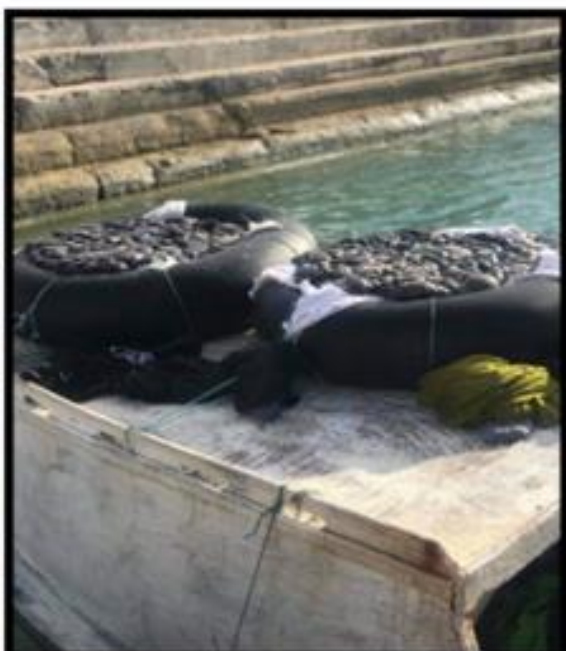


TONGA NATIONAL SEA CUCUMBER FISHERY MANAGEMENT AND DEVELOPMENT PLAN 2021



Prepared by the Tonga Ministry of Fisheries with the assistance of the Pacific Community

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FOREWORD

The Tonga National Sea Cucumber Fishery Management and Development Plan 2021 was developed in response to Cabinet Decision No. 355 of 2021 to open the sea cucumber fishery as an option to support the community's livelihood during the COVID-19 pandemic and to address the increasing number of illegal harvesting of sea cucumber during the moratorium.

In early 2020, the World Health Organization (WHO) declared COVID-19 corona virus as a global pandemic. The worldwide effect of COVID-19 pandemic disrupts health, travel, food, social, livelihoods and economic systems. Tonga like many countries, took measures including restrictions of movement of people as a mitigating factor to prevent the introduction and spread of the virus. The domestic restrictions on people movement coupled with international travel restrictions had tremendous effect on the national economy as well as the people's livelihoods.

The sea cucumber fishery was one of the coastal fisheries considered and approved as an option for communities to engaged in the collection, processing, and export to support community livelihoods.

As the Minister responsible for Fisheries, I call upon all stakeholders of sea cucumber fishery in Tonga such as community collectors, processors and exporters to join the Ministry of Fisheries in the implementation of this plan to ensure sustainable harvest to support livelihood of the people of Tonga.


APPROVAL

This Tonga National Sea Cucumber Fishery Management and Development Plan 2021 is produced in accordance with Part II, Section 7(1) and 7(5) of the Fisheries Management Act 2002.



Lord Tu'ilakepa

Minister Responsible for Fisheries



Date

ABBREVIATION

BDM	Beche- de- mer
CEO	Chief Executive Officer of the Tonga Ministry of Fisheries
MoF	Tonga Ministry of Fisheries
MEIDECC	Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications
MLS	Minimum legal size
FMAC	Fisheries Management Advisory Committee

PART 1: PRELIMINARY

1.1 Context and purpose

The Tonga National Sea Cucumber Fishery Management and Development Plan 2021 was developed in response to Cabinet Decision No. 355 of 2021 to open the sea cucumber fishery. The reason for the Cabinet Decision was to assist the country, particularly fishing communities in their livelihoods during the impacts of COVID-19 pandemic and to address the increasing number of illegal harvesting of sea cucumber during the moratorium.

Sea cucumber is an important export fishery in Tonga providing both economic and social benefits in terms of bringing in much needed foreign exchange and creating jobs for the people of Tonga. From 2008 to 2014, it was recorded that the export value was just below TOP1.7 million.

Since the development of the fishery in 1980's, the fishery has been under a lot of fishing pressure and has been characterized by boom and bust with two moratorium periods as a result of overfishing. Harvest records of the export beche-de- mer (BDM) fishery began in the 1980's. Between 1984 to 1997, 891 metric tonnes (t) were exported with a peak of 160 t in 1987. A mokohunu (sea cucumber) resources assessment in 1996 recommended a 10-year moratorium on the fishery, this recommendation was approved by Cabinet by the last quarter of 1997. The fishery reopened during the last quarter of 2008. From 2008 to 2014, 1043 t were exported with a peak of 370 t in 2009. Mokohunu resources assessments in 2013 and 2014 revealed many mokuhunu species densities were below reference densities for healthy stocks. Based on those results Cabinet closed the fishery by the last quarter of 2015.

