SEYCHELLES FISHING AUTHORITY

2015-2016

ANNUAL REPORT

Responsible Fishing for Sustainability

The Government of Seychelles,

Ministry of Natural Resources and Industry

Seychelles Fishing Authority

Annual Report

2015-2016

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Acronyms

ABNJ	Areas Beyond National Jurisdiction
AMSSI	Association of Members of Seychelles Sea Cucumber Industry
ASMADS	Agriculture Sector and Marine Aquaculture Development Study
BSFC	British/Seychelles Fisheries Commission
CBS	Central Bank of Seychelles
COA	Certificate of Authorisation
COFI	Committee on Fisheries
CPI	Consumer Price Index
CPUE	Catch Per Unit of Effort
DMA	Direct Mercury Analyzer
EAF	Ecosystem Approach to Fisheries
EAP	Environmental Assessment Practitioner
EC	European Commission
EEZ	Exclusive Economic Zone
EMS	Electronic Monitoring System
ESIA	Environment and Social Impact Assessment
EU	European Union
FAO	Food and Agriculture Organisations
FBOA	Fishermen and Boat Owners Association
FMC	Fisheries Monitoring Centre
GDP	Gross Domestic Product
GEF	Global Environmental Facility
IOC	Indian Ocean Commission
IOTC	Indian Ocean Tuna Commission
IRD	Institût de Recherche pour le Développement

IUU	Illegal, Unreported and Unregulated
JICA	Japan International Cooperation Agency
MAC	Management Advisory Committee
MCS	Monitoring, Control and Surveillance
MENR	Ministry of Environment and Natural Resources
MMP	Mariculture Master Plan
NDEA	National Drug Enforcement Agency
NPOA	National Plan of Action
NSB	National Statistics Bureau
PLMP	Participatory Lobster Monitoring Programme
PPP	Public Participation Process
PRSP	Plan Régional de Surveillance de Pêche
SCG	Seychelles Coast Guard
SEYPEC	Seychelles Petroleum Company
SFA	Seychelles Fishing Authority
SIF	Seychelles Island Foundation
SNPA	Seychelles National Parks Authority
SOTN	Seychelles Ocean Temperature Network
SPA	Seychelles Port Authority
SPDF	Seychelles Peoples Defence Forces
SSFC	Seychelles Sports Fishing Club
STA	Seychelles Tourism Academy
VMS	Vessel Monitoring System
WIO	Western Indian Ocean

Foreword

It gives me great pleasure to present to you the Seychelles Fishing Authority's (SFA) combined Annual Report for the years 2015 and 2016. Although I and the other members of the current Board of Directors were appointed in 2017, we understand that both the years witnessed many changes as well as some exciting developments for SFA and its parent Ministry. At the same time several key challenges for the fisheries sector emerged. This report highlights the continued transformation of the fisheries sector and the SFA.

Highlights of 2015

The year 2015 started with discussions for the renewal of the Seychelles-Mauritius Fishing Agreement with the first rounds between the two parties.

The Authority dealt with several cases of IUU fishing which remains a concern owing to our large EEZ combined with inadequate capacity for monitoring and surveillance. A number of foreign fishing vessels were apprehended by the SFA for alleged IUU fishing.

There was an increased focus on post-harvest development from fish by-catch by local private sector operators with the aim of optimising the utilisation of this often overlooked valuable natural resource. Seychelles also saw the first fleet of Seychellois-owned industrial long liners launched to maximise the participation of local businessmen in the value chain.

The fisheries sector was hit hard by the outbreak of a large-scale harmful algal bloom which resulted in the mortality of a large number of marine organisms. The artisanal fishing sector was heavily impacted as several months went by where most of the catches could not be sold to the public. In this case SFA worked closely with the Public Health Commissioner who issued a health notice.

Highlights of 2016

In 2016, the Japanese Government, through the Japan International Cooperation Agency (JICA), signed an agreement to fund the extension of over $12 million for the expansion of the Providence fishing Port. The government remained committed towards ensuring that the fisheries sector is adequately resourced with infrastructure such as new ice plants at the Victoria Fishing Port.

The Indian Ocean Tuna Commission (IOTC) adopted a Resolution to reduce catches of yellowfin tuna by 15 percent, starting in January 2017 because of overfishing of yellowfin tuna in the Indian Ocean. The potential of this reduction in catch affecting the economy, ranging from the impact on the Seychelles' flagged fishing vessels, to the Indian Ocean Tuna cannery, to port and stevedoring services, to bunkering, to ship chandelling, to overall logistics, and more, was of deep concern nationally showing how important it is to manage tuna fishing sustainably, especially in Seychelles' EEZ.

The SFA conducted a 12 month Environmental and Social Impact Assessment (ESIA) to assess the potential impacts of mariculture in Seychelles and provide mitigating measures through a series of public participation processes. Mariculture is geared towards creating a new economic activity for the country and the exercise was aimed at finding the sustainable level at which it can be developed.

The SFA partnered with the Seychelles Sports Fishing Club (SSFC) to embark on the tagging of four key demersal fish species to enhance the stock assessment of these species with the aim of improving management. The lobster season remained opened in 2016 and it was noted that there was a slight decline in catches due to its continued increasing demand on the local market.

Final remarks

Despite the numerous challenges faced by SFA and the fisheries sector in 2015 and 2016, the Authority, managed to steer the fisheries sector through some very difficult periods.

On behalf of the current Board of Directors I wish to thank all our partners and stakeholders, both domestic and international, for their continued support, notably our most important client, the fishing community. I would like to conclude by expressing our deep gratitude to the staff of SFA, many of whom are long-serving, for their hard work, patience and commitment.

Nirmal Shah (Dr)
Chairman of the Board

Ronny Renaud
Chief Executive Officer

Chapter 1 -
STRUCTURE AND FUNCTIONS

The SFA was incorporated on 31st August 1984 by the Seychelles Fishing Authority (Establishment) Act, although it had physically been in existence since September 1983 when the Seychelles Industrial Fishing Authority (SIFA) was formed. The first Chief Executive of SFA was Mr Maxime Fayon. The Authority was established at a time of intense fisheries development, especially in foreign industrial tuna fishing. It was created to develop the fishing industry to its fullest potential and to safeguard the resource base for sustainable development. It absorbed personnel from the defunct Fisheries Division and the Fishing Development Company (FIDECO) and became the executive arm of the Government in the field of fisheries.

SFA works closely with the Ministry of Natural Resources and Industry (MNRI), which replaced the Ministry of Environment and Natural Resources (MENR) in 2010. The functions of the SFA as defined in article (5) of the Seychelles Fishing Authority (Establishment) Act are:

- To promote, organise and develop fishing, fishing industries and fishing resources in Seychelles.
- To assist in the formulation of national policy with respect to fishing, fishing industries and fishing resources and in the implementation of that policy.
- To conduct negotiations, engage in meetings, seminars or discussions, with regard to fishing or fisheries and the establishment or operation of fishing industries, whether at a national or international level, on behalf of the Republic.
- To identify the manpower training requirements of Seychelles with regard to fishing and fishing industries.

Subject to this Act, the Authority has the power to do all things necessary or convenient in connection with, or incidental to, the performance of its functions and, in particular the Authority may:

1. Own, lease or dispose of movables or immovables.
2. Form companies under the Companies Act.
3. Enter into partnership or joint-ventures.
4. Act as agent for the purpose of the management of any business or enterprise, or for any other purpose.
5. Hold shares in, or debentures of any company.
6. Carry on any business or enterprise for or in connection with:
    a. fishing or fisheries
    b. processing, transporting, handling, marketing or distributing fish or fish products
    c. exporting fish or fish products
    d. the sale of equipment or apparatus to be used for fishing, or
    e. Any other matter relating to its functions where, in the opinion of the Authority, the carrying out of such a business or enterprise is in the best interest of the Republic.
7. Conduct surveillance operations, in conjunction with the Department of Defence, in relation to fishing operations in the Exclusive Economic Zone (EEZ) or in waters adjacent to the continental shelf.
8. Monitor the catch of all fishing vessels, and
9. Carry out scientific and development research

SFA is unique in that it is an organization with management, planning, development, scientific and training functions.

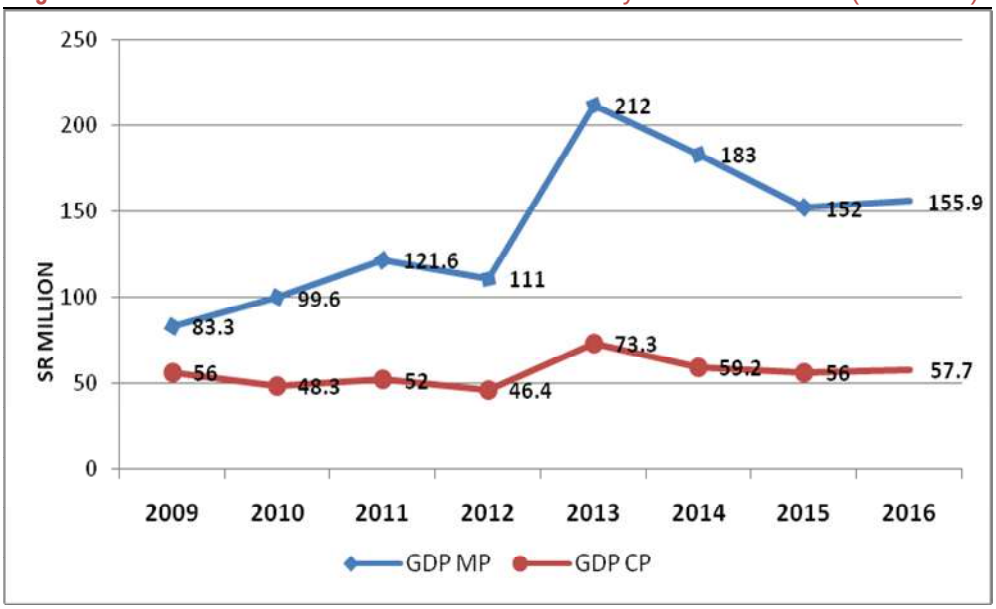
SFA is a Parastatal Organisation whose Board of Directors is appointed by the President.

Chapter 2 - ECONOMIC CONTRIBUTION OF THE FISHERIES SECTOR

2.1 General Observation

On the whole, there were mixed performances in the fishing sector during the past two years. Whereas there were growth in both export earnings and gross inflow of foreign exchange generated by the fisheries sector in 2016, the opposite happened in 2015. Similarly, according to the Central Bank report, GDP contribution from the sector followed the same trend as foreign exchange earnings. In 2015, GDP at current market price and GDP at constant price dropped compared to 2014, as shown in Figure 2.1. In 2016, both indicators grew but remained at below the 2014 level. GDP at current market prices rose from SR152 million in 2015 to SR156 million whilst GDP at constant prices rose from SR56 million to SR58 million. This will translate in the sector's contribution in total GDP at 0.8% over the past two years. Note that these indicators reflect only the first point of sales value for artisanal and semi-industrial fisheries. The contribution of other fisheries related activities in the calculation of fisheries sector GDP would increase it to an estimated 7% - 8% of total GDP. According to the Central Bank annual report fisheries value addition grew by 3% in 2016.

Figure 2.1 Trends in fisheries sector GDP between the year 2009 and 2016 (SR Million)

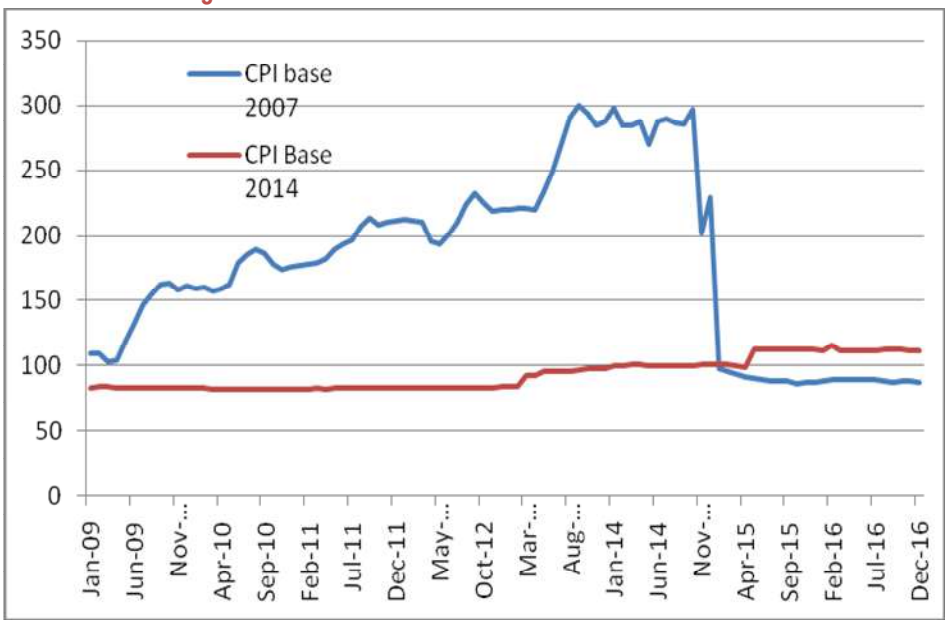


Source: CBS

The semi-industrial fishery experienced positive growth over the last two years as a results of the resumption of export of tuna and swordfish to the European market whilst artisanal catch have experience negative growth over the last three years. Positive growth was also observed in the output of canned tuna as well as landed catch of the Seychelles flagged foreign owned vessel.

Consequently, total domestic production had been on an upward trend over 2015 and 2016. In contrast, revenues generated from the industrial tuna fishing activity decreased substantially in 2016 to reach SR1.251 billion. In 2016, the price of fish was 3.4% higher than the previous year (Figure 2.2). Since 2014 the Consumer Price Index for fish has been fairly constant. However, consistent with previous years, the CPI fluctuated throughout the year.

Figure 2.2 Consumer Price Index for fish 2009 - 2016



Source: NBS (2017)

Finally, there was an overall increase in gross revenue generated by the fisheries sector and related activities. According to figures calculated by the Seychelles Fishing Authority (SFA) the fisheries sector generated a gross foreign currency inflow of SR4.976 billion in 2016 which was almost the same as in 2015.

In terms of employment it is estimated that employment in the fisheries sector including related activities would have grown over the last two years given the coming into operation of new processing facilities, tuna handling company and most importantly the high increase in the number of semi-industrial fishing vessels. It also expected that the number of foreign workers in the sector would have also increased, again as a result of the number on semi-industrial longline vessel. The Indian Ocean Tuna canning factory remains by far the largest employer in the sector with 2300 employees and 576 of these employees are Seychellois.

2.2 Production of Fish and Fish Products

Total domestic production of fish and fish products, including the production of fish meal and fish oil as well as total catch by Seychelles flagged recorded a marked improvement over the last two years compared to 2014. Total production grew from 114,549 Mt in 2014 to reach 169,088 Mt in 2016, a growth of 48%. This has been brought about by a rise in the production of canned tuna and an increase in the catch from the industrial fishing vessels flying the Seychelles flag.

Table 2.1 Total production of fish and fish products 2011 - 2016 (MT)

(MT)	2011	2012	2013	2014	2015	2016	% change (2015/2016)
Artisanal Catch	2,875.00	2,502.00	4,150.40	3,632.50	3,214.00	2,516.00	-21.72%
Semi-Industrial Catch	237.70	270.80	262.20	82.00	195.00	969.00	396.92%
Canned Tuna	30,152.00	31,400.00	36,826.00	32,219.00	32,068.00	35 ,69.00	10.92%
Smoked Fish	29.40	27.69	40.10	41.00	57.20	49.90	-12.76%
Fish Meal	6,986.00	6,597.00	7,337.00	6,927.00	6,820.00	6,382.00	-6.42%
Fish Oil	767.00	871.00	691.00	870.00	373.00	390.00	4.56%
Sea cucumber	108.80	80.06	46.90	64.34	52.00	43.00	-17.31%
Others*	2.59	13.19	2.70	1.40	170.00	101.00	-40.59%
Total Domestic Production	**41,158.49**	**41,761.74**	**49,356.30**	**43,837.24**	**42,949.20**	**46,019.90**	7.15%
Purse Seine Catch**	**63,211.60**	**50,938.00**	**57,324.00**	**60,255.00**	**88,874.00**	**108,583.00**	**22.18%**
Longliner Catch**	7,565.80	12,164.00	11,431.20	10,457.20	12,518.00	14,486.00	15.72%
Total Industrial Catch**	**70,777.40**	**63,102.00**	**68,755.20**	**70,712.20**	**101,392.00**	**123,069.00**	21.38%
Grand Total	**111,935.89**	**104,863.74**	**118,111.50**	**114,549.44**	**144,341.20**	**169,088.90**	17.15%

** Sey flagged vessels only

The most striking performance in production for the years 2015 and 2016 is the significant increase in the semi-industrial longline catch. The semi-industrial catch increased by almost 140% in 2015 (195 Mt) compared to the year 2014 (82 Mt) and increased by a significant 397% in 2016 (969 Mt) compared to 2015. This striking improvement in the semi-industrial performance is due principally to the increase in effort in the fleet brought about by an increase in the number of active vessels. This increased from 9 in 2014 to 11 in 2015 and to 29 in 2016. The improved performance of the semi-industrial fleet is also due to the longliners returning to targeting tuna and swordfish after export to the EU market resumed.

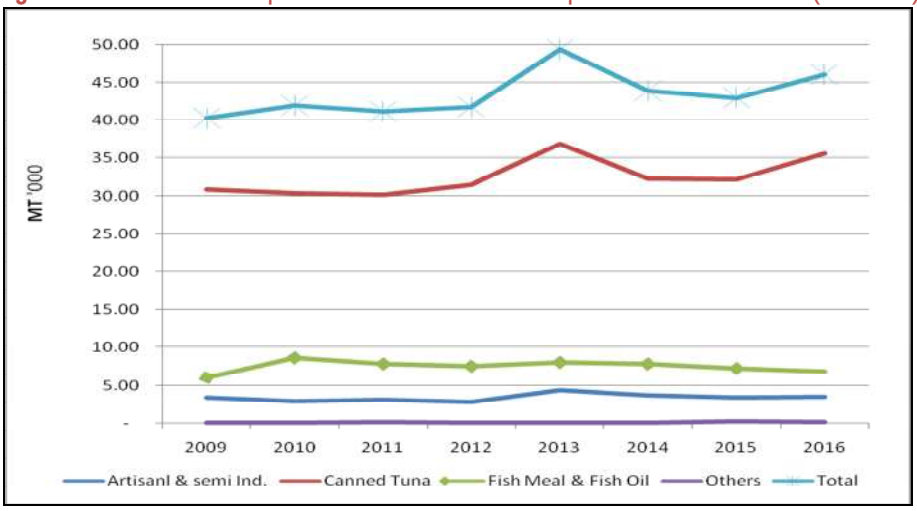
The artisanal catch, on the other hand has been dropping over the last three years. The catch fell from 4,150 Mt in 2013 to 3,632 Mt in 2014, 3,214 Mt in 2015 and only 2,516 Mt in 2016. The decreasing trend is principally due to decreasing fishing effort, lack of essential inputs like bait and ice and environmental factor.

After a 13% decrease in 2014 compared to 2013, the production of canned tuna increased in 2016 after a slight drop in 2015. Canned tuna production increased by about 11% in 2016 over 2015 to reach 35,596 Mt and still remained the dominant fish product being produced, representing almost 91% of consumable domestic production. Dried sea cucumber production has been on declining trend over the last two years from 64.34 Mt in 2014 to reach 43 tons in 2016, a drop of 33%. Production of other fish products (tuna loins and fish roe) showed a 41% decrease in 2016 compared to 2015, mainly caused by decrease in the production of tuna loins from 162 Mt in 2015 to 94 Mt in 2016.

Fish meal is a by-product produced from the tuna factory trimmings and fish oil is obtained during the reduction process by which fish meal is produced. They are both important by-products of the tuna canning industry. Production of fish oil decreased from 870 Mt in 2014 to reach only 390 Mt in 2016 (-55%) whilst the production of fish meal dropped from 6,927 Mt in 2014 to reach 6,382 Mt in 2016 (-8%).

Total catch by Seychelles registered but foreign owned purse seiners has been on an upward trend in the last five years from 50,038 Mt in 2012 to reach 108,583 Mt in 2016 whilst the catch from Seychelles registered longliners has been increasing over the last two years, from 10,457 Mt in 2014 to 14,486 Mt in 2016.

Figure 2.3 Trends in the production of fish and fish products 2009 - 2016 ('000 MT)



Source: SFA

Figure 2.3 above illustrates the trend in the domestic output of fish and fish products over the last eight years, revealing the high correlation between total output and canned tuna output. The total output, which had increased sharply in 2013 as a result of the increase in canned tuna production, dropped to pre-2013 levels where it had more or less remained constant since 2009. The production of dried sea cucumber, shark fins and smoked fish remained relatively minor in contrast to their economic importance. The artisanal and semi-industrial catch stabilized from 2013 onwards, although remaining higher than 2009-2012 levels.

2.3 Revenue from Industrial Tuna Fishing Activities

Industrial tuna fishing remains one of the most important sources of foreign currency earnings in the economy. Gross income from the sector is derived mainly from foreign fishing vessels' expenditure on goods and services in Port Victoria, as well as through payments for licenses and financial compensation. Over the past two years there was a drastic decrease in the revenue generated from industrial tuna fishing related activities. Compared to 2014 when the total gross revenue stood at SR2.237 million, this dropped by 44% to reach SR1.125 million in 2016.

Table 2.2 Total revenue from industrial fishing activity 2011 - 2016 (SR Million)

(SR Million)	2011	2012	2013	2014	2015	2016	% change (2015/2016)
Vessel Expenditure	1,290.00	1,001.41	1,633.999	2,032.903	1,585.952	1,062.094	-33%
Company Expenditure	19.84	18.52	17.591	27.652	22.447	18.315	-18%
Seamen Compensation	0.58	0.84	0.671	1.198	1.008	1.125	12%
License Fees, Excess Catch & Sectoral Support	146.13	191.72	98.908	175.874	152.880	170.284	11%
Total	**1,456.55**	**1,212.49**	**1,751.169**	**2,237.627**	**1,762.287**	**1,251.818**	-29%

Source: SFA

Although spending by vessels remained the most important outlay from industrial tuna fishing related activities, a drop in this revenue item has been recorded over the last two years. Gross revenue from vessel expenditure fell from SR2.033 million in 2014 to SR1,586 million in 2015 and to SR1.062 million in 2016. The drop occurred despite recorded increases in both the number of fishing vessels calling in Port Victoria and number of days spent in port in 2015 and 2016. The number of calls in port increased from 638 in 2014 to 835 in 2016 whilst days spent in port increased from 3,640 in 2015 to 3,755 in 2016 despite being still lower than the 2014 figure. This is summarized in Table 2.3 below.

It is worth noting that this is an approximate gross figure for vessel expenditure and the majority comprises of expenditure by purse seiners, reefers and supply vessels as data for industrial longliners' expenditure has as at the close of the database for data processing not yet been made available to SFA by the agents.

Table 2.3 Vessels activity in Port Victoria

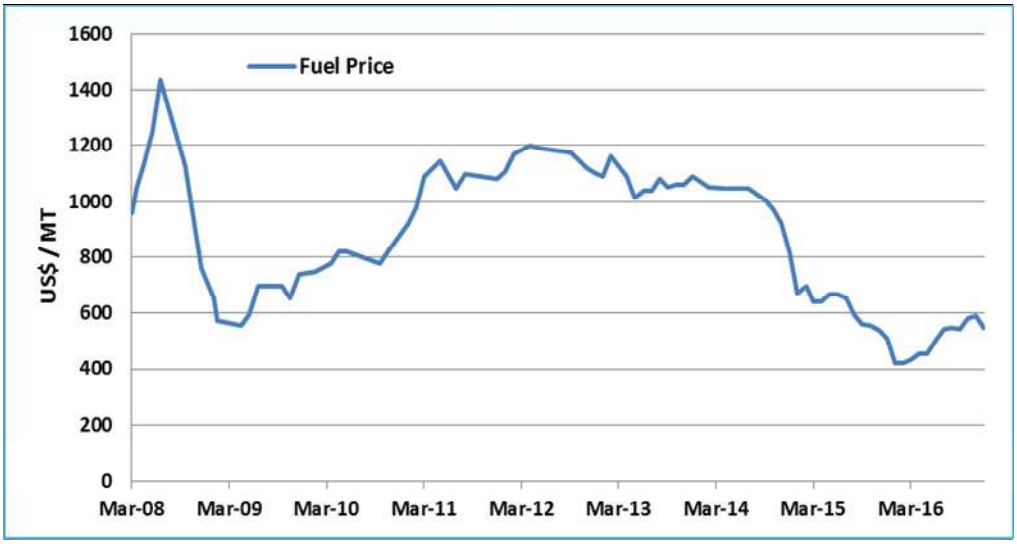
Year	Port Calls	Sum of Days in Port	Average of Days in Port
2009	435	2,687	6
2010	401	1,908	5
2011	373	2,017	5
2012	559	3,107	6
2013	543	3,426	6
2014	683	4,718	7
2015	754	3,640	5
2016	835	3,755	4

Source: SPA

The purchase of gasoil by industrial tuna fishing vessels and reefers constitutes a major component of vessel expenditures and figures provided by SEYPEC showed there has been an increased in the quantity of fuel sold to all fishing and other fishing related vessels for the year 2015 and 2016. The quantity of fuel sold increased from 138,110 Mt in 2014 to 156,887 Mt in 2015 and to 188,187 Mt in 2016. Despite this increased in volume sold, a dropped in the gross revenue derived has been on continuous decline. The gross revenue dropped from SR1.791 billion in 2014 to SR1.308 billion in 2015 and to SR0.795 billion in 2016. This has been due principally to the general decline in the price of fuel sold to fishing vessels as shown in Figure 2.4 below. Fuel sales to the fishing vessel constitute over 82% of total vessel expenditure in 2015 and about 75% in 2016.

Figure 2.4 shows the trend in fuel prices from 2008 to 2016 and as can be seen, there has been a continuous increase in the price of fuel since March 2009 and although prices remained fairly constant over 2012 and 2013, in 2014 to 2016 fuel prices fell quite drastically, reflecting the drop in international fuel prices.

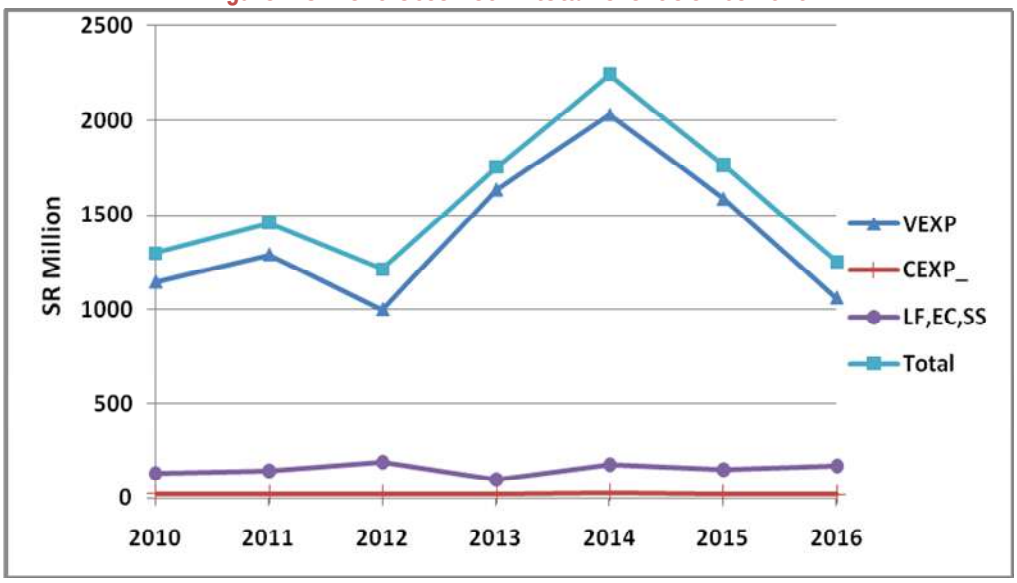
Figure 2.4 Price of fuel quoted by SEYPEC March 2008 - December 2016



Source: SEYPEC

Figure 2.5 shows the trend observed in total revenue since 2010. After a drop in 2012, the total gross revenue from the industrial tuna fishing activity grew in 2013 and 2014, after which the revenue has been on a decline. The license fees, excess catch and sectoral support as well as seamen's compensation have remained fairly constant. Companies expenditure remains insignificant in total gross revenue.

