State land belongs to Government and the *qoliqoli* waters are under the jurisdiction of the *Vanua* of Levuka.

From the second picture, you can see there that it is well-protected with the reef system which makes it very ideal for us to conduct research on marine species as well as in the context of climate change.

The establishment of the Giant Clam Hatchery took place in the 1980s. This was after an extensive survey was undertaken and it was found out that most of the species were in a very endangered state. The *T. gigas*, one of the fastest growing species, was literally extinct, there were no more of this species found. This was due to the Taiwanese illegal poaching of giant clams in the South Pacific as well as a target by Asians. So this species was then reintroduced in 1982, and in 1986, juveniles was also imported from James Cook University to start up an actual culture hatchery.

So you can see in the context of a free diver and the giant clam, the maximum it can go to is 1.5 metres. This is the largest growing species, which is *Tridacna gigas*. The first picture shows us spawning that we undertake in our hatchery, and you can see that the giant clam is releasing sperms. These are hermaphrodites so one animal releases both the sperms and eggs and then we collect them in jars as we witnessed. We put them in different raceways, and as soon as the larva starts to set, then they are put on slabs when they are big enough. So this is just to give some context of the size of giant clams that we are looking at because last week, we were unable to pull out any broodstock to put in the hatchery so these are our ocean stocks.

These are eight of the giant clam species found in Fiji: *Vasumataua*, *Vasudina*, *Cega*, *Katavatu*, *Teveroa*, *Teke-ni-ose* and the two that do not have local names are the two that are targeted by the Aquarium Industry. So they do not grow bigger than 6 centimetres and this is why it makes them very ideal for the Aquarium Industry. We have got two companies that are interested in exporting it however, because of the CITES requirement and the process by the Department of Environment, we are still awaiting on that process.

In terms of the importance of giant clams, the following are ecosystem benefits:

- Acting as shelters for coral reef fish;
- Food for predators and scavengers;
- Productivity and biomass; and they are

- Hosts for commensals.

So they are very important in a reef system, they feed on phytoplanktons, they siphon phytoplanktons from the water which increases water clarity in simple terms which allows the corals to breed further and increases the biodiversity.

In terms of economic and social benefit, it is a source of food security, and we have projects through eco-tourism development where giant clams have been used as an attraction to advertise for tourism opportunities.

Crabs: They are especially vulnerable to stop depletion because of their late sexual maturity. There is a cell adult phase and broadcast spawning strategy. In terms of over harvesting and fisheries exploitation because this species is ready-exposed and ready to be harvested, it makes them very easy for exploitation. This is what had happened earlier on in the 1960s after the exploitation after the Taiwanese poaching and it continues to happen today. We produce these species for restoring to communities and most of the time, at the end of the day, there is poaching by the locals themselves or from neighbouring villagers.

In terms of climate change, ocean acidification is going to have an effect because due to the acid levels, the calcium needed to produce these shells will not be sufficient. So that is another trend that we have.

In terms of the production that is provided to this commodity, they are listed under Appendix 2 of the Convention on International Trade in Endangered Species (CITES) of Wild Fauna and Flora and they are also listed in the International Union for Conservation of Nature (IUCN) and Red List as Threatened Species.

In Fiji, they are listed under the Endangered and Protected Species at 2002 which is mandated under the Department of Environment which regulates exports. Protection is also provided to the Offshore Fisheries Management Act 2012 for the species in terms on fishery. So, in this slide, we capture the opportunity as well as the challenges for the giant clam industry though they are protected, we also have the opportunity to export them because the protection is provided on wild stocks and over the years we have moved away from wild stocks, we hardly have wild stocks. Most of the clams in Fiji Waters are now cultured stocks, so there are aquaculture-based commodities which have the provision to be exported.

After 2016, one of our lessons learnt was we had lost most of our broodstock and our hatchery was completely destroyed. The first two years we moved on to building mini hatcheries where resorts or coastal hotels could look after them so this is one of the examples of the many hatchery that we have established which is on Tavarua, similar to the setup on Makogai. The technical aspect was provided by Fisheries in terms of setting up the hatchery and the clam stocks, so those are visible in the pictures. These are some of our broodstocks that were also transported across for safe-keeping should another such event occur and for us not to lose the good stock.

Also, simultaneously, we are working with communities in terms of residing programmes. So, one of the communities in Beqa had designated a marine-protected area and our first initiative was to provide them with giant clams for their hatcheries and protected areas. So, a Technical person from the Ministry of Fisheries was sent with the clams who then worked with the communities in terms of putting them on slabs and they required the cleaning that we needed to look after the clams.