In 2016, another mokohunu assessment was conducted on the three island groups. It revealed the populations at each of the three island groups had not recovered to commercially exploitable levels. In 2019, the Pacific Community (SPC) in response to a

request from the Ministry of Fisheries (MoF) assisted with a stock assessment of the sea cucumber resources of Tonga. The study assessed the densities to see if they had recovered to levels seen in the 1990s or those levels recorded after the ten-year moratorium that ended in 2008. Results showed that population densities for high, medium and low value species have not recovered to warrant opening the fishery for commercial harvests. However, the report also stated that if there is a strong need to open the fishery, one of the recommendations was that Tonga should develop a list of permissible species eligible for harvest. Part of eligibility criteria should be that the list should only include species which have a significant proportion of their population larger than length-at-maturity (L_{50}) or above the minimum legal size (MLS).

While the result was clear, in May 2021, Cabinet decided under Decision No. 355 of 2021 to open the fishery, specifically to allow communities to harvest sea cucumber to support their livelihood during the COVID-19 situation and to address the increasing number of illegal harvesting of sea cucumber during the moratorium.

Therefore, the purpose of this plan is to provide a management framework to gather for the open season under Cabinet Decision No. 355 of 2021 which is from 31st May to the 30th September, 2021. More specifically, the plan outlines the objectives, strategies, and management measures to be implemented during the open season to ensure harvest is sustainable and not further undermine the sea cucumber stock of Tonga.

1.2 Scope and application

This plan has been prepared in accordance with Section 7 of the Fisheries Management Act and in response to Cabinet Decision 355 of 2021. It does not in any way override, the provisions of the Act or regulations promulgated under the Act. All activities in the plan shall be subject to the applicable provisions of all Acts and regulations of Tonga:

The scope of the plan covers:

- all animals belonging to the class Holothuroidea listed in **Table 1** below, commonly known as sea cucumbers and include the subsistence, commercial and marine scientific research activities of those sea cucumbers species. The plan does not cover species that are not listed in Table 1.
- the area of application includes the island groups of Tongatapu, Vava'u, Haápai, 'Eua and Niuatoputapu
- methods of collection that include gleaning, wading and free- diving and
- collection, processing and export of BDM product of those species listed in Table 1.

Table 1: Target species in the fishery

Scientific name	Common name	Tongan name
1. <i>Actinopyga mauritiana</i>	Surf redfish	Telehea kula
2. <i>Holothuria fuscogilva</i>	White teatfish	Huhuvalu hinehina
3. <i>Holothuria nobilis</i>	Black teatfish	Huhuvalu 'uli'uli
4. <i>Bohadschia argus</i>	Tigerfish	Matamata
5. <i>Bohadschia vitiensis</i>	Brown sandfish	Mula
6. <i>Stichopus hermani</i>	Curryfish	Lomu
7. <i>Thelenota anax</i>	Amberfish	Saianiti
8. <i>Thelenota ananas</i>	Prickly redfish	Pulukalia
9. <i>Actinopyga lecanora</i>	Stonefish	Telehea maka
10. <i>Holothuria fuscopunctata</i>	Elephant trunkfish	Elefanite
11. <i>Holothuria atra</i>	Lollyfish	Loliloli
12. <i>Holothuria coluber</i>	Snakefish	Tungongo
13. <i>Holothuria edulis</i>	Pinkfish	Loli Pingiki
14. <i>Stichopus chloronotus</i>	Greenfish	Holomumu
15. <i>Actinopyga miliaris</i>	Hairy blackfish	Loli Fulufulu
16. <i>Actinopyga echinites</i>	Deepwater redfish	Telehea Loloto

1.3 Goal

The following goals are the expected outcomes of pursuing the management objectives of this plan under Table 2 below and applies only during this open season:

- Sea cucumber resources in the area of application are utilized in a sustainable manner
- Sustainable utilization of sea cucumber resource generating revenue and economic benefits to the people of Tonga.

1.4 Commencement

This plan shall take effect on the endorsement by the Minister in accordance with section 7(5) of the act.

1.5 Institutional, legal and policy framework

The primary government agency in Tonga with the mandate for the management, development and sustainable utilization of sea cucumber resources is the Tonga Ministry of Fisheries.

Other government agencies with some role to play include the Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC), especially to oversee and administer obligation under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

The main legal instrument for the management, development and sustainable utilization of sea cucumber resource in Tonga is the Fisheries Management Act of 2002. Directly related

to this plan is Section 7 (1) of Act, which states that the Chief Executive Officer (CEO) for Fisheries is responsible to prepare and keep under review a plan for the conservation, management, sustainable utilization and development of the fisheries resources in the Tonga fisheries waters and ensure its implementation.

With regards to policy, this plan is developed to align with higher policies of the Ministry and the Government as a whole and will play critical role in operationalizing the goals and objectives under those higher policies.

