MARKETING STRATEGY SMALL-SCALE FISHERIES SECTOR

i. EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

The marketing strategy explores the conducive factors enabling access to international markets, and for developing selling opportunities and competitive advantage in the domestic market for the small-scale fisheries sector. It addresses accessing opportunities, positioning, differentiation and branding as key elements for marketing fish and fish products for export and promotion in the local market.

Statistical data from the marketing intelligence plan provided the background to formulate possible solutions for improving the marketability of fish and fish products. From the perspective of existing market trends, there are potential in the export market within niche markets in the European Union, China, Japan, Singapore, Israel and the United Arab Emirates. Specifics of these markets reveal demands for high-end luxury food commodities, cosmopolitan lifestyles, healthy eating trends favouring fish, urbanisation and higher incomes are some of the drivers impacting on the shifting trends in fish consumptions worldwide. Local processors stand to benefit from these increases in demand through the supply chain in the exclusive markets with some potential opportunities permitting in the value-added chain for some premium products as well. The domestic market proposed emphasis on improving selling opportunities for artisanal and semi-industrial fishermen and some relevant product development targeting the local population and tourism sector, as a means for diversification within the sector to help achieve further growth.

The marketing strategy that local processors can adopt to improve their market share in the international markets rests on targeting selective niches within the above-mentioned markets. The targeted market in the EU still remains a strong potential market for fresh and frozen fish mainly from species like tuna, swordfish, grouper and bourgeois which are culturally preferred in this market. These preferences can be further dissected to consumption patterns identified in the market research undertaken in the EU, indicating that Southern Europe are more inclined to consume fresh fish in contrast to Northern Europe where consumers prefer processed fish in the form of canned tuna although there is also a good demand for frozen swordfish and species like grouper and bourgeois. From this

perspective, marketing must focus on adapting promotional activities geared towards consumption and cultural patterns favoured by consumers in these markets. This is likely to benefit in improving market share in these niches. The EU market also indicates an increase in demand for sea cucumber which is driven by a surge in healthy living and high-end restaurant chains, cosmopolitan lifestyle and growth in ethnic food consumption. This increase in consumption of sea cucumber in the EU is favourable for local processors as an additional promotional market for this food commodity with marketing targeting the high-end luxury supply chain. Further possibilities where marketing can enhance potential market share for local processors are in the ethnic retail chains which are also increasing in many EU countries as a result of increased migration where settlements of immigrant communities are pushing demand for fish species like mackerel and sardines. The latter species, carry lower margins from sales but still offer potential marketing opportunities from these small communities and can be promoted.

In relation to the United States market, the potential lies mainly in processed fish products from tuna and other processed fish products . In this market, low graded tuna and fish species such as bonito and skipjack can be marketed to the manufacturing plants for further processing into value-added fish products. In this case, optimising selling opportunities to extend other fish species into the market.

Japan, China and Singapore have market potential for fish and fish products in either fresh and/or processed forms. These fall mainly within the categories of sea cucumber and tuna, both are marketable products in their fresh form, and can be exported to their exclusive niche market, due to the cultural preference and popularity of these products in the markets. Other value-addition from sea cucumber that is common in Singapore and China are in its preserved form. Extending presence into these three Asian markets specifically for sea cucumber and tuna holds lucrative marketing potential.

Niche markets within the UAE and Israel holds marketing opportunities for fresh fish and frozen fish and shows similar patterns as that in the EU. Fresh fish and frozen fish are popular with consumption showing preference for species like tuna, swordfish, grouper and bourgeois. The UAE has a large migrant population with high earnings which makes it a viable

market to tap into from a marketing perspective to sell fish. Similarly, Israel has consumers with preference for the mentioned fish species in the higher end food category.

Other than cultural, disposable income and consumption characteristics, the marketability of Seychelles fish products are influenced by eco labels. Marketing fish and fish products under a branded environmental label with the Marine Stewardship Council (MSC) will increase market position within these selected markets. This is due to the evolutionary movement in sustainable foods that is creating increased demand for sustainably sourced fish and fish products. Adapting to these changes in the international markets and partnering with companies and traders that promote these values, is an invaluable marketing positioning to increase potential sales for local fish products. A key marketing strategy to adopt in this case is working through affiliates, establish networks and partnerships with companies and organisations in the respective markets and setting up business support units in the targeted markets to work on behalf of the local processors to gain access and selling platforms to push accessibility in the distribution chain as a supplier to the multitude of luxury retail, manufacturing and hospitality food chains.