Figure 2.5 Trend observed in total revenue since 2010



Source: SFA

2.4 Trade in Fish and Fish Products

Trade in fish and fish products and related activities constituted an important growth and income generating activity for the national economy. These activities have a major influence on the country's balance of payment as a substantial portion of the country's current inflow of foreign exchange is derived from fish trading activities.

2.4.1 Exports of fish and fish products

Exports of fish and fish products constitute a vital source of foreign currency earnings for the country. In addition, processing of fish into exportable products generates a substantial amount of employment and income and contributes positively to the national trade balance, as illustrated in table 2.4. The volume of fish and fish products exported showed impressive growth in 2016 after a drop in 2015. Volume of export grew from 40,294 Mt in 2015 to 48,279 Mt in 2016 a growth of almost 20%. The corresponding value of the export maintained the same trend as the volume even if not to the 2014 level. The value of export grew by 15.2% to reach SR3.724 billion in 2016 up from SR3.233 billion in 2015.

In 2016, the increase in volume of fish and fish products exported was mainly due to an increase of 19.4% in the volume of **canned tuna** exported, bringing the volume of canned tuna exported to 36,904 Mt.

The volume of **fish meal** exported increased by 22% between 2014 and 2016, from 6,883 Mt to 8,404 Mt. The value of fish meal exported also showed an increase between 2014 and 2016 although there was a drop in value in 2015 receipts from fish meal exported. Revenue from the export of fish meal grew from SR97.302 million in 2014 to SR107.179 million in 2016. Export of fish oil also showed an increase between 2014 and 2016 although the volume decreased in 2015. The volume of this item grew from 869 Mt in 2014 to 1,037 Mt in 2016, an increase on 19%. Similarly, there was a corresponding increase in the receipt from this item although it was less than for percentage growth in export volume.

Export of fresh and frozen fish, showed impressive increases in both volume and value. In 2016, the volume of this product exported attained 1,889 Mt from a mere 247 Mt in 2015, an increase of 665%. The value on the other hand increased by 316% to reach SR75.670 million from only SR18.210 million in 2015. This has been possible with the resumption of export of tuna and swordfish to the European market and the export of processed by-catch primarily to the Sri Lankan market.

As shown in the table below, in 2016, the value of exports of fish and fish products constituted 91% of the total value of domestic exports down from 96% in 2014 and 94% in 2015. This illustrates the importance of marine product exports for foreign exchange earnings. Europe remained Seychelles' primary market for fish and fish products, with canned tuna being the dominant commodity. Other than exporting to the EU, Seychelles also exported to Reunion, Mauritius, U.S.A and the Middle East. East Asian markets such as Hong Kong and Singapore also constituted an important market for Seychelles, particularly for dried sea cucumber and shark fins.

Table 2.4 Volume and value of fish and fish products exported, 2014 - 2016

	2014		2015		2016		2015/2016 % change	
	MT	SR ,000	MT	SR ,000	MT	SR ,000	MT	SR ,000
Fresh and Frozen Fish	293.84	14,740.00	246.90	18,210 .00	1,889.10	75,668.00	665.13%	315.53%
Canned Tuna	32,394	4,055,433.00	30,911.30	3,044,344.00	6,904.42	3,473,035.57	19.39%	14.08%
Dried Shark fin & sea cucumber	65.75	41,544	66.00	34,432.00	44.40	27,553.00	-32.73%	-19.98%
Total	**32,754**	**4,111,716.54**	**31,224.0**	**3,096,986.00**	**38,837.92**	**3,576,256.57**	24.38%	15.48%
Total Domestic Exports		**4,296,384.63**		**3,284,319.00**		**3,921,408.00**		19.40%
% of Domestic Exports		**96%**		**94%**		**91%**		-3.29%
Fish Meal	6,883.00	97,302.00	8,283.00	96,296.99	8,404.25	107,179.10	1.46%	11.30%
Fish Oil	869.81	39,614.93	846.34	39,676.98	1,037.00	40,780.43	22.53%	2.78%
Grand Total	**40,506.40**	**4,248,633.46**	**40,353.54**	**3,232,959.97**	**48,279.17**	**3,724,216.10**	19.64%	15.20%

Source: NSB

2.4.2 Imports of fish and fish products

During 2016, there was a formidable increase in both the volume and value of fish and fish products imported into the country compared to 2015. However, there was a decrease in the value compared to 2014 despite of a slight increase in the volume. The main product, frozen tuna, was destined for the IOT factory for canning and fish-meal production. The other commodities imported were supplies for the hotel and local markets and bait for the domestic fishing industry.

As depicted in table 2.5, in 2016, the volume of fish and fish products imported rose by 17% compared to 2015 and by 14% compared to 2014. Total imports amounted to 76,441 Mt in 2016 compared to 67,265 Mt in 2015 and 67,073 Mt in 2014. The corresponding value in 2016 was SR1.634 billion, an increase of 30% from 2015 when the value stood at SR1.254 billion.

As the main raw material for the canning factory, frozen fish, namely tuna, remained the dominant import commodity, accounting for over 99% of total imports of fish and fish products in terms of volume and close to 99% in terms of value.

Table 2.5 Volume and value of fish and fish products imported, 2014 - 2016

	2014		2015		2016		% change (2015/2016)	
	MT	SR ,000	MT	SR ,000	MT	SR ,000	MT	SR ,000
Fish, Fresh or Chilled	62.36	3,179.03	13.14	1,846.39	21.87	3,185.71	66.37%	72.54%
Fish, Frozen	66,968	1,593,921	66,966.04	1,228,630.49	76,185.43	1,610,680.85	13.77%	31.10%
Fish, Fillets and other fish meat	4.18	901.89	4.92	838.07	2.97	472.21	-39.75%	-43.66%
Fish, dried, salted	38.27	5175.17	39.48	6,077.84	56.05	7,684.33	41.96%	26.43%
Fish prepared and preserved	0.16	28.73	241.37	17,090.95	174.83	11,914.34	-27.57%	-30.29%
Molluscs and Crustaceans prepared or preserved	430.83	55,877.07	41.20	3,803.43	47.83	4,460.72	16.08%	17.28%
Total	**67,073.35**	**1,603,205.91**	**67,264.96**	**1,254,483.75**	**76,441.14**	**1,633,937.44**	**13.64%**	**30.25%**

In 2016, there were increases in the import of fresh or chilled fish, dried and salted fish, molluscs and crustaceans whilst there were decreases in fish fillets and other fish meat and prepared or preserved fish.

2.5 Foreign Currency Flows

For the year 2016, the total gross inflow generated by the fishing sector and related activities remained fairly equal to 2015, (slight decrease of 0.4%). Total inflow stood at SR4.976 billion compared to SR4.995 billion in 2015 and SR6.486 billion in 2014. The decrease was due to the 29% drop in the revenue from industrial tuna fishing and related activities (Table 2.6). As a result of the slight decrease in total gross and the 10% increase in Current Accounts receipts, the contribution of the fisheries gross revenue dropped 5 percentage points to 50%. The fisheries contribution to current accounts receipt stood at 64% in 2014. On the other hand, given the visible imports and export it can be deduced that there has been a positive balance of trade in fish and fish products over the past two years. The trade balance stood at +SR2.090 billion in 2016 up from +SR1.973 billion in 2015.

Table 2.6 Gross inflow of foreign exchange generated by the fisheries sector 2014 - 2016 (SR'1000)

	2014	2015	2016	% change
Visible Exports	4,248,633.46	3,232,959.97	3,724,216.10	15%
Revenue from Industrial Tuna Fishing	2,237,626.53	1,762,286.95	1,251,818.35	-29%
Gross Inflow from fisheries (a)	**6,486,259.99**	**4,995,246.92**	**4,976,034.45**	0%
Current Account Receipts (b)	**10,076,145.30**	**9,065,441.00**	**9,951,887.00**	10%
(a) as a % of (b)	**64%**	**55%**	**50%**	

According to the Central Bank of Seychelles' annual reports, earnings from tourism in 2015 and 2016 stood at US$393.0 million and US$414.0 million respectively. Total gross inflow from fisheries amounted US$373.3 million and US373.6 million respectively for the same period. This clearly shows the vital importance of fisheries and related activities to the national economy and in the development of the country. It also reaffirms the industry's position as the second pillar of the economy. In addition, there is future potential to further develop the sector's potential contribution to the blue economy through value addition and continued development of the semi-industrial fishing industry.

Chapter 3 -
Industrial and Semi Industrial Tuna Fishing Activities

3.1 The Purse Seine Fishery

3.1.1 Catches, fishing effort, catch rates and species composition

In 2015, 48 purse seiners were recorded to be active out of which 13 where Seychelles flagged vessels, 17 Spanish flagged vessels and 12 French flagged vessels. The number of purse seiners in operation decreased slightly to reach 47 vessels active in 2016, comprising of 13 Seychelles flagged vessels and 14 Spanish flagged vessels and 12 French flagged vessels .

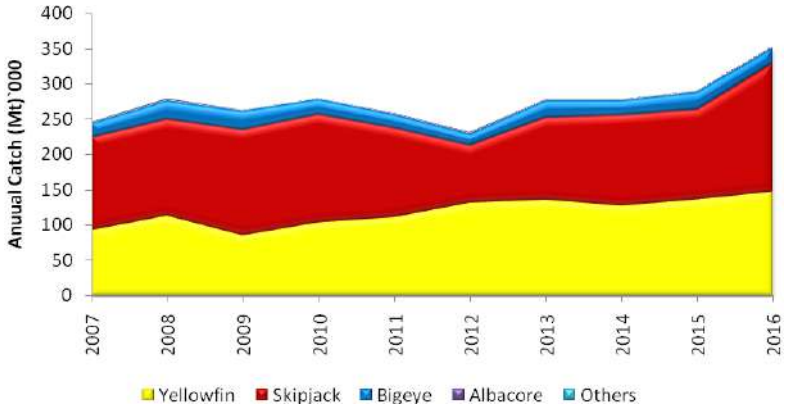
An estimated total catch of 289,704 Mt was made in the Western Indian Ocean in 2015 by purse seiners licensed to fish in Seychelles EEZ. This represents a 4% increase over the 2014 estimated catch of 277,837 Mt. The annual catch of purse seiners continued to increase in 2016 to reach 351,927 Mt. This was the highest catch recorded since 2006. The catch increase may be attributed to an 8% increase in fishing effort over the previous year.

Fishing effort in 2015 was estimated at 12,756 fishing days, representing an 8% increase from 11,789 fishing days in 2014. In 2016, fishing effort increased by an additional 1,096 fishing days over 2015 level to a reach a total of 13,825 fishing days. The average catch rate decreased from 23.57 Mt/fishing day in 2014 to 22.71 Mt/fishing day in 2015 and increased to 25.46 Mt/fishing day in 2016. Nevertheless, monthly catch rates remained highly variable, ranging from 12.54 to 39.63 Mt/fishing day during 2015 and 15.69 to 33.76 Mt/fishing day in 2016.

Yellowfin tuna (*Thunnus albacares*) dominated the total purse seine catches in 2015, accounting for 47% of total catch. Skipjack (*Katsuwonus pelamis*) and bigeye tuna (*Thunnus obesus*) respectively accounted for 44% and 9% of the 2015 total catch. Annual catches of skipjack tuna decreased by 1% in 2015 whereas yellowfin and bigeye tuna catches increased by 7% and 18% respectively (Figure 3.1).

In 2016, skipjack tuna dominated the total purse seine catches, accounting for 52% of the total catch followed by yellowfin tuna and bigeye tuna, which accounted for 42% and 6% of the total catch, respectively. Annual catches of skipjack and yellowfin tuna catches increased by 42% and 8% in 2016 whilst bigeye tuna catches declined by 10%.

Figure 3.1 Total catch reported by purse seiners licensed to fish in the Seychelles waters, from 2007 - 2016



Catches by purse seiners for the year 2015 was dominated by the Spanish fleet accounting for 42% of the total catch whilst the Seychelles and French fleet accounted for 31% and 19% of the total catch, respectively. During the previous year, the Spanish, Seychelles and French fleet accounted for 48%, 22% and 21% of the total purse seine catches by purse seiners licensed to fish in Seychelles EEZ, respectively. In 2015, the Spanish fleet reported a total catch of 120,263 Mt compared to 133,741 Mt during the same period of the previous year. The total catch for the Seychelles fleet increased significantly by 47% from 60,255 Mt in

2014 to 88,740 Mt in 2015 whilst the catch for French fleet decreased by 7%, from 58,560 Mt in 2014 to 54, 552Mt in 2015.

Similar to 2015, catches by purse seiners during the year 2016 was dominated by the Spanish fleet, which accounted for 39% of the total catch, followed by the Seychelles and French fleet, which accounted for 31% and 19% of the total catch, respectively. Catches for the Spanish, Seychelles and French fleet increased by 13%, 22% and 25% respectively from 2015 to 2016 (Table 3.1).

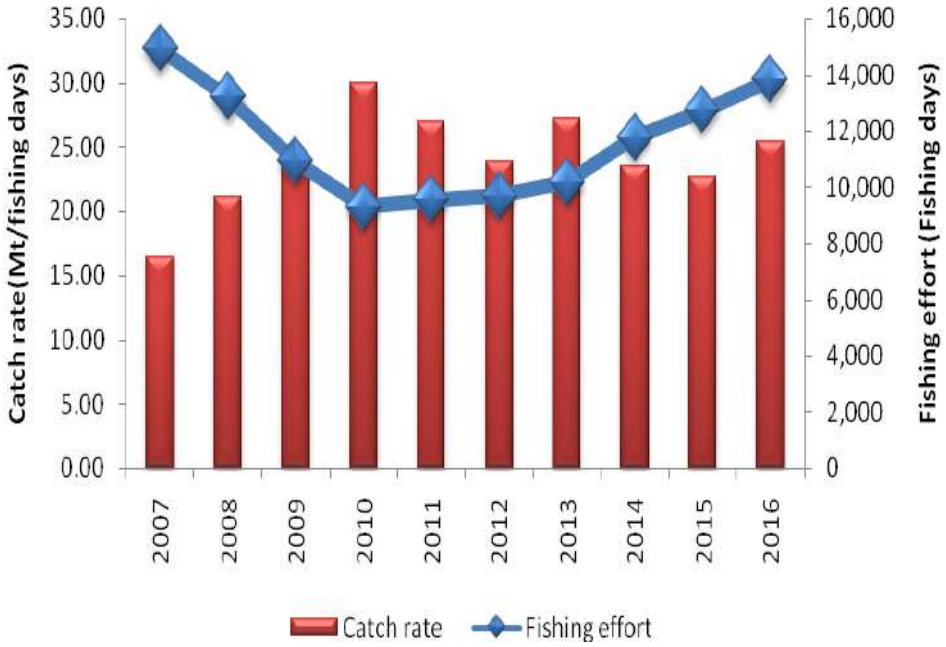
Table 3.1 Tuna catch statistics by country of registration for the year 2015 and 2016

	2015			2016		
Country	**Catch (Mt)**	**Effort**	**CPUE**	**Catch (Mt)**	**Effort (Fishing Days)**	**CPUE (Mt/ fishing days)**
Spain	120,263	4,136	29.07	136,288	4,270	31.92
France	54,552	3,431	15.90	68,420	3,473	19.70
Seychelles	88,740	3,264	27.19	108,613	4,092	26.55
Others*	26,149	1,925	13.58	38,606	1,991	19.39
Total	**289,704**	**12,756**	**22.71**	**351,927**	**13,825**	**25.76**

***Others represent other countries and include South Korea, Mauritius and Italy.**

Analysis of fishing effort data for the past decade shows a decreasing trend between 2007 (14,930 fishing days) and 2010 (9,318 fishing days) followed by a continuous upward trend (Fig. 3.2) to reach a total of 13,825 days of fishing in 2016. In contrast, trends in CPUE showed more fluctuations with an increasing trend observed between 2007 and 2010, when a peak of 29.97 Mt/fishing day was recorded, followed by a negative trend reaching a minimum of 23.87 Mt/fishing day in 2012. The CPUE then fluctuated between 27.29 Mt/fishing day in 2013 to 22.71 Mt/fishing day in 2015. In 2016, CPUE stood at 25.46 Mt/fishing day (Figure 3.2).

Figure 3.2 Total effort (fishing days) and catch rates (MT/fishing day) reported by purse seiners licensed to fish in the Seychelles waters, from 2007 - 2016

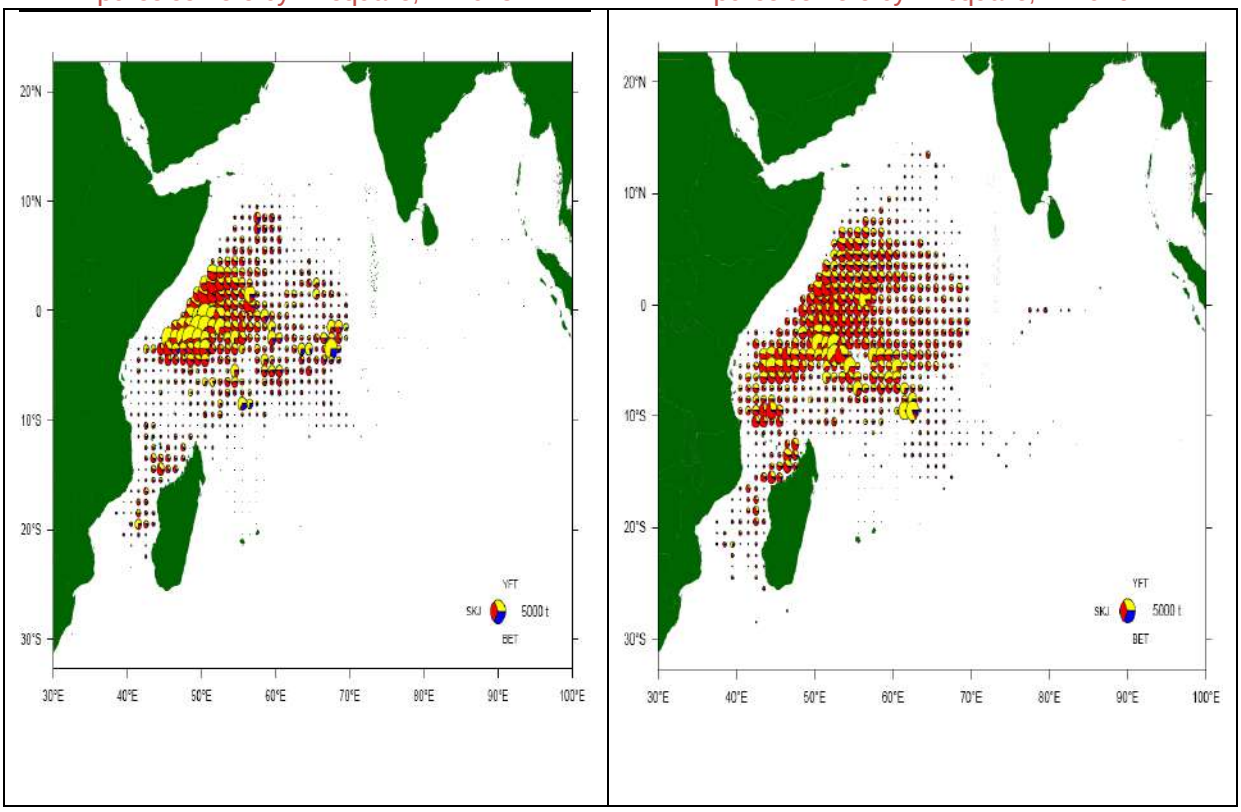


3.1.2 Spatial distribution of catch

Figures 3.3a and 3.3b show the distribution of catches reported by purse seiners (holding licenses to operate in Seychelles waters) in the Western Indian Ocean by 1º square, for 2015 and 2016 respectively. Certain dissimilarities in the spatial distribution of catches can be observed between 2015 and 2016 with more catch taken in the NW and SE of the Seychelles in 2016 compared to 2015. The increased importance of skipjack in the 2016 catches compared to 2015 is also clearly visible.

Figure 3.3a Distribution of catches reported by purse seiners by 1º square, in 2015

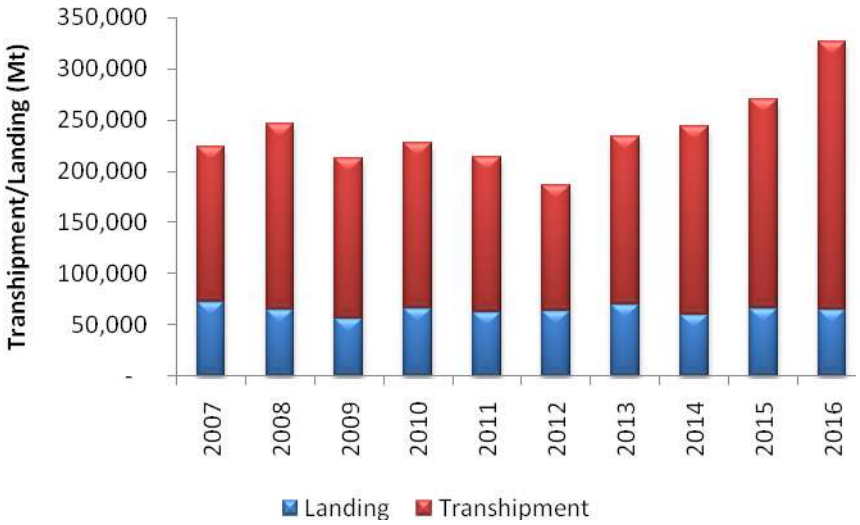
Figure 3.3b Distribution of catches reported by purse seiners by 1º square, in 2016



3.1.3 Transhipment and landings in Port Victoria

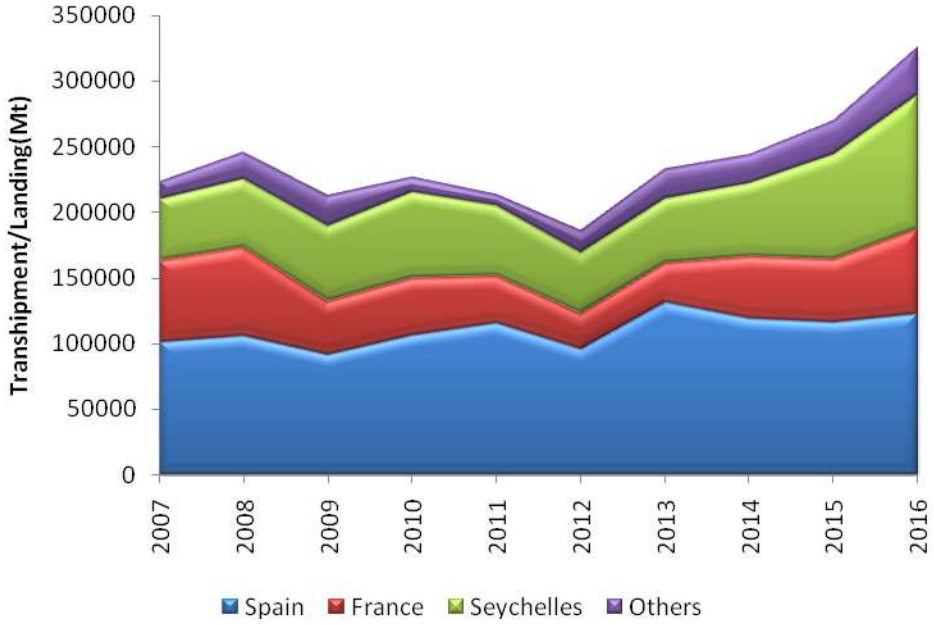
Similar to previous years, Port Victoria remained the principal port for tuna transhipment and landing by purse seiners in the WIO during 2015. A total of 270,340 Mt of tuna was unloaded through Port Victoria compared to 244,353 Mt in 2014. This represents 95% of the total landing and transhipment by Seychelles licenced vessels for that year and an 11% increase from the previous year. Further increase in landing and transhipment was observed in 2016, with a total of 326,461 Mt of tuna was unloaded through Port Victoria, representing 97% of the total landing and transhipment by Seychelles licenced vessels for that year and a 21% increase from the previous year. (Figure 3.4).

Figure 3.4 Transhipment and landings in Port Victoria in MT from 2007 - 2016



The Spanish fleet was responsible for the majority of landing and transhipment in Port Victoria during both 2015 and 2016, representing 43% and 38% of fish unloaded, respectively. The Seychelles flagged vessels unloaded the second highest amount of tuna in both years accounting for 30% and 31% of fish unloaded in 2015 and 2016, respectively. The French fleet accounted for 18% of fish unloaded in 2015 and 20% in 2016. (Figure 3.5).

Figure 3.5 Transhipment and landings (Mt) in Port Victoria by vessel flag from 2007 - 2016



3.2 The Longline Fishery

This section summarises the activities of the Seychelles flagged and international longliners licensed to operate inside the Seychelles EEZ between the year 2007 and 2016. Figures presented here for the years 2007 to 2016 may be different to those provided in subsequent SFA publications due to recent incorporation of data from previously outstanding logbooks.

3.2.1 Catches, fishing effort, catch rates and species composition

Statistics presented in this section for the year 2015 and 2016 are based upon an 95% and 93% logbook return rate for all flagged, for year 2015 and 2016 respectively and statistics for Seychelles flagged vessels are based on 95% and 97% logbook returned for 2015 and 2016 respectively.

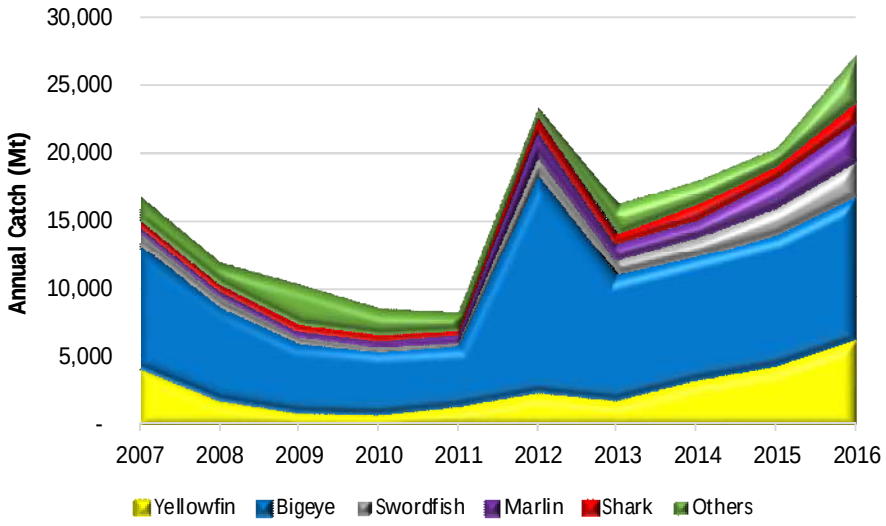
In 2015, a total of 147 longliners were reported to have been active out of which, 42 vessels were Seychelles registered longliners and 83 vessels flagged under Taiwan (province of china). In the 2016, 183 longliners were reported to have been active out of which 47 vessels were Seychelles registered longliners and 105 vessels flagged under Taiwan (province of china).

Total catch reported by industrial longliners licensed to fish inside the Seychelles EEZ was estimated at 20,390 Mt in 2015. An estimated 39 million hooks were deployed by these vessels giving a mean catch rate of 0.52 Mt/1000 hooks (Table 3.2).

An estimated total of 27,309 Mt of catch was reported for 2016 corresponding to 62.8 million hooks deployed and a mean catch rate of 0.43 Mt/1000 hooks.

Bigeye tuna remained the dominant species caught in this fishery during both 2015 and 2016, accounting for 47% and 38% of the total catch respectively. In 2015, yellowfin tuna and swordfish were the second and third most dominant species, comprising 21% and 11% of the total catch respectively. During 2016, yellowfin tuna remained as the second dominant species caught accounting for 23% of the total catch whilst the species group as others which comprised mainly of oilfish was the third most dominant species representing 13% of the total catch. (Figure 3.6).

Figure 3.6 Total catch (MT) reported by longliners licensed to fish in Seychelles waters from 2007 - 2016



The catch reported in 2015 for the Seychelles fleet was estimated at 12,520 Mt which was achieved from a fishing effort of 22.8 million hooks with a mean catch rate of 0.55 Mt/1000 hooks compared to 10,689 Mt achieved from a fishing effort of 21.6 million hooks and mean catch rate of 0.50 Mt/1000 hooks reported for the year 2014.