1.6 Key guiding principles

The following key guiding principles guides the development and implementation of this plan:

- Precautionary principles
- Adaptive management
- Community- based management
- Inclusivity

PART 2: OBJECTIVES AND STRATEGY

Table 2 below outlines the objectives, strategies, and actions to be implemented under this plan to ensure sustainable harvest of sea cucumber resources during this open season.

Table 2: Management and development objectives of the fishery

Strategies	Actions
Objective 1: To strengthen the implementation and monitoring of management measures to ensure the sustainable utilization of the sea cucumber resources	
1.1 To improve the level of compliance with the management measures in place, especially the minimum size limits and quota allocated by species by group of islands	<ul style="list-style-type: none"> a) Allocate quota on species with healthy densities and each island groups and advise the license holder on quota allocated for each of the main islands’ groups. b) Develop and implement a monitoring mechanism to track the utilization of quota by species by group of islands c) Impose size limit on all sea cucumber species (refer to Table 4) d) Implement the “Closed season for the fishery from 00hrs, 1st October

	<p>2021 and thereafter.</p> <p>e) Ban the use of underwater breathing apparatus (scuba and hookah) for harvesting of sea cucumber resources</p> <p>f) Monitor and report on status of harvest, export and price data</p> <p>Restrict the methods for collection to those with minimum negative impacts to the fishery and the ecology</p>
Objective 2: To manage the fishery in a sustainable manner to provide opportunities for economic prosperity.	
To increase income of families in the communities through harvesting and processing of the resources	Impose minimum price on permitted species
To increase revenue collection of the government from the utilization of the sea cucumber resources	Put in place and implement a licensing and permitting system
Objective 3: To ensure that the people of Tonga understand the benefits and contribution of the sea cucumber fishery to Tonga's development.	
3.1 To conduct educational awareness on the - ecological, social and economic important of the fishery	a) Number of educational awareness conducted through: - Tv and Radio Programs
3.2 Inform through awareness the management decisions of the fishery	
3.3 Conduct ongoing survey and research to improve information on sea cucumber resources.	a) Number of surveys conducted during the open season (These surveys will update current information on the fishery)
3.4 Statistical Analysis of the fishery for 2020 season	a) Number of analysis developed
Objective 4: Co-management of the sea cucumber resources.	
4.1 To develop a sustainable sea cucumber fishery through partnership and co-management with coastal communities and other stakeholders	a) Number of means of communication and engagement - Train communities in proper harvest and processing method

4.2 Establish sea cucumber fisheries management committee and report directly to Fishery Management Advisory Committee (FMAC)	a) Number of meetings
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PART 3: MANAGEMENT MEASURES

3.1 Open and closed season

- a) The sea cucumber fishery continues to be managed through an indefinite closure as per Notice gazetted on the 26 May 2013.
- b) The current short open season will be for four (4) months from 31st May to 30th September 2021 as per Cabinet Decision No. 355 of 2021.

3.2 Quota system

The fishery shall be managed using a quota management system. Quota is assigned for each species and for each island group as per **Table 3** below.

Table 3: Beche-de-mer species annual quota (dry weight in kg) for individual species per islands groups

Scientific name	Common name	Tongan name	Tongatapu (kg-dry)	Vava'u (kg-dry)	Ha'apai (kg-dry)	NTT (kg-dry)	'Eua (kg-dry)
1. <i>Actinopyga mauritiana</i>	Surf redfish	Telehea kula	2800	2800	2800	500	500
2. <i>Holothuria fuscogilva</i>	White teatfish	Huhuvalu hinehina	2000	1000	3000	500	500
3. <i>Holothuria nobilis</i>	Black teatfish	Huhuvalu 'uli'uli	300	500	1000	500	500
4. <i>Bohadschia argus</i>	Tigerfish	Matamata	5000	2000	5000	500	500
5. <i>Bohadschia vitiensis</i>	Brown sandfish	Mula	5000	1200	5000	500	0
6. <i>Stichopus hermani</i>	Curryfish	Lomu	4000	2000	500	500	0
7. <i>Thelenota anax</i>	Amberfish	Saianiti	500	2000	500	500	500
8. <i>Thelenota ananas</i>	Prickly redfish	Pulukalia	500	500	1000	500	1000
9. <i>Actinopyga lecanora</i>	Stonefish	Telehea maka	300	1000	300	500	500
10. <i>Holothuria fuscopunctata</i>	Elephant trunkfish	Elefanite	100	100	100	500	500
11. <i>Holothuria atra</i>	Lollyfish	Loliloli	4000	5000	5000	1000	1000
12. <i>Holothuria coluber</i>	Snakefish	Tungongo	5000	4000	2000	500	0
13. <i>Holothuria edulis</i>	Pinkfish	Loli Pingiki	100	100	100	100	100
14. <i>Stichopus chloronotus</i>	Greenfish	Holomumu	500	2000	500	500	500
15. <i>Actinopyga miliaris</i>	Hairy blackfish	Loli Fulufulu	100	100	100	0	0
16. <i>Actinopyga echinites</i>	Deepwater redfish	Telehea Loloto	100	100	100	100	100

3.3 Size limits

- a) Sea cucumber harvest and export shall comply to the size limits contained in **Table 4** below.