Additional marketing potential is through the enhancement of value-added products to differentiate Seychelles fish products from competition in the market. Research shows that there are potential fish species such as tuna jerky and rillettes that can be enhanced in value to increase competitive advantage. These products are of high quality and value in the selected target markets and will improve product diversification and drive market share as well.

The marketing strategy that is identified as most suitable for the domestic market is from targeting the tourism industry with value-added fish products, specifically niche tourists from the self-catering establishments that want convenience and ready prepared fish. Institutional options available are with schools, prisons and hospitals. Other promotion to increase selling opportunities is by targeting families with children with specific products that accommodate their needs for quick, convenience and creative meals, and family portions at an affordable price given the specific of the domestic market indicate that price is an influencing factor on purchase of this food commodity.

Artisanal fisheries on the other hand, have a likely chance to promote harvested fish from lesser-known fish species to the migrant local population, in order to optimise their income. Other marketing solutions are partnerships with a food retail business that operates at the airport to target passenger traffic which has good potential, for example, a sushi bar at the airport.

In general, a targeted marketing approach and customising the different aspects of the demographic groupings in the selected markets is a good marketing strategy. The latter is presented in more detail below.

II. KEY STRATEGIES

The following key strategies for marketing fish and fish products have been identified:

- Target exclusive markets with demand for premium fish.
- Selective markets where consumers have high purchasing power.
- Supply chain for exclusive trade due to low volume supply and seasonality of fishing.
- Distribution networks to access markets established through partnerships and affiliates, events and SBUs.
- Certification with eco labels combined with Seychelles Fish brand to promote fish and increase sales opportunities and entry to markets in the EU and USA.
- Value-added products in demand to be promoted to differentiate with competition and increase competitive advantage.
- Local tourism and diversity in population sub-culture untapped for lesser-known species and to push potential with innovative fish products.

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iii. ABBREVIATIONS AND ACRONYMS

ABBREVIATION	FULL NAME
BSO	Business Support Organisation
EU	European Union
FAO	Food and Agriculture Organisation
GDP	Gross Domestic Product
MFN	Most Favoured Nation
UAE	United Arab Emirates
USA	United States of America
WTO	World Trade Organisation

1 INTRODUCTION

This document details the marketing strategy developed for the small-scale fisheries sector using findings from the market intelligence plan. The format is sectioned in two parts - part one addresses the export strategy followed by part two for the domestic strategy. The markets selected are based on current market trends findings that has been identified as most suitable prospects for Seychelles fish and fish products. The stated international markets comprise of the European Union, United States, United Arab Emirates, Israel, China, Japan and Singapore. The domestic market discussions address development in the local context specific to increase selling opportunities of operators in the sector. The proposed marketing strategy describes the parameters on how to develop export and domestic market potential for the small-scale fisheries sector.

2 CONTEXT

The results of the research from international market analysis have identified that Seychelles fish products has potential in the high-end luxury commodity category in existing markets in the European Union, United States, United Arab Emirates and Israel. New potential markets identified were in Japan, Singapore and China due to the growing trend in luxury fish product consumption within these markets, as a result of an increase in retail health food in western cultures and general growing demand for fish and fish products in all of these markets. The domestic market analyses have indicated that there is demand in the Seychelles market for new fish-based products and consumption of fish is high, meaning that there is a stable local market for artisanal fishery.

Competitors in mainstream European markets has the advantage of exporting in consistent volume, holding an average of 1.5% [1]market share of total exports in Europe for fresh and frozen fish tuna and other small pelagic species like bonito, kawakawa and red snapper. Low-cost countries such as, Sri Lanka, Thailand, India, Mauritius and China are the main competitors in the export markets due to their low production costs and low labour costs. This gives these countries price advantages when selling to wholesalers and traders, as the fish and other value-added fish products are sold for lower price in competing markets in Europe compared to Seychelles fish.

Seychelles on the other hand has the advantage of competing in the high-end niche markets that offer exclusive fish products. These fish and fish products range from fresh tuna to sashimi, tuna loins, sea cucumber, crabs and lobsters. There are also opportunities in the value-chain to develop some premium processed products such as, tuna jerky, rillettes, fish oil and fishmeal for either export or domestic markets.