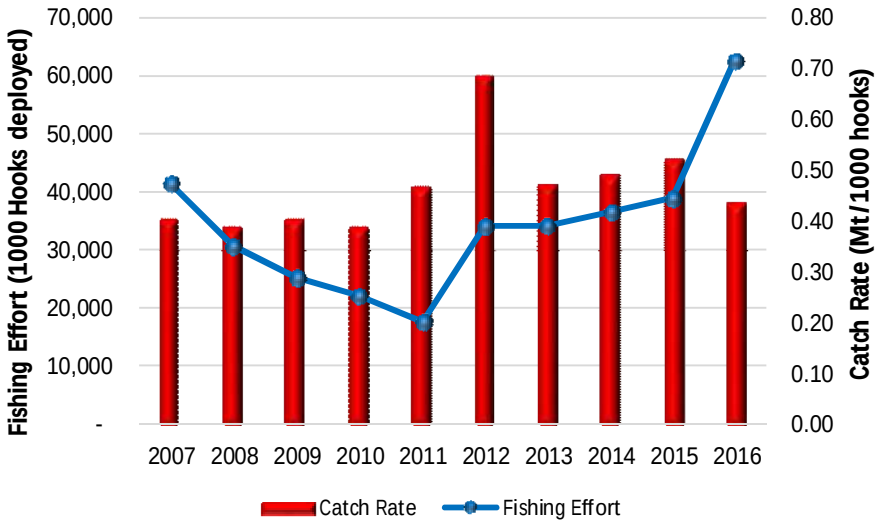
For the year 2016, the Seychelles flagged industrial longliners reported an estimated catch of 15,009 Mt representing a 20% increase in catches in WIO corresponding to a 52% increase or 34.6 million hooks in fishing effort with a mean catch rate of 0.43 Mt/1000 hooks (Table 3.2).

Table 3.2 Catch statistics reported by country for 2015 and 2016

Country	2015				2016			
	Logbook %	Fishing Effort (Million Hooks)	Catch (Mt)	Catch Rate (Mt/1000 Hooks)	Logbook %	Fishing Effort (Million Hooks)	Catch (Mt)	Catch Rate (Mt/1000 Hooks)
Seychelles	95	22.83	12,520	0.55	97	34.62	15,009	0.43
Taiwan (POC)	95	13.51	6,831	0.51	92	24.34	11,144	0.46
Others	90	2.67	1,045	0.39	86	3.85	1,155	0.30
Grand Total	**95**	**39.01**	**20,396**	**0.52**	**93**	**62.81**	**27,309**	**0.43**

Trend analysis from logbooks submitted to SFA between 2007 and 2011 shows the catch rate of longliners operating in the Seychelles waters has remained more or less constant ranging between 0.39 Mt/1,000 hooks and 0.47 Mt/1,000 hooks, whilst the fishing effort has been on a decreasing trend from 41 million hooks in 2007 to 17.7 million hooks in 2011. In 2012, both the fishing effort and catch rate increased significantly to 34 million hooks and 0.68 Mt/1,000 hooks. Since 2012 fishing effort continued to follow an increasing trend to reach 62.8 million hooks deployed in 2016 whilst catch rate fluctuated between 0.47 Mt/1,000 hooks in 2013 to 0.43 Mt/1,000 hooks in 2016 (Figure 3.7).

Figure 3.7 Total effort (hooks deployed) and catch rates (MT/1,000 hooks) from logbooks submitted to SFA by longliners licensed to fish in the Seychelles waters, from 2007 - 2016



3.2.2 Fishing Grounds Exploited

Figures 3.8a and 3.8b show the distribution of catches reported by longliners (holding licenses to operate in Seychelles waters) in the Western Indian Ocean by 1º square, for 2015 and 2016 respectively. The maps show that the 2015 fishing pattern appears to be the similar to that of the previous year with slight increase in catches of 'Other' Species 30° south.

Figure 3.8a Distribution of catches reported by industrial longliners by 1º square, 2015

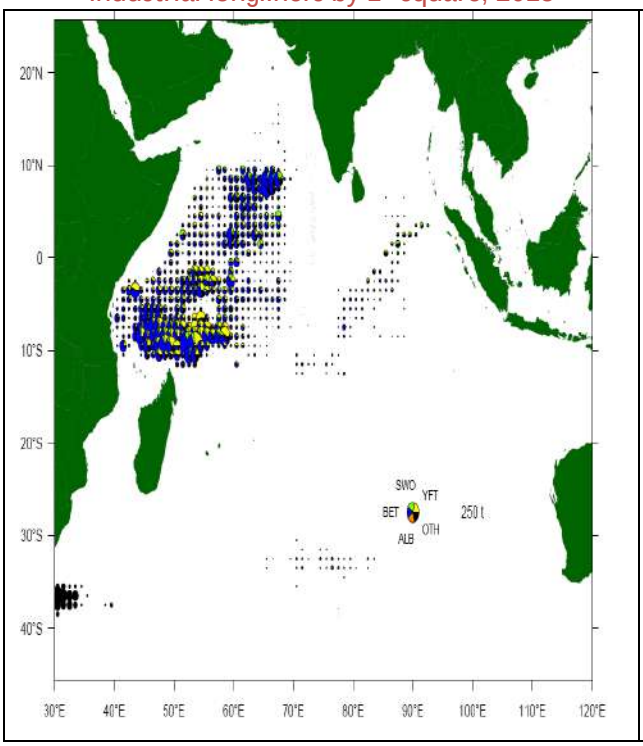
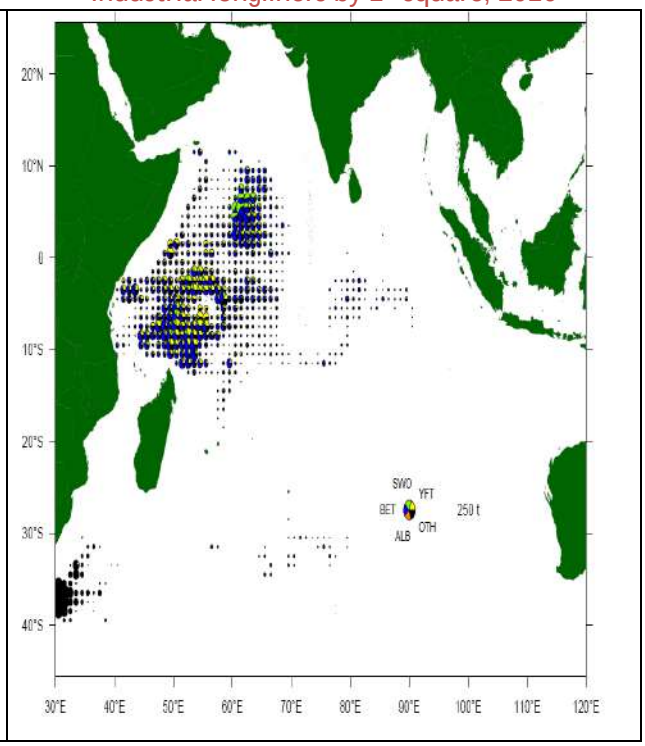


Figure 3.8b Distribution of catches reported by industrial longliners by 1º square, 2016



3.3 The Semi-industrial Fishery

3.3.1 Vessels active and fishing effort

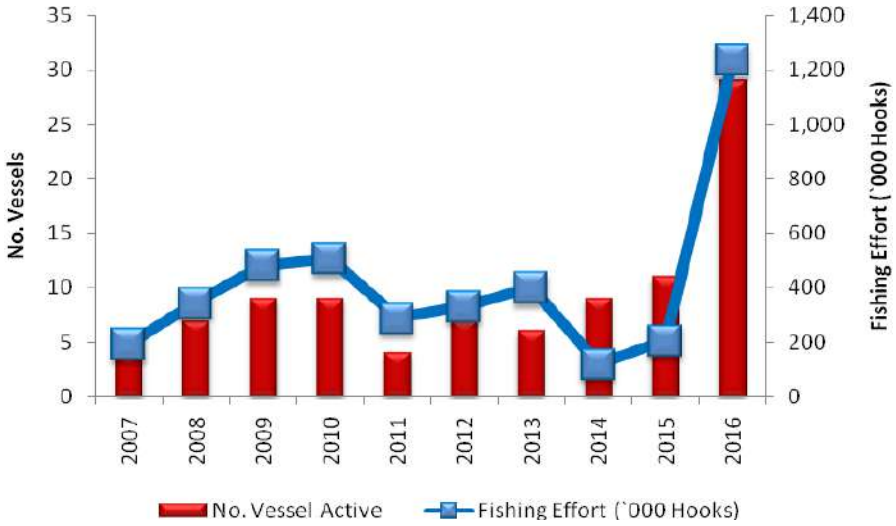
In 2015, 11 semi-industrial longliners conducted a total of 56 fishing trips targeting tuna and swordfish (Xiphias gladius) representing a sharp increase of 133% in the number of trips undertaken over the 24 fishing trips conducted in 2014 by 9 vessels. The increase in the

number of trips was attributed to a number of vessels switching back to longlining for tuna and swordfish as a result of greater availability of market for the export of swordfish in addition to new vessels joining the fishery.

In 2016, a remarkable 164% increase in the number of vessels active in the semi industrial longline fishery was recorded compare to the year 2015. A total of 29 semi-industrial longliners conducted a total of 252 fishing trips targeting tuna and swordfish. This upsurge in number of vessels joining the fishery was mainly due to new technology imparted from Sri Lankan fishermen to local fishermen resulting in higher catches of tuna which has encourage local investors to join the fishery.

Analysis of the trend in fishing effort over the past 10 years shows a yearly increased from 192,271 hooks in 2007 to 505,534 hooks in 2010. This was followed by a drop of 43% in 2011 after which effort increased until 2014 when a significant 70% drop was observed. Since 2014, fishing effort has been increasing and reached a maximum of 1,233,657 hooks deployed in 2016. This represent a remarkable increase of 500% over the 205,505 hooks reported in 2015 (Figure 3.9).

Figure 3.9 Trend in the number of vessels operating in the semi-industrial longline fishery and fishing effort (No. hooks deployed) from 2007 - 2016

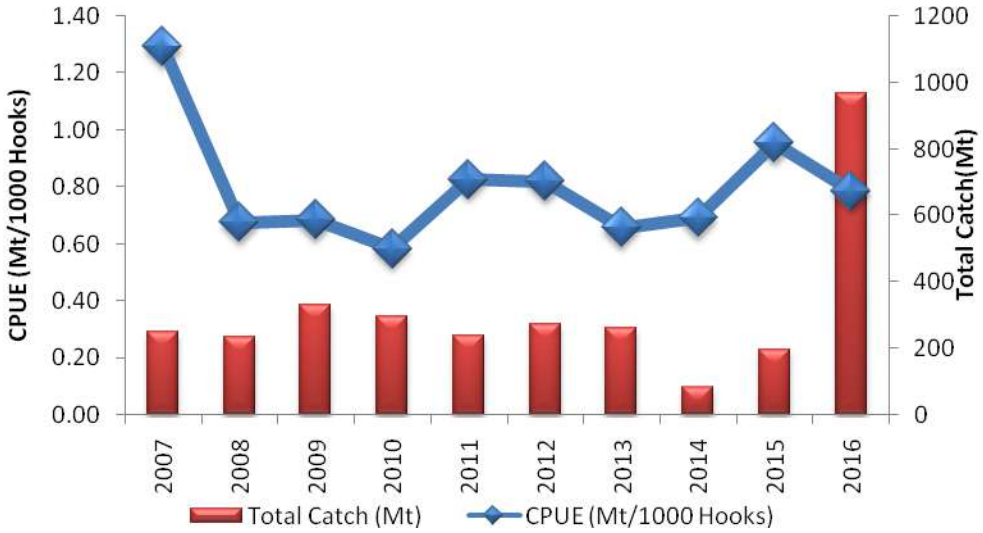


3.3.2 Total catch and catch rates

The total catch by the local semi-industrial fleet increased by 137% between 2014 (82 Mt) to 2015 (195 Mt). In 2016, the semi-industrial fishery recorded the highest catch since the beginning of the fishery with a reported total catch of 969 Mt. This increase in the catch corresponds to a 167% increase in the number of vessels active compared to the previous year (Figure 3.10).

The catch rate for 2015 was estimated at 0.95 Mt/1,000 hooks compared to 0.69 Mt/1,000 hooks in 2014. The catch rate decrease to reach 0.79 Mt/1,000 hooks in 2016 (Figure 3.10). Decreasing catch rates were observed for yellowfin, bigeye and swordfish between 2015 and 2016. Catch rates for yellowfin and bigeye tuna decreased from 0.48Mt/1,000 hooks and 0.16 Mt/1,000 hooks, respectively, in 2015 to 0.47 Mt/1,000 hooks and 0.11 Mt/1,000 hooks, respectively, in 2016 whereas those of swordfish decreased from 0.23 Mt/1,000 hooks in 2015 to 0.15 Mt/1,000 hooks in 2016.

Figure 3.10 Total landed catch and catch rates reported in the semi-industrial longline fishery from 2007 - 2016

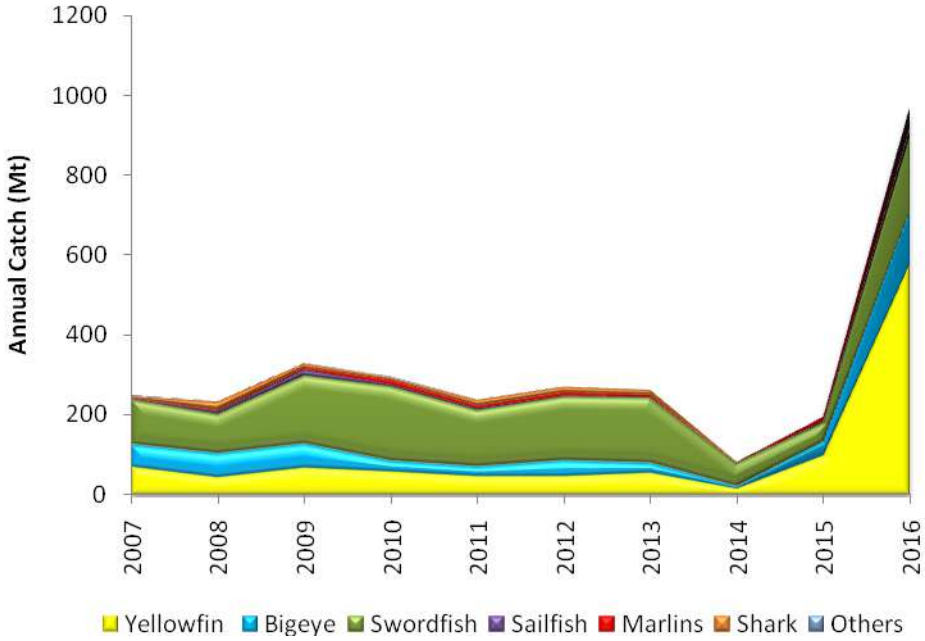


3.3.3 Species composition

Percentage species composition reported for the period 2007 to 2016 is illustrated in Figure 3.11. In 2015, yellowfin tuna replaced swordfish as the most dominant species caught by the semi-industrial longline vessels. Yellowfin accounted for 50% of the 2015 total catch followed by swordfish and bigeye tuna, which respectively accounted for 24% and 17% of the semi-industrial catch. During 2014 the semi industrial catches was dominated by swordfish (71%) followed by yellowfin and bigeye tuna representing 19% and 5% respectively.

Yellowfin tuna remained the most dominant species caught in the semi-industrial longline fishery for the second year in a row in 2016. Yellowfin tuna made up 57% of the total semi-industrial catch for 2016, followed by swordfish and bigeye tuna, which accounted for 20% and 13% of the total catch respectively.

Figure 3.11 Total catch (MT) reported by semi-industrial longliners from 2007 - 2016



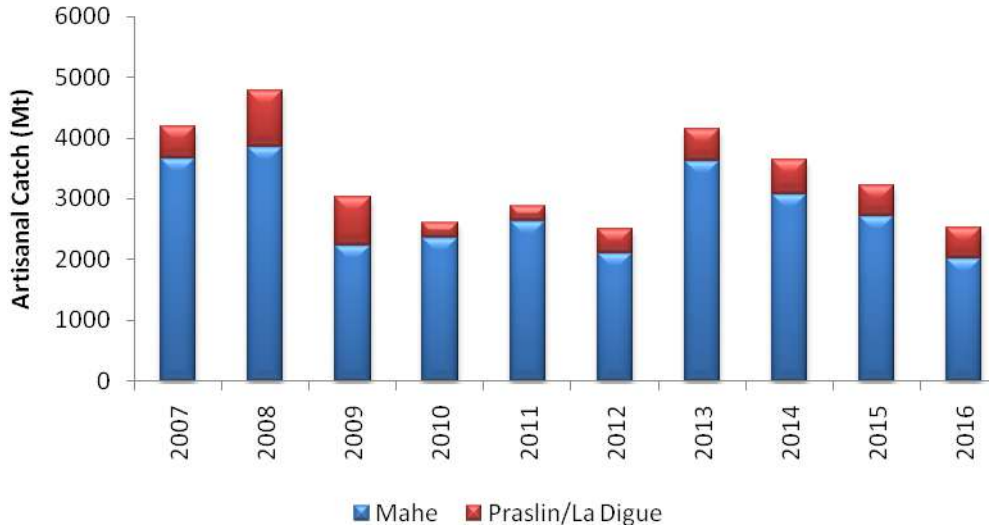
Chapter 4 - Artisanal Fishery

4.1 Catch

The total artisanal catch for 2015 was estimated at 3,214 Mt, out of which 84% was landed on Mahe and 16% was landed on Praslin and La Digue (Figure 4.1). This represent a decrease of 12% or 418 Mt compared to the 3,633 Mt landed in 2014.

In 2016, the total artisanal catches dropped by 22% to 2516 Mt, out of which 80% was landed on Mahe and 20% was landed on Praslin and La Digue. The decrease in catches could be attributed to the continued ice and bait shortage experienced by fishermen and as well as environmental factors.

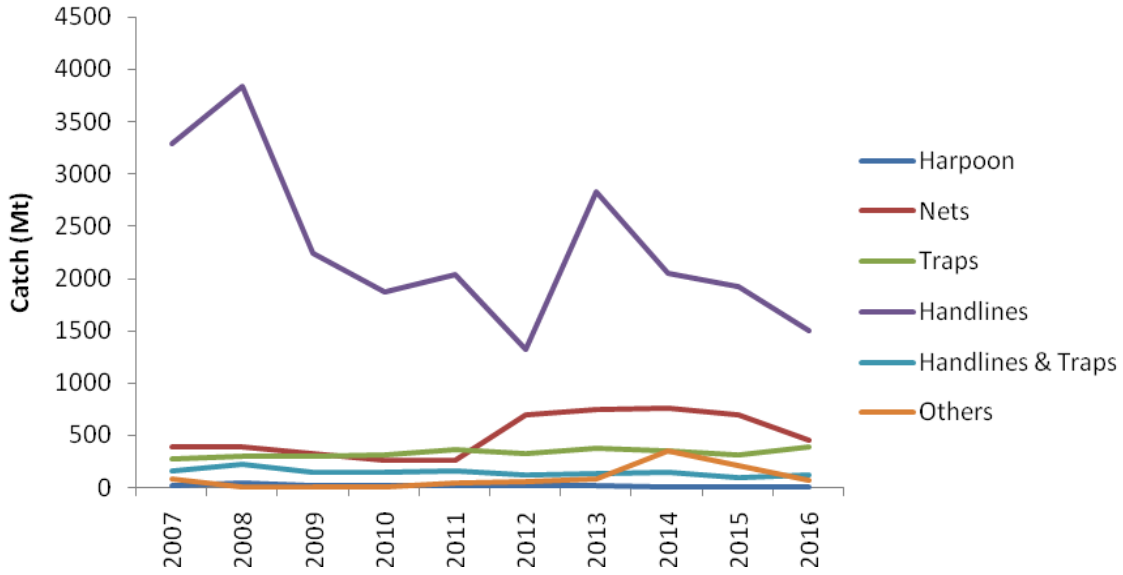
Figure 4.1 Artisanal fisheries catch (MT) for Mahe and Praslin/La Digue from 2007 - 2016



Catches by the handline fishery dominated the artisanal catch during 2015 and 2016 and accounted for 60% of the total catch during both years whilst the net fishery accounted for

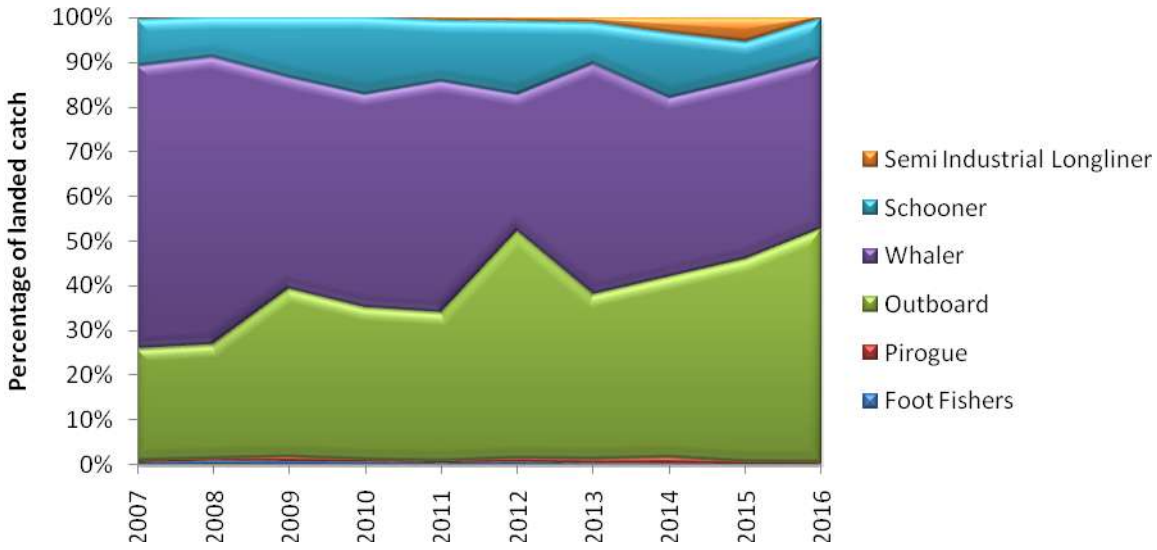
22% of the 2015 and 18% of the 2016 artisanal catch. Catch of the trap fishery decreased by 12% from 347 Mt to 306 Mt between 2014 and 2015, followed by an increase of 25% to 384 Mt in 2016. Catches using gears classified as "others" (dropline, reels etc.) decreased significantly from 345 Mt to 59 Mt between 2014 and 2016. The main reason for the decrease was the switchback of all semi-industrial vessels to targeting tuna and swordfish after the first quarter of 2014.

Figure 4.2 Artisanal fisheries catch (MT) by gear category from 2007 - 2016



In 2015 and 2016, outboards accounted for 45% and 52% of the total artisanal catches respectively whilst whalers accounted for 40% and 38% of the total catch respectively (Figure 4.3). Catches of outboards, whalers, pirogues and schooners recorded a decrease of 1%, 11%, 64% and 48% respectively from 2014 to 2015 and continued to decrease further between 2015 to 2016 by 10%, 26%, 37% and 17% respectively. Catch of fishermen on foot also decreased by 55% from 2014 to 2015 followed by an increase of 11% from 2015 to 2016. On the contrary, semi-industrial longliners catches increased by 36% in 2015 and decreased by 95% in 2016 when compared to the previous year.

Figure 4.3 Percentage of annual landed catch (MT) by vessel type from 2007 - 2016



4.2 Fishing Effort

In 2015, the total effort in the handline fishery increased by 13% from an estimated total of 44,691 men days in 2014 to an estimated 50,604 men days in 2015. The fishing effort for traps, net and harpoon decreased by 21%, 38% and 63% respectively during the same period (Figure 4.4).

The total fishing effort in 2016 for traps, net and harpoon, all recorded increases of 10%, 18% and 167% respectively compared to 2015. However, effort in the handline fishery decreased by 30%.

This decrease in handline fishing effort was accompanied by slight decrease in the mean monthly number of whalers and schooners in operation. The increase in traps, nets and harpoon fishing effort is attributed to the increase in the mean monthly number of outboards in operation. (Table 4.1)

Figure 4.4 Fishing effort for major gear type for 2007 - 2016

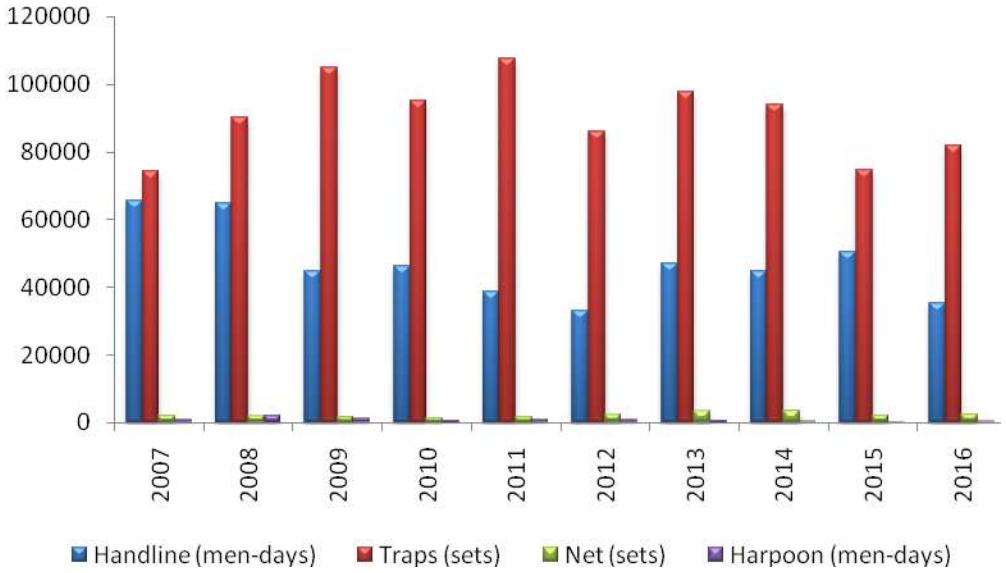


Table 4.1 Mean number of boats operating per month from 2007 - 2016

Vessel Type	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Pirogue	19	15	15	10	10	9	9	7	7	7
Outboard	209	261	310	284	270	283	287	298	305	356
Whaler	99	103	104	97	96	96	99	95	94	94
Schooner	17	19	21	22	21	22	20	19	18	13
Semi-industrial longliners*	2	1	1	1	1	2	2	4	5	3

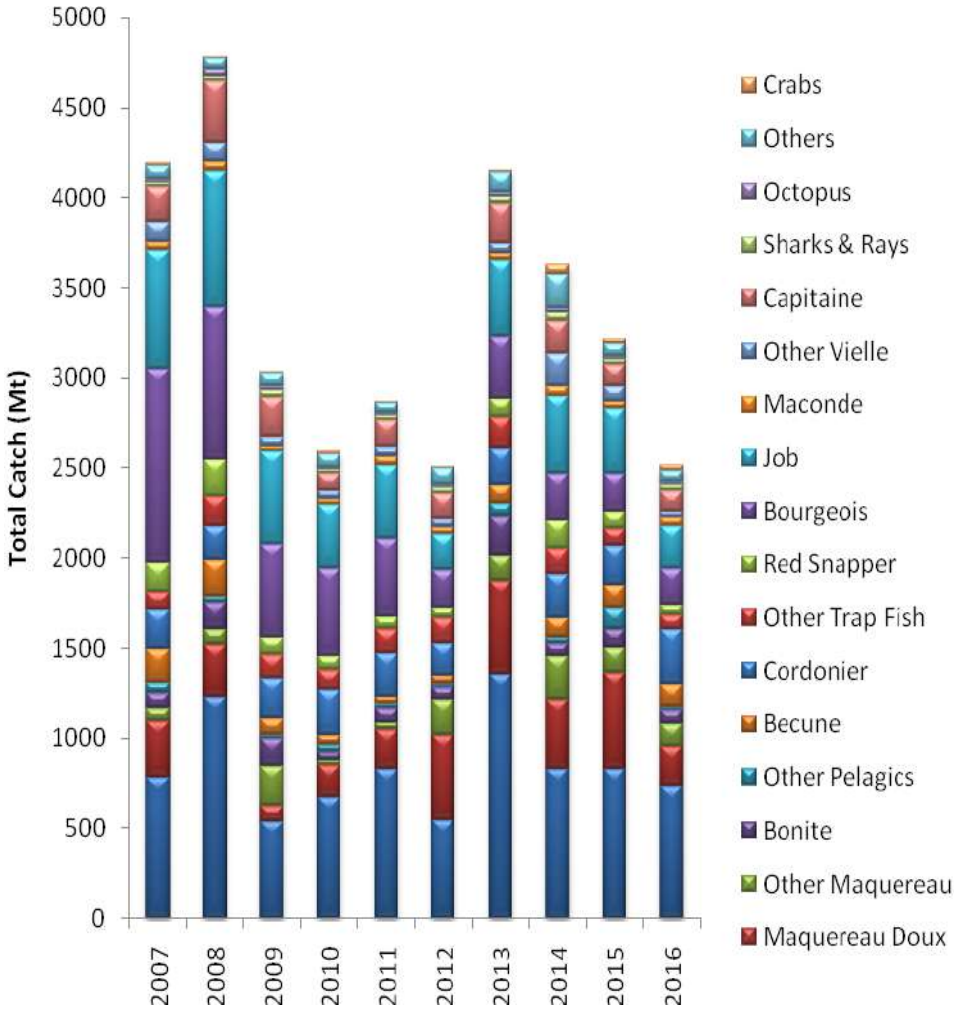
*** Semi-industrial longliners conducting artisanal fishing trips.**

4.3 Species Composition

During the year 2015, significant annual increase in catches of 271% were recorded for other pelagic species whilst catches of maquereau doux, bonite and becune increased by 36%, 44% and 14% respectively when compared to the previous year. All other species recorded a decrease in catches with the exception of carangues which remained more or less the same. The most important species groups landed for the whole of 2015 were carangues (26%), maquereau doux (17%) and job (11%) similar to the previous year when the artisanal catches were dominated by carangues (33%), maquereau doux (13%) and job (10%) (Figure 4.5).