This is my second last slide. On the island, as I mentioned, we are looking at carrying out coral monitoring and restoration project. So, our restoration projects are similar to what we are saying in this picture however there are various other methods that we use for restoration. This is still being trialled out at Makogai and in terms of research being under-funded at the moment, we make do with whatever resources we are left with from the giant clam cages. We are using them to trial out these coral restoration methods as well as looking at the impacts

of the sea level rise or the increase in temperature it might have, because El Niño and La Niña will have a massive impact on Fiji because of all our islands being dependent on fisheries and these coral reefs. We are now working with some of our experts to identify heat-strained corals or corals that would sustain or be able to live with the one degree increase of temperature, however, this needs equipment, technical expertise and this means going back and forth from islands, it also needs different sites and the accessibility to it.

Giant clam mariculture as well as the pearl industry are a clear indication of success of a research project where we took a commodity, we found out about it, we ventured into aquaculture and now they are a standing industry, so the pearl industry started out as a research project and it is a successful industry for Fiji now.

Similarly, giant clams are on the same path in the sense that we have companies that are willing to export for food security and aquarium industry. We also have 163 other species that have the potential for value-adding, export market and for import substitution, however, we do not have the funds or the expertise to venture out into them. So what we wanted to highlight this morning that if investor-drive into research, we would certainly get returns out of it, both in an economic sense as well as an ecological sense, so those were the two points that both of us would like to highlight.

The last slide just sort of summarises some of the immediate needs that we have on Makogai in terms of transportation of material and people.

As seen from the last visit, there is the need to have a proper jetty, landing craft even a vessel to travel from Natovi, Levuka, Makogai (between islands) as well as around Makogai because we are located in the Vatu-i-Ra sea passage between Koro Sea and Vatu-i-Ra which are the most turbulent waters. We have lost people out at sea over the years. We have had boats capsized, so those are some of the challenges we face, however, over the years, we have come across and gotten over those things but there is still a need for a proper vessel and even transportation within the island.

The island has huge potential to further expand into more research and more culture but with \$300,000 budget for the island and looking at fuel costs for just transportation, it does not really leave much money then for research and other purposes.

Also within the island, because we have different bays and each bay has turtle nesting sites, we have shark nurseries, spawning aggregation sites. At the moment, we are using just boats to go further out, however, if there is provision for transportation within the island then we can reach out to other bays in a motor vehicle which is a more safer way to travel.

In terms of Makogai being a research station without a research laboratory, it does not really count as a research station so at the moment, it is more of a culture. We are carrying out mariculture and as seen from the last visit, most of what we are doing is very manual and it is trialling out of ancient methods. So when we are out of serotonin, we stress one of the giant clams, in the event we have to lose a giant clam to be able to spawn the other. So those are some of the technics we are using to still reach the production and yes, so more equipment, more injection of funds and expertise would certainly help it.

With the existing challenges, we are still producing and as seen from last week, at the moment, we have 45,000 juveniles of three different species in our raceways as well as 100 broodstock of the three different species in different sizes.

As we are all aware, the ban on *kawakawa* and *donu* during the spawning seasons so one of the commodities that we have picked up for this year is grouper spawning and for that, we are exploring into cage culture, which again we will need funding and certainly technical expertise. We have SPC and other technical

organisations that are willing to help, however, we need to strengthen that relationship and the commitment from Fiji in terms of securing that as well.

Due to the time constraints, that is all I have today, and we are happy to answer any questions or provide any more information, should there be a need. Thank you.

MR. CHAIRMAN.- Thank you, the floor is open for questions.

HON. A.D. O'CONNOR.- Through you, Honourable Chairman, I have quite a few. Pearl is an industry on its own so I will not go there. Why is the Ministry only looking at harvesting giant clams; what about trochus, nautilus and other seashells that are near extinct too? It is a commodity that the entire livelihood of every Fijian also depends upon. Whilst on the same question, the *Katavatu* (baby clams), is that going into extinction as well?

MS. S. SHARMA.- Thank you, Sir. In terms of the first question, we have been spawning trochus but after *TC Winston*, while the hatchery is still going under rehabilitation, we are not in a position to culture trochus right now. Although, that is in our Annual Work Programme for next year, we still need to build up some specific raceways for these species, however, we had done that and in terms of nautilus, these are deep water species and we do not have the expertise.

We are working with Montreal Bay in United States and we have got experts for a five-year project where we are looking at the biology of that animal. These are usually fished out from deeper waters which can go as deep as 100 metres or 200 metres and to have that type of setup with the right amount of temperature, salinity and environmental features, we do not have a laboratory or even the setup to replicate that depth in our hatchery, so that is one of the reasons why we cannot do nautilus. However, there are 163 other species that we can work on but we need the funds and the expertise to be able to carry them out. In terms of the second question, Sir?

HON. A.D. O'CONNOR.- The baby clams, *Katavatu*, do you see that going into extinction as well?