[1] Competition across fish species in EU – Global Seafood Alliance and The EU fish market at https://oceans-and-fisheries.ec.europa.eu/

The collected data also shows that there are new markets for fish products which can offer further potential to boost trade especially given the current economic uncertainties in some EU countries, experiencing concessions – for example, UK and France, and high inflation rates is expected to impact on trade with these countries. Countries like Japan, Singapore, China and the USA has to be tapped further for fish and fish products export. More focus on value addition to strengthen and improve marketability in new markets in Japan and China, and niches in existing ones within the USA, EU, UAE and Israel remains untapped. Seychelles has the benefit of existing trade agreements and partnerships with international organisations that can be optimised fully to create access to such markets and ensure continual competitiveness with its fish and fish products. Market data from the intelligence plan shows that the EU remains the main market for Seychelles fish exports, likely due to the zero duty on exports under the EPA trade agreement. The USA, Israel, China, UAE, Singapore and Japan have Most Favoured Nations (MFNs) preferential rates for exported fish, made possible through memberships with international trade organisations such as, WTO.

3 OBJECTIVES

The objectives of the marketing strategy aim to increase marketability of local fish and fish products within the selected markets for export and develop sales opportunities in the domestic market by addressing areas of potential where efforts to increase market share, positioning and differentiation are most suitable. The main objectives to be addressed are:

1. Improving accessibility of Seychelles fish and fish products in the export markets.
2. Identifying potential market opportunities for competitive advantage.
3. Improving marketability of products for export in existing and prospective markets.
4. Developing selling opportunities in the domestic markets.
5. Brand positioning to create improved distribution and accessibility.

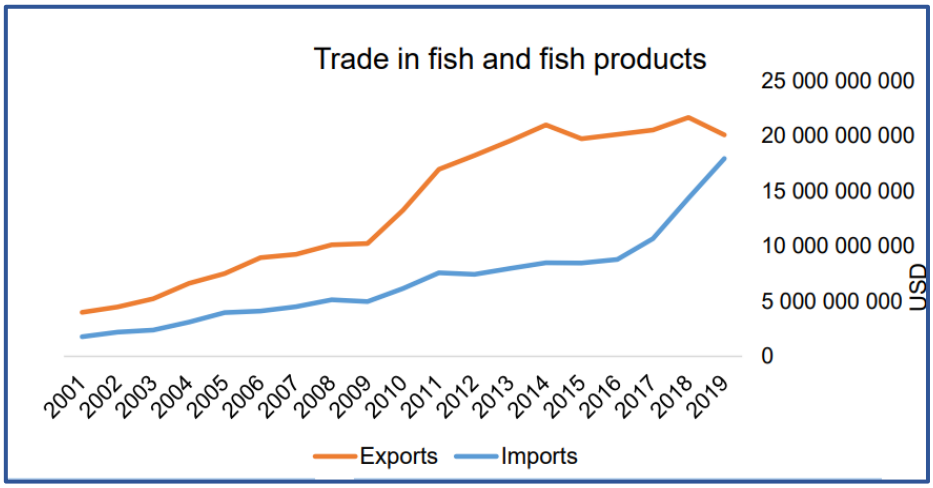
4 TARGET MARKETS

The selected markets have been targeted based on current market trend assessments that identified customer demands, expectations and cultural preferences that offered the most suitable opportunities for local processors. International trends in fisheries delves into the niche potential of current markets in the EU, USA, Israel and the UAE and new potential markets selected that is Japan, Singapore and China. A breakdown analysis of the markets provides the contextual perspective for marketing into these markets.