Table 4: Sea cucumber size limits

Scientific name	Common name	Tongan name	Length (cm) - Wet	Length (cm) – Dry
1. <i>Actinopyga mauritiana</i>	Surf redfish	Telehea kula	12	6
2. <i>Holothuria fuscogilva</i>	White teatfish	Huhuvalu hinehina	32	16
3. <i>Holothuria nobilis</i>	Black teatfish	Huhuvalu 'uli'uli	26	13
4. <i>Bohadschia argus</i>	Tigerfish	Matamata	27	13
5. <i>Bohadschia vitiensis</i>	Brown sandfish	Mula	24	12
6. <i>Stichopus hermani</i>	Curryfish	Lomu	30	15
7. <i>Thelenota anax</i>	Amberfish	Saianiti	40	20
8. <i>Thelenota ananas</i>	Prickly redfish	Pulukalia	30	12
9. <i>Actinopyga lecanora</i>	Stonefish	Telehea maka	12	6
10. <i>Holothuria fuscopunctata</i>	Elephant trunkfish	Elefanite	35	15
11. <i>Holothuria atra</i>	Lollyfish	Loliloli	16.5	8
12. <i>Holothuria coluber</i>	Snakefish	Tungongo	30	18
13. <i>Holothuria edulis</i>	Pinkfish	Loli Pingiki	16.5	8
14. <i>Stichopus chloronotus</i>	Greenfish	Holomumu	12	6
15. <i>Actinopyga miliaris</i>	Hairy blackfish	Loli Fulufulu	19	9
16. <i>Actinopyga echinites</i>	Deepwater redfish	Telehea Loloto	12	6

3.4 Licensing and permits

This section outlines the different licenses and permit to be issued under this Sea cucumber Management Plan for the sea cucumber fishery

3.4.1 Fish (Bech-de-mer) Export License

- a) This license applies to any person or company wishing to export bech-de-mer products out of Tonga
- b) The number of beche-de-mer export license will be controlled by the MoF during the open season for exporters in Tonga
- c) The license is valid for 5 months (31st May to 31st October, 2021)
- d) Licensing terms and conditions (Appendix 3) will be used to control the harvesting, purchasing, processing and exporting of beche-de-mer.
- e) These licenses are issued by MoF
- f) License application forms can be collected from MoF

3.4.2 Fish (Sea cucumber) Processing Establishment License

- g) The number of sea cucumber processing establishment license will be controlled by MoF in this open season for processors in Tonga

3.5 Management regime

3.5.1 License system

Only a Tongan subject shall be issued with a sea cucumber/ bech-de-mer Processing Establishment and export license which will allow the license holder to purchase sea cucumber, process and export bech-de-mer.

3.5.2 Indefinite closure

- The sea cucumber fishery shall be managed by an indefinite closure and for a limited duration of declared open season by island group of harvest / export license holder;
- When an open season is declared, Ministry of Fishery will coordinate the harvesting of the island groups
- When declaring an open season, the Minister, in collaboration with the FMAC shall give public notice of not less than 10 working days of the date nominated for the open season, and the restrictions placed on the harvesting and processing of sea cucumber:
- Ministry of Fisheries shall advice on species permitted to be harvested by island group and quotas for each species and region;
- Ministry of Fisheries shall organise a monitoring and inspection team to be stationed at each license holder during an open season;
- Harvesting, processing and transporting sea cucumber shall take place within the declared open season in each region;

3.5.2 Restrictions and prohibitions

3.5.2.1 Harvesting

- a) Fishing for sea cucumber shall be restricted to hand gathering (gleaning), wading and free diving;
- b) Other collection methods including the use of underwater breathing apparatus (SCUBA, hookah) to collect sea cucumbers is prohibited.
- c) Collecting and harvesting sea cucumber shall only be carried out by indigenous Tongans, or resources owners in each designated area;
- d) MoF shall determine and publicize the species that are permitted for collection, processing and export;
- e) Exporting sea cucumber or bech-de-mer for personal consumption is prohibited;
- f) Selling of sea cucumber in the absence of an authorised Officer and Fisheries Observers is prohibited;
- g) No person shall harvest sea cucumber resources during the sea cucumber fishery closed seasons, except for harvesting of the following species for the purpose of 'ota:
 - Dragon fish (Lomu)
 - Snake fish (Te'epupulu)
 - Brownspotted sandfish (Finemotu'a)
- h) The harvest of golden sandfish (Nga'ito) is prohibited.