MS. S. SHARMA.- They are endangered, we have very low numbers of them but we are culturing them so we have cultured *Katavatu* in our hatchery.

HON. A.D. O'CONNOR.- The other one is, I see that you are getting assistance from our bilateral countries and agencies. Have we ventured into our own local prawns, our own local specie? I think it is one of the tastiest on the table. They come up in very big sizes and if we go into the dense forests, these are much much bigger than the imported ones, do you wish to comment on that?

MR. J. VORAQA.- Thank you, Sir. Three years ago, we tried to culture *Macrobrachium lar*, *Ura Dina*. It took them almost about 60 days to 90 days to reach post larval stage. When it goes into the grow-out pond, it takes them more than eight months to reach harvest size and that is a bit of an extra expense in the hatchery to maintain them, because the feeds we utilise in the hatchery is very expensive, and when it goes out into the grow-out ponds, six months and below, it is more affordable to farmers to cater for feed and management, but eight months is a bit expensive for our farmers, and *Rosenbergii*, is more economical compared to our *Macrobrachium lar* which is *Ura Dina*.

HON. A.D. O'CONNOR.- Coral restoration: You have heard of Walt Smith in Lautoka. They were shut down but probably when I explained this to the Honourable Minister himself at the time of their closure, probably, the Ministry was not aware that whilst he was extracting the coloured coral for export, he was also planting it, and I think for every one he brought out, he planted 20 or so. That was a very successful industry.

MS. S. SHARMA.- Thank you, Sir. I think, from the Fisheries point of view, after discussions and from the Research technical advice to the Minister, we had highlighted that we were fully supportive of the project and based on our analysis, they had been given the export permit until 2018, however, because these are CITES listed species and the Department of Environment deals with it, so the Department of Environment had taken off Fisheries from being one of the signatories of the CITES permit, so it is still resting with them.

We are working with Walt Smith and two of the other aquarium companies that are culturing but due to the hold-up at the Department of Environment in terms of the CITES permit, they are unable to export.

HON. J. SAUKURU.- Thank you. This brings me to the question that is linked to that one. What is your relationship with the Department of Environment? Because I have seen that they are having problems too with the Department of Forestry. The Department of Environment is sort of a stumbling block now, for example, for Walt Smith, they have been employing people and now they have laid them off because of that. They were bringing in money for exporting coral and now that has stopped. It seems that every now and then, the Department of Environment is coming up, also the Malolo issue happening for that hotel setup, it is like every now and then, we have the Department of Environment coming up. It seems like they are not playing their part properly in the process of development here in Fiji.

MS. S. SHARMA.- Thank you, Sir. I do not know how best to diplomatically answer that question without getting into hot soup but what I can say is that the requirements of Fisheries for Walt Smith and maybe you will come up with some more industries that are ready to export for the giant clams, they have been cleared from the Fisheries Department. We are unable to issue an export licence because one of our requirements is a CITES permit which is sitting with the Department of Environment. That is all I can say at this stage. Thank you.

HON. A.D. O'CONNOR.- Would that be the same for the sea cucumbers? There is a ban on harvesting sea cucumbers. We understand from the Ministry that they are going into spawning sea cucumbers. How far is the actual spawning to assist the *qoliqoli* owners? Because they have got no source of income so with that now, to what degree would the spawning of sea cucumber be to the *qoliqoli* owners?

MR. J. VARAWA.- Thank you, Sir. As I mentioned earlier, sandfish is a commodity that the Ministry is currently working on right now and we are trying to identify specific areas to conduct our sea ranching and pen culture of sandfish. Why sandfish? Because it has a faster growth during the hatchery cycle and also in their grow-out and also fetches high price compared to *sucuwalu* and other commodities in the sea cucumber family. Exemptions will only be given at the moment if it is a cultured species if you grow out sandfish. For any wild catch, it will be declined by the Ministry. Thank you.

MS. S. SHARMA.- If I may add on to that, in terms of research, when we did a stock analysis for some of the highly-fished areas, it showed very low densities and they were deeper which was also affecting our communities that were diving further down. We started with 20 metres, people were diving at 20 metres which was somewhat safe, they then further moved on to 40 metres and now they are going as deep as 60 metres, which is highly unsafe. So, they had to burst their ears and noses to go deeper and when we banned UBA (Underwater Breathing Apparatus), they resorted to taking the whole compressor on the boat and running air hoses. Once you run out of fuel on the compressor, your machines shut off, how do you shoot off from 60 metres below, those were some of the social consequences that were related to it as well.

So, we have ventured into the culture of it but that again will take a bit of time to actually go to market size.

MR. CHAIRMAN.- Due to time constraints, we will have one more question, if anyone has any.