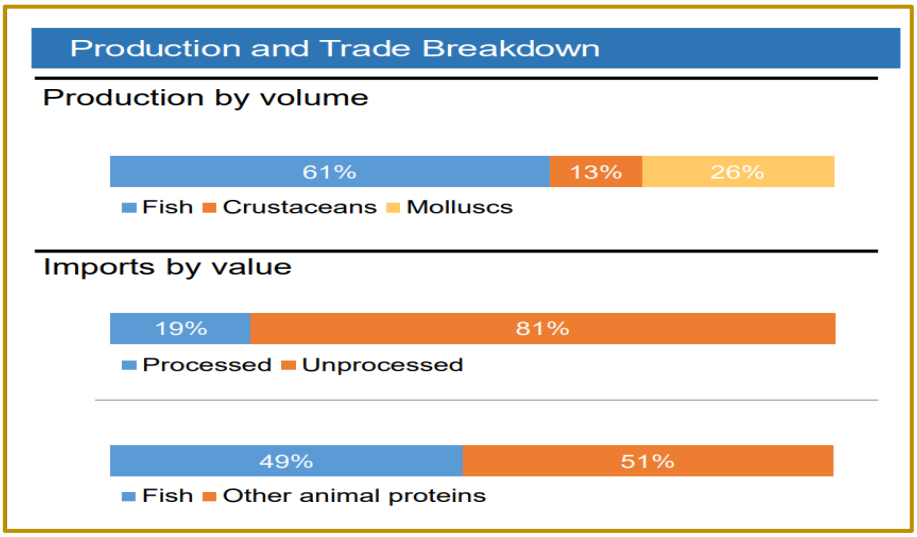
China Market Trend

Exports and Imports Potential

The fisheries trade in China for exports and imports in 2019[2] shows growth in imports suggesting that China imports are high. As the world's largest producer of seafood products, the initial outlook indicates potential for local exporters to sell fish for re-processing into this market.



The total production in China by volume (2019)[3]

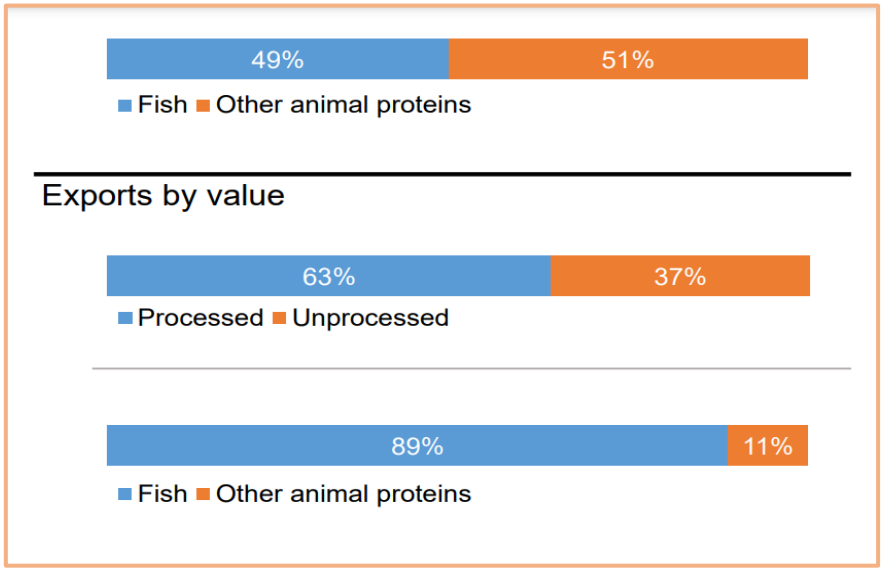


Fish production in terms of value is the highest at 61% followed by Mollusc at 26%. Imports by value of unprocessed fish products is 81% while fish is 49%. Due to China being the leading world processor of fish it explains the high percentage of 81% of unprocessed importation that is then reprocessed into value-added products for exports.[4] This translates to an

[2] FAO China Market Profile, Statistics 2019
[3] FAO – Market Profile for China 2019
[4] Ibid

opportunity in the supply chain for selling fish including those considered under-rated to China for reprocessing into other value-added fish products in the value-chain.

Export from China in 2019



The main top ten exported fish products reinforce this opportunity as illustrated in table 1.

Table 1: Top 10 Export Products from China

Exports - Top 10 Products (Value)		
1st	Squid, cuttlefish	frozen HS 0307.43
2nd	Fish, other than species in 1604	prepared or preserved; whole or in pieces HS 1604.19
3rd	Squid, cuttlefish	prepared or preserved HS 1605.54
4th	Fish, other than species in 0303	frozen; excluding fillets, livers and roes HS 0303.89
5th	Eels	prepared or preserved; whole or in pieces HS 1604.17
6th	Cod	frozen fillets

7th	Alaska Pollack	frozen fillets HS 0304.75
8th	Shrimps, prawns	prepared or preserved, not in airtight containers HS 1605.21
9th	Fish, other than species in 0304	frozen fillets HS 0304.89
10th	Pacific, Atlantic, Danube salmon	frozen fillets HS 0304.81

The second, fourth, eighth and ninth products that are exported by China are all indications of the potential market opening for Seychelles, specifically for preserved fish, frozen fish and fillets, shrimps, prawns and prepared fish products as potential raw supply for processing in China. Similarly, imported products from China's top ten list in 2019 proves further promising entry for local exporters to trade into the niche high-end food commodities category. Table 2 lists seafood products available locally. Though in smaller quantities some of these seafood has potential for good revenue returns.