Trevallies (*Carangoides spp.* and *Caranx spp*.), cordonier, maquereau doux and jobfish dominated the artisanal catch for 2016 accounting for 29%, 12%, 9% and 9% of the total respectively. The largest increase in catch between 2015 and 2016 were recorded for cordonier (40%), crabs (39%), maconde (25%), Sharks and rays (16%). All other species recorded decrease in catches with highest decrease recorded in other pelagics (84%), other vielle (61%) and maquereau doux (58%) when compared to the previous year.

Figure 4.5 Species composition of artisanal fishery for 2007 - 2016



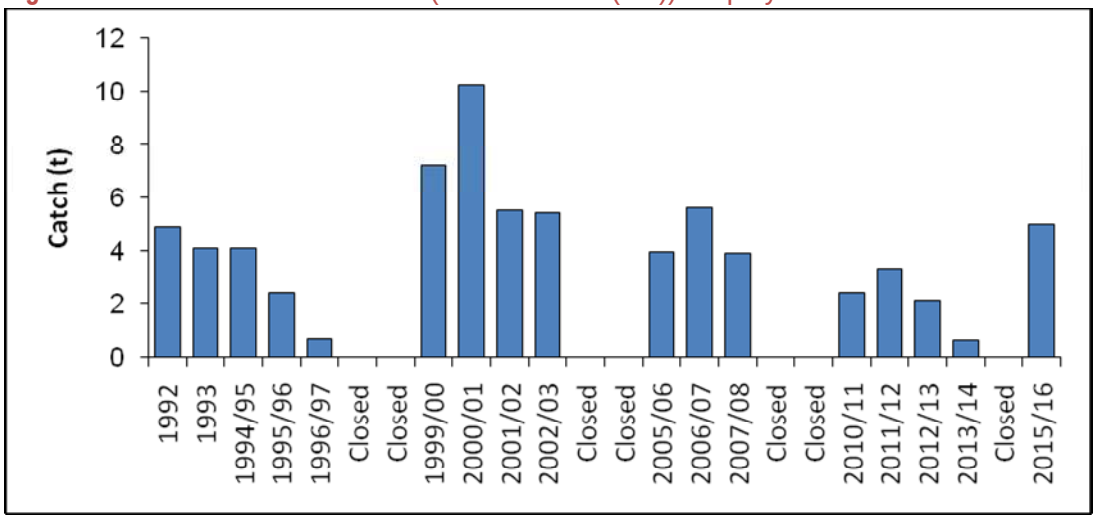
4.4 Lobster Fishery

The lobster fishery is managed as a limited entry and seasonal fishery. The fishery is traditionally only opened for a period of three consecutive months during a year. The Research Section of the Seychelles Fishing Authority (SFA) assesses the status of the lobster stock annually, using fisheries dependent and fisheries independent (surveys) data. Following the assessments, the scientists provide scientific advices to the managers on whether the fishery should be opened or remain closed.

The 2015/2016 lobster season was opened for a period of three months from the 1st of December 2015 to the 29th of February 2016 following the closure of the fishery in 2014/2015. A compliance bond of SCR5000 was maintained to ensure that license holders submitted their logbooks and sales records at the end of the fishing season. A total of sixteen fishing licenses were on offer to fishermen. However, only 12 fishermen applied and were subsequently issued a licence. In comparison, for the 2013/2014 season, only eight licences were issued to fishermen. The species targeted were Pronghorn spiny lobster (*Panulirus penicillatus*), Long-legged spiny lobster (*P. longipes*) and Painted spiny lobster (*P. versicolor*). The estimated total catch was 4.99t. In contrast, for the 2013/2014 fishing season the catch was only 609kg (fishery opened for only 1 month), whilst for the 2012/2013 season, the catch was 2.11t (Figure 4.6). Compared to the 2012/2013 season, this represents an increase of 136% in the estimated total catch. Similarly, to the 2013/2014 season, the snorkelling technique was the only method used to catch lobsters.

The status of the lobster stock was assessed using fisheries dependent data collected for the 2015/2016 season and fisheries independent data collected from surveys carried out in October 2015 and 2016. Based on the assessments, the stock was described as 'healthy' and it has been recommended that the 2016/2017 fishing season be opened.

Figure 4.6 Historical seasonal catch (metric tonnes (MT)) of spiny lobsters from 1992 - 2016



4.5 Sea Cucumber Fishery

The sea cucumber fishery has experience a rapid development since it commercialisation due to the increase in demand, and consequently the higher prices being paid, on Asian and even local markets, for dried sea cucumbers. Currently the fishers target mainly four species of sea cucumber which are White Teat Fish (Kokosye Blan), Black Teat Fish (Kokosye Nwar), Flower Teat Fish (Pentard) and Prickly Red Fish (Sanpye), due to the highest price on the market and a few other species such as Black Fish, Red Surf Fish, Yellow Surf and Sand fish. The number of sea cucumber harvested annually has shown an overall increased from 330,658 pieces in 2007 to 642,404 pieces in 2011 (Figure 4.7). However, between 2012 and 2016 there was a decrease in the number sea cucumber harvested, from 618,554 to 339,329, which account for 45% decrease in catch. The decrease in catch from 2015 to 2016 was 16%. In 2016, we observed a decrease in most of the sea cucumber species being harvested, 25% for White Teat Fish, 27% for Prickly Red Fish and 11% Flower Teat Fish. The Black Teat Fish was the only species which showed an increase (15%) in catches. Flower Teat Fish was the dominant species in 2016 accounting for 68% of the total sea cucumber harvested, followed by white Teat Fish, 14% (Figure 4.8).

Figure 4.7 Number of sea cucumber harvested from 2007 - 2016

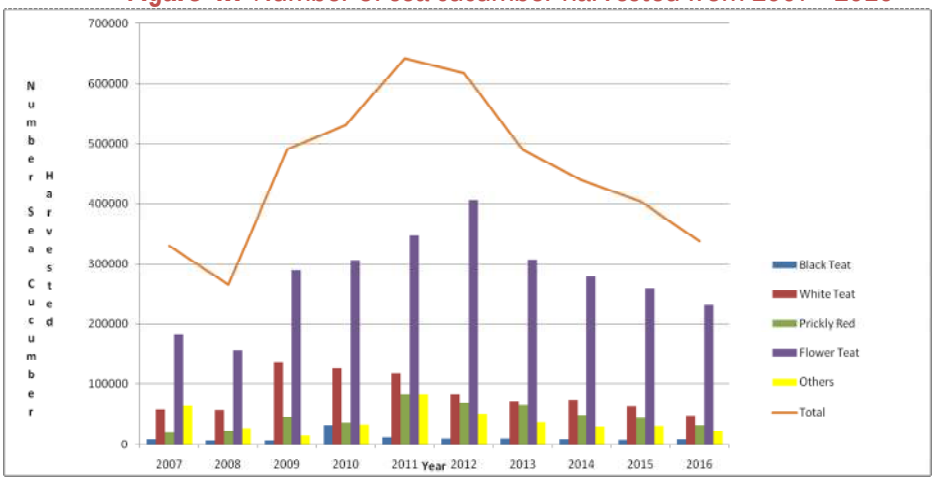
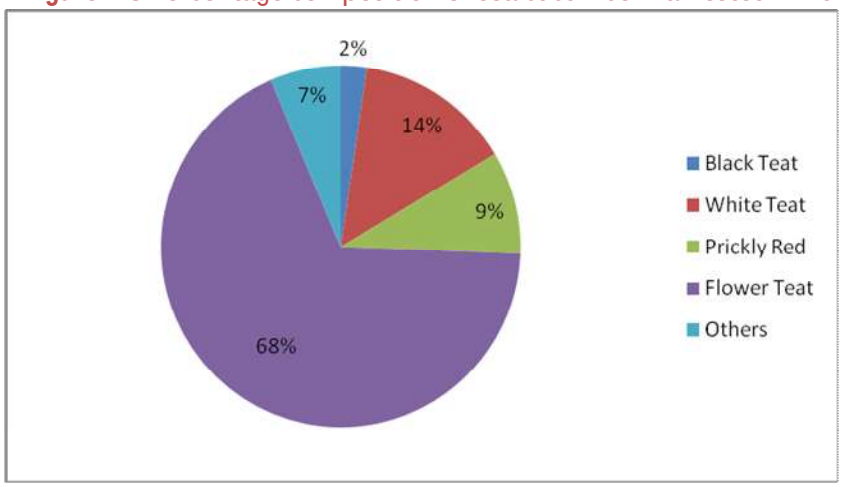


Figure 4.8 Percentage composition of sea cucumber harvested in 2016



Chapter 5 - AQUACULTURE

Aquaculture is not a new activity in Seychelles but it will be done on a new industrial scale never seen before. Hence, it is important to have a strong institutional support to ensure the industry is developed under the best possible conditions. The Aquaculture Section within the SFA will be established with the aim of managing, coordinating, undertaking research and development, and ensuring that the regulations are properly followed (Figure 5.1).

Figure 5.1 Aquaculture Team

Since science will play a core role in Seychelles' aquaculture development, most of the staff of the Aquaculture section will work in research and development. Equally important is the issue of governance, as this is where a lot of the policy elements will come into play. The Seychelles should learn from other countries which have established their own aquaculture department.

The approach is to hold an exchange programme over a period of 1 week whereby staff from the Seychelles aquaculture section can have a more hands-on learning experience by spending sometime in an established aquaculture departments and facilities (Figure 5.2). By spending time to learn the set-up and operational aspect of a more experienced aquaculture section the team from Seychelles can assimilate good governance and management practices that may enhance the success of the local aquaculture industry.

Figure 5.2 Market study trip to observe bluefin tuna farming research at Kindai University, Japan 2015

A sound aquaculture department will ensure that the Mariculture Master Plan (MMP) will contribute to the long-term sustainability of the Seychelles economy in line with the Blue Economy Strategy. The Aquaculture Section consisted of two senior staff in 2015/16; A Principal Aquaculture Officer and a newly recruited Senior Aquaculture Officer. A recruitment plan is being developed to ensure that that section is adequately staffed to support the growth of this new sector. Currently the Aquaculture Section is being supported by an aquaculture consultancy company, Advance Africa Management Services (CC), to implement the MMP (2015-2020).

5.1 Aquaculture Production

Aquaculture production in 2015 was still restricted to the farming of black pearl oyster (*Pinctada Margaritifera*) and the winged oyster (*Pteria penguin*). There was no harvesting of black pearls in 2015 as the oyster had been implanted in 2014. The normal growth period is between two to three years to achieve a harvestable size and quality of pearl. All the black pearl production is still coming from one privately owned commercial farm (Black Pearl Seychelles (Ltd.) based on Praslin Island (Figure 5.3).

Figure 5.3 Black Pearl Jewellery (Black Pearl Seychelles - Praslin)

In 2016 the Black Pearl Seychelles (Ltd.) Farm harvested 10,000 pearls which were implanted in 2014. The production consisted mainly of round pearls which were sent to Australia for mounting onto jewellery pieces and returned to Seychelles for sale on the domestic market.

The recruitment of 'spats' (wild oyster larvae) were not as good in 2015/2016 which resulted in only about 6,500 oysters that were successfully implanted (with nuclei to start new pearl). These implanted oysters will be due for harvest in 2018. It was noted that spats

were not settling as well as they did previously onto collector ropes which are usually set around the farm located between Praslin and Curieuse Islands.

Figure 5.4 Concrete raceways with giant clams (Black Pearl Seychelles - Praslin)

Aside from pearl oyster production a small quantity of giant clam (Tridacna maxima) was also produced by Black Pearl Seychelles for ornamental purposes for the tourism industry. The giant clams are kept in concrete raceways along with other marine life (Figure 5.4).

5.2 Seychelles Aquaculture Industry Development Programme

5.2.1 MMP Peer Review Process

A peer review was undertaken in early 2015 by an international team of experts comprising Professor Selina Stead from Newcastle University, Professor Max Troell from the Beijer Institute and Stockholm University, and Professor Peter Edwards from the Asian Institute for Technology (Figure 5.5). The peer review process included a review of the best management principles of the MMP and whether those have been applied and the stated objectives met.

The peer reviewers facilitated and lead three stakeholder focus group discussions/ meetings, and reviewed relevant documents making up a still incomplete draft version of the MMP.

Figure 5.5 Kick-off meeting for the peer-review of the MMP in 2015

The deliverables in their final report included the assessment of:

- the rationale for the project;
- the process followed in developing the Master Plan;
- the regulatory and administrative platforms of the process;
- other outputs of the various phases of the process;
- the participatory approach followed in the process.

The report highlighted the strengths, weaknesses, gaps and recommendations in order to assist the aquaculture team in ensuring that the final MMP is one that is conducive for Seychelles and adheres to the best international management practices for the aquaculture industry (Figure 5.6).

Figure 5. 6 Conclusions of the peer review of the MMP in 2015

5.2.2 Market Study and International Collaboration

A first trip was organised by the aquaculture staff accompanied by the Consultants, Advance Africa, in October 2015 to undertake a market study and identify potential international collaboration while Seychelles develops its aquaculture sector. The countries and Territories visited were Japan (Tokyo, Wakayama and Okinawa) Figure 5.7a and Taiwan (Tainan) Figure 5.7b.

The Objectives of the trip were:

- Identify possible Scientific and Technological partners for industry implementation phase 1
- Compare approach/technical advancement of Japan to that of Taiwan for Aquaculture Research and Development
- Establish possible funding sources for long term R&D in the Seychelles for Aquaculture
- Publicise Seychelles Aquaculture Industry development, for future investment by private sector investors from Japan and Taiwan
- Market research in Japan and Taiwan, in order to correlate (ground-truth) findings and conclusions made in desk-top research

Figure 5.7a Small sea urchins being farmed in Okinawa Japan

Figure 5.7b Aquaculture product in fish market in Taiwan

The main conclusions and outcomes were:

- Several institutions were identified as suitable for future science and technology partners which included some universities, research institutes and donor institutions;

- Training opportunities for Seychellois candidates in the aquaculture field (especially with tropical finfish species of interest) were also discussed and identified;

- Some potential funding sources were also identified and the option for long-term R&D collaboration was discussed including partnering with Seychelles in its first pilot aquaculture projects;

- Market research information provided some crucial confirmation to the desktop studies carried out previously on key species that Seychelles wants to export to the Asian markets.

5.2.3 Environmental and Social Impact Assessment (ESIA)

Golder Associates Africa (Pty) Ltd was appointed in 2016 by the SFA as independent environmental assessment practitioners (EAPs) for the purpose of conducting an Environmental and Social Impact Assessment (ESIA) for the proposed implementation of the MMP. This ESIA report has been compiled in line with the requirements of local Seychelles legislation and aligned with international best practices. The ESIA consisted of a crucial Public Participation Process (PPP) which was conducted in conjunction with the local consultants (Valsen Consulting) to ensure that public concerns were duly recorded and addressed (Figure 5.8).

Figure 5.8 Public Participation Process (PPP) as part of the ESIA on Mahe

This ESIA focuses on finfish cage culture within the Aquaculture Development Zones (ADZs) (Figure 5.9), which makes up a component of the mid-road scenario.

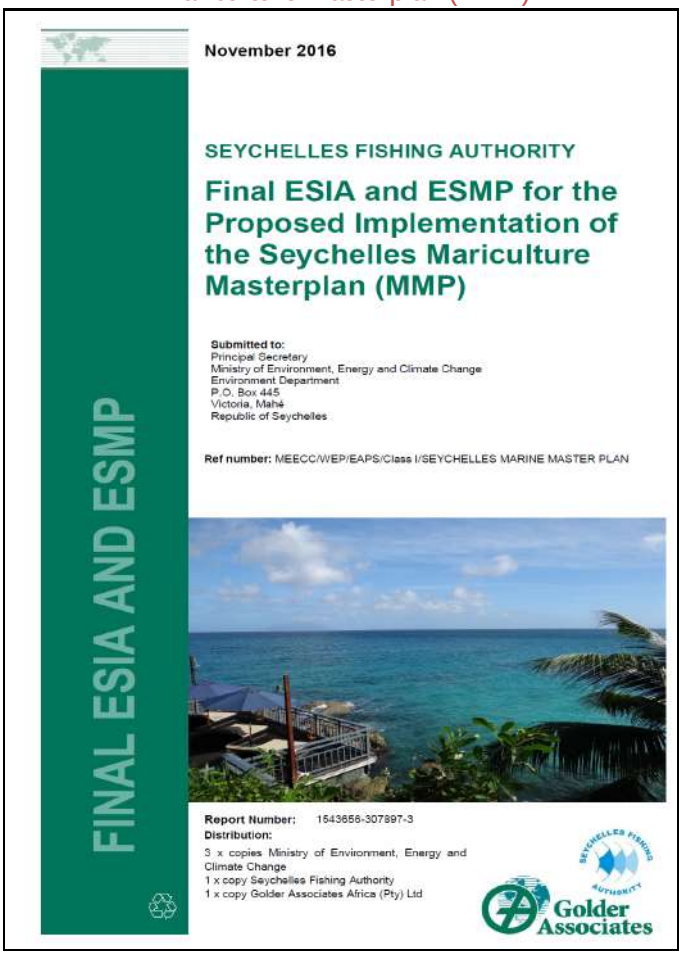
Figure 5.9 Aquaculture Zones showing specific definitions, infrastructure required, species that can be farmed and production systems

AQUACULTURE ZONE	DEFINITION	REQUIRED SUPPORTING INFRASTRUCTURE	SPECIES TO BE PRODUCED	PRODUCTION SYSTEMS
Land-based zone	Aquaculture taking place on land	• Research & Development Facility • Broodstock Acclimation & Quarantine Facility • Sea urchin hatchery/nursery • Pearl oyster hatchery/nursery • Finfish hatcheries • Processing & waste management factories • Transport/logistic capacity • Feed storage	Ornamental finfish (Pomacentridae spp., Pomacanthidae spp., Acanthuridae spp., Chaetodontidae spp.) Sea urchins (Tripneustes gratilla) Finfish fingerlings (Grouper spp., Snapper spp.) Pearl oyster spat	Pump-ashore flow-through systems Recirculating aquaculture systems (RAS)
Inshore zone	Aquaculture within 2km of the land (shoreline) of the inner islands		Pearl oysters (Pinctada margaritifera) Finfish (Grouper spp, Snapper spp.)	Oyster longlines Cages; serviced daily from land
ADZs	Cage culture within promulgated Aquaculture Development Zones (ADZs)/MMP		Finfish (Grouper spp., Snapper spp.)	Cages; serviced daily from land
Offshore zone	Cage culture beyond 5 km of the land of the inner islands		Finfish (Grouper spp., Snapper spp.) only	Cages; serviced by offshore-based automated feeding barges

The main conclusions of the ESIA by Golder Associates were:

Due to the comprehensive Seychelles Mariculture Master Plan process these impacts were anticipated and planned for with appropriate mitigation and management strategies, including the identification of sustainable ADZ sites, the setting of aquaculture production carrying capacities, Aquaculture Standards and Regulations and institutions and Government capacity to support industry development.

Figure 5.10 The final ESIA and ESMP for the Implementation of the Seychelles Mariculture Masterplan (MMP)



"It is the opinion of the Environmental Assessment Practitioner (EAP) that, subject to compliance with the recommended mitigation measures, which are detailed in the ESMP, (Figure 5.10), the proposed new aquaculture sector has significant positive aspects and acceptably low negative biophysical and socio-cultural impacts which can be managed by suitable monitoring and management interventions. It is the opinion of the EAP that it should be approved on the basis that overall the positive impacts outweigh the negative impacts."

5.2.4 Agriculture Sector and Marine Aquaculture Development Study (ASMADS)

The African Development Bank (AFDB) through the Ministry of Natural Resources (MNR) funded two small studies to assist SFA with the development of the aquaculture sector.

(A) An Aquaculture and Fisheries Socio-Economic Impact Assessment for the inner and main islands of Seychelles by Prof. Selina Stead:

The overall aim of the study was to carry out an aquaculture and fisheries socio-economic impact assessment within the scope of the inner islands of Seychelles involving relevant stakeholders (Figure 5.11).

The main objectives were:

- To provide a statistical design for the survey and an outline of how the resultant data will be analysed;

- Assess the following three main factors;
  - potential user conflict between aquaculture and other users of the sea;
  - perceived benefits to the country, the individual and the environment;
  - perceived threats to the country, the individual and the environment;

- On the basis of the results, guidelines on the following will be outlined;
  - conflict mitigating strategies;
  - sensitisation and awareness campaigns for various sectors of society e.g., fishermen, dive charters etc…
  - an action plan to promote mariculture as an environmentally sustainable economic activity.

The general conclusion was that most people perceived that aquaculture may have a more negative impact on local fishermen, while most indicated that it would have a positive impact on the availability of fish.

Figure 5.11 Prof. Stead conducting one of her interviews during the aquaculture and fisheries socio-economic impact assessment in 2016

(B) An Aquaculture and Fisheries Value-Chain Analysis by Dr. Amadou Tall:

The main objectives of the study contribute to increase the competitively and the integration of the small scale fisheries to the Global Value Chain through an evaluation of its effectiveness in Seychelles.

Below are broad outputs:

- key value chain actors in the aquaculture and fisheries sector identified;
- key factors influencing on value chain analysis for aquaculture and fisheries sector identified;
- SWOT analysis of each value chain actors well-understood;
- a set of recommendations to the value chain actors to help in strengthening the small-scale sector in accordance with the formulated socio-economic goal.

The overall conclusion was that Seychelles has a lot of existing comparative advantages which it can further develop to maximize its benefits but needs to address some major gaps which is hindering its ability to derive more from its fisheries sector.

5.2.5 Education and Awareness

Following several surveys and recommendations, the need to develop an Education and Awareness programme to ensure that the population is kept well informed of the developments of the aquaculture sector became apparent. In developing any new sector the responsible authority has to be mindful of public perceptions and how this might impact on the proposed development. An important set of activities (such as schools and public sector institutional presentations, national shows, job fairs and lectures – Figure 5.12) to maintain stakeholder support and reduce the potential for conflict was developed to sensitise and raise awareness among other food producers (e.g. fishers, farmers) and users of the maritime and coastal environments (e.g. dive tourism operators, fishermen).

Figure 5.12 A public education and awareness activity during a national job fair in Victoria

SFA collaborated with the GEF Small Grants Programme to develop and implement an aquaculture education and awareness programme which included audio visual materials such as banners, posters, memorabilia, leaflets and key presentations to some stakeholders.

Chapter 6 - RESEARCH

6.1 Research Section

The objective of the Research Section is to provide timely and robust scientific advice for the sustainable management of fisheries. This is achieved through the implementation of a number of applied research projects and activities. The Section comprises of two units, the Fisheries Research Unit and the Research Vessel Unit. The Fisheries Research Unit, which has a total of 10 staff, is responsible for developing and implementing applied fisheries research projects and activities. The unit has a research laboratory which encompasses a wet and dry lab. The laboratory is used for a range of activities such as fish dissection, biological sampling, otolith processing and histological preparations. The Research Vessel Unit has 5 staffs. The Unit is responsible for day to day operation and maintenance of the SFA research vessel R/V L'Amitie, and other small support vessels.

The Research Section works in collaboration with a number of national, regional and international partners to jointly implement different research projects. Some of our major collaborators in 2015-2016 includes, The Institute de Recherche pour le Development (IRD), the Fishing Boat Owners Association (FBAO), the Seychelles Sports Fishing Club (SSFC), the Association of Members of Seychelles Sea cucumber Industry (AMSSI) and the Seychelles Island Foundation (SIF).

During 2015 and 2016, the Research Section implemented a number of different research programmes. The majority of SFA's research was funded by the European Union (EU) from the sector policy support funds of the EU/Seychelles Fisheries Protocols under the Fisheries Partnership Agreement. The research programmes focused on improving our

understanding of the fisheries stocks, environmental impacts of fisheries and understanding the ecology and biology of key species.

6.2 The Research Programmes

6.2.1 Balancing risks with benefits associated with consumption of swordfish: from local to global case study (CONSWO)

This project is investigating factors that affect the level of persistent, bioaccumulative and toxic (PBTs) substances in large pelagic fish species (special focus on the swordfish) targeted by the Seychelles semi-industrial long liners. It is being implemented in collaboration with IRD and FBOA. The project is responding to concerns in relation to restrictions imposed on exports of swordfish to the European market due to high levels of certain PBTs being detected in certain fish and is studying variability in the levels of those PBTs (Mercury, Cadmium, etc..) in different types of tissues (white muscle, liver, gonads) and how these changes with the size, age and sex of fish. Mercury and other heavy metal analyses were carried out in mid-2015 while fatty acids analyses using gas chromatography - flame ionisation detector (GC-FID) was held in mid-2016. Organic contaminant analysis by gas chromatography coupled to high resolution mass spectrometry (GC–HRMS) was undertaken in late 2016. Some of the results under the project will be published in early 2017.

6.2.2 Contaminant bioaccumulation in Seychelles marine food web (SEYFISH)

SEYFISH is a collaborative and co-funded pilot project between SFA and IRD that aims to determine the level and extent of contamination in different marine species. A first sampling was done between October 2015 and February 2016 with a total of 242 individuals from 18 different fish species. All samples were analysed for mercury at SFA. Analyses of others metals were undertaken at CNRS LIENSs (France), whereas isotopes, lipids and fatty acids analyses were undertaken at IRD-INRA Toulouse (France) during 2016. A Master

student from the University of La Réunion (MASTER BEST) was welcomed at SFA for 3 months to help with the project. A second sampling was undertaken with the objective of increasing the number of coastal/demersal species investigated. The results of SEYFISH-2015 were presented at the IOTC WPEB18 (12-16th September, Victoria, Seychelles and a scientific article entitled "Trace elements in oceanic pelagic communities in the western Indian Ocean" has been submitted to Food Chemistry journal for consideration.

6.2.3 Seychelles Ocean Temperature Network (SOTN)

The Seychelles Ocean Temperature Network was initiated in November 2007, with the objective to determine the long term trend and variation of ocean temperature within Seychelles waters. Such information is useful to determine the potential impact that ocean temperatures have on our marine resources, coral reef ecology, marine habitat and assist in the monitoring of bleaching events. Ocean temperature data are collected *in situ* by temperature loggers deployed at around 5m and 15m water depth at various locations around the Inner Islands.

Base on the data from 2007 till 2015, Seychelles experience the maximum temperature in April at an average of 29.85°C and minimum in August at 26.43°C (Figure 6.1a).

In 2015 we observed a maximum temperature of 31.33°C at 5m and 31.26°C at 15m during the month of April (Figure 6.1b). Furthermore, in 2015 the ocean temperature had a positive anomaly for 10 consecutive months, from March to December with maximum anomaly observed in September, at 1.2°C above normal. The long-term data set indicates that the highest average annual sea surface ocean temperature of 28.37 °C was observed in 2015, whereas the minimum average temperature was observed in 2008 at 27.48°C (Figure 6.1c).