HON. M. BULANAUCA.- Just one long question: If you have any data or information, can you give us a brief summary of the local demand on those various shrimps, tilapia; what can we produce here; are we importing; what are the constraints that are stopping us from trying to lessen those imports to meet our demands? That will be a good summary for us and your various ways or strategies of how to reduce that import?

Also as you mentioned about the Giant Clams, you are concentrating on a few species and there are about 160 species, because we need funds for research for that because for any country to be more competitive in their open market, we need to have more funds in getting research, get new things out into the market and get money economically, particularly in the ocean or in the sea and the same thing with the trees as well, when we work with that as well.

It is important that for a country to spend a lot on research and more things then they will be able to be more competitive out there in the market. What is already there in our sea, in our trees, land it and so on, so what can you say? It is quite a long question.

MR. CHAIRMAN.- I think for that one, you can come back to us. He has asked about those things, I know you do not have the data for it, as he has already mentioned that they want to have the data for aquaculture so they can provide, so in the meantime I do not think they have it.

So for that I want to thank you all, thank you for coming because as we want to spend time, it will take the whole day as we are not aware of the fisheries, whereas you are more aware of the fisheries, you do your research and we are not from the fisheries background. It was pleasant to hear your presentation and in future we will be in contact with you as the Natural Resource Committee. We might call you if we are not clear of anything and maybe in future we will be in contact with you.

Thank you and *vinaka vakalevu*. If there is anything you want to say, you can do so and after that, we will have morning tea together and adjourn this Committee Meeting afterwards. Thank you.

MS. S. SHARMA.- Thank you, Mr. Chairman and Honourable Members. I think I would just like to take this opportunity on behalf of Mr. Jone, myself, our Minister, Permanent Secretary and Director, Fisheries for being provided this opportunity to be able to speak for Research and Aquaculture to the Natural Resources Standing Committee, and we will certainly be very happy to assist with any queries that you might have and we will be happy to send in the information that you require. Thank you.

MR. CHAIRMAN.- Thank you. We will have morning tea together before you leave.

The Committee adjourned at 9.23 a.m.

## PowerPoint Presentation Slides by the Senior Research Officer Naduruloulou Fisheries Research Station on 25<sup>th</sup> April, 2019.



### HISTORY

Aquaculture was first introduced into the country in 1973

*Oreochromis mossambicus* or Black tilapia as it is commonly known in backyard farms was introduced from Malaysia in 1934, mainly for pig feed at Nansenlu Agriculture Station.



This was later introduced as a source of protein for communities in the highlands.

- After consultation and technical research between the Fiji Government, JICA and FAO, the Freshwater Station was established at Naduruloulou in 1973.



- CHITRALADA (Tilapia Strain) was introduced from THAILAND and PHILIPPINES in 1985 and 1988 respectively.



The Genetically Improved Farmed Tilapia (GIFT) was introduced in 1997 which is the main species cultured to date.



### Cultured Species

#### FRESHWATER AQUACULTURE PROGRAM






### ROLES of the FRESHWATER AQUACULTURE SECTION

- Hatchery**
  - Tilapia
  - Carps
  - Prawn
- Research**
  - Feed
  - Genetics
- Farm Development**
  - Site Survey
  - Pond Excavation Supervision
  - Technical Advice
  - Monthly Sampling and Monitoring
  - Harvesting & Marketing
  - Training & Awareness

## Immediate Gaps to be addressed

### Staffing:

- Needs more established extension staff to monitor aquaculture activities on the ground
- Disseminate/Decentralize aquaculture activities Fiji wide

### Specialized Aquaculture Equipment's

- Hapa's for breeding systems
- Incubator systems
- Proper feeds
- Proper harvesting and sampling materials- have to import as no specialized supplier locally.

### Proper refurbishments of the aquaculture facilities

- Infrastructure (building/hatchery) and pond repairs
- High risk of flooding (national and regional broodstock hub)

- Pond dykes needs to be raised

### Capacity building for our technical staff

- Specialized technical training- based on commodities

## Standard Operating Procedure

- Submission of a letter of interest from applicant, Stating**
  - Address and proposed site for fish farming
  - Land tenure - lease, freehold, mataqali owned
  - Attach a copy of title that is registered under the applicants' name or 75% signed consent of Mataqali members
  - Name and Contact

- Letter to be addressed to:**

- **Principal Fisheries Officer - Aquaculture OR**  
**The Officer in Charge - NRS**

- **P.O. Box 819**

- **Nausori**

- or can be delivered to the nearest Fisheries office

- Phone Contact : 3477781 Fax: 3479406**

### WHY AQUACULTURE

- **FOOD SECURITY - SOURCE OF PROTEIN**
- **IMPORT SUBSTITUTION**  
Provide for local demand using locally produced seafood, and avoid loss of foreign exchange in imported goods
- **SOURCE OF INCOME**
- **SOURCE OF EMPLOYMENT**
- **RE STOCKING OF RIVERS AND MARINE ECOSYSTEMS**  
Provide additional income and employment for the rural communities, reduce urban drift, and ease pressure on capture fisheries