Table 2: Top 10 imports from China in 2019

Imports - Top 10 Products (Value)		
1st	Shrimps, prawns	frozen HS 0306.17
2nd	Flours, meals, pellets. Unfit for human consumption	from fish or aquatic invertebrates HS 2301.20
3rd	Rock lobster, other sea crawfish	live, fresh or chilled HS 0306.31
4th	Alaska Pollack	frozen; excluding fillets, livers and roes HS 0303.67
5th	Fish, other than species in 0303	frozen; excluding fillets, livers and roes HS 0303.89
6th	Squid, cuttlefish	frozen
7th	Crabs	live, fresh or chilled HS 0306.33
8th	Atlantic, Danube salmon	fresh or chilled; excluding fillets, livers and roes HS 0302.14
9th	Cod	frozen; excluding fillets, livers and roes HS 0303.63
10th	Lobsters	live, fresh or chilled HS 0306.32

China has a diverse network of suppliers of fish and seafood products, with imports coming primarily from Russia, Ecuador, Vietnam, Peru and the United States. Russia is China's largest supplier of fish and seafood in 2020, and the value of its imports has been growing steadily. Other fast-growing suppliers are Ecuador and India.

Top 10 global suppliers of fish and seafood to China in 2020

Country	2016	2017	2018	2019	2020	CAGR* % 2016-2020	Market share % 2020
World	**9,122.3**	**11,110.5**	**14,745.2**	**18,413.6**	**15,267.6**	**13.7**	**100**
Russia	1,514.8	1,567.9	2,223.2	2,295.8	1,971.6	6.8	12.9
Ecuador	176.0	192.1	533.9	1,928.1	1,750.0	77.6	11.5
Vietnam	302.7	400.3	729.7	1,146.8	1,246.3	42.5	8.2
Peru	838.3	1,493.8	1,479.9	1,516.0	1,125.8	7.7	7.4
United States	1,237.5	1,503.7	1,421.7	1,056.7	977.8	−5.7	6.4
Indonesia	439.2	492.0	733.1	840.8	847.7	17.9	5.6
India	97.0	127.6	401.6	1,237.7	844.8	71.8	5.5
Canada	613.9	755.0	1,014.0	1,136.0	839.0	8.1	5.5
Australia	95.0	317.6	681.3	777.0	550.4	55.1	3.6
Norway	363.1	473.5	585.9	699.6	522.4	9.5	3.4

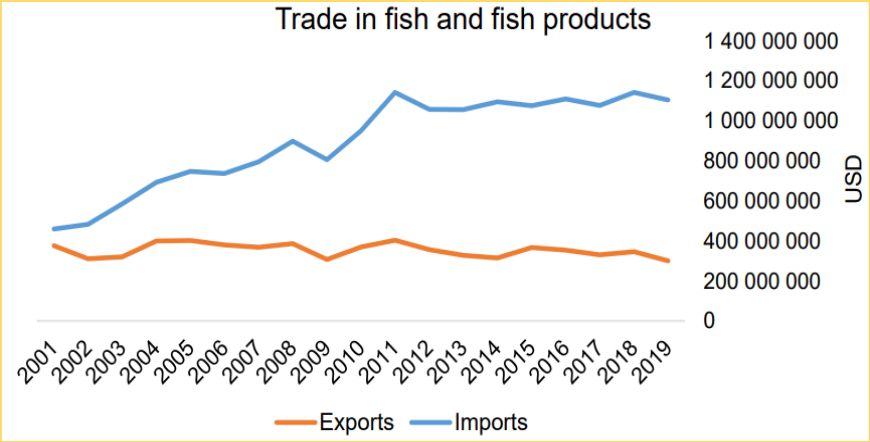
Source: Global Trade Tracker, 2021

From the top ten imports, those of potential for Seychelles to trade with China are frozen fish, crabs and lobsters. Although crabs and lobsters are seasonal, they offer opportunities as a luxury commodity which has similarities to Alaska and Belize seasonal exports of these species[5]. As such, the products can be marketed for exclusivity in the high-end and gourmet retail sales. However, the supply chain is sensitive for these products and more research needs undertaking to ensure marketing does not impact on sustainability.

Singapore Market Trend

Exports and Imports Potential

Singapore fish trade on evaluation, drew the following results based on FAO statistics in 2019. The total trade for fish and fish products in 2019 rose to USD$1.104billion while exports reported USD$301.46 million. This shows that Singapore imports more fish than it produces.