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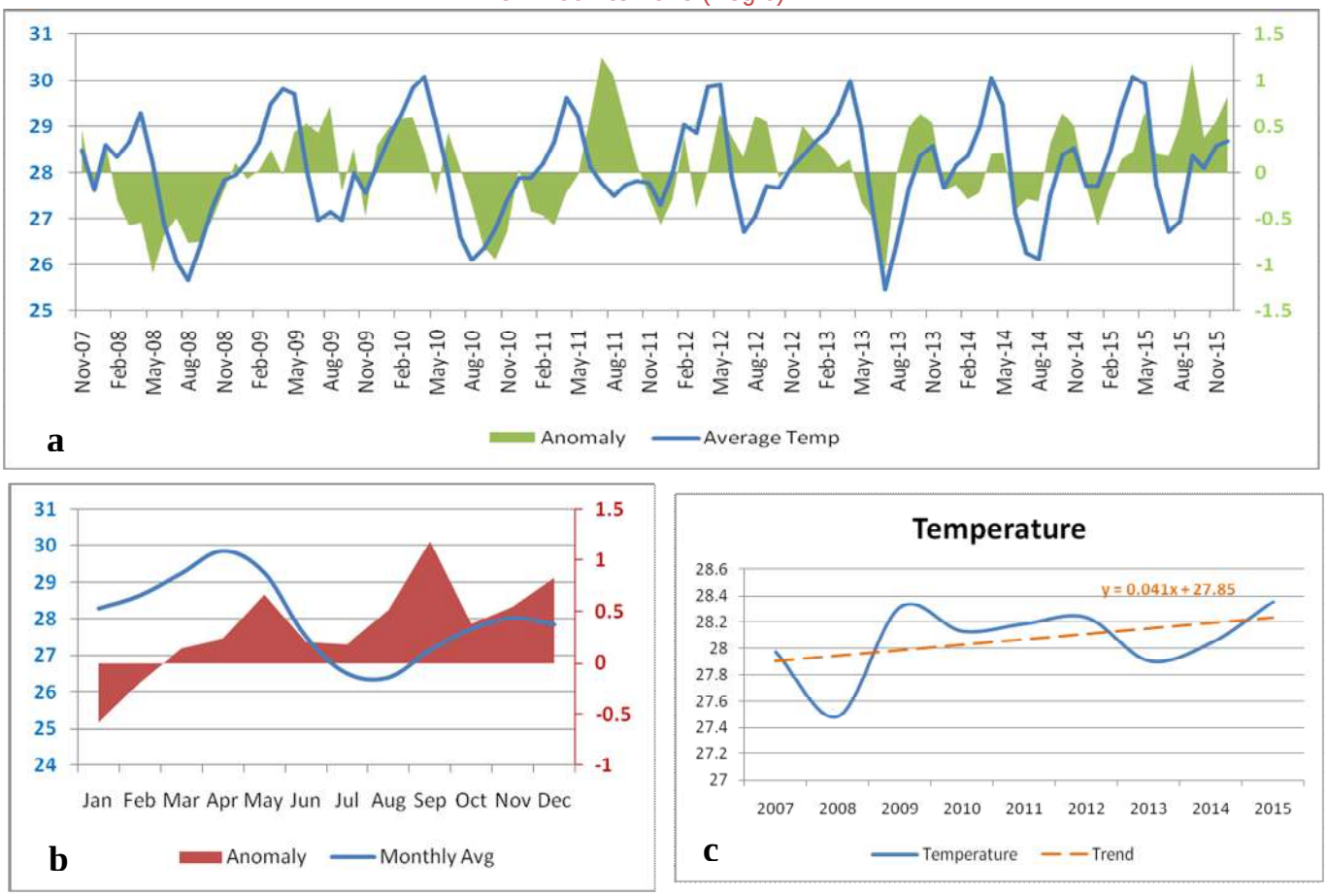
Figure 6.1 Summary of temperature data. a, Monthly average temperature from November 2007 to December 2015 (Deg C). **b**, Monthly average temperature in 2015 (Deg C). **c**, Yearly average temperature from 2007 to 2015 (Deg C)



6.2.4 Change in body condition, fecundity and gonado-somatic index of spinefoot shoemaker (*Siganus sutor*) through a spawning season and implication for quality of larvae produced

The aim of this project is to investigate changes in body condition and fecundity in spinefoot shoemaker caught at spawning aggregation sites, during spawning periods over the length of a spawning season. Field sampling started every full moon from October 2013 until August 2014. Body condition was assessed through fat content analysis in muscle, gonad and liver tissues. Lipid analysis were carried out in early 2015 using thin layer chromatography- flame ionization detector and in total 123 samples were analyzed. Parameters that were measured include total fat, triacylglycerols (main reserve lipid) and

sterols (structural lipids) per gram of wet weight. Carbon and Nitrogen stable isotope were also carried out in late 2015. Currently the results are being analyzed statistically and a scientific article is being drafted for publication.

6.2.5 The role of siganids in the marine environment and their contribution towards the resilience of coral reefs

The aim of this project was to study the functional ecology of rabbitfish species in Seychelles waters and their role in promoting reef resilience.

Specifically, this research will answer the following research questions:

- How does the rabbitfish community composition vary in different environments around the Inner Seychelles Islands?
- Are there differences/ similarities in the functional ecology of herbivorous fish species on macroalgal dominated reefs vs. coral dominated reefs?
- Is there evidence for functional redundancy or functional complementarity among the rabbitfish species, and between rabbitfish and other herbivorous fish species?
- Do rabbitfish species display dietary plasticity?
- Are targeted rabbitfish species of the Seychelles migrating across different seascapes diurnally?
- Is the fishing of rabbitfish within spawning sites having a significant impact on the fishery?

6.2.6 Investigating the movements of grey reef shark (Carcharhinus amblyrhyncos) along the west coast of Mahé

The aim of this project is to investigate the movement behaviour of the Grey reef shark, an important fishery and conservation species, along the west coast of Mahe and determine how they make use of fishing banks and near shore environment in the area. The specific objectives are to: i) determine the extent of movement of grey reef sharks between several fishing banks and coastal reef habitats, ii) determine the level of fidelity to fishing banks, iii) determine if there are ontogenetic differences in fidelity and movement patterns and iv) identify the potential mechanism driving the fidelity and movement of sharks.

An array of VEMCO Vemco listening stations (VR2) were deployed in 2013 along the west coast of Mahé at two fishing banks (Stork Patch and Pilot Patches) and along the coastal area near Ile Aux Vaches. Between October 2013 and May 2014, 23 grey reef sharks, one tiger shark and one whitetip reef shark were caught and tagged using either a Vemco V13 or V16 acoustic tag. A total of 16 sharks were detected within the acoustic array. Preliminary data analysis shows that sharks were more resident at Stork Patch followed by Pilot Patch. The majority of sharks made extensive movements between the two rocky reefs. All the listening stations were removed in October 2016 and the final data was retrieved. A full analysis of the dataset is ongoing and a report of the main findings will be available in early 2017.

6.2.7 Monitoring and assessment of the lobster stocks on the Mahé Plateau using a multidisciplinary approach

This project builds on the Participatory Lobster Monitoring Programme (PLMP) set up in 2005 by the SFA. The PLMP is a fisheries-independent survey in which fishers collaborate with researchers from SFA to monitor the stocks of spiny lobsters during the closed seasons. The main objectives of this project are to (i) establish the abundance and monitor recovery

of lobster stocks (ii) establish appropriate minimum size at first capture for Homard Grosse Tete (*Panulirus penicillatus*), and Homard Rouge (*P. longipes)* based on length at first maturity and (iii) set up a tagging programme to monitor growth and movement of lobsters.

Surveys were carried out in November 2015 and November 2016. Results from the surveys indicate that the relative abundance of lobsters increased between the two years. Following the closure of the 2014-2015 fishing season, the 2015-2016 was opened and based on the results from the survey in 2016; a recommendation has been made to open the 2016-2017 fishing season.

6.2.8 Improving the understanding of red snapper (Lutjanus sebae) stock structure on the Seychelles Bank

The red snapper project was initiated in 2014 and continued until early 2016. The aim of the project was to improve the understanding of stock structure and demographics of *L. sebae* on the Seychelles Bank in support of an age-based stock assessment for this species. The specific objectives were to: i) determine sex-specific age and growth parameters; ii) determine size and age at sexual maturity; iii) derive age-frequency distribution of the catch; iv) derive mortality estimates using length converted catch curves; v) define reproductive periodicity; vi) estimate fecundity of female fish and the relationship between fecundity and size; vii) investigate possible genetic differences in *L. sebae* among locations on the Seychelles Bank and the Amirantes ridge.

The outcome of the project will be of great significance to the upcoming Demersal Fishery Management of the Mahe plateau. The target was a maximum of 1000 samples, stratified by boat type (whaler and schooner and small boat). Overall, 976 fish have been sampled. The information collected included length, weight, age, sex, gonad maturity and fin clips. All the gonads have undergone the histological analysis and it is in the final stage of reading

and verification of slides. No work has been undertaken to date to process the otoliths for age determination and on the fin clips for genetic. This project has been experiencing some difficulties in terms of completion due to staff turnover, various projects running simultaneously and new upcoming projects.

6.2.9 Understanding key population dynamics parameters of carangidae

The carangid project was undertaken with the aim of understanding the key population dynamics parameters of two commonly caught carangid species, Yellowspotted trevally (*Carangoides fulvoguttatus*) and Bludger (*Carangoides gymnostethus)*. The specific objectives were to i) determine length-weight relationship ii) derive size and age frequency distribution of the catch iii) determine size and age at sexual maturity iv) define reproductive biology and periodicity v) and study its feeding ecology.

The sampling programme was conducted throughout 2015, with monthly sampling starting in February 2015 and with exception of November. The information collected was as follows: length frequency, weight, age, sex, gonad maturity and fin clips. The target was a maximum of 300 samples per species. Overall, 299 Yellow spotted trevally and 374 Bludger have been sampled. All the gonad samples have undergone the histological analysis and the analysis is in the final stage of reading and slide verification. No work has been undertaken as part of processing the otoliths for age analysis and fin clip for genetic analysis.

The outcome of this project would provide key information about these two species, which will be of great significance to the imminent Demersal Fishery Management Plan for the Mahe Plateau. This project has been experiencing some difficulties in terms of completion due to staff turnover, various projects running simultaneously and new upcoming projects.

6.2.10 Green jobfish study

The Green jobfish project which started in April 2015 aims to understand the stock status of *Aprion virescens* caught on the Mahe plateau. The project will be used to determine sex-specific age and growth parameters, size and age at sexual maturity, to derive age-frequency distribution of the catch and mortality estimates using length converted catch curves and to estimate fecundity of female fish. From April 2015 to April 2016, 300 ungutted A. *virescens* were purchased from fishers and processed at the SFA lab to collect length and weight data, alongside otolith for age determination and gonads for maturity staging and fecundity analysis. The information gathered from the study will be used to improve stock assessments and update of the management plan for demersal species on the Mahe plateau. The majority of sampling was completed in early 2016 with some sampling still remaining to cover the months that were missed in the 2015-2016 season. Histological preparation on gonads has started and currently we are waiting to start otolith preparation for age determination.

Chapter 7 -
FISHERIES DEVELOPMENT

7.1 Fisheries Development Facilities

7.1.1 Ile Du Port Zone 14

The contract for the construction of the first phase road infrastructure network for Ile du Port, was awarded to Vijay Construction under an open tender process for a sum of SR30 million. GIBBS (Sey) was awarded the contract which was signed on the 10th October 2014 to provide consultancy services for that phase of the project for a sum of SR2 million. The consultancy services include both architectural and engineering works as well as overall supervision of the project. The first phase of the work is expected to be completed by end of 2017 and thereafter, formalities such as the tender process for the second phase which comprised work to improve road infrastructure network for Ile du Port will begin. The project is being implemented in consultation with the SPA and MLUH. SFA is the funding agency representing Seychelles Government.

When the above phase of the project is completed, it is going to address issues concerning service corridors, drainages, electricity supply chain, water and sewage networks. Additionally, that phase of the project includes the construction of one electrical substation that will supply electricity to the subdivided plots of land on Ile du Port for Industrial Fisheries Development of the whole area. Moreover, it will also provide for the construction of one sewage lifting station along with a sewage holding tank to serve the various processing facilities and other developments.

7.1.2 Land Management and Site Survey Works at Ile Du Port

The SFA had the mandate to manage, monitor and collect revenues at the common net repair site. Meanwhile, since plot (H10032) at the wind turbine can soon be used for nets and containers storage, this is going to liberate the common net repair yard for more space for net repair activities. However, because Vijay Construction (the contractor) will continue to utilize part of plot (H10917 & H10926) the SFA will have to wait a little longer to obtain these spaces. The SFA plans to subdivide the net repair yards into eight working lanes, each measuring 120 length by 25 meters wide. Presently, half of the net repair yard is used for storing nets bundle, old nets and containers.

For better management purpose, the SFA is planning to construct a fence surrounding the net repair yard along with the turn quay for access and security control. Meanwhile, the SFA plans to recruit a Port Administrator to manage and oversee the Ile du Port industrial fisheries development and the day to day activities taking place there.

7.1.3 Providence (Zone 6) Fishing Port

The Fishing Port at Providence was experiencing severe congestion problem and as a result a request was made to Japanese Government through Japan International Cooperation Agency (JICA) to extend the quay facilities and increase the amount of mooring space. The request was favourably considered and at the start of 2015 we saw the arrival of four Japanese experts tasked to conducting a baseline survey to justify the requested quay extension. The survey was carried out over a one month period; and consisted of collecting and collating data on: i) the arrival and departure of artisanal fishing vessels at both Victoria and Providence Fishing Ports, ii) the quantity of catch landed by species, iii)the loading of essential goods ex. fuel, water and Ice. The information collected justified the

need for the port extension and by the end of 2016 the experts from both ECHO/ OAFIC consortium were back in Seychelles to start working on the Architectural and Engineering design works for the quay extension.

7.1.4 Land Management Zone 6

Survey works were carried out to sub-divide and allocate 8 plots of land at Zone 6 to business persons who wanted to add value to fish and fisheries related activities. The sub-divided 8 plots of land range from 400 to 1100m² in size. The SFA had to provide a moratorium to JICA ensuring them that no development activities will be executed on those plots until the quay extension works are completed by end of 2018.

7.1.5 Bel Ombre

The contract for the construction of the Fish Processing Facilities, was awarded to Allied Builders under open tendering process at a sum of SR10 million. The first phase of the project included the construction of a block of four (4) processing units, with each unit having an area of approximately of 200m², and the installation of sewage treatment facilities to treat chemical and dark water.

Mr. Charles Pool was the consultant awarded the contract for consultancy services for a sum of SR850,000.00. The work for the first phase of the project is expected to be completed around the third quarter of 2017.

7.1.6 Navigational Aids/Lights

In mid-2015 a survey was carried out to check the condition of all the Navigation Aid that were installed at the following reef access channels on Mahe and Praslin; These places are:

Anse Etoile, Cascade, Anse aux Pins, Anse Royale, Anse Marie Louise, Anse Boileau, Anse a La Mouche, Port Launay, La Passe and Cousin, Praslin. The leading lights which are installed on floating bouys supported by heavy concrete sinkers and chain greatly assist local fishermen and general public to negotiate access when departing or leaving ports in the districts particularly at nights and in adverse weather conditions. Based on the survey there was a need to undertake maintenance on the sinkers and replace the navigation lights

7.1.7 Fish Market, Gears Store and others

As part of its objectives to improve fisheries facilities on Mahe, Praslin and La Digue the following work is being undertaken:

(i) Glacis

During the year, SFA held a number of consultative meetings with fishermen and the district administration concerning the construction of the fish market and gear stores at Glacis. The concept and design was approved by the stakeholders. The project included the construction of a retaining wall, to stabilize the area, and a gear store with 9 units.

(ii) Anse Royale

The fish market and gear store was constructed and handed over to the Anse Royale district authority to manage. The work was done by Fuji Construction at the cost of SR2.8 million. MLUH assisted the SFA with the design preparation and supervision.

(iii) Anse Aux Pins

The Anse Aux Pins project is a partnership project with 2020 Ile Soleil Development in which SFA is financing the artisanal fisheries development infrastructures. Several consultative meetings were organized with all stakeholders including fishermen as well as the Anse Aux Pins residents. The plan is more or less finalized and will be implemented in 2017. The first phase, includes construction of the break water, mooring basin, reclamation works and slipway.

(iv) Cascade

Cascade project involved reclamation and construction of a quay facility and a slipway which would form part of the main project. More than one consultative meeting were held with stakeholders and fishermen to finalize the fishing developments. The contract was awarded to UCPS under the direct bidding. UCPS is expected to partly contribute to the project through their CSRT. The project is expected to start in late 2017 after all the planning approvals and other documentations are secured.

(v) Baie Ste Anne Praslin

Several consultative meetings for the re-development of artisanal fisheries facilities were organised with stakeholders including fishermen and the general public. Discussion revolved around the construction of a new turn quay at Baie Ste Anne and installation of ice plant at BSA and Grand Anse Praslin.

7.2 Insulated Fish Boxes

During the year SFA imported 50 insulated 200 litres size plastic fish boxes for distributing to local fishermen freely on a pilot scale. The boxes were imported from Malaysia and the aim was to substitute the old derelict deep freezers that were being used to store fish around Mahe, Praslin and La Digue. The end result proved very positive.

7.3 Ice Plant

SFA manage and operate six Ice Plants, five on Mahe and one on Praslin. The ages and production capacities varies considerably. The Praslin plant was built in 1991, a new 10 tons ice machine has also been installed. The Anse a La Mouche plant was built in 1995 and the Anse Royale one was built in 2002. Providence now has a production capacity of 20 tons given that a new 10 tons machine has been installed. Unfortunately, there have been some major breakdown at Providence. Bel Ombre now have a 15 tons daily production capacity following the installation of a new 10 tons Ziegra containerized plant. A similar 10 tons Ziegra containerized plant have has been installed in Victoria.

Table 7.1 Sales of Ices from 2011 - 2016

PLANTS	2011 SR	2012 SR	2013 SR	2014 SR	2015 SR	2016 SR	TOTAL SR
Anse A La Mouche	195,920.00	194,590.00	172,825.00	167,885.00	248,070.00	96,348.00	**1,075,638.00**
Anse Royale	354,680.00	283,740.00	135,430.00	173,645.00	147,750.00	253,675.00	**1,348,920.00**
Baie Ste Anne	271,850.00	281,254.00	272,135.00	352,167.00	357,104.00	297,834.00	**1,832,344.00**
Bel Ombre	275,930.00	392,420.00	277,325.00	329,435.00	447,435.00	483,379.00	**2,205,924.00**
Providence	1,069,540.00	1,247,210.00	752,320.00	769.195.00	826,138.00	678,639.00	**4,573,847.00**
Victoria						437,200.00	**437,200.00**
TOTAL	**2,167,920.00**	**2,399,214.00**	**1,610,035.00**	**1,792,327.00**	**2,026,497.00**	**2,247,084.00**	**11,473,873.00**

Chapter 8 -
FISHERIES MANAGEMENT

8.1 Review of Fisheries Legislation

As it was reported in the previous annual report, the enactment of the Fisheries Act 2014, provided the Seychelles with a comprehensive and modern fisheries management system, in line with current international best practices particularly the FAO precautionary principles to fisheries, the EAF Nansen Ecosystem Approached to Fisheries, and the principle of co management. In the same line, the fisheries regulations, which were not repealed and remain in force to the current day, need to be modernized to be in line with the various regimes in the new Fisheries Act. This exercise have been initiated by an internal committee within the SFA. Once substantial progress is made on a first draft, further consultations will be undertaken with relevant stakeholders. This exercise is expected to continue during 2016.

8.2 Lobster Fishery

The spiny rock lobster fishery is a limited entry fishery, managed through a boom and-bust cycle whereby the fishery is opened for a number of consecutive seasons, followed by a period of closure once the index of abundance falls below a certain level, to allow the stock to recover. Following the closure of the 2014/2015 fishing season, the Research section of the SFA in collaboration with lobster fishermen, undertook fishery independent surveys at selected sites to estimate the abundance of spiny rock lobster. The survey indicated that the closure period has allowed the stock to recover significantly for the fishery to be re-opened and consequently the 2015/2016 and the 2016/2017 lobster fishing season was opened for a period of three months (October - December).

It should be noted that the number of fishing licences issued over those two consecutive fishing season were lower than for previous seasons from 25 to 20. This reduction was necessary to reduce the fishing pressure on the spiny rock lobster stock. Refer to the section 6.2.7 under research for more details on the monitoring of catch and effort and on the fishery independent survey.

8.3 Sea cucumber fishery

The Seychelles is unique in the Indian Ocean, as it is the only example in the region where a formalised approach of co-management of the sea cucumber fishery has been successfully demonstrated. Access to the sea cucumber fishery is controlled through a restricted number of fishing licenses, specifically, 25 licenses. The fishery is further controlled through a yearly three months (July to September) closed season (since 2008) and there is also a limit in the number of divers (four per licensed vessel) in the fishery. The fishery is governed by a co-management committee (Management Advisory Committee, MAC) comprising of key public institutions, NGOs and representatives of the industry, including the Association of Members of Seychelles Sea Cucumber Industry (AMSSI).

In 2013 the SFA signed a MoU with AMSSI entitled; "Implementation of measures to enhance Sea Cucumber Fishery Management" with the main aim of strengthening the collaboration between SFA and other relevant partners as well as improve the sustainable management of the Seychelles' sea cucumber resources. This initiative, which was also supported by the FAO-SMARTFISH, defined some specific objectives to be reached by 2017. The objectives were (i) Improve the monitoring of the fishery (ii) evaluate potential precautionary measures (iii) improve safety at sea and awareness of inherent risks and (iv) implement an economic minimum size scheme as precautionary management measure.

This collaboration have allowed SFA to undertake two research projects to collect data on the biology and ecology of sea cucumbers in Seychelles waters as well as implement a three years enhanced fisheries-related data collection program through mandatory logbook system and port sampling. New data collected through this program allowed for a more comprehensive stock assessment to be undertaken in 2016. The stock assessment was supported by the World-Bank funded SWIOFOSH 3 project and AMSSI.

The collaboration between SFA and the industry have proven to be very successful as it has increased communication and trust among fishermen, scientists, and managers. It has also provided much-needed scientific information for enhanced management of sea cucumber resources. Similar approaches are being adopted for the management of other fisheries resources in the Seychelles.

8.4 Seychelles Shark National Plan Of Action (NPOA)

Funding for the review of the NPOA-Sharks 2007-2011 has been secured and a local shark expert has been hired for this consultancy work. This consultancy is to begin on the 1st of April 2016 and is to last for a period of six months. The tasks will involve reviewing the progress made on achieving the Strategic Objectives of the first Shark NPOA 2007 - 2011 through the implementation of activities under the various work programmes. Following the review, an updated version of the NPOA will be produced for the period 2016 - 2020. Implementation of NPOA-Sharks is in line with the FAO International Plan of Action for Conservation and Management of Sharks is an obligation for the Seychelles as a member of the FAO and of the Indian Ocean Tuna Commission.

8.5 Plateau Fishery for Demersal Fish Resources Management Plan

After a long stakeholder consultative process, the final draft of the Mahé plateau demersal trap and line fishery co-management plan and accompanying documents were made available for stakeholder review in September 2015. The documents were place in all District Administration's offices for stakeholders review and comments. The Fishers and Boat Owners Association (FBOA) provided SFA with extensive feedback on the draft document and raised a number of concerns, which were addressed to the extent possible.

Implementation of the management plan will follow a phased approach. This is necessary given that this is the first management plan for this fishery and the changes required will need to be introduced on a gradual basis so that they are more palatable to fishers. Furthermore, certain management strategies with the plan require further development prior to implementation. This phased approach will allow time for key messages regarding new management strategies to be understood and accepted (through education and awareness raising). Phase one of the plan will involve the introduction of what are considered as soft management measure, such as the introduction of minimum landing sizes for commercially important and highly targeted species like snappers and groupers, improving communication between the Authority and relevant stakeholders, introducing a limit on the number of traps used on spawning aggregation sites and introducing bag limits for demersal fin-fish species for the recreation, sport and semi-industrial fishing vessels. The implementation of the plan is expected to begin in 2017.

8.6 Implementation of Observer Programme on Industrial Purse seiners

SFA implemented the observer programme on-board tuna purse seiners in three phases due to human resource capacity limitations. In 2012, the capacity development phase started with the training of the observer logistics coordinator and observers besides the

acquisition of equipment. The second phase started in 2014 and continues to date. It included the deployment of scientific observers on purse seiners. From June 2016, SFA started the implementation of the third phase of the project focussed on data management, data analyses and report dissemination.

A total of 93 observers were deployed at sea on-board tuna purse seiners in 2015, covering 229 trips corresponding to 10,171 days at sea. The average observer was deployed on 2.46 trips per year. The number of annual trip undertaken by observers ranged between one and six. During 2016, 256 trips were covered corresponding to 9,244 days at sea, which was slightly lower than in 2015. This was the consequence of some vessels introducing EMS (Electronic Monitoring System) to replace human observer. It is to be noted that based on literature reviews, the general conclusion on EMS is that it can complement human observer, however cannot replace them. SFA has also implemented a pilot EMS project on two Seychelles flagged purse seiners. This project, "Pilot activity to assist the implementation of an electronic monitoring system on Seychelles Flagged tuna purse seiners", was co-funded by the Seychelles Government, Producers' Organisation of Large Tuna Freezers (OPAGAC) and the Common Oceans Areas Beyond National Jurisdiction (ABNJ) Tuna Project, managed by the Food and Agriculture Organisation (FAO) of the United Nations and funded by the Global Environmental Facility (GEF). The project has been the subject of the MSc. Thesis of a Seychellois, ex-UNISEY student, in collaboration with the University of Alicante (Spain).

With the aim of improving the programme in terms of prompt analysis of data and dissemination of reports, the SFA is scaling down the programme particularly with regards to the number of observers deployed. A selection and evaluation process is currently ongoing whereby the total number of observer will be reduced to 35.

Chapter 9 -
POST-HARVEST DEVELOPMENT

The Post-harvest Development Department was established with purpose of managing, steering and coordinating national fisheries strategies and development plans to turn Seychelles into the Primary seafood processing centre in the region.

This was to be achieved through;

1. **Value addition:** The Development and market of new innovative seafood products from low value underutilized fish. Products developed so far include fish burgers, kebabs, fish terrine and fish croquettes.

2. **Information dissemination and public awareness:** Ensuring the distribution of knowledge gained through research undertaken, thereby showcasing the value added products to potential investors and the different technologies available for use. The unit is also responsible for sensitizing the general public and all stakeholders on good handling practices and quality standards. It is also responsible for the establishment of vetting procedures to facilitate investment in the sector.

3. **Market research:** Conducting market studies and surveys to identify consumer's needs for seafood products. This information is used to inform the private sector so that they are able to respond to market requirements.

4. **Scientific research and technical support:** Assist in national and international research and provide technical support to promote sustainable fishing,

investment in the fishing industry and the level of awareness on the importance of fish as a source of nutrients.

5. **Fisheries development infrastructure:** To assist investors with the vetting of their fish processing plant layout and facilitate the approval process with Ministry of Habitat, Infrastructure and Land Transport. Also ensure that all units conforms to all quality standards in place by conducting quality checks as and when required.

9.1 Promoting value addition

As part of the departmental plan to encourage investment in fish processing and to increase Seychellois participation in processing and value addition, the department participated in a number of activities (Tab. 9.1).

Table 9.1 Events Promoting Value Addition 2015 - 2016

Event	Time frame
Celebrating work consumer rights day	15th March 2015
National Show	June 2015
Culinary Training	30th Jun - 17th July
Opening of Anse Royale Fish Market	23rd Aug 2015
Food week	11th - 18th
National Show	June 2016
Food Week	Oct 2016

The National show occurs once a year and it is an event that is used by the development unit to showcase new products and distributes information to the general public. Other yearly activities covering the same scope are the activities planned during food week, an international event that is globally coordinated by FAO and nationally by the Ministry of Agriculture and Fisheries.

9.1.1 Participation in National Day

Post-harvest and Development Section participated in the National day event with the aim of making a market penetration for swordfish (an underutilized and low value fish). The department collaborated with STA to develop 10 new swordfish recipes to showcase at the event.

These included recipes such as; poach swordfish with yoghurt tandoori hot sauce, half cooked sesame sword fish with spicy balsamic reduction, Verine Marquereau (Figure 9.1a) swordfish citrus passion tartar (Figure 9.1b) and sword fish terrine.