### FISH FARMING

**FRESHWATER CULTURED SPECIES CAN BE FARMED IN PONDS, CAGES AND CANALS**

**IT TAKES 4 - 5 MONTHS FOR TILAPIA AND 5 - 7 MONTHS FOR PRAWNS.**

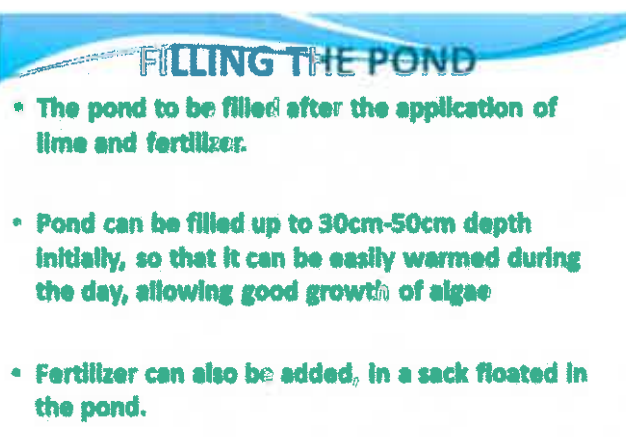
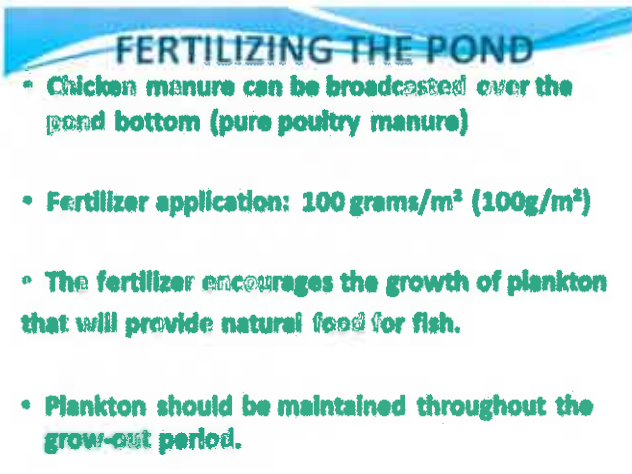
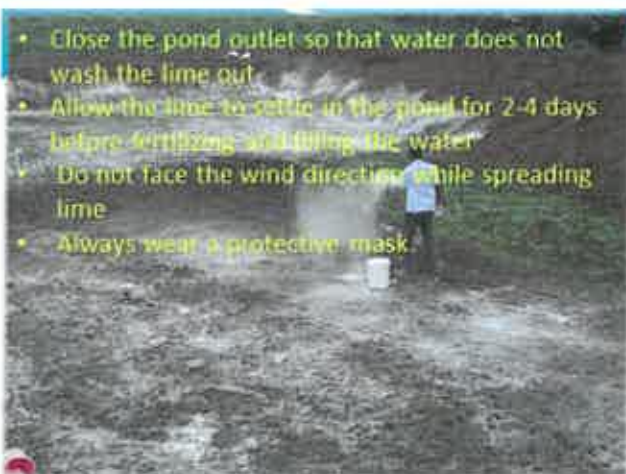
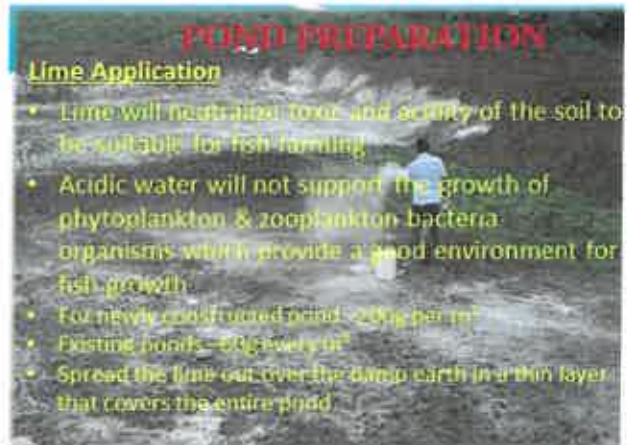
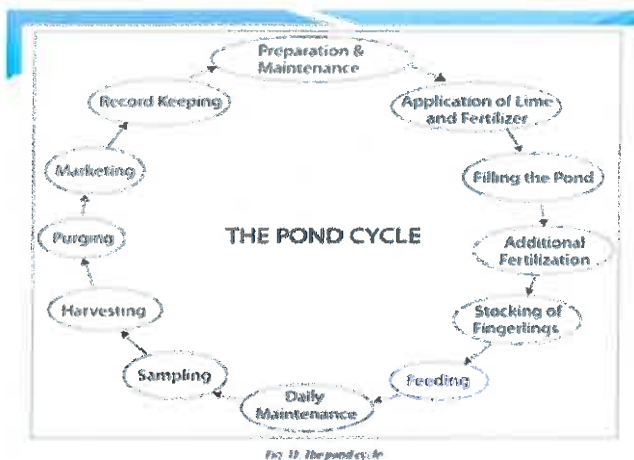
**THE FINGERLINGS ARE AVAILABLE AT NRS FOC**