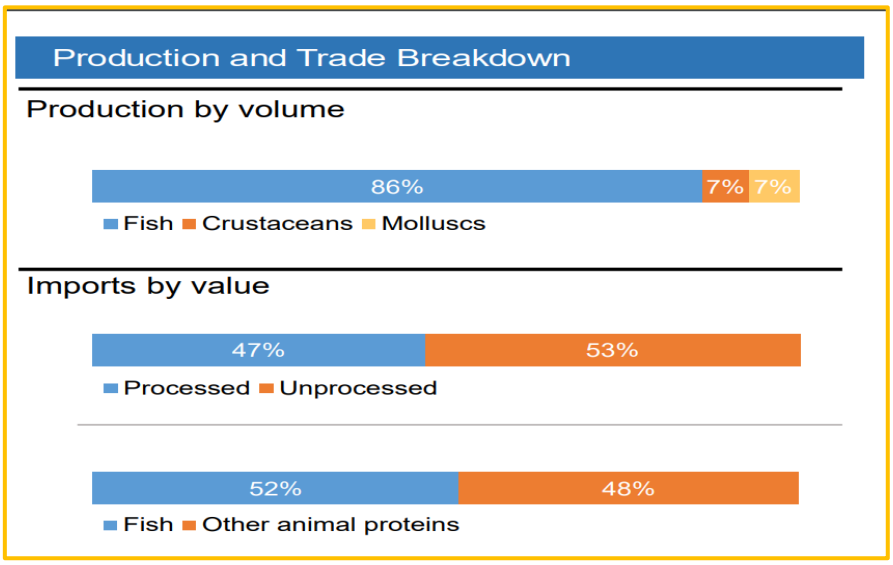


Fisheries production comprise of 20% from wild capture whilst 80% are from farmed production[6]. Fish consumption is 46.6kg per capita[7], indicating a high proportion of the population eat fish or related fish products. Given that imports are higher than exports it is a feasible market for Seychelles exports as the country also has a GDP per capita of USD$ 82,807.6 [8] from USD$72,794.00 in 2021[9] meaning the purchasing power parity is high in this market and continues to increase in terms of wealth.

The production of fish driving trade in the Singapore market are illustrated in table 3 below.

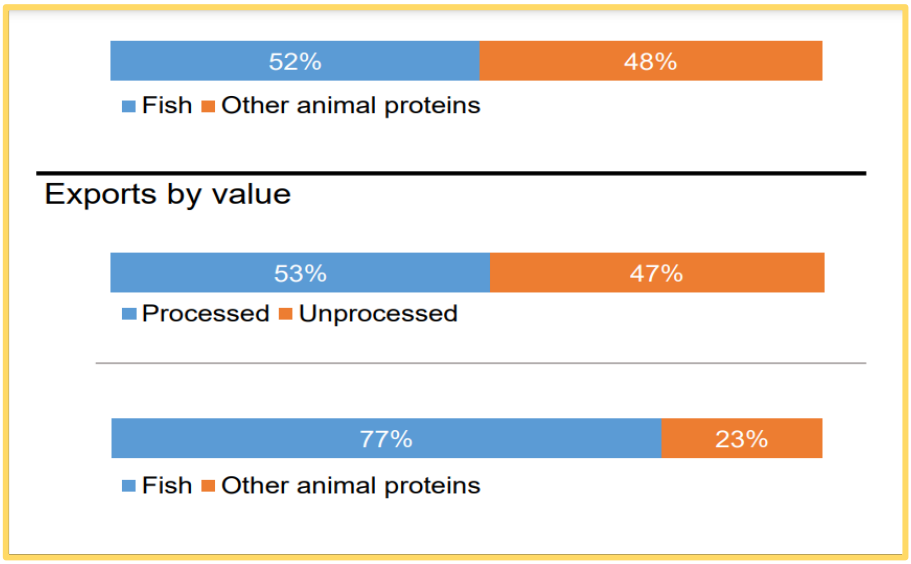
[5]Fishery Progress Organisation at http://www.fisheryprogress.org
[666] GlobeFish -FAO Fish Trade Market Profile, 2019 - Singapore.
[7] Ibid.
[8] The World Bank – Data for 2022
[9] Ibid - 2021

Table 3: Fish production by volume in 2019



Production of fish by volume is 86% with the value of imports at 52% for fish and 47% for processed fish products. Unprocessed fish products are 53%. This indicates the potential for Seychelles to tap into the Singapore market as a supplier of fresh fish for processing or for direct sale to consumers.[10]

Table 4: Export of fish products in 2019



The export value is 52% for fish and processed products is 53% and 77% accounts for fish products. Given that species like sea cucumber and abalone are expensive products and targets exclusive markets it explains the high export value. Milkfish is also very popular and in high demand in the Philippines and Thailand where it is highly consumed adds to the overall

[10] GlobeFish – FAO Fish Market Profile 2019 - Singapore

value of exports from Singapore. The top ten exported fish products list grouper and marine species (though it is not precisely specified) as notable opportunities to enter this market[11].