3.5.2.2 Fishing vessels registration

- a) Any boat used for harvesting sea cucumbers shall be registered in the Ministry of Fisheries Fishing Vessels Register. Vessels to be used for harvesting sea cucumber must:
 - be less than 25ft in length and must
 - only vessels with outboard motor
 - comply with Tonga fisheries legislations

3.6 Processing

Individual fishers may apply for processing license from the Ministry of Fisheries to process sea cucumber resources being harvested using the application form provided by the MoF

3.7 Marketing

3.7.1 Local product price

The local buying/selling price of sea cucumber shall be set at minimum prices for wet products (Appendix 5)

3.7.2 Export

- a) Individual fishers may apply for export license from the Ministry of Fisheries to export beche-de-mer being processed using the application form provided by the MoF
- b) Any license holder must fully process all sea cucumber into final product.

- c) There shall be no bech-de-mer exported from Tonga after the 31th of October 2021 in accordance with Cabinet Decision 355 of 2021.

3.8 Monitoring of the fishery

- a) A monitoring/collection form (Appendix 4) will be used to monitor the quotas per species per island groups. MoF will develop a monitoring mechanism for the effective monitoring of the quota during this open season.
- b) Export License holders must maintain a daily record of all sea cucumber purchased and submitted to MoF
- c) Sea cucumber processor must complete and submit the monitoring form (Appendix 4) to the MoF on a daily basis.
- d) The Ministry of Fisheries must analysis the data collected from monitoring forms each daily. The analysis must provide information on species composition, total catch by species (wet and dry weight) and fishing effort by island group.
- e) Ministry of Fisheries will provide a running tally of total catch in kilograms and in numbers to the CEO of MoF each month.
- f) When 50% of the allocated quota is reached, the CEO will inform the Minister and publicise the information.
- g) Export License holders must maintain a daily record of all processed sea cucumber and submitted to MoF
- h) Bech-de-mer Export Licence holders must maintain a daily record of all exported bech-de-mer on the packing list form. The prescribed packing list form can be collected from MoF. A copy of additional Custom stamped travel document must be included. These records are to be submitted to the Ministry of Fisheries within 7 days of the date of export.
- i) The Ministry of Fisheries shall conduct a sea cucumber resources stock assessment to estimate the densities and population sizes for all sea cucumber species within 6 months of the fishery closure.
- j) The status of the fishery production will be reported to fisheries stakeholders on a monthly basis during the open season. At the end of the season, the Ministry will complete an assessment of the fishery production by species and the management measures and report to fishery stakeholder.

PART 4: AUTHORITIES AND ROLES

This section outlines the key authorities with roles to play in the management, development and sustainable utilization of sea cucumber in Tonga.

4.1 Tonga Ministry of Fisheries

The role of the Tonga Ministry of Fisheries in the sustainable management and development of sea cucumber fishery in Tonga includes but not limited to:

- to develop, implement and administer the management strategies under the sea cucumber management plan
- ongoing monitoring of the fisheries performance. Data collecting system should be designated to effectively facilitate the need for collecting of fishing effort and fishery's economic data.
- Stock surveys should be conducted when necessary and further scientific surveys could be arranged if required.

4.2 Fisheries Management Advisory Committee (FMAC)

Section 8 of the Fisheries Management Act 2002 provide for the formation, role and membership of the Fisheries Management and Advisory Committee:

1. Chief Executive Officer, Ministry of Fisheries (Chairman)
2. Chief Executive Officer, Ministry of Land & Survey, Natural Resources
3. Chief Executive Officer, Ministry of Trade and Economic Development
4. One member representing commercial fisheries interests nominated by Fish exports Association
5. One member representing women's interests nominated by Minister
6. Two members representing local fishermen nominated by Minister
7. One member representing Coastal communities nominated by Prime minister
8. Such other persons not exceeding two whom Chief Executive Officer may think fit to appoint.

4.3 Licensing Screening Committee

The membership of the Licensing Screening Committee comprised of:

- Head of Divisions, MoF
- Head of Licensing Section, MoF as (Secretariat)

Its role in the management, development and sustainable utilization of the sea cucumber fishery includes:

- setting and reviewing of licensing criteria.
- provide a forum for discussion on issues with regards to licensing
- screening of each application with consistent to agreed licensing criteria
- advice the CEO of Fisheries with the appropriate licenses to be selected.
- Secretariat to prepare briefing paper for each application.