Fish burger (Figure 9.1c) and fish fingers were well appreciated by the visitors to the stall. Vacuum packed swordfish steak and fish burgers were also on sale.

Figure 9.1a Verine de Marquereau

Figure 9.1b Swordfish citrus

Figure 9.1c Fish Burger

9.1.2 Culinary Training

As part of the aim to enhance capacity building in new cooking and training techniques of the Post-Harvest and Development Section of the SFA, three weeks culinary training was conducted in collaboration with Seychelles Tourism Academy. Among the many roles of the section, one is to assist in the development of value-added products thus the capacity building training will aid to better achieve the above.

The training was an opportunity for section's staff not only to learn about new cooking techniques but to also bond through team building exercises. Altogether 10 recipes were developed during the training. Refer to Figure 9.2a, Figure 9.2b and Figure 9.2c below for a few examples.

Figure 9.2a Stuffed cherry tomatoes

Figure 9.2b Fish moose

Figure 9.2c Fish confit

Eight staff from different sections within the SFA participated in the training who was then awarded with a certificate of participation after the end of the training.

9.2 Information Distribution & Public Awareness

9.2.1 Workshop for Fish Processing

The aim of the event was to inform stakeholders and suppliers in the fishing sector about different regulations in place concerning building materials and accepted process flow in the food industry. See Table 9.2 for the various events organised by the section for year 2015 - 2016.

Table 9.2 Events for information distribution and public awareness 2015 & 2016

Event	Time frame
Workshop for Fish processing investors- SFA	4th March 2015
EU Fish Hygiene Regulation/HACCP – Care House	17 -18Th Feb 2016
Safety Training for Fishermen – SFA/SMA	18-20th April 2016
HACCP Training for Directors	28th Sept 2016
HACCP training for Supervisors	7th/ 9th December

9.2.2 HACCP Training Program

The HACCP training program for Directors of private businesses involved directly or indirectly with fisheries was organized. The aim of this training was to enhance private sector capacity in the field of quality management by providing them with the basic information as to why HACCP is important in the food processing industry as well as the basic requirements required for implementation.

Figure 9.3 HACCP Training

9.3 Networking

SFA took part in the Sea Food Expo which was held in Brussels from the 26th-28th April 2016. The main purpose of participating in the expo was for networking, staying abreast with new technologies and to learn how other countries were adding value to fish products. It also allowed members of the section to meet with potential equipment suppliers, different consultants and education bodies.

9.4 Scientific Research and Technical Support

9.4.1 Installation of DMA Mercury Analyser

Seychelles semi-industrial fishing sector has been struggling to meet the required mercury level set by the EU regulation for the export of swordfish to EU market. With the plan to revive the semi-industrial fishing sector, SFA in collaboration with the SmartFish Programme, invested in a Direct Mercury Analyser (DMA-80) to analyse the concentration of mercury in swordfish tissue (Figure 9.4). The analyser has the ability to analyse one sample every 5-6 minutes and can run through 80 - 120 samples per day.

The analyser will be used as a preventative tool to provide rapid screening on swordfish samples before export in order to reduce the risk of fish being rejected or fish processing companies being placed under exportation restriction to EU markets.

The analyser was installed on the 21st of April by Milestone Mercury Application Specialist, who also conducted a one day training on the 22nd April. During the training nine (9) participants from SFA, Fish Inspection Unit of SBS, IRD (Institut de Recherche pour le Développement) and from the private sector were present to learn how to operate the machine.

The analyser is currently benefiting the private sector and close working collaboration has been established with IRD (Institut de Recherche pour le Développement) to facilitate various research projects.

Figure 9.4 Installation of DMA

9.4.2 Post-Harvest fish loss workshop

The aim of the workshop was to train fishermen on the basic hygiene protocols they can have in place, to improve on quality of their fish as well as how to properly chill their products and also how to maximize their profit. Figure 9.3 showcases the dates when these trainings were conducted.

Table 9.3 Training dates for different groups

Location	Training Date
Victoria	21st - 30th July 2014
Anse- Royale	06 October 2015 & 20 October 2015
Praslin	13th December 2014

9.4.3 Signing of MoU between SFA and STA

The MoU was aimed at strengthening the relationship between the two organizations and facilitate the sharing of knowledge and technology (Figure 9.5). This was to create more opportunities and to foster value addition by facilitating the sharing of knowledge and awareness on post harvesting and value addition of fish.

Figure 9.5 Signature of MoU

9.5 Fisheries Development Infrastructure

9.5.1 Opening of Anse Royale Fish Market

A new Fish market was inaugurated on the 1st of June 2016 at Anse Royale (Figure 9.6) in collaboration with EU to improve the condition in which the fish were being sold in that region and also to provide fishermen with a proper gear store.

Figure 9.6 Opening of Anse Royale Fish Market

9.5.2 Ice plant management

Five ice plants are managed by SFA. These include four on Mahe and one on Praslin. Each plant operates at different capacities mostly due to the age. It is important that a high level of hygiene is maintained in each of these plants to ensure that the ice is always safe for human consumption. This is done through various microbiological analysis on the ice and water in the ice plants to ensure the required level of hygiene is always maintained. This is done on a monthly basis through SBS. The analysis includes check for the presence of *Escherichia coli*, Sulphite reducing clostridium (*Clostridium spp*.) and intestinal enterococci (*Enterococcus spp*.).

Chapter 10 -
MONITORING CONTROL AND SURVEILLANCE

The Monitoring Control and Surveillance (MCS) Division consists of two Sections. They are the Monitoring and Control Section, and the Enforcement Section.

The Monitoring and Control Section is made up of the Fisheries Monitoring Centre (FMC) and the Fisheries Control Unit.

The Fisheries Monitoring Centre (FMC) deals with the compliance of all fishing vessel's reporting requirements, Vessel Monitoring System (VMS), validation of statistical documents for ICCAT, IOTC, EU and Non-EU catch certificates.

The Fisheries Control Unit is responsible for the processing and issuing of fishing licenses.

The Enforcement Section carries out all inspectorate duties with regards to port state inspection, land inspection, sea and air surveillance duties pertaining to national and regional requirements. They are also mandated to enforce the Fisheries Act of the Seychelles, as empowered to them, and to make sure there is proper compliance to the Artisanal, Semi Industrial and Industrial applicable regulations, agreements and protocols.

The main objectives of MCS Section include:

- To ensure fishing activities are being undertaken in accordance to the Fisheries Act and regulations, as per conditions of fisheries agreements and their relevant protocols;

- To provide support to local partners such as the Seychelles Coastguard (SCG) and the National Drug Enforcement Agency (NDEA) and Seychelles Air Force, and other government agencies that may require the MCS's assistance from time to time. Such has included the Seychelles Police and the Ministry of Environment;

- To prevent, deter and eliminate IUU fishing, and to cooperate with countries regionally and internationally to this end;

- To ensure that Seychelles flagged vessels and foreign flagged vessels operating within the Seychelles EEZ are observing provisions of international obligations, notably the provisions of the IOTC Conservation and Management Measures.

10.1 Fisheries Monitoring Centre (FMC)

The main role of the FMC is to collect information about the fishing activities in the Seychelles EEZ and beyond, undertake relevant analyses of these data to ensure that vessels are conducting fishing activities in accordance to agreed fishing conditions. Such includes ensuring that vessels are fishing within designated areas, vessels operating in foreign fishing zones have valid license, monitoring of fishing efforts etc. The FMC uses electronic and satellite technologies, such as Vessels Monitoring System, and Electronic Logbook System to allow for automated data collection and subsequent analyses. The FMC also validates catch certificates and trade documentation as required by market states and/ or RFMOs. Other roles of the FMC staffs include undertaking background checks on all fishing vessel wishing to register in Seychelles or seeking a fishing license to operate within the Seychelles EEZ, validating port clearance for foreign fishing vessels wishing to call to port Victoria as required under various international agreements and treaties etc.

10.1.1 Vessel Monitoring System (VMS)

With the integration of our VMS software (Themis), SFA's VMS data transfer operation is fully compatible for sending and receiving data through HTTPS, FTP, and SMTP protocols. The Themis platform was introduced in 2009, and has been further upgraded to build the capacity of the server. Such includes the upgrading of hardware supporting the system, implementation of upgrades, and training of operators and IT support staffs to be more efficient at operating the vessels monitoring software. The Software allows the FMC to monitor fishing vessels using satellite tracking technologies, as flag state and a coastal state.

In 2013, the THEMIS software was installed at the Seychelles Coast Guard (SCG) so they can have the 24 hour surveillance of all licensed fishing vessels operating inside and outside the Seychelles waters. In 2014, the NDEA base and the Seychelles Air Force Base were equipped with The THEMIS so that these institutions may as well monitor foreign licensed and Seychelles Flagged fishing vessels within and outside of the EEZ.

A technical team at the FMC ensures the smooth operation of the FMC servers on a daily basis. The SFA also employs technicians that installs satellite terminals on board local fishing vessels, and ensure that they are in proper functioning order. The technicians also inspect VMS terminals on-board Seychelles flagged vessels when and where required to ensure that they are operational.

10.1.2 VMS on Local Fishing Fleet

Initiated in 2003, the VMS project was implemented to provide spatial and temporal data on the activity of local fishing vessels at sea for management purposes. The VMS system also provides additional safety for local artisanal vessels as most of these vessels are not

equipped with safety equipment. All terminal installed on local fishing vessels under 24m are purchased, commissioned, installed and maintain by the SFA, which includes monthly satellite service provider fees. Current models being deployed on vessels includes;

- Cobham (ex-Thrane & Thrane) Mini-C, which uses the Inmarsat- C Satellite Network
- CLS Triton and Leo, which uses the Iridium Satellite Network
- GEO-Eye Osprey which uses Inmarsat M2M/ Inmarsat-D Satellite Network

Currently there are no legal requirements for local vessels to install and have operational a VMS terminal. Since VMS was introduced, a number of vessels have been observed to purposely damage VMS terminals or not properly operate their VMS terminal while at sea. This has added additional burden on resources, and has impeded efforts to achieve 100% VMS coverage on artisanal vessels. Future plans for the project includes the implementation of a small vessel tracking system for smaller open deck mini mahes, and to make VMS an obligation for local vessels.

10.1.3 VMS on Industrial Fishing Vessel

All industrial vessels are required to have an operational VMS while operating within the Seychelles EEZ. This obligation extends to the high seas and the waters of other coastal states for Seychelles flagged vessels. There are also arrangements and requirements in the event that these vessels terminal ceases to be functional. Between 2015 and 2016, most vessels were compliant to this requirement.

10.1.4 Innocent Passage and Transit Passage

As provided by UNCLOS III, non-licensed fishing vessel enjoys right to freedom of navigation within the EEZ, subject to relevant provisions of the Fisheries legislation. The Fisheries Act requires that all non-licensed vessels transiting thought the Seychelles EEZ must declare their intention to do so with the SFA. As such, in 2015 and 2016, there were 39 and 45 of such vessels respectively that declared their intention to, and proceeded to transit through the Seychelles EEZ. While exercising their right to freedom of passage within the Seychelles EEZ, these vessels are required to stow their fishing gears appropriately as required by the Fisheries Regulations. There should also be continuous and expeditious, except in cases of force majeure.

10.1.5 Entry and Exit reports

All foreign flagged licensed vessels are required to submit to the SFA an Entry report and Exit report upon entry and exit of the EEZ respectively. The totals of entry and exit reports were 3,786 and 5,873 for 2015 and 2016 respectively.

10.1.6 Longline Transshipments

All Seychelles flagged longlines carrying out transhipment at sea or in foreign port needs the authorization on the SFA prior to engaging in such activities. In line with the IOTC resolution 14/06 (superseding Resolution 12/05), as well as the IOTC observer program, the SFA has continued to authorized, throughout 2015 and 2016 trans-shipment at sea request for longline vessels. Prior to authorization of trans-shipment, relevant analyses is conducted to ensure that there are no under or misreporting. It is also a requirement that vessels carry all relevant documents on-board prior to the authorization of the transshipments.

In 2015 there was a total of 35 at sea transhipments and 126 port transhipments recorded, whereas in 2016 there was a total of 129 at sea transhipments and 40 port transhipments on record. Table 10.1 shows the total number of transhipments carried out in port and at sea for the year 2015 and 2016. Table 10.1.1 shows the total quantity of fish by species transhipped for the same period.

Table 10.1 Total number of transhipments carried out in port and at sea during 2015 and 2016

YEAR	2015	2016
Total No. of Transshipments	161	169
Total No. of kg Transhipped	**7,739,098**	**11,364,011**

Table 10.1.1 Total quantity of fish by species transhipped by industrial longliners at port and sea in 2015 and 2016

	2015	2016
SPECIES	**TOTAL (KG)**	**TOTAL (KG)**
Albacore	1,146,111	169,948
Yellow fin	1,626,244	2,413,323
Big eye	497,881	4,853,623
Blue Marlin	98,248	246,477
Marlin	882,366	64,237
Black Marlin	122,032	63,594
White Marlin	490	2,184
Striped Marlin	23,165	204,130
Sailfish	1,475	112,108
Swordfish	921,555	1,195,149
Shortfin mako shark	399,190	18,220
Mouka Shark	3,707	950
Moro Shark	2,100	749
Shark	111,378	24,931
Blue Shark	208,957	52,427
Oil fish	1,506,974	751,939
Other	187,225	1,190,022
TOTAL	**7,739,098**	**11,364,011**

10.1.7 Purse seiner tuna transhipment and landings in Port Victoria

Port Victoria remains one of the most relevant port in the region with respect to the offloading (landings and transhipment) of tuna for purse seine vessels. The below figures represents an increase in offloaded tuna catch compared to 2013 and 2014 to which 155,831MT and 141,823MT were recorded respectively,[1] noting that 2015 and 2016 recorded total offloads of 193,686.5MT and 217,285.7MT respectively. The 2015 figures represent 24.3% increase from 2013 figures and 36.6% increase from 2014 figures. The 2016 figures represent a 39.4% increase from 2013 recorded offload total and a 53.2% increase from 2014 recorded offload in Port Victoria. The increasing offloads in Port Victoria shows its importance as a key port state to ensure that IUU caught fish does not make it to domestic and more importantly international market by enforcing strict Port State Controls to prevent, deter and eliminate IUU. This increasingly also presents challenges to the MCS team to ensure such. Table 10.2 total weight of fish landed or transhipped in Port Victoria, segregated by flag.

Table 10.2 Total quantity of fish by species transhipped or landed in 2015 and 2016

FLAGS	SPECIES	TOTAL (KG) 2015	TOTAL (KG) 2016
SEYCHELLES	***YFT***	54,595,382	46,143,559
	SKJ	32,260,374	45,019,058
	BET	7,659,125	7,914,244
	MAR	9,368	23,286
	MAHI	13,538	19,919
	BON	650	765
	WAHOO	2,363	3,941
	ALB	121,861	10,033
SPAIN	***YFT***	38,994,132	32,883,965
	SKJ	28,848,092	32,503,956
	BET	7,506,094	5,900,349
	ALB	108,055	5,946
FRENCH	***YFT***	8,433,221	3,906,036
	SKJ	4,708,042	7,296,007
	BET	962,779	532,751
	ALB	0	0

[1] Seychelles Fishing Authority (SFA), *Annual Report of 2014 (SFA, 2017)*, 76.

FRENCH (TERRITORIES)	***YFT***	2,389,697	14,148,838
	SKJ	710,065	10,087,618
	BET	385,582	2,499,308
	ALB	0	57,195
ITALY	***YFT***	900,143	107,370
	SKJ	449,684	415,450
	BET	160,364	35,220
	ALB	0	0
MAURITIUS	***YFT***	1,800,534	3,750,004
	SKJ	613,877	1,412,695
	BET	367,587	319,486
	ALB	10,080	23,544
KOREA	***YFT***	780,794	1,584,420
	SKJ	745,032	653,690
	BET	150,000	27,000
	ALB	0	0

10.1.8 Catch Certificates and Statistical Documents

Since 2002, Seychelles has been validating statistical documents for ICCAT and IOTC. As of the 1st January 2010 when COUNCIL REGULATION (EC) No 1005/2008 came into force, SFA successfully implemented the catch certificates as per article 12 of the regulation. FMC personnel are the authorized signatories to validate these documents.

In 2015, a total of 3504 of catch certificates and statistical documents was validated by the FMC. In 2016, the number of validated documents increased to 5034 representing an increase of approximately 70% of validated documents.

In 2016, a total of 5034 catch certificates and statistical documents were validated for export of which 230 were Non-EU catch certificate, 290 EU catch certificate for local vessels, 1691 EU IUU catch certificates, 510 EU foreign catch certificate, 426 EU Seychelles catch certificate, 1206 statistical certificate and 13 re-export catch certificate. The increase in local export was due to increase of fishing vessel activity in the semi-industrial sector in the local industry.

As per the data shown on table 10.3, export to countries such as UK, Germany, and France has fluctuated widely between 2013 and 2016.

Table 10.3 Destination of the catch for the semi-industrial and artisanal fishing vessels

	2013	2014	2015	2016
Country of Export	**Quantity (Kg)**	**Quantity (Kg)**	**Quantity (Kg)**	**Quantity (Kg)**
United Kingdom	68,297.16	12,654.05	25,262.31	115,146.43
Reunion	16,728.60	2,950.20	3797.70	15,838.92
Germany	5,309.80	0.00	1,505.60	20,779.67
France	2,373.60	1,077.50	27,221.30	138,611.56
Italy	0.00	533.68	2,323.50	2,528.97
Russia	0.00	163,105.56	134,311.03	42,431.95
Mauritius	39,544.65	8,002.05	11,225.10	22,664.50
Australia	6,233.00	374.20	0.00	484.40
U.A.E	4,047.80	1,369.10	1,383.70	1,461.80
Sri Lanka/Colombo	37,075.70	12,368.40	435,150.20	1,294,718.50
Hong Kong	21.40	0.00	144.60	0.00
USA	17,895.10	3,907.10	3,820.80	156,691.73
Spain	1,067.80	0.00	0.00	2,293.04
South Africa	26,014.57	0.00	0.00	0.00
Kenya	28.70	0.00	0.00	0.00
Japan	7,930.00	0.00	1,530.90	407.50
Czech Republic	386.30	0.00	0.00	515.02
Indian	0.00	0.00	10,783.40	0.00
Taiwan	0.00	0.00	0.00	60.00
Malaysia	0.00	0.00	0.00	28,377.09
Vietnam	0.00	0.00	0.00	24,448.19
Netherland	0.00	0.00	0.00	625.39
Amsterdam	0.00	0.00	0.00	1,053.20
Denmark	0.00	0.00	0.00	19,559.30
TOTAL	**232,954.18**	**206,341.84**	**658,460.14**	**1,888,697.16**

10.1.9 Information Exchange

In line with regional obligations, the FMC is responsible to share MCS related data, information with regional partners and organizations, subject to agreed sharing protocols,

and national policies regarding sharing of MCS information. Such information sharing programs are:

The exchange of VMS information for vessels operating within the zone of competence of the IOC countries. This information sharing arrangements is part of the PRSP (Plan Régional de Surveillance de Pêche) project, and the arrangement was made under the auspices of the IOC. Currently only the IOC member states, which includes the Seychelles, Mauritius, Madagascar, Reunion, and Comoros, can share and access such VMS data, although there are more participating states in the PRSP project. The protocol for the exchange of VMS data requires all five member states of the IOC to share the data electronically to the IOC regional VMS Centre, SIGMA, and then states can access these data using the regional VMS platform.

Stop Illegal Fishing FISH-I Africa; which is a regional initiative whereby participating countries shares MCS related intelligence, mainly regarding vessels conducting, or suspected to be carrying out IUU fishing, and other fisheries related crimes.

In 2015, the IOC deployed the Standardized Real-time Fisheries Information Sharing Hub (StaRFISH), a web portal through which states can share information on vessels operating under their flags, and on foreign flagged vessels operating in their respective maritime jurisdictions. The tool provides an inter-country and inter-agency harmonized system aimed to improve the efficiency of fisheries officers to shore, share and access fisheries MCS information to enhance regional and national MCS action to deter IUU fishing. Since deployment, there have been various training campaigns to train fisheries officers on how to use and populate the online database. Although SFA is struggling with capacity to fulfil this obligation and various others, it has actively contributed to this platform by updating

information. In 2016, there were eight countries, inclusive of the five IOC member states, that were actively populating this online database.

10.2 Fisheries Control

Since the enactment of the Fisheries Act 2014, SFA has been responsible not only for the processing of fisheries licenses, but to also issue such licenses, which was previously the responsibility of the Seychelles Licensing Authority.

10.2.1 Industrial Sector

The total of 190 and 219 licenses were issued for the industrial sector for the year 2015 and 2016, respectively. This includes both purse seiners and longliners, of Seychelles and Foreign flag. Table 10.5 below shows the number of licenses issued each year according to flag state and types of fishing vessels.

Table 10.4 Number of Industrial fishing licensed issued per country and by types of fishing vessels for 2015 and 2016

Country	2015				2016			
	Long Liner	Purse Seiner	Supply Vessel	Total	Long Liner	Purse Seiner	Supply Vessel	Total
Spain	0	17	10	27	0	14	11	25
China	14	0	0	14	24	0	0	24
France	0	12	0	12	0	13	0	13
Italy	0	1	0	1	0	1	0	1
Korea	0	5	1	6	3	3	1	7
Mauritius	0	2	0	2	0	2	0	2
Seychelles	32	13	6	51	41	13	9	63
Taiwan	73	0	0	73	84	0	0	84
Tanzania	1	0	0	1	0	0	0	0
Thailand	3	0	0	3	0	0	0	0
Total	**123**	**50**	**17**	**190**	**152**	**46**	**21**	**219**

Table 10.5 License Fees 2015 and 2016

Type of Vessel	Vessel Flag	Currency	Duration	2015	2016
Long Liner	Seychelles / Taiwan	USD	1 Year	24,000	
		USD	6 Month	17,500	
Purse Seiner	Seychelles Flag	USD	1 Year	90,000	
	EU Vessels	EURO	1 Year	42,000	45,500
	Private Agreement	USD	1 Year	120,000	
	Supply Vessel	USD	1 Year	5,000	

10.2.2 Local Fishing License

Table 10.7 shows the amount of licenses issued for local vessels, segregated by fishery type. The Artisanal fishery remains the dominant fishery in terms of number of annual licences issued. This fishery is undertaken mostly by local fishermen using hand line fishing techniques. In 2015 and 2016, 656 and 721 licenses were issued, respectively.

Table 10.6 Number of fishing license issued for different types of local fisheries for 2015 and 2016

	Artisanal	Semi-industrial	Net	Sea Cucumber	Lobsters
2015	582	18	22	22	12
2016	643	28	15	20	15

10.2.3 Sea Cucumber Exports

The number of licenses issued for the sea cucumber fishery is currently capped at 25 licenses per season, one season typically lasting nine months from October to June the next year. Recorded landings for sea cucumber for the years 2015 and 2016 were as follows:

- **409,694** units in 2015 and;
- **359,977** units in 2016.

The total numbers of sea cucumber exported by processors for 2015 was 448,245 individual units that accounted for a biomass of **73,485 kg.** In 2016, 36,363 units was exported with a total weight of **55,319 kg.**

10.3 Fisheries Surveillance

Fisheries surveillance is an essential part of the work of the MCS section. It ensures that there is adequate supervision of fisheries-related activities at sea. Surveillance activities also extend on land and in the air. There has been intensive local and regional capacity and technical development in recent years to improve the quality of the MCS section. Such includes more participation in international forum by inspectors, participation in training conducted by RFMOs, regional organizations etc. Limited human capacity and resources remains a challenge for the section, and the division.

In 2016, Enforcement Officers attended one training on environment law enforcement. The training allowed them to better understand the process of collecting evidence, presenting cases in court, and the different rights and responsibilities of officers while handling cases. The training was hosted by the Seychelles National Parks Authority (SNPA), with other environmental oriented law enforcement agencies. Also discussed were the similarities between these various agencies.

10.3.1 Maritime Fisheries Surveillance

Maritime surveillance has been one of the key activities of MCS Enforcement Officers. While our aim is to ensure that there is adequate supervision of the activities happening within our EEZ, lack of resources and funds has been an impediment to this endeavour. Nonetheless, the SFA has concentrated its effort in working with the local fisheries

community, national agencies and other NGOs to ensure that there is constant observation and reporting of infractions near the outer islands and within the EEZ. A close working relationship has developed among these agencies and NGOs, and there is constant exchange of information and intelligence within this informal working network.

The efforts of this informal working network resulted in the capture of two Malagasy vessels, Soa Vahiny and Bordeur operating within the Seychelles EEZ without a valid license. The vessels were apprehended close to the Cosmoledo Islands, on the 10th of February 2015 while they were fishing for Tuna and Tuna-like species without a valid license, and were operating within a zone that is restricted for foreign owned vessels.[2] The vessels were spotted by a patrol vessel of the Seychelles Coast Guard. The subsequent prosecution of the owners and crew of these two vessels resulted in the forfeiture of the vessels, which were later auctioned for a sum of SR62,000 and SR75,000.

The Seychelles Coast Guard and the Seychelles Air Force of the Seychelles Peoples Defence Forces (SPDF) has been instrumental at supporting the SFA with assets and information regarding activities at sea. This has ensured that despite of SFA's challenges, there has been adequate surveillance of fisheries and fisheries related activities within the Seychelles EEZ. Realizing the benefits and importance of the good working relationship between the Seychelles Coast Guard and Seychelles Air Force with SFA, in late 2015 the SFA initiated a process to formalize this inter-agency cooperation through a Memorandum of Understanding to provide a framework for cooperation with these agencies. The Memorandum is expected to become into effect in 2017.

[2] Typically, within 12NM of all outer laying islands with few exceptions.

10.3.2 Port Side Monitoring

Port side monitoring is also an important activity of the Enforcement Section. Between 2015 and 2016, a total of 611 vessels were inspected in Port Victoria, of which 430 were foreign flagged and 181 were Seychelles flagged. Table 10.8 shows the total number of inspected vessels, by flag, inspected in Port Victoria.

Table 10.7 Number of vessels by type and vessel flag inspected in Port Victoria 2015 and 2016

Flag	2015					2016				
	Purse Seiner	Longliner	Supply Vessel	Others	Total	Purse Seiner	Longliner	Supply Vessel	Others	Total
France	58	0	0	0	**58**	67	0	0	0	**67**
Italy	7	0	0	0	**7**	4	0	0	0	**4**
Korea	20	2	3	0	**25**	27	5	0	0	**32**
Seychelles	72	1	8	0	**81**	87	0	13	0	**100**
Spain	75	0	18	0	**93**	86	0	26	0	**112**
Iran	4	0	0	0	**4**	2	0	0	0	**2**
Mauritius	10	0	0	0	**10**	11	0	0	0	**11**
Taiwan	0	0	0	0	**0**	0	3	0	0	**3**
Tanzania	0	1	0	0	**1**	0	0	0	0	**0**
Colombo	0	1	0	0	**1**	0	0	0	0	**0**
Total	**246**	**5**	**29**	**0**	**280**	**284**	**8**	**39**	**0**	**331**

10.3.3 Compliance Inspection

In line with its responsibilities as a Flag State, the SFA ensures that all vessels that are operating under its flag are inspected for compliance biennially. As most long liners operate in foreign ports, these inspections are conducted in those foreign ports. The inspection is carried out when a fishing vessel is registered as a Seychelles Flag and prior to issuance of

the Certificate of Authorization (COA). In 2015, there was a total of 23 compliance inspections undertaken in Seychelles and foreign ports. In 2016, the amount of vessels inspected was 14.

10.3.4 Land Patrols

Land patrols targets mainly landing sites around the three main islands: Mahé, Praslin and La Digue. The main objectives of land patrols are:

- Inspection of boats upon license application;
- Inspection of sea cucumber landing at authorised landing sites;
- Inspection at point of export of sea cucumber;
- Monitoring of the lobster fishery;
- Investigation on report of illegal activities;
- Periodic inspection at beach landing sites.

There were 13 and 8 land patrols conducted in 2015 and 2016 respectively, on Mahé, Praslin and La Digue.

10.3.5 Regional Fisheries Surveillance

The Plan Surveillance Regionale de Pêche (PRSP) is the only current ongoing regional fisheries surveillance initiative. Between 2015 and 2016, there were a total of six missions undertaken by the PPRSP. There were three missions for each year. Two aerial patrol missions were undertaken in 2016. One of these aerial patrol missions had the support of a patrol vessel.