Table 5: Production of top 10 fish species

Production - Top 10 Species (Volume)		
1st	Milkfish	
2nd	Barramundi (Giant seaperch)	
3rd	American bull frog	
4th	Flathead grey mullet	
5th	Green mussel	
6th	Groupers nei	
7th	Indonesian snakehead	221
8th	Natantian decapods nei	218
9th	Marine fishes nei	166
10th	Malabar grouper	150

[11] GlobeFish FAO Market Profile 2019 – Singapore

Table 6: Export of fish products in 2019

Exports - Top 10 Products (Value)		
1st	Shark fins	frozen; excluding fillets, livers and roes HS 0303.92
2nd	Freshwater ornamental fish	live HS 0301.11
3rd	Toothfish	frozen; excluding fillets, livers and roes HS 0303.83
4th	Fish	prepared or preserved HS 1604.20
5th	Squid, cuttlefish	prepared or preserved HS 1605.54
6th	Shark fins	dried, smoked, salted or in brine HS 0305.71
7th	Sea cucumbers	dried, smoked, salted or in brine or smoked HS 0308.19
8th	Abalone	prepared or preserved HS 1605.57
9th	Fish, other than species in 1604	prepared or preserved; whole or in pieces HS 1604.19
10th	Fish heads, tails, maws	dried, smoked, salted or in brine HS 0305.72

Singapore exports sea cucumber in various forms. It is significant that this product is a luxury food category that has a high value and can really be exploited by Seychelles in this market to be reprocessed. Earnings from SFA export data shows high returns from this species.

Table 7: Top imported products in 2019[12]

Imports - Top 10 Products (Value)		
1st	Shrimps, prawns	frozen HS 0306.17
2nd	Fish	prepared or preserved HS 1604.20
3rd	Abalone	prepared or preserved HS 1605.57
4th	Crabs	live, fresh or chilled HS 0306.33
5th	Shark fins	frozen; excluding fillets, livers and roes HS 0303.92
6th	Fish, other than species in 0302	fresh or chilled; excluding fillets, livers and roes HS 0302.89
7th	Toothfish	frozen; excluding fillets, livers and roes HS 0303.83
8th	Catfish	frozen fillets HS 0304.62
9th	Shrimps, prawns	prepared or preserved, not in airtight containers HS 1605.21
10th	Atlantic, Danube salmon	fresh or chilled; excluding fillets, livers and roes HS 0302.14

The range of fish and seafood products imported are frozen fish, fillets, prepared and preserved shellfish (shrimps, prawns) and crabs. All offer potential niche for local processors to exploit in the categories of frozen fish, fillets and crabs.

Japan Market Trend

Exports and Imports Potential

The Japanese product market as a new potential market for Seychelles have revealed the following findings. According to FAO Fish Trade Market Report 2019, exports from Japan's fish trade were USD$ 2.219billion compared to imports of USD$15.128 billion. The total production for fisheries were 84% for wild capture and 16% for aquaculture. Consumption of

[12] International Trade Centre, UN (ITC) trade map, www.trademap.org

fish per capita in the same year (2019) was 45.8kg. The below graph outlines the trade pattern for imports vs exports.