5.3 License operators and exporters

The role of the license operators in the sustainable management and development of sea cucumber includes but not limited to:

- Adhering to their license conditions

- Measure outline under this plan
- Ensure high quality of beche-de-mer product for export

5.4 Fishers

The roles of the fishers include but not limited to:

- Adhering to measures outline under this plan
- Ensure harvest is done in a manner that does not harm the resource and ecology
- Assist MoF in assessment and data collection

PART 6: OVERVIEW OF THE FISHERY

6.1 Species, distribution and biology

A total of 26 described species of sea cucumber were reported to occur Tonga¹. Many of these have been harvested for commercial purposes².

Most sea cucumbers are of separate sexes and all are broadcast spawners. Spawning is normally seasonal, predominantly in the warmer summer months. Fecundity is high, a fully mature female can release more than 1 million eggs³.

Sea cucumbers feed on the surface layer of sediments and turn over considerable amounts of the upper sedimentary layer. They feed on bacteria and micro-algae or drift seaweed. Most species ingest large quantities of sand and mud from the sea floor, selecting out food items and passing the remainder. This feeding pattern is important in maintaining organic, ph. and oxygen stability of the benthic coastal habitats. Thus, sea cucumbers have an important role in environmental stabilisation and equilibrium.

6.2 Fishers and fishing methods

Sea cucumber fishers in Tonga include men, women and youth. Various collection methods are employed including gleaning, free diving and scuba, depending on the habitat and the target species. Gleaning is carried out in shallow lagoons and mud-flats targeting species such as lolly fish and sandfish, while free diving occurs in lagoons, reef fronts and outer reefs

¹ Friedman, K., Eriksson, H., Tardy, E., Pakoa, K., 2011. Management of sea cucumber stocks: patterns of vulnerability and recovery of sea cucumber stocks impacted by fishing. *Fish and Fisheries* 12, 75–93. <https://doi.org/10.1111/j.1467-2979.2010.00384.x>. Moore, B., Bosserelle, P., Mailau, S., Siasosi, V., Siasosi, F., Havea, T., Malimali, S., 2017. The status of sea cucumbers in the Kingdom of Tonga in 2016. Pacific Community, Noumea.

² Friedman, K., Eriksson, H., Tardy, E., Pakoa, K., 2011. Management of sea cucumber stocks: patterns of vulnerability and recovery of sea cucumber stocks impacted by fishing. *Fish and Fisheries* 12, 75–93. <https://doi.org/10.1111/j.1467-2979.2010.00384.x>.

³ Conand, C., 1990. The Fishery Resources of Pacific Island Countries: Holothurians, FAO fisheries technical paper. Food & Agriculture Org.

habitats targeting species such as surf red fish and for deeper species such as black teat fish can be accessed by scuba.

Collection can be assisted with outboard motor operated boats of various sizes ranging from five meters to below ten meters.

6.3 Production

Since the development of the fishery in 1980's, the fishery has been under a lot of fishing pressure and has been characterized by boom and bust with two moratorium periods as a result of overfishing. Harvest records of the export BDM fishery began in the 1980's, between 1984 to 1997, 891 metric tonnes (t) was exported with a peak of 160 t in 1987. From 2008 to 2014, the annual average export volume was about 149 t with the average export value of TOP1.7 million. The total production for 2020 was 102 metric tonnes with an approximate value of 1.06 million Pa'anga.

6.4 Export destination

Sea cucumber is an important export product of Tonga. Sea cucumber are collected and processed into beche-de-mer and exported to overseas market, mainly Asian markets of Hong Kong and China.

6.5 Stock status

Since the development of the fishery in 1980's, the fishery has been under considerable fishing pressure and has been characterized by boom and bust with two moratorium periods imposed as a result of overfishing.

A survey assessment conducted in 1996 found that the fishery was not in good health and by the last quarter of 1997 a 10-year moratorium on the fishery was put in place by Cabinet.

The fishery reopened during the last quarter of 2008 and remain opened until 2014. During this period, an average of 149 t was exported with a peak of 370 t in 2009. Sea cucumber resource assessment conducted in 2013 and 2014 revealed densities of many sea cucumber species were below reference densities for healthy stocks. Based on those results Cabinet closed the fishery by the last quarter of 2015.

In 2016, another assessment was conducted on three island groups and revealed that populations at each of the three island groups had not recovered to commercially exploitable levels. In 2019, a sea cucumber resource assessment showed that population densities for high, medium and low value species had not recovered to warrant opening the fishery for commercial harvests.

PART 7: MISCELLANEOUS

7.1 Amendment and review

Pursuant to Section 7(1) of the Act, the CEO for Fisheries is responsible for the review of this Plan. The duration of this plan is limited to the current open season. A review of this plan shall take place at the end with an intention to develop a longer plan.

Pursuant to Section 7(5), each review thereof shall be submitted to the Minister for approval.

7.2 Implementation

The progress of implementing this shall be reported in the Annual Report of the Ministry of Fisheries. This report will include reporting on major achievements, challenges and departures points from the Plan.