### SITE SURVEY

- Site to be on a gentle slope or flat land
- Site to be away from flooding area
- Pond to be close to a permanent water source
- On leased land, water source is to be within the leased area
- Outlet drain is to be lower than the bottom of the pond
- Good clay loam soil with good water retention
- Site to be close to residence or farm house
- Applicant's name to be registered on the title of the proposed land
- Assess other water source available to support during dry weather
- Identify the available infrastructure: drinking water supply, electricity, proper roads and market outlets.

### CONSTRUCTION





## RELEASE OF FINGERLINGS INTO THE POND

Let the plastic bag of fry float in the pond for acclimatization of temperature for 10 – 15 mins

Open plastic and let the fry swim out – DO NOT POUR SUDDENLY



## Hand Dug Ponds



## FISH SAMPLING

Sampling to be done once a month to determine the fish growth and Daily Feeding Ratio



## Well Managed Fish Farms



Mr Madrai's Farm, Maunil



Mr Kelemedi's Farm, Maunil



## Institutional Farms

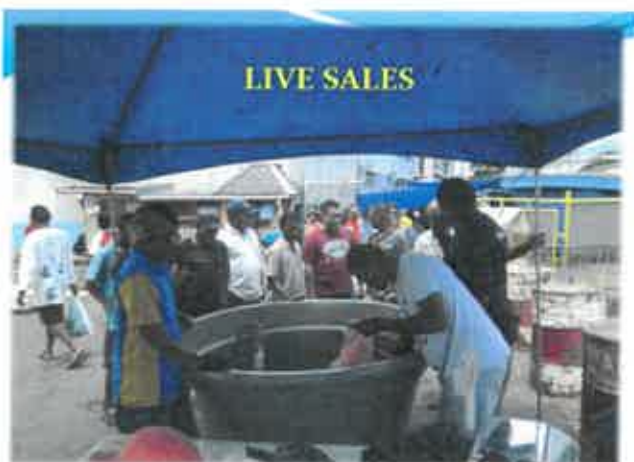


- Average Body Weight
- Growth
- Daily Feeding Ratio



## HARVESTING AND HANDLING

- Tilapia to be harvested at 4-5 months .
- 2 types of harvesting:
  - Partial harvest- can be done using seine net or cast net to meet market demand
  - Complete pond harvest is seined 3-4 times then completely drain to harvest all the remaining fish.
- Things to know:
  - Do not feed the fish on the day of harvesting, to allow fish to empty their guts. This improves survival and condition of fish during harvest
  - It is preferable to harvest early in the morning or late in the afternoon-this will reduce stress



**WEIGHING**

**RECORDING**







ESTIMATED TILAPIA PRODUCTION		
Pond Size	-	50m x 20m
Measurement	-	1,000m <sup>2</sup>
Stocking Density	-	5/m <sup>2</sup>
Total Stocking	-	5,000 fry
Survival %	-	90 %
Number survived	-	4,500 tilapia
Average Body Weight at 4months	-	200 grams
Total Weight at Harvest	-	900 Kilogra
Minimum Market Price	-	\$8.00/kg
Estimated Revenue	-	\$7,200.00



**VINAKA VAKALEVU !!**





# PowerPoint Presentation Slides by the Principal Research Officer Makogai Mariculture Research Station on 25<sup>th</sup> April, 2019.



**Makogai Island**  
Is one of the eight islands in the Lomaiviti Group.  
It is state land which belongs to the Government and the goliqoli waters are under the jurisdiction of Vanua Levuka.



## Establishment of a Giant Clam Hatchery

- Following an extensive survey of Fiji's giant clam, which found low numbers of several species and *T. gigas* apparently extinct – a quarantine facility was set up at Makogai following a re-introduction of *T. gigas* from Australia.
- The facility was later developed into a full scale mariculture research and production facility which saw the diversification of culturing into more *Tridacna* species.