Chapter 11 -
INTERNATIONAL CO-OPERATION

11.1 EU/Seychelles Sustainable Fisheries Partnership Agreement

The new Protocol of the Seychelles-EU Sustainable Fisheries Partnership Agreement (SFPA) came into force in 2014. The Protocol, which is for a duration of six years, started on 18th January 2014 and will end on 17th January 2020. The total value of the agreement is for Euro 30.7 million. It provides access for forty (40) tuna purse seiners and six (6) surface longliners who are flying the flag of a member country of the European Union (EU), to fish for tuna and tuna like species in the Seychelles EEZ with a reference tonnage of 50,000 tonnes per year.

This total contribution Euro 30.7 million comprise of:

- An annual amount for access to Seychelles EEZ of EUR 2.75 million for the first and second years of the application of the Protocol and EUR 2.5 million for the remaining years (three to six), equivalent to a reference tonnage of 50,000 tonnes per year, and

- A specific amount of EUR 2.6 million for the first and second year's application of the Protocol, and EUR 2.5 million for the remaining years (three to six) for the support and implementation of Seychelles sectoral fisheries policy and marine policy.

During the Protocol years, the Joint Committee as established under Article 9 of the EU/Seychelles Fisheries Partnership Agreement to adopt annual work programme action plan for the fisheries sectoral support fund. The areas of priorities identified were as follows:

I. Development and implementation of fisheries and aquaculture management plans;
II. Fisheries infrastructure development for artisanal and industrial sectors; and
III. Capacity building.

In February 2015, a Joint Committee meeting was held in Brussels, Belgium. The level of utilisation of the sectoral support funds was at 55% of the agreed budget for 2014, which include the rollover from 2013. For the first priority area, "Development and implementation of fisheries and aquaculture management plans" the utilisation was at 88% of the Euro 1,215,263 whereas for the second priority area, "Fisheries infrastructure development for artisanal and industrial sectors" was only at 36% of the Euro 3,225,257 and third priority area, "Capacity Building" was at 92% of the Euro 559,132. The low utilisation of the funds was due to the delay in the implementation of infrastructure project through the tendering process. Due to the major under-utilisation of the budget implementation programme for 2014, the disbursement of the 2015 instalment for the sectoral support funds was not approved by the Committee. The 2015 Action Plan was presented and endorsed by the Joint Committee including the associated budget and matrix. A total budget of Euro 5,236,203 was approved with a distribution of Euro 1,309,114 for the first priority area, Euro 2,925,535 for second priority area and Euro 739,583 for the third priority area.

In December 2015 an Extraordinary Joint Committee meeting was held in Victoria Seychelles to review the utilisation of the 2014 funds. With the increase in the utilisation up to 80.6% by the end of November 2015, the committee agreed for the disbursement of the 2015 sectoral contribution.

Another Joint Committee Meeting was held in June 2016 in Victoria Seychelles and a review was made on the 2015 implementation matrix. The total expenditure was Euro 2,549,491 of the total approved budget of Euro 5,236,203 which indicate 49% utilisation. On this basis the committee defer the disbursement of the 2016 sectoral support instalment until utilisation of the 2015 funds was at 75%.

The Committee adopted the 2016 work Programme matrix, which was from June 2016 to December 2016, of a total budget of Euros 2,686,713. The first priority area was allocated with Euros 1,019,509, the Second priority was allocated with Euros 1,401,979 and third priority area with Euros 265,226.

11.1.1 Mayotte

Reciprocally the EU and Seychelles also signed a six-year agreement which took effect in January 2014 for Seychelles flagged fishing vessels to fish in Mayotte waters, which is under the jurisdiction of the EU. Unlike the agreement for EU vessels to fish in Seychelles waters, this agreement did not include an element of sector support contribution. The agreement provide authorisation for eight Seychelles flagged tuna purse seiners and two supply vessels to operate in Mayotte water. In 2015 and 2016 Seychelles utilised the full allocation with a total catch of 328 Mt in 2015 and 259 Mt in 2016 of tuna and tuna like species.

11.2 British/Seychelles Fisheries Commission (BSFC)

The British Seychelles Fisheries Commission was established in 1995 to promote, facilitate and coordinate conservation and scientific research.

The British/Seychelles Fisheries Commission meeting preceded the Scientific Sub-Committee (SSC). In 2015 the 20th Commission meeting and 27th SCC meeting was held in London UK on 30th October 2015 and 28th-29th October 2015 respectively.

In 2016, the 21st British/Seychelles Fisheries Commission meeting and 28th meeting of the Scientific Sub-Committee (SSC) was held in the Seychelles on 7th and 6th December, respectively.

The areas of focus of the Commission and the SSC were on the status of the British Indian Ocean Territory (BIOT) Marine Protected Area (MPA) and the research that were being undertaken in the MPA and in the Seychelles coastal and offshore fisheries. The Commission reported on progress being made by each Party concerning the amendment of the scope of the Joint Statement on the Conservation of fisheries signed by both Seychelles and the UK government on 20th July 1995.

Points of exchange and collaboration discussed during the meetings related to the management of the demersal fisheries in Seychelles, Marine Protected Areas and the Conservation Management Framework in place in BIOT and how it might assist the Seychelles in marine spatial planning and the development of Marine Protected Areas. There was also discussion on the actions taken by both Governments to combat and address IUU fishing activities. It was agreed that the results of ongoing trials using new surveillance techniques will be shared. There was reaffirmation on the areas of joint interest with respect to IOTC and marine research.

11.3 Indian Ocean Tuna Commission (IOTC)

Seychelles' participation in the Indian Ocean Tuna Commission (IOTC) has remained consistent over the years. One of the main IOTC activities for 2015 was the 12th Session of

the Compliance Committee (CC) meeting which was followed by the 19th Commission meeting. The meetings were held in Busan, Rep. of Korea from 20–22 April and 27th April – 1st May 2015 respectively. In 2016, the 13th Session of the CC and 20th Commission meeting was held 16th - 18th May and 23rd – 27th May 2015 respectively in St. Denis, La Réunion.

The purpose of the CC meeting is to strengthen compliance among IOTC members, which includes both Contracting Parties, and Cooperating Non-Contracting Parties. Progress made during the intercessional period was reviewed. The review identified outstanding issues of non-compliance and the challenges and difficulties that each member, notably developing coastal States, are facing in enforcing and complying with IOTC Conservation and Management Measures (CMMs) adopted through various resolutions.

Seychelles' was 74% compliant in 2015 and 73% compliant in 2016. There has been great improvement in the level of compliance from the 2014 level of 56%.

During the 19th Commission meeting there were the adoption of 11 Conservation and Management Measures, which were all Resolutions. The Resolutions adopted related to, catch and effort data, statistic data, VMS, authorise vessels, management measure for certain pelagic species and FADs.

In the 20th Commission meeting there was the adoption of 12 Conservation and Management Measures, which consisted of 12 Resolutions and no Recommendations. The Resolutions related to management of certain tuna species especially the Yellowfin tuna, IOTC performance review, the Regional Observer Programme and IUU fishing.

11.4 Mauritius/Seychelles Fishing Agreements

The first fishing agreements between Seychelles and Mauritius was signed in Mauritius on 11th March 2005. The bilateral agreements make provisions for Seychelles flagged vessels to obtain license to fish for tuna and tuna like species in Mauritius waters and vice versa for Mauritius flagged vessels to obtain license to fish in Seychelles waters.

The Fishing agreements were initially for a period of two years and were automatically renewed for a further period of two years, thereafter.

The license fee under the agreement was more favourable to the Mauritians fishing vessels than for Seychelles vessels. Thus in December 2013, Seychelles initiated the process for the termination of the current fishing agreement with Mauritius and for new negotiations to take place for a new agreement which takes into account the unfairness of previous agreements and current development in the fisheries sector.

The first round of negotiations for the new Seychelles – Mauritius Fisheries Agreement took place in Seychelles in February 2015. The discussions were held in an open and constructive manner, and helped the two countries to appreciate the need of timely renewal of the Agreement to ensure continuity of fishing operations.

Both parties agreed that the reciprocal fishing agreements need to be signed at the latest before the 11th March 2015 to ensure continuity. The countries also agreed to exchange their proposed reciprocal fishing agreements before the second round of negotiations, which took place in Mauritius in July 2016.

Seychelles proposal was focused on development in the fisheries sector, highlighting the needs to incorporate international obligations in the agreement, and addressing sustainability issues as well as port State obligations. Furthermore, it captured the need for discussions relating to fishing opportunities and licence fees.

11.5 Japan

In 2008, Japan provided a Grant Aid for the construction of a new Providence Fishing Port together with its –fisheries-related facilities. The opening ceremony was held in June 2010. Since then, the number of fishing vessels using this facility have continuously increased to a point where it is now affecting the daily operations. The Government of Seychelles made a request to Japan to assist the country with the extension of the Providence fishing port. Japan responded positively and dispatched a number of survey teams to Seychelles to conduct preparatory surveys. The mission to Seychelles were as follows:

- Preparatory survey 1: March 7 - April 5, 2015
- Preparatory survey 2: May 19 -July 17, 2015
- Outline explanation survey: November 25 - December 5, 2015
- Signing and exchange of note for Grant Agreement for the Project of Artisanal Fisheries facilities on Mahe Island by Japanese Ambassador: 22nd March 2016
- Visit to finalize technical drawings for Providence Project: 26th June 2016

The ultimate purpose of the Providence port project was to help the Seychelles government implement its Fisheries Development Plan, which highlights fisheries as an important industry for developing the national economy.

The project included:

- Construction of a 212m of quays,
- Installation of mooring buoys,
- Construction of an ice making plant and installation of an ice making machine with a daily capacity of 10 tons,
- Construction of a fish landing shed,
- Installation of other amenities such as street lighting, water and power supply,
- Human capacity building.

The completion of this project helped to ease congestion inside Providence and Victoria fishing ports caused by significant increase in the number of fishing boats.

Chapter 12 -
INFORMATION AND TECHNOCLOGY SERVICES

12.1 Documentation Services

12.1.1 Acquisitions

The Documentation Centre's collection of new materials continued to increase in 2015 and 2016. A total of 525 documents were catalogued in the library database AgriOcean DSpace the past two years. In all, there are now a total of 7239 records in the database.

12.1.2 Library Management and Cooperation

In 2016, an agreement was signed between SFA Documentation Centre and the Institute de Recherche pour le Developpement (IRD) for SFA Documentation Centre to get access to IRD documentation resources and all scientific journals to which IRD subscribes. The IRD Horizon database provides direct access to more than 2,400 references and more than 54,000 publications that can be made available to researchers and the scientific community. The content of most of these scientific journals can be downloaded as PDF files.

12.1.3 Publications 2015 and 2016

ASSAN, C.N.; DORIZO, J.L. (2015) Seychelles Artisanal Fisheries Statistics for 2012 SFA Technical Report, SFA/R&D/075, 88 pp.

ASSAN, C.N.; DORIZO, J.L. (2015) Seychelles Artisanal Fisheries Statistics for 2013, SFA Technical Report, SFA/R&D/076, 88 pp.

ASSAN, C.N.; DORIZO, J.L. (2015) Seychelles Artisanal Fisheries Statistics for 2014, SFA Technical Report, SFA/R&D/077, 88 pp.

ASSAN, C.; LUCAS, J.; AUGUSTIN, E. DELGADO DE MOLINA, A.; MAUFROY, A.; CHASSOT, E. (2015) Seychelles auxiliary vessels in support of Purse Seine fishing in the Indian Ocean during 2005-2014: Summary of a decade of monitoring. ***In: IOTC–2015–WPTT17–41, 8 pp.***

ASSAN, C.N.; DORIZO, J.L. (2016) Seychelles Artisanal Fisheries Statistics for 2015, SFA Technical Report, SFA/R&D/078, 87 pp.

BODIN, N.; LESPERANCE, D.; ALBERT, R.; HOLLANDA, S.; DEGROOTE, M.; CHURLAUD, C.; BUSATAMANTE, P. (2016) Preliminary study of trace elements in oceanic pelagic communities in the western - central Indian Ocean. ***In: IOTC-WPEB12, 19pp.***

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12.2 Information Technology

With further advancement into the computer age, the ICT department had been vigilant and kept a watchful eye on new development which may also pose a threat or delay the daily operation for the Authority, in the aspect of our system not being compatible with the new tech.

Additionally, the demand for the exchange of data has increased exponentially and in view of the fact that our current demand from Internet Service Provider was not sufficient, we had to seek alternatives to remedy situation. We had to opt for a second connection with AIRTEL and CWS as our Primary ISP.

As the price of computers and its gadget has become somewhat affordable, it is now fairly easy for anyone to own a Movable storage device such as smart phones, SD cards for cameras, pendrives and External harddisks. Those device can pose risks for the SFA network and if users plugs those device to their computer and hence can transfer malware and virus onto the network.

Another notable risk was at our Training Room facility which was being rented out to local and international parties. In many instances, they requested internet facilities either through SFAS's computer located at the station or thru their own. This was seen as a risk.

We have many consultants coming and going and was initially granted permission to connect to our network.

With the aim of reducing risk of being affected with computer viruses such as Ransomwares, malwares spywares , several means were addressed to improve the security practices.

With the aim of minimising risks caused by connect outside computers at our head-office Portable 4G airtel routers was introduced.

Installed at Training Room, on SFA's Research boat enabling boat crew along with research crew to remotely do postings, research and communicate via email or by other means to superior or colleagues.

Ideal for fast internet access for instances like debriefings, video conferencing
- Remove obsolete computers and OS currently not being supported.

For the year 2014 Information Technology (IT) section maintain its high level of service throughout the organization and other collaborators.

12.2.1 Software

The new and revamped SFA website was officially launched on the 28th August 2014 by then Minister Peter Sinon as part of SFA's 30th anniversary. The main objective of the website is to promote and market the fishing industry and to provide information to current and potential clients.

To become compliant with the Government Electronic Document Repository e-service, all SFA documents considered as being in the public domain are now available either on the website or on the eDoc Repository.

12.2.2 Hardware

New computers and other peripherals were purchased to replace obsolete ones. Some staffs were issued laptops instead of personal computers to allow them to complete task in hand and ensure they meet deadline.

12.2.3 Training

Staffs were sent for overseas training to stay abreast with current technologies and get practical experience.

Trainings included:

- Developing EGov Strategies
- CompTIA A+ with certification
- CompTIA Network + with certification

Chapter 13 -
STAFFING AND ADMINISTRATION

13.1 Staffing for 2015 and 2016

In 2015, there were 18 recruitments, three resignations and one retirement. In 2016 there were no resignation and termination, however there were eight recruitments. The number of staffs recruited in the different divisions, sections and units in 2015 and 2016 are detailed in Table 13.1.

Table 13.1 Recruitment of staff for 2015 and 2016

Divisions/Sections/Units	2015	2016
Secretariat	8	2
Fisheries Management & Evaluation	1	-
Monitoring Control & Enforcement	1	2
Fisheries Economic Information Management	6	2
Fisheries Research	2	2

13.2 Training and Development

Six (6) staff attended long-term overseas courses and three (3) staff attended long-term local courses during 2015 and 2016. In 2015, three of them successfully completed their training and another three successfully completed their training in 2016.

The meetings attended by SFA staff in these two years are detailed in Table 13.2 and Table 13.3

13.2 Overseas Tertiary Training

Participants	**Title /Country**	**Duration**
Ms. Sabrina Loutoy	BSC	September 2011 to July 2015 (completed)
Ms. Veronica Alphonse	Masters	September 2014 to October 2015 (completed)
Mr. Yannick Roucou	Masters	September 2014 to October 2015 (completed)
Ms. Kettyna Constance	BSC	September 2016 to September 2019 (Ongoing training)
Mr. Jude Gabriel	BSC	September 2016 to September 2019 (Ongoing training)
Ms. Emily Augustin	BSC	September 2016 to September 2019 (Ongoing training)
Ms. Sylvianne Derjacques	Diploma in Labour Studies	September 2014 to November 2016 (Completed)
Mrs. Suzanne Dubugnion	Diploma in HRM	September 2014 to November 2016 (Completed)
Mr. Johnny Louys	Masters	January-December 2016 (Completed)

13.3 Overseas training

Participants	**Title /Country**	**Duration**
Mr. Dave Azemia	Port Management and Operations Singapore	26/01/2015 - 06/02/2015
Mr. Calvin Gerry	IOC/MPR/ICAN/IODE/Ocean Teacher Global Academy: Marine Spatial Planning Training Course and the International Coastal Atlas Network Meeting Cape Town, South Africa	19/04/2015 - 22/04/2015
Mrs. Rona Arrisol	Quality Management Training Dubai	03/05/2015 - 07/05/2015
Mrs. Julie Jean/ Mr. Michel Labrosse	Australian Awards Fellowship Sydney, Australian	22/06/2015 - 10/07/2015
Mr. Savio Andrew/Ms. Clara Belmont/ Mr. Rodney Melanie/Ms. Maria Cedras/ Ms. Sabrena Lawrence/Mr. Gregory Berke	Training in Otolith preparation and processing Port Elizabeth, South Africa	25/05/2015 - 29/05/2015
Ms. Sabrena Lawrence	ICES Training Course – Stock Assessment-Introduction Copenhagen, Denmark	15/06/2015 - 19/06/2015
Mr. Aubrey Lesperance	Capacity Building For Impact Zanzibar, Tanzania	10/05/2015 - 13/05/2015
Ms. Loreen Esther/Mr. Roddy Allisop	IOTC Regional training on e-PSM Maputo, Mozambique	23/06/2015 - 26/05/2015

Ms. Clara Belmont	Regional Training Course on Benthic & Plank tonic Phytoplankton Collection and Identification for Regulatory Application Casablanca, Morocco	31/08/2015 - 11/09/2015
Ms. Sabrena Lawrence	Training Course on Fish Species Identification Maputo, Mozambique	31/08/2015 - 13/09/2015
Mr. Rodney Melanie	Training Course on Fish Species Identification Maputo, Mozambique	31/08/2015 - 13/09/2015
Mrs. Julie Bibi/ Mr. Johnny Louys/ Mr. Freddy Lesperance	PRSP – Southern Africa meeting & Training StaRFISH Maputo, Mozambique	19/10/2015 - 21/10/2015
Ms. Sabrena Lawrence/Ms. Clara Belmont	IAEA-IOC Training Course on Identification & Culture of Harmful Microalgae-Advanced Level Copenhagen, Denmark	29/11/2015 - 11/12/2015
Mr. Calvin Gerry	The Integrated Coastal Zone Management Course, Mauritius	26/01/2016 - 05/02/2016
Ms. Christianne Sultan	Port Management & Operations Singapore	07/03/2016 - 10/03/2016
Mr. Yannick Roucou	Major Developments, Blue Economy and the Oceans Governance	06/03/2016 - 12/03/2016
Mr. Calvin Gerry	Training on Scientific Cruise Planning, Oceanographic Sampling, Fisheries and Data Management, Mombasa, Kenya	18/04/2016 - 27/04/2016
Ms. Stephanie Hollanda	Analysis of Fatty Acids in Marine Fish, Plouzane, France	26/05/2016 - 23/09/2016
Ms. Denise Mathiot	Advanced Archives Management and Documentation Production Mbabane, Swaziland	11/07/2016 - 02/08/2016
Ms. Sabrena Lawrence/Ms. Clara Belmont	Regional Training Course on Sampling Strategy PSP & CFP Toxin Extraction Techniques, RBA Demonstration and Data Analysis Mombasa, Kenya	31/10/2016 - 11/11/2016
Mr. Roddy Allisop/Mr. Sonny Naiken/ Ms. Marie-Antoinette Saminadin/ Mr. Rickey William	Fisheries Enforcement and Prosecution Course Gaborone, Botswana	07/11/2016 - 11/11/2016
Ms. Bernadette Gill	Digital Libraries Management Mbabane, Swaziland	07/11/2016 - 25/11/2016
Ms. Veronica Alphonse	Training in Amino Acid Analysis Oslo, Norway	14/11/2016 - 18/11/2016
Ms. Maria Cedras	Histology in relation to fish production, Tasmania, Australia	22/11/2016 - 09/12/2016

13.3 Overseas Duty Trip

There was an increase in the participation of SFA staff in international meetings, forums and workshops in 2015 and 2016. The meetings attended by SFA staff in these two years are detailed in Table 13.4.

13.4 Overseas Duty Trip

Participants	Title /Country	Duration
Ms. Tracey Pillay	Compliance Inspection on Seychelles flag vessel NF DAFA No. 08 Singapore	22/01/2015 - 04/01/2015
Mr. Sonny Naiken	Compliance Inspection on Seychelles flag vessel NF DAFA No. 08, Reunion	22/01/2015 - 24/01/2015
Mr. Aubrey Lesperance	SADC Aquaculture Working Group Meeting, South Africa	09/02/2015 - 12/02/2015
Mr. Philippe Michaud/Mr. Beatty Hoareau/Mr. Roy Clarisse/Mr. Ralph Jean-Louis	2015 Joint Committee Meetings Brussels	09/02/2015 - 12/02/2015
Ms. Elisa Socrate	03rd Workshop on Connecting the IOTC Science and Management Processes, Bangkok, Thailand	10/02/2015 - 12/02/2015
Ms. Mellisa Joseph/Mr. Alexander Tirant/Mr. Gregory Berke	Regional coordination meeting of state scientific fishery observer program, Mauritius	12/02/2015 - 14/02/2015
Mr. Jude Bijoux	03rd Workshop on Connecting Science & Management Processes Bangkok, Thailand	10/02/2015 - 12/02/2015
Mr. Alexander Tirant/Mr. Vincent Lucas	Participation au groupe de travail du Contract d'Avenir Thonier (CAT OCUP) Madrid, Spain	25/02/2015
Mr. Aubrey Lesperance/Mr. Finley Racombo	IOC Strategy for sustainable fisheries and Aquaculture Management 2015-2020 workshop, Mauritius	23/02/2015 - 25/02/2015
Ms. Stephanie Hollanda	Heavy Metal Analysis and Liquid Analysis, La Rochelles, France	03/03/2015 - 05/03/2015
Mr. Philippe Michaud	Inauguration of tuna purse seiner Jai Alai Bilbao, Spain	07/03/2015
Ms. Sharon Roselie	Conduct Compliance Inspection aboard Chun Ying Port Colombo, Sri Lanka	07/03/2015 - 10/03/2015
Mr. Calvin Gerry/Ms. Denise Mathiot	23rd Session of the IODE Committee and Scientific Conference of 10th	16/03/2015 - 20/03/2015

	Anniversary of IOC Project Office Brugge, Belgium	
Mr. Roy Clarisse	Second Meeting of the Parties to the Southern Indian Ocean Fisheries Agreement (SIOFA), Mauritius	16/03/2015 - 20/03/2015
Mr. Aubrey Lesperance/Mr. Roddy Allisop	SADC Taskforce on IUU and Technical Committee Meeting on Fisheries Johannesburg, South Africa	16/03/2015 - 20/03/2015
Mr. Rodney Govinden/Ms. Elisa Socrate	Sixth Meeting of the Scientific Committee, Dar es Salaam, Tanzania	18/03/2015 - 21/03/2015
Mr. Roddy Allisop/Mr. Roy Clarisse	Workshop on regional minimum terms and conditions for granting fishing access, Dar-es-Salam, Tanzania	23/03/2015 - 24/03/2015
Mr. Aubrey Lesperance	Trade Event on Aquaculture Antananarivo, Madagascar	26/03/2015 - 27/03/2015
Mr. Freddy Lesperance	Unit Coordination Regional Antananarivo, Madagascar	30/03/2015 - 03/04/2015
Mr. Calvin Gerry	Western Indian Ocean Planning for IIOE – 2 and IOC Africa, Nairobi, Kenya	11/04/2015 - 13/04/2015
Mrs. Julie Bibi	SADC Task Force IUU Johannesburg, South Africa	13/04/2015 - 15/04/2015
Mr. Aubrey Lesperance	SADC Technical Committee meeting on Fisheries, Johannesburg, South Africa	16/04/2015 - 17/04/2015
Mr. Khurlsen Gonzalves	Conduct Compliance Inspection aboard HSAING FA No.26 Singapore	16/04/2015 - 20/04/2015
Mr. Roddy Allisop	12th IOTC Compliance Committee Busan, Republic of South Korea	20/04/2015 - 22/04/2015
Mrs. Juliette Lucas/Ms. Cindy Assan	Annual T3/Observers meeting Madrid, Spain	20/04/2015 - 24/04/2015
Ms. Elisa Socrate	Applying Gender Integrated Planning in the MFF Programme Trat, Province, Thailand	20/04/2015 - 24/04/2015
Ms. Mellisa Joseph	12th IOTC Compliance Committee, Standing Committee on Administration and Finance, Management Procedure Dialogue and 19th Session of the Commission Busan, Republic of South Korea	20/04/2015 - 01/05/2015
Mr. Vincent Lucas	19th Session of the Indian Ocean Tuna Busan, Republic of South Korea	27/04/2015 - 01/05/2015
Mr. Ricky William	44eme de Surveillance des pêches, Reunion	30/04/2015 - 19/05/2015
Ms. Dora Lesperance	Blue Economy Core Group Workshop on Promoting Fisheries & Aquaculture and Marine Safety & Security Cooperation in Indian Ocean Region Durban, South Africa	04/05/2015 - 05/05/2015

Ms. Marie-Antoinette Saminadin	Conduct Compliance Inspection on Seychelles Vessels flag Singapore	11/05/2015 - 14/05/2015
Mr. Fred Mondon	Official working visit in your capacity as "Fisheries Gear Expert" Mauritius	15/05/2015 - 05/06/2015
Mr. Carmel Rene	Compliance Inspection on Seychelles flag vessel, Mauritius	16/05/2015 - 18/05/2015
Ms. Karine Rassool	Tripartite Senior Officials Meeting Dar Es Salaam, Tanzania	25/05/2015 - 30/05/2015
Mr. Sonny Naiken	Compliance Inspection on Seychelles flag vessel, Singapore	28/05/2015 - 31/05/2015
Mr. Freddy Lesperance/ Ms. Loreen Esther	FISH-I Task Force Nairobi, Kenya	02/06/2015 - 04/06/2015
Ms. Tracey Pillay	Compliance Inspection on Purse Seiner Vessel, Morne Blanc, Vietnam	13/06/2015 - 17/06/2015
Dr. Jude Bijoux	2nd African Summit on Marine Debris Cape Town, South Africa from	03/06/2015 - 05/06/2015
Ms. Kettyna Constance	Trawling and Acoustic Surveys Durban, South Africa	29/06/2015 - 17/07/2015
Ms. Sharon Roselie	Compliance Inspection on Seychelles flag vessel, Singapore	30/06/2015 - 03/07/2015
Ms. Karine Rassol	2015 Seminar on Foreign Policy of Seychelles and International Cooperation, Beijing, China	06/07/2015 - 28/07/2015
Mr. Michel Marguerite	Interim Economic Partnership Agreement, Port Louis, Mauritius	12/07/2015 - 17/07/2015
Mr. Calvin Gerry	R/V Dr. FRIDTJOF NANASEN Survey in the Southern Indian Ocean Port Louis, Mauritius, Cape Town, South Africa	18/07/2015 - 10/08/2015
Mr. Ricky William	Compliance Inspection on Seychelles flag vessel – NF SEA Singapore	27/07/2015 - 30/07/2015
Mr. Khulsen Gonzalves	Compliance Inspection on Seychelles flag vessel – EUSKADI ALAI, Spain	28/07/2015
Doctor Jude Bijoux	Regional invasive species workshop Mauritius	28/07/2015 - 30/07/2015
Mr. Sonny Naiken	Compliance Inspection on Seychelles flag supply vessel Port Louis, Mauritius	07/08/2015 - 11/08/2015
Ms. Marie-Antoinette Saminadin	Compliance Inspection on newly Seychelles flag supply vessel- Mercury Singapore	18/08/2015 - 21/08/2015
Ms Tracey Pillay/Mr. Johnny Louys	Compliance inspection on Seychelles fishing vessel Chun I No.326 Singapore	01/09/2015 - 03/09/2015
Mrs. Juliette Lucas/Ms. Cindy Assan	13th Working Party on Billfish (WPB13) Portugal	01/09/2015 - 05/09/2015 07/09/2015 - 11/09/2015
Mr. Carmel Rene	Compliance Inspection on Seychelles flag, Busan, South Korea	02/09/2015 - 06/09/2015