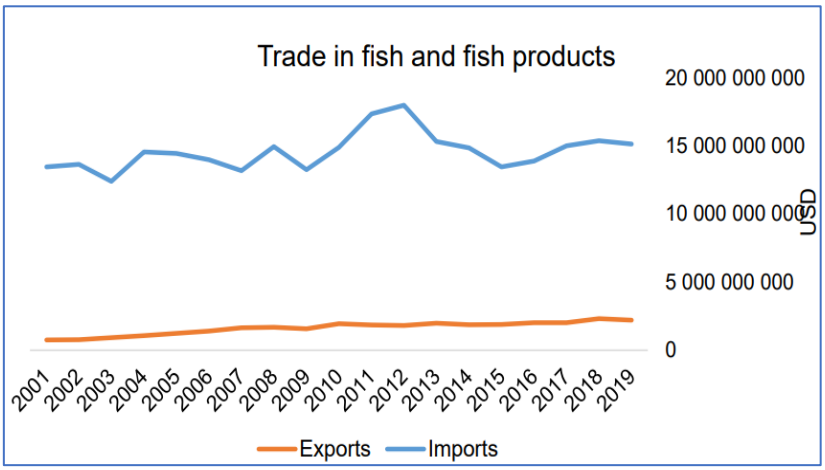
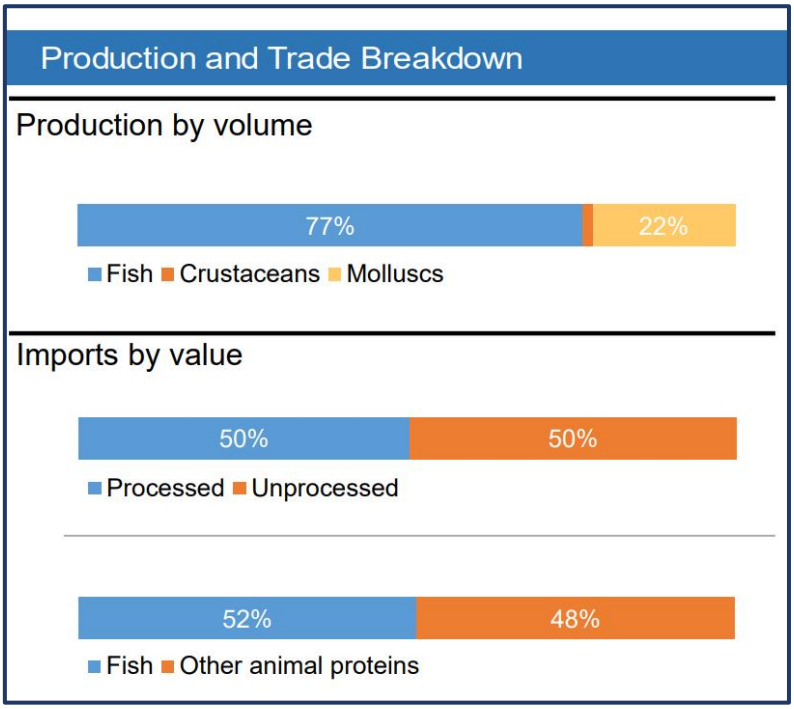


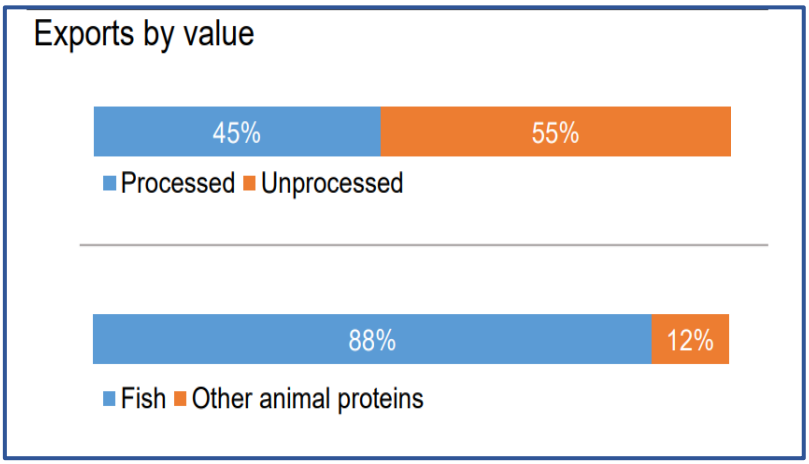
Table 8: Production and import by value in 2019[13]



Production of fish by volume was 77% while those of molluscs were 22%. The value of imports for fish products was 52% with 50% from processed products[14]. The data indicates that the Japanese market processes fish in high quantities and has scope for Seychelles to sell fish into its market given the high import volume.

[13] FAO Fish Trade Market Report 2019 - Japan
[14] Ibid.

Table 9: Export by value in 2019[15]



Total export by value was 88% for fish with 45% of this total from processed fish products and 55% from unprocessed fish. The statistics provide insight that local processors can exploit the supply chain in the Japanese market in terms of positioning as a supplier of fish that is used in processing for export.

The main list of species comprising of imports and exports from Japan are presented in table 10.

Table 10: Top 10 export fish species and seafood from Japan in 2019

Exports - Top 10 Products (Value)		
1st	Scallops	frozen HS 0307.22
2nd	Sea cucumbers	prepared or preserved HS 1605.61
3rd	Mackerel	frozen; excluding fillets, livers and roes HS 0303.54
4th	Fish, other than species