## Importance of Giant Clams

### Ecosystem Benefit

- Shelters for coral reef fish
- Food for predators and scavengers
- Productivity and biomass
- Hosts for commensals

### Economic and Social Benefit

- Food Security
- Income through eco-tourism



## Species of Giant Clams

Scientific Name	Common Name	Local Name
<i>Tridacna gigas</i>	Giant Clam	Vatavutatau
<i>Tridacna derasa</i>	Smooth Giant Clam	Vatavudine
<i>Tridacna aquimassa</i>	Fluted Giant Clam	Caga
<i>Tridacna maudina</i>	Rugose Giant Clam	Katavubu
<i>Tridacna tenebrosa</i>	Dark Clam	Tavero
<i>Tridacna crocea</i>	Boring Clam	
<i>Tridacna nana</i>	Small Giant Clam	
<i>Hippopus hippopus</i>	Horse's Hoof Clam	Tolu-ni-oue



## Threats

- Giant clams are especially vulnerable to stock depletion because of their late sexual maturity, sessile adult phase, and broadcast spawning strategy.
- Over harvesting and Fishery exploitation.
- Climate Change – Ocean Acidification.



## Protection

- Presently, all giant clam species, other than the new species, are protected under Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and listed in the IUCN Red List of Threatened Species.
- Nationally this species are listed under the Endangered and Protected Species Act 2002, under the Department of Environment.
- Protection is also provided through the Offshore Fisheries Management Act, 2012.

## Expansion of the program : Tavarua Mini Hatchery



## Community Reseeding Program : Beqa 13th December, 2018



## Coral Monitoring and Restoration Project

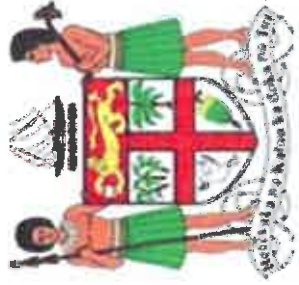


Transportation of materials and people	<p>Estimated the amount of materials to be transported for the project based on the materials and services.</p> <p>Estimated for a landing craft for the loading and delivery of materials and services.</p> <p>Estimated for transport materials to transport people and materials between the different sites.</p> <p>Estimated for transport materials to transport people and materials between the different sites.</p> <p>Estimated for transport materials to transport people and materials between the different sites.</p>	<p>200,000</p> <p>200,000</p> <p>200,000</p> <p>200,000</p>
Vehicle and transport for materials within the land	<p>There is a need for a vehicle to transport the materials which is currently being used for the project.</p> <p>There is a need for a vehicle to transport the materials which is currently being used for the project.</p> <p>There is a need for a vehicle to transport the materials which is currently being used for the project.</p>	<p>100,000</p> <p>100,000</p> <p>100,000</p>
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# Overview of Aquaculture in Fiji





# Aquaculture Program



- Identified by the govt. as one of the key sectors for further development
- Very important in terms of export earning – pearl farming, seaweed farming
- Vital for food security, for rural inland communities – tilapia and carp farming
- Crucial for improving livelihoods, generating income and import substitution – shrimp and prawn farming
- Adaptation to climate change





# Brief Background

- Started in 1950's with the culture of Tilapia (*mossambicus*) to be used as livestock feed
- In 1974, *Niloticus* Tilapia introduced from Israel to culture into ponds at Raviravi
- 1975 grass carps were introduced to be used as biological weed control in river systems. Successful carp breeding program was carried out between 1984 – 1989 with assistance from JICA
- Introduction of seaweed from Phillipines in 1976
- Pearl farming trialed in mid 1960's, CDF program est. in 1998 and fully established farm by 2000 and est. industry now
- 1980 saw the introduction of giant river prawn (*M. rosenbergii*) from Hawaii and was successfully
- spawned 1997 was when the GIFT tilapia introduced
- 2008 when GFP Vietnamese strain was introduced





## Other key developments

included infrastructures such as:

- Naduruloulou Freshwater Research station in 1975 to support research and developments in Freshwater aquaculture
- Makogai Mariculture Research station in 1970 to support Mariculture activities- Joint collaboration between Research and Aquaculture Division
- Galoa Brackishwater hatchery in 1998 to support Brackishwater aquaculture activities





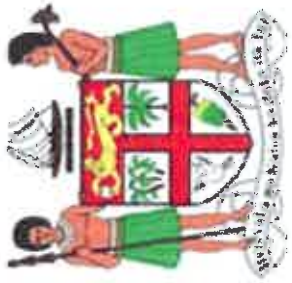


# Current Situation

## Mari-culture

- Pearl industry well established – key export commodity of about 15 million dollars
- Supported by 6 farmers and over 30 spat collection sites - village based program. Dominated by J.Hunter pearls.
- Seaweed farming consists of 11 clusters with 32 communities and 249 farmers involved
- Projected production for the year is targeted at 100mt
- Giant clam is bred at Makogai for re-stocking purposes. 20,000 juveniles distributed in 5 years
- Trochus and coral is the other targeted commodity