The Tonga Ministry of Fisheries will develop and implement an implementation plan to ensure this plan is implemented effectively.

7.3 Monitoring, evaluation and learning

To ensure that this plan achieves what it was set out to achieve, Tonga Ministry of Fisheries will develop a monitoring, evaluation and learning framework to ensure effectiveness.

PART 8: APPENDICES

Appendix 1: Licensing criteria

Basic license criteria for sea cucumber processing establishment license and bech-de-mer export license

LICENSING CRITERIA

1.1 General criteria to be met by an export license applicant

- All applicants must be a Tongan citizen (passport/birth certificate)
- The export license applicant will complete the Bech-de-mer export application form and include the following information to support the application:
 - Past experience in the fishery.
 - Where it is intended to export from. If export from other island groups, then must give details of the operation, the details and address of transit in Tongatapu.
 - Mode of transportation from Tonga.
 - Number of people intended to be employed.
- Additional supporting documents
 - Business plan (Location of processing premises, Nature of operation, Proof of capability to provide export facilities storage and processing premises, Provide purchase price by species from fishers, Market verification (Proof of a foreign market).
 - Evidence of operational funds
 - Minimum of TOP100,000.00 in any bank in Tonga
 - Police record (past history of compliance with fisheries law and regulation)

1.2 General criteria to be met by an applicant for a sea cucumber processing establishment license.

- All applicants must be a Tongan citizen
- The sea cucumber processing establishment license applicant will complete the Sea cucumber application form and include the following information to support the application:
 - Processing experience
 - Location of processing premises (only one location/processor)
 - Proof of processing premises
 - Processing premises (equipment)
- All applications must be submitted to the Office of the Ministry of Fisheries no later than 4.00pm on Thursday 25th May 2021.
- All incomplete applications will not be considered.

Appendix 2: License terms and conditions

Term and Condition for Fish Processing Establishment License (Sea Cucumber)

Every license holder shall comply with the following terms and conditions in addition to any other conditions required under the Fisheries Act or Regulation:

- 1 The license holder of the fish processing establishment license:
 - a. must provide proof of capability to provide processing premises and inform the location of the processing premises to the Ministry of Fisheries prior to the issuance of the license. The processing premises must indicate areas to be use for proper disposal of waste from processing of sea cucumber
 - b. must not use any vessel with length of more than 25ft to conduct any fishing and other related activities under this license.
 - c. must only receive/purchase/process sea cucumber have harvested from 31st May to 30th September 2021
 - d. must not receive any sea cucumber from any other island groups other than the area specified by the license.
 - e. must not purchase any sea cucumber that have been processed (gutted or salted)
 - f. must declare all sea cucumber and bech-de-mer in their possession to the Ministry of Fisheries on the 1st of October 2021 for stock taking.
 - g. must not process any species of sea cucumber more than the total quota allocated for in the licence. To be provided once the license is issue.
 - h. must not purchase any sea cucumber that was harvested using self-contained under water breathing apparatus (SCUBA) equipment or any diving equipment that utilizes compressed gas to fish for sea cucumber species.
 - i. must inform the Ministry of Fisheries, Nuku'alofa, 24 hours prior to shipment of beche-de-mer production from a processing premises in the outer islands for export purposes
 - j. shall not process undersize sea cucumber as stated in **Table 4**
 - k. shall not process wild sandfish (nga'ito), dragonfish (lomu), snakefish (te'epupulu), and chalkfish(finemotu'a)
2. The license holder must not receive/purchase any sea cucumber from any fishers without the presence of any fisheries authorised officer

3. The license holder must assist and support the fisheries officers from the Ministry of Fisheries to maintain an accurate record on a daily basis on the Sea cucumber fishing log sheet (Attachment 4) the activity relating to the operations carried out in such establishment, including name of harvesters, dates, species name, quantity, prices, area and location where harvest conducted, number of hours spend fishing other information which the ministry may require.
4. Ensure all such records and the processing premises are open to regular inspection and investigation at any time by fisheries authorised officers.
5. Allow fisheries authorised officers to enter the processing premises at any time to conduct inspection and other activities inside the processing facility.
6. Ensure that all employees operating under this licence are sufficiently trained in processing and the handling of sea cucumber products to enhance the quality.
7. Ensure purchasing price of sea cucumber from the harvester must not be lower than the minimum prices for each of the sea cucumber species set by the Ministry in (Appendix 5)
8. All license holders must submit to the MoF all storages and in Tongatapu to be used for bech-de-mer storage.
9. All license holders must license a Fish Processing Establishment (FPE) at Tongatapu.