Mr. Alexander Tirant	Debriefing of Mr. Rakotomiraho, Norema Max Michel Observer onboard Purse Seiner Bernica, Mauritius	08/09/2015 - 11/09/2015
Mr. Rodney Govinden	Finalizing the analysis and writing and writing a research a research article for the EU made project Sète, France	20/09/2015 - 01/10/2015
Mr. Khulsen Gonzalves	Compliance inspection on Seychelles fishing vessel ASHUNEYO, Singapore	26/09/2015 - 29/09/2015
Ms. Sharon Roselie	Compliance inspection on Seychelles fishing vessel JAIN YUNG NO.262 Mauritius	28/09/2015 - 02/10/2015
Mr. Alexander Tirant/ Ms. Mellisa Joseph/ Mr. Mervin Elizabeth	Second Meeting of State Manager coordinating Scientific Fishery Observers from IOC Countries and France – Reunion, Mauritius	29/09/2015 - 30/09/2015
Mr. Ricky William	Compliance inspection on NF DAFA No.168, Singapore	01/10/2015 - 04/10/2015
Mr. Alexander Tirant	Observer Deployment in Mauritius of Mr. Hemraj Latchanna onboard Bernica, Mauritius	04/10/2015 - 09/10/2015
Mr. Calvin Gerry	Western Indian Ocean planning meeting for the second International Indian Ocean Expedition, Maputo, Mozambique	06/10/2015 - 08/10/2015
Mr. Calvin Gerry	MESA Regional Technical workshop Mauritius	12/10/2015 - 16/10/2015
Ms. Marie-Antoinette Saminadin	Compliance inspection flag vessel NF Indian No.9, Singapore	13/10/2015 - 15/10/2015
Mr. Rodney Govinden/ Mr. Gregory Berke/ Ms. Stephanie Hollanda/ Ms. Sabrena Lawrence	9th Western Indian Ocean Marine Science Association (WIOMSA) Scientific Symposium, Eastern Cape	26/10/2015 - 31/10/2015
Mr. Freddy Lesperance	5eme Reunion De L'unité De Coordination Reginale (UCR) Mombasa, Kenya	16/11/2015 - 18/11/2015
Ms. Sharon Roselie	Compliance inspection on Seychelles flag fishing vessel Singapore	30/11/2015 - 04/12/2015
Mr. Roy Clarisse	IOC Smartfish/SWIOFish1 – Task Force Meeting on Minimum Terms and Conditions (MTC) Ebène, Mauritius	01/12/2015 - 02/12/2015
Mr. Roddy Allisop/Mrs. Julie Bibi	FISH-I Africa Task Force Tanzania, Zanzibar	01/12/2015 - 03/12/2015
Mr. Khurlsen Gonzalves	Compliance inspection on Seychelles flag carrier vessel – Kaihu Maro Taiwan	03/12/2015 - 07/12/2015

Mr. Alexander Tirant	Deployment of Observer in Mauritius Mauritius	17/12/2015 - 19/12/2015
Ms. Elisa Socrate	Sustainable Ocean Initiative (SOI) capacity building workshop for East Africa Nosy Be, Madagascar	18/01/2016 - 22/01/2016
Mr. Rodney Govinden	Indian Ocean Coastal State Workshop Maldives	03/02/2016 - 04/02/2016
Ms. Karine Rassool	International Conference on Economic Advise in Fisheries Management, Malta	04/02/2016 - 05/02/2016
Mr. Vincent Lucas	Western Indian Ocean regional consultation on the science plant for the new EAF-Nansen Programme Durban, South Africa	15/02/2016 - 17/02/2016
Mr. Sonny Naiken	Compliance Inspection on Seychelles Flag Vessel NF Eastern Star Kaohsiung, Taiwan	19/02/2016 - 26/02/2016
Mr. Carmel Rene	Compliance Inspection on Seychelles Flag Vessel HAIZEA LOU, Vigo, Spain	19/02/2016 - 23/02/2016
Mr. Aubrey Lesperance	Aquaculture Think Tank Cairo, Egypt	07/02/2016 - 10/02/2016
Mr. Michel Marguerite	15th Session of the Sub Committee on Fish Trade of the FAO Committee on Fisheries, Morroco	22/02/2016 - 26/02/2016
Ms. Karine Rassool	7th WOMESA Conference/Training AGM and Council Meeting, Ethiopia	22/02/2016 - 26/02/2016
Ms. Tracey Pillay	Compliance Inspection on Seychelles Flag Vessel KEIFUKU MARO No.1 Colombo, Sri Lanka	23/02/2016 - 25/02/2016
Mr. Vincent Lucas	Mission de cooperation auprès de l'Agence Europeenne de Controle des Peches (AECP), Vigo, Spain	25/02/2016 - 26/02/2016
Mr. Yannick Roucou	Regional Traning workshop on Strengthening capacity for negotiating fair and sustainable fisheries access arrangement in the Eastern and Southern Africa Maputo, Mozambique	25/02/2016 - 27/02/2016
Mr. Aubrey Lesperance	Second Asia Market study trip to discuss with potential finders and partners on aquaculture development in Seychelles, Bangkok, Thailand	10/03/2016 - 15/03/2016
Ms. Rona Arrisol	Review SPA measures for fish and fishing products Nairobi, Kenya	12/03/2016 - 15/03/2016
Mr. Calvin Gerry	Training on Scientific Cruise Planning, Oceanographic Sampling Fisheries and Data Management, Mombasa, Kenya	18/03/2016 - 27/03/2016

Mr. Vincent Lucas	Regional Leaders Program at the UN Headquaters, New York, USA	21/03/2016 - 02/04/2016
Ms. Sabrena Lawrence	First meeting of the Southern Indian Ocean Fisheries Agreement (SIOFA) Scientific Committee, Australia	21/03/2016 - 24/03/2016
Mr. Khulsen Gonzalves	45ème mission de surveillance des pêches, Madagascar	20/03/2016 - 01/04/2016
Ms. Cindy Assan	Data Processing Tropical Tuna for Purse Seine Fishery of the Atlantic and Indian Ocean & Observer Program, Montpellier, France	20/03/2016 - 29/03/2016
Mr. Aubrey Lesperance	Seafood Global Expo, Brussels, Belgium	23/03/2016 - 30/03/2016
Ms. Marie Antoinette Saminadin	46ème mission de surveillance des pêches à bord du patrouiller ATSANTA", Madagascar	27/03/2016 - 11/10/2016
Mr. Michel Marguerite	Regional Steering Committee meeting Mauritius	13/04/2016 - 14/04/2016
Mr. Aubrey Lesperance	Market study in Europe by identifying and creating links for cooperation with private sector for Aquaculture Industry, Norway	15/04/2016 - 22/04/2016
Mr. Roy Clarisse	3rd Task Force Meeting of the SWIOFC Minimum terms & Condition, Mauritius	20/04/2016 - 21/04/2016
Mr. Phillipe Michaud	G16 meeting prior to Third Session of the Indian Ocean Tuna Commission (IOTC) Technical Committee on allocation Criteria	20/04/2016 - 24/04/2016
Mr. Sonny Naiken	Compliance Inspection on Seychelles Flag vessel Long Liner Chun No.316 Singapore	24/04/2016 - 27/04/2016
Ms. Veronica Alphonse	Trainers Training Programme on Marine Aquaculture, Antananarivo, Madagascar	02/05/2016 - 03/05/2016
Mr. Freddy Lesperance	6ème réunion de l'Unite de la Coordination Régionale (UCF), Saint Denis, La Réunion	02/05/2016 - 04/05/2016
Mrs. Julie Bibi	Strengthening capacity and promoting regional cooperation for effective combat against IUU fishing in southern, eastern Indian Ocean Region, Maputo, Mozambique	09/05/2016 - 11/05/2016
Mr. Aubrey Lesperance	Sustainable and Equitable Mariculture Development in the Western Indian Ocean, development of a Police Framework , Stone Town, Zanzibar	09/05/2016 - 11/05/2016

Mr. Roddy Allisop	Eight GEF Biennial International Water Conference (ICWS) Sri Lanka	09/05/2016 - 13/05/2016
Ms. Karine Rassool	Ocean Economy and Trade Fisheries, Transport and Tourism Geneva	10/05/2016 - 12/05/2016
Ms. Marie-Antoinette Saminadin	Compliance Inspection on newly Seychelles flag supply vessel – NF Tuna Peak, Singapore	28/05/2016 - 01/06/2016
Ms. Veronica Alphonse	Capacity Building Workshop on Nutrition, Mauritius	31/05/2016 - 02/06/2016
Ms. Tracey Pillay/Ms. Loreen Esther	Regional Course on Port States Measures – implementation of PSM & Monitoring of Landings and Transhipments, Maputo, Mozambique	06/06/2016 - 10/06/2016
Mrs. Julie Bibi	35th meeting of the SADC Technical Committee on Fisheries, Gaborone, Botswana	09/06/2016 - 10/06/2016
Mr. Freddy Lesperance/Mr. Roddy Allisop	FISH-I Africa Task Force, Mauritius	14/06/2016 - 16/06/2016
Mr. Philippe Michaud	4th International Advisory Group Meeting of the Fisheries Transparency Initiative (FITI), Madrid, Spain	15/06/2016
Ms. Elisa Socrate /Ms. Cindy Assan	SWIOFC Forth Working Group on Fisheries Data and Statistics, Maputo, Mozambique	23/06/2016 - 24/06/2016
Mr. Michel Marguerite	Promouvoir le développement de filiers thoneries domestiques dans les pays de la Commission de l'Océan Indien, Mauritius	27/06/2016 - 28/06/2016
Mr. Khulsen Gonzalves	Compliance Inspection on Seychelles Flag Vessel - Haizea Bost, Vigo, Madrid	28/06/2016 - 02/07/2016
Lt. Col. George Adeline	Sea Scout Planning meeting, Washington	29/06/2016 - 30/06/2016
Mr. Jan Robinson	Meeting of Partners to a Fisheries Improvement Project (FIP) for the Indian Ocean Purse Seine Fishery Paris, France	30/06/2016
Mr. Roy Clarisse	3rd South Indian Ocean Agreement (SIOFA) meeting of the parties Reunion	03/07/2016 - 08/07/2016
Mr. Yannick Roucou	Rhodes Academy of Oceans Law and Policy: Promoting the rule of law in the World's Oceans, Rhodes, Greece	03/07/2016 - 22/07/2016
Mr. Philippe Michaud	COFI & FIP meeting, Rome, Italy	10/07/2016 - 15/07/2016
Mr. Michel Nalletamby/Mr. Philippe Michaud/Mr. Roy Clarisse	2nd round of negotiations of the Mauritius-Seychelles Fishing Agreement as member of the Seychelles delegation Mauritius	27/07/2016 - 29/07/2016

Mr. Calvin Gerry	MESA-IOC Regional Training Workshop on "Communicating Scientific Information to Policy Makers" Mauritius	08/08/2016 - 12/08/2016
Mr. Carmel Rene	Compliance Inspection on Seychelles Flag Vessel - Hsiang FA No.18 Singapore	20/08/2016 - 25/08/2016
Ms. Sabrina Lou-Toy	GEF-Satoyama Project Indicators of Resilience Training for Madagascar and Indian Ocean Islands Biodiversity Hotspot Antananarivo & Andasibe, Madagascar	24/08/2016 - 27/08/2016
Mrs. Rona Arrisol/Mr. Christopher Hoareau/Ms. Karine Rassool	International Food Expo, Brussels, Belgium	24/08/2016 - 29/08/2016
Ms. Sharon Roselie	Regional Shark and Ray Conservations Workshop, Colombo, Sri Lanka	29/08/2016 - 30/08/2016
Mr. Jan Robinson	2nd African Tuna Conference Abidjan, Cote d'Ivoire	05/09/2016 - 06/09/2016
Ms. Dora Lesperance	Workshop on Seafood Handling, Post Harvest Processing and Storage of Fisheries and Aquaculture Products Comoros	01/09/2016 - 02/09/2016
Mr. Sonny Naiken	Convention on International Trade in Endangered Species (Cites) Shark and Ray Training Workshop Cape Town, South Africa	13/09/2016 - 14/09/2016
Ms. Tracey Pillay	Compliance Inspection on Seychelles Flag Vessel – Shuenn Peng FA No.202 Mauritius	18/09/2016 - 22/09/2016
Mr. Sonny Naiken	17th Conference of the Parties of the Cites, Johannesburg	23/09/2016 - 30/09/2016
Ms. Sharon Roselie	Compliance Inspection on Industrial Long line Poseidon, Singapore	25/09/2016 - 30/09/2016
Mr. Philippe Michaud	Discussion on Mutual Cooperation in Fisheries Management between Seychelles and Taiwan, Taiwan	26/09/2016 - 30/09/2016
Mr. Sonny Naiken/Ms. Tracey Pillay Mr. Roddy Allisop	5th Meeting of the Fisheries Crime Working Group, Yogyakatra, Java, Indonesia	06/10/2016 - 08/10/2016
Mr. Rickey William	Compliance Inspection on board YUYO No.1 Singapore	08/10/2016 - 12/10/2016
Mr. Sonny Naiken/Ms. Tracey Pillay/ Mr. Roddy Allisop	2nd International Symposium on Fisheries Crime, Yogyakatra, Java, Indonesia	10/10/2016 - 11/10/2016
Mr. Khurlsen Gonzalves	47ème mission de surveillance des peches a bord du patrouiller, "ATSANTA" Madagascar	16/10/2016 - 30/10/2016

Mr. Vincent Lucas	EAF – Nansen Project Forum and Joint Meeting of the Regional Steering Committees, Abidjan, Cote d'Ivoire	17/10/2016 - 19/10/2016
Mr. Rickey William	Regional Air Patrol, Madagascar	17/10/2016 - 21/10/2016
Mr. Yannick Roucou	3rd Session of the Yeosu Academy of the Law of the Sea, Yeosu, South Korea	31/10/2016 - 11/11/2016
Mr. Vincent Lucas	SWIOFC 5th Working Party on Collaboration and Cooperation in Tuna Fisheries, Durban, South Africa	01/11/2016 - 03/11/2016
Mr. Ian Laporte	Workshop, Oman	05/11/2016 - 11/11/2016
Mr. Calvin Gerry	ICTs for Equitable and Sustainable Small-Scale Fisheries – Promoting International Cross Learning Cape Town, South Africa	08/11/2016 - 11/11/2016
Mr. Andrew Souffe	3rd MESA-IOC Regional Technical Working Committee Meeting , Mauritius	09/11/2016 - 10/11/2016
Mr. Carmel Rene	Compliance Inspection on longline vessel WOENFUL No.668, Singapore	12/11/2016 - 16/11/2016
Ms. Veronica Alphonse	Training in Amino Acid Analysis Oslo, Norway	14/11/2016 - 18/11/2016
Mr. Khurlsen Gonzalves	Compliance Inspection onboard fishing vessel San Carlos No.03, Kaohsiung, Taiwan	04/12/2016 - 09/12/2016
Mr. Freddy Lesperance	Atelier de formation en collaboration avec le projet MASE, Antananarivo, Madagascar	05/12/2016 - 09/12/2016
Ms. Tracey Pillay/Ms. Loreen Esther	Regional Air Patrol, Madagascar	06/12/2016 - 09/12/2016
Ms. Dora Lesperance	General Assembly of AVCOI Madagascar	06/12/2016 - 09/12/2016
Mr. Rodney Govinden/Mr. Vincent Lucas	7th South West Indian Ocean Fisheries Commission Scientific Committee Meeting, Moroni, Comoros	12/12/2016 - 15/12/2016
Mr. Calvin Gerry	Regional Consultation Workshop on Implementing the SSF guideline in the Southern Africa and Indian Ocean Region, Mauritius	12/12/2016 - 15/12/2016
Ms. Marie Antoinette Saminadin	Compliance Inspection on Seychelles Flag Vessel HAIZEA SEI, Vigo, Spain	13/12/2016 - 17/12/2016
Mr. Sonny Naiken	Compliance Inspection on Seychelles Flag Vessel NF YUYO No.6, Kaohsiung, Taiwan	18/12/2016 - 22/12/2016

13.4 Long Serving Staff

In 2015 and 2016 SFA awarded its long-service staff for continuous service over the past 10, 15, 20, 25 and 30 years. Details of the staff and years if service are provided in Table 13.5.

13.5 Long Serving Staff 2015 and 2016

	10 years in service	15 years in service	20 years in service	25 years in service	30 years in service
2015	Mr Johnny Louys Ms Sabrina Loutou Ms Wilgina Barbe Mrs Marie-Helena Savy		Mr Daniel Jolicoeur Mr Gerard Ernesta	Ms Bernadette Gill Mrs Joan Didon Ms Kethsia Georges	Mr Clifford Toussaint
2016	Mr Patrick Boniface Mr Mervin Elizabeth Ms Alisa Omblime Mr Vincent Savy Mr Roddy Alissop Mr Jimmy Esparon Ms Evangeline Roucou Mr Yashim Marday Mrs Marie-Stella Savy Mr Cruiser Morel Mr Wilby Cafrine Mr Pravind Jungoo Ms Chritianne Sultan	Ms Cindy Melanie Mr George Biscornet	Ms Julienne Melanie	Ms Monette Dorby Ms Jacintha Matombe	

Chapter 14 - FINANCE

14.1 Financial Report 2015

14.1.1 Profitability

Once again the financial performance of Seychelles Fishing Authority (SFA) was very good for the year ended 31st December 2015 whereby the Authority ended the year with a net surplus of SCR149.7 million representing an increase of 589% on prior year. Good overall performance was due to an operating profit of SCR150.2 million from total income of SCR264 million, expenditure of SCR113.8 million and discounting finance expenses of SCR0.5 million.

14.1.2 Income

Over the year a total of SCR217.5 million was received from the prime source of income. The prime source of income is: Registration & Licenses for both local and foreign vessels amounted to SCR136.9 million; Government Subventions for the operations of the authority and fuel subventions for fishermen at SCR63.7 million; Surpluses from sales of fuel, ice and spares amounted to SCR6.4 million; Income from other fisheries activities SCR5.9 million; Income from other indirect fish related activities SCR2.9 million; and other income SCR1.7 million. The prime source of income represents an increase of 148.6% from the previous year. The good performance is mainly attributed to SCR 130.6 million increase from foreign vessels license fees.

14.1.3 Expenditure

On the other hand, the expenditure of the Authority amounted to SCR114.4 million which is a slight increase of 10.3% on previous year at SCR113.6 million. The main expenses came from: Fisheries Facilities Development SCR38.3 million; employees' salaries and benefits SCR18 million; Monitoring Control and Surveillance (MCS) SCR13.2 million; and depreciation SCR13 million. The minimal increase in expenses of SCR0.8 million, displays the effectiveness of SFA in maintaining operating cost while achieving significantly higher earnings.

14.1.4 Grants

Grants utilised and amortised over the year amounted to SCR46.5 million representing a decrease of 2% compared to the previous year.

14.1.5 Amounts Remitted to Consolidated Funds

During 2015, SCR150.9 million was remitted to Seychelles Government principally from revenue collections. This is an increase of 1337% on the previous year when SCR10.5 million was remitted.

14.1.6 Net Worth

The total asset of the Authority is SCR357.3 million broken down into non-current asset of SCR295.2 million and current assets of SCR62.1 million. Compared to the previous year, this represent a growth of 0.42 % which is a small percentage change mainly attributed to Ile Du Port Infrastructures Development and Bel Ombre Processing Building which are works in progress amount to SCR2.8 million.

Total liabilities amount to SCR357.9 million inclusive non-current liabilities of SCR357.3 million and current liabilities of SCR0.6 million. Even though the Authority was able to reduced its current liability by reducing its accrued expenditure by 80%, its non-current financial obligations rose by 1.5%, thus offsetting the significant effort in managing current liabilities fall. This lead to an increase of total liabilities of 0.82% from SCR355 million in 2014 to SCR357.9 million in 2015.

The audited financial performance for the year ended 2015 are appended on ANNEX I & II

14.2 Financial Report 2016

14.2.1 Profitability

The good financial performance of Seychelles Fishing Authority (SFA) persisted during the year 2016, whereby the Authority ended the year with a net surplus of SCR139.5 million representing a slight decrease of 6.8% on prior year. In contrast to prior year, the reduction in net surplus resulted from a higher total expenditure of SCR135.4 million representing an increase of SCR21 million (18.4%) over 2015 which netted off an increase of SCR10.9 million (4%) from total revenue over prior year.

14.2.2 Income

Over the year a total of SCR234.4 million was received from the prime source of income. The prime source of income is: Registration & Licenses for both local and foreign vessels amounted to SCR133.3 million; Government Subventions for the operations of the authority and fuel subventions for fishermen at SCR85.4 million; Surpluses from sales of fuel, ice and spares amounted to SCR7.9 million; Income from other fisheries activities SCR3.6 million;

Income from other indirect fish related activities SCR3 million; and other income SCR1.2 million. The prime source of income represents an increase of 16.8 million (7.7%) from the previous year. The good income performance is mainly attributed to increase from subventions from government.

14.2.3 Expenditure

Total expenditure of the Authority amounted to SCR135.4 million which is a significant increase of SCR21 million (18.4%) on prior year. The main expenses came from: Fisheries Facilities Development SCR44.5 million; employees' salaries and benefits SCR21.7 million; Monitoring Control and Surveillance (MCS) SCR16.9 million; Administration Expenses SCR14.9 million; and depreciation SCR11 million.

14.2.4 Grants

Grants utilised and amortised over the year amounted to SCR40.6 million representing a decrease of 12.7% compared to prior year.

14.2.5 Amounts Remitted to Consolidated Funds

During the year 2016, SCR139.4 million was remitted to Seychelles Government principally from revenue collections. This is a decrease of SCR11.5 million (7.6%) on prior year.

14.2.6 Net Worth

The total asset of the Authority is SCR327 million broken down into non-current asset of SCR302.3 million and current assets of SCR24.8 million. Compared to the previous year, this represents a drop of SCR30.3 million (8.5 %) which is mainly attributed to offsetting an

amount of SCR10 million owed by the Government to Ile Du Port Infrastructures Development. There was also a reduction of SCR26 million in Treasury Deposits.

Total liabilities amount to SCR338.5 million inclusive non-current liabilities of SCR337.5 million and current liabilities of SCR0.9 million. During the year there was a reduction in the amount of credits held for future projects. This mean grant available was better utilized this year compared to prior year.

The audited financial performance for the year ended 2016 are appended on ANNEX III & IV

ANNEX I

SEYCHELLES FISHING AUTHORITY

Statement of financial position

Financial statements are prepared in Seychelles Rupees

	Note	As at 31 December 2015	2014
Assets			
Property, plant and equipment	14	233,459,852	236,945,618
Work in progress	25	2,755,834	0
Investments	15	54,986	54,986
Fisheries Development Fund	16	58,950,426	56,641,351
Non-current assets		**295,221,097**	**293,641,955**
Inventories	17	539,299	529,683
Due from Government	18	10,931,360	11,255,235
Trade and other receivable	19	1,667,936	2,154,378
Cash and cash equivalent	20	48,971,859	48,196,384
Current assets		**62,110,453**	**62,135,680**
Total assets		**357,331,550**	**355,777,634**
Liabilities			
Employee benefit obligations	22	6,082,966	6,248,219
Deferred grants	23	245,148,380	242,447,581
Credits held for future projects	24	48,353,200	47,626,498
Credits for Fisheries Development Fund		57,690,464	55,588,464
Non-current liabilities		**357,275,009**	**351,910,762**
Trade and other payables	21	621,954	3,068,768
Current liabilities		**621,954**	**3,068,768**
Total liabilities		**357,896,963**	**354,979,530**
Assets from government on inception		1,122,800	1,122,800
Accumulated surplus		(1,688,213)	(324,696)
Equity		**(565,413)**	**798,104**
Total liabilities and equity		**357,331,550**	**355,777,634**

The notes on pages 8 to 14 are an integral part of these financial statements.

Directors:

P. Michaud Chairman

G. Savy

D. Ernesta

A. Jean-Louis

K. Andre'

30th December 2017

ANNEX II

SEYCHELLES FISHING AUTHORITY

Statement of income - by nature of expense and retained earnings
Financial statements are prepared in Seychelles Rupees

	Note	Year ended 31 December 2015	2014
Income	3	215,833,532	81,736,662
Other income	4	1,706,445	5,844,935
Grants utilised	24	34,851,947	35,208,587
Employee salaries and benefits expense	5	(17,961,744)	(20,197,990)
Transport, travelling and accommodation	6	(1,170,465)	(948,368)
Administration expenses	7	(6,020,724)	(6,148,672)
Utilities	8	(6,928,408)	(8,010,000)
Research and development costs	9	(9,401,692)	(10,501,209)
Monitoring Control, Surveillance and Enforcement (MCS)	10	(13,167,320)	(12,809,985)
Fisheries facilities development	11	(38,330,841)	(38,092,594)
Other expenses	12	(6,352,148)	(2,710,681)
Depreciation	14	(13,018,882)	(12,252,075)
Indian Ocean Tuna Commission expenses		(1,523,931)	(1,942,746)
Amortisation of deferred grants	23	11,650,652	12,126,698
Operating profit		**150,166,422**	**21,302,560**
Finance costs - net	13	**(546,507)**	**372,809**
Surplus for the year		**149,619,915**	**21,675,368**
Amounts remitted to consolidated funds		(150,983,432)	(10,514,986)
		(1,363,517)	11,160,382
Accumulated deficit 1 January		(324,696)	(11,485,078)
Accumulated deficit 31 December		**(1,688,213)**	**(324,696)**

The notes on pages 8 to 14 are an integral part of these financial statements.

ANNEX III

SEYCHELLES FISHING AUTHORITY

Statement of financial position

Financial statements are prepared in Seychelles Rupees

	Note	As at 31 December 2016	2015
Assets			
Property, plant and equipment	14	225,469,426	233,459,852
Work in progress	25	15,990,321	2,755,834
Investments	15	54,986	54,986
Fisheries Development Fund	16	60,745,550	58,950,426
Non-current assets		**302,260,283**	**295,221,097**
Inventories	17	317,903	539,299
Due from Government	18	0	10,931,360
Trade and other receivable	19	1,689,986	1,667,936
Cash and cash equivalent	20	22,784,093	48,971,859
Current assets		**24,791,982**	**62,110,453**
Total assets		**327,052,265**	**357,331,550**
Liabilities			
Employee benefit obligations	22	7,871,791	6,082,966
Deferred grants	23	250,547,054	245,148,380
Credits held for future projects	24	21,414,623	48,353,200
Credits for Fisheries Development Fund		57,690,464	57,690,464
Non-current liabilities		**337,523,931**	**357,275,009**
Trade and other payables	21	931,140	621,954
Current liabilities		**931,140**	**621,954**
Total liabilities		**338,455,071**	**357,896,963**
Assets from government on inception		1,122,800	1,122,800
Accumulated surplus		(12,525,606)	(1,688,213)
Equity		**(11,402,806)**	**(565,413)**
Total liabilities and equity		**327,052,265**	**357,331,550**

The notes on pages 5 to 14 are an integral part of these financial statements.

Directors:

P. Michaud
Chairman

G. Savy

D. Ernesta

A. Jean-Louis

K. Andre'

20 March 2018

ANNEX IV

SEYCHELLES FISHING AUTHORITY

Statement of income - by nature of expense and retained earnings
Financial statements are prepared in Seychelles Rupees

	Note	Year ended 31 December 2016	2015
Income	3	233,208,796	215,833,532
Other income	4	1,151,276	1,706,445
Grants utilised	24	29,735,843	34,851,947
Employee salaries and benefits expense	5	(21,723,607)	(17,961,744)
Transport, travelling and accommodation	6	(1,467,141)	(1,170,465)
Administration expenses	7	(14,879,431)	(6,020,724)
Utilities	8	(8,719,677)	(6,928,408)
Research and development costs	9	(8,001,457)	(9,401,692)
Monitoring Control, Surveillance and Enforcement (MCS)	10	(16,880,726)	(13,167,320)
Fisheries facilities development	11	(44,481,743)	(38,330,841)
Other expenses	12	(6,797,787)	(6,352,148)
Depreciation	14	(10,999,716)	(13,018,882)
Indian Ocean Tuna Commission expenses		(1,407,005)	(1,523,931)
Amortisation of deferred grants	23	10,845,104	11,650,652
Operating profit		**139,582,728**	**150,166,422**
Finance costs - net	13	**(48,895)**	**(546,507)**
Surplus for the year		**139,533,833**	**149,619,915**
Receipt of Government loan via capital project funding	18	(10,931,360)	0
Amounts remitted to consolidated funds		(139,439,866)	(150,983,432)
		(10,837,393)	(1,363,517)
Accumulated deficit 1 January		(1,688,213)	(324,696)
Accumulated deficit 31 December		**(12,525,606)**	**(1,688,213)**

The notes on pages 5 to 14 are an integral part of these financial statements.

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