# Brackish water Aquaculture Program



- Galoa Station- Galoa Hatchery for shrimp seed supply, research, training & farm development activities
  - Supports livelihoods and import subs. Initiative by govt.
  - Target species is white-legged shrimp or *Litopenaeus vannamei* which was introduced from Thailand
  - Replaced local species – *P.monodon*, due to difficulties in breeding
  - Projected production is around 20 tonnes involving about 6 farmers
  - Successful sandfish (*Holothuria scabra*) breeding program for reef restocking
  - Community based milkfish farming project
- Vitawa







# Freshwater Aquaculture Program



- Naduruloulou Research Station (NRS)
  - tilapia, prawn carp seed supply, research, training & Farm Development activities
- Hatcheries in – Caboni, Ba & Dreketi
- Supports food security, livelihood and import subs. Initiative by govt.
- Consists of about 450 Tilapia and prawn farmers
- Projected production is 200mt tilapia and 12-15mt prawns



## **Other Activities**

- Research and development – strain/species improvement, seed and feed production research, etc.
- Seed production & supply – hatchery operations, Broodstock Management
- Farm development – site surveys, pond construction, sampling, monitoring, etc
- Training – staff, farmer
- Education/awareness – expo displays, school, correctional services and institutional visits, etc.

# **Immediate Gaps/Constraints to be addressed**

## **1. Staffing:**

- Needs more established extension staff to monitor aquaculture activities on the ground
- Disseminate/Decentralize aquaculture activities Fiji wide

## **2. Specialized Aquaculture Equipment's:**

- Hapa's for breeding systems
- Incubator systems
- Proper feeds, harvesting and sampling materials- have to import as no specialized supplier locally.

### **3. Refurbishments of the aquaculture facilities:**

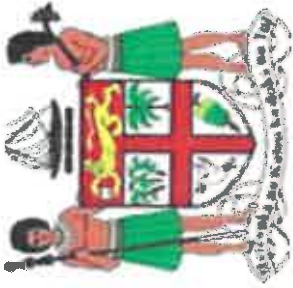
- Infrastructure and pond repairs
- High risk of flooding (NRS- National and Regional broodstock hub)
- Pond dykes needs to raised

### **4. Capacity building for our technical staff:**

- Specialized technical training- based on commodities

### **5. Aquaculture Management System**

- Aquaculture database software for statistical analysis and compilations



# Opportunities



- Capacity building – training (technical & financial) esp. for farmers
- Conducive environment for investors – legislation, bank loans, infrastructure, etc
- Industry/sector development plans
- Encourage private sector involvement, esp. in Freshwater & Brackish water aquaculture activities
- Developing species with potential
- Identification of new species for culturing and new methods (cage culture)



## Budget Allocations:

Naduruloulou Research, Sigatoka and Ba Station: \$300,000 – (Hatchery and Farm

Development)

Galoa Brackish water station: \$380,000- (\$280,000-Hatchery, \$100,000-Farm

Development)

Dreketi Station: \$50,000

Food Security Project (FSP): \$300,000

Total: \$1.03 million

## Staffing:

Principal Fisheries Officer- Aquaculture

Senior Research Officer- Aquaculture

Naduruloulou Research station- 21 staff

4 Established staff

15 Government wage earner staff

3 position vacant to be advertised

**Galoa Station- 9 staff**

- 1 Established staff
- 7 Government wage earner
- 1 vacant position to be advertised

**Sigatoka Station- 1 staff**

- 1 Government wage earner

**Dreketi Station- 3 staff**

- 3 Government wage earner

**Total Aquaculture staff- 36**

## **ANNEXURE: 3**

### **Site visit report - Photos**





**PARLIAMENT**  
OF THE REPUBLIC OF FIJI  
STANDING COMMITTEE ON NATURAL RESOURCES



# COMMITTEE VISITS TO THE MINISTRY OF FISHERIES STATIONS, PAFCO & FIJI FISH MARKETING LIMITED.



Photo taken after the submission made by the *Permanent Secretary of Ministry of Fisheries* (Mr. Craig Strong) and his team with the Hon. Members and secretariat of the Committee.



The Standing Committee on Natural Resources conducted a site visit to the *Makogai Mariculture Research Station* on 16 April 2019 to *Makogai Island*.



Committee visited the *Pacific Fishing Company Limited (PAFCO)* facilities on 17 April 2019 and also heard more on the operation and challenges faced by the Company on Tuna stock.



The Committee visited Nadurulou Freshwater Research Station on 18 April 2019. Hon. Members were impressed on the project undertaken within the station.

Challenges and way forward pertaining to the visit at the station is noted in the Committee report.



Hon. Members were enlightened on the stages of breeding seawater prawns and sandfish at *Galua Brackish-Water Research Station*.



Broodstock for seawater prawns fingerlings ready to be filled.