Specific Terms and Conditions for Fish Export License (Bech-de-mer)

A license to export bech-de-mer shall be subject to the following conditions in addition to any other conditions required under the Fisheries Act or Regulation:

1. The license holder:

- a. must not receive any bech-de-mer from any other island groups other than the area specified by the license.
- b. must only export beche-de-mer processed from 31th May to 30th September 2021
- c. must not export bech-de-mer more than the total Quota allocated for in the licence. This also include the CITIES species. The Quota for each license will be provided by the MoF when the license is issue.
- d. must declare all bech-de-mer in their possession to the Ministry of Fisheries on the 1st of October 2021 for stock taking.
- e. shall not export undersize beche-de-mer.
- f. shall not purchase or export wild sandfish (nga'ito), dragonfish (lomu), snakefish (te'epupulu), and chalkfish (finemotu'a)
- g. shall inform the Ministry of Fisheries of the name of vessel, date and time schedule for the shipment of beche-de-mer from outer islands to Tongatapu
- h. must inform the Ministry of Fisheries prior to the issuance of the export license the location of the storage facility for export for frequent monitoring and inspection by the fisheries authorised officer prior to the approval and issuance of the export permit.
- i. must allow fisheries authorised officers to enter the export premises at any time to conduct inspection and other activities inside the export facility. This will also apply to all inspection and monitoring activities scheduled to be held after the 30th of September 2021 until the beche-de-mer possessed on the 30th October 2021 are export. Details of the inspections and monitoring activities is provided in the "Standard Operating Procedures (SOP) for Inspection"
- j. must inform the Ministry of Fisheries of the proposed date for the export of the beche - de-mer (if any) possessed after the 30th of October.

2. must complete the 'Bech-de-mer packing list' (Attachment) for every shipment on export of sea cucumber for commercial purposes. The fisheries authorised officer must attain original and unaltered packing list from the license holder.
3. The CEO for Fisheries may suspend or revoke this license upon failure to commence the operation under this license within 30 days after the license approval.
4. must repatriate back to a Tongan pa'anga account with a bank that is licenced in Tonga, within 6 months from the date of export, at least 60% of foreign exchange earnings from the sale of goods, unless approval has been granted by the Reserve Bank for an extension of this period, or for retention of funds in a foreign currency account with a local bank or overseas. (Exchange Control Directive 2018)

Appendix 3: Administrative procedure

Licensing procedure

1. Applicant must submit an application form which include a proposal of a business plan which meets all the criteria listed above. The application form must be directed to the CEO for Fisheries.
2. All application forms received by the CEO for Fisheries to be collected and maintain by the License Screening Committee's (LSC) secretariat (Head of Licensing section).
3. The CEO of Fisheries shall direct the Head of Licensing section to proceed with the processing of the license upon the receipt of the application form.
4. The LSC will screen all applications at once base on the listed criteria specified above, after the closing date for application.
5. The chairperson and the secretariat shall submit the LSC recommendation to the CEO for final decision.
6. Successful applicant must meet all fees required prior to issuance of an approved license by the date specified by the Committee.
7. Issuance of approved license.
8. The CEO for Fisheries shall inform all unsuccessful applicants indicating the status of the application.
9. MoF must conduct training on species identification for all relevant staffs that will engaged in the fishery.

Species Name																						
	Pcs	Kg	Pcs	Kg	Pcs	Kg	Pcs	Kg	Pcs	Kg	Pcs	Kg	Pcs	Kg	Pcs	Kg	Pcs	Kg	Pcs	Kg	Pcs	Kg

Company's Manager/Agent Signature:

Date :

Fisheries Inspector/Authorised Officer Signature:

Date :

Fisheries Inspector/Authorised Officer Signature:

Date :

TOTAL								

Company's Manager/Agent Signature : _____

Fisheries Inspector/Authorised Officer Signature : _____

Fisheries Inspector/Authorised Officer Signature : _____

Enforcement form

Company Name	Dates and Location	Size limit of mokohunu species	Status of quota by species	Possession of nga'ito	Others (process at licensed FPE), etc.	Number of warning letters for each species

Name of Fisheries Officer.....

Appendix 5: Minimum price for purchasing of sea cucumber

No	Local species	Price (\$)
1	Telehea kula	\$10.00 per pcs
2	Huhuvalu hina	\$60.00 per pcs
3	Huhuvalu 'uli'uli	\$50.00 per pcs
4	Matamata	\$5.00 per pcs
5	Mula	\$5.00 per pcs
6	Lomu	\$10.00 per pcs
7	Saieniti	\$5.00 per pcs
8	Pulukalia	\$10.00 per pcs
9	Telehea maka	\$15.00 per pcs
10	Elifanite	\$2.00 per pcs
11	Loliloli	\$30.00 per bucket
12	Tungongo	\$30.00 per bucket
13	Holomumu	\$50.00 per bucket
14	Loli fulufulu	\$10.00 per pcs
15	Telehea loloto	\$15.00 per pcs
16	Loli pingiki /Loli iiki	\$20.00 per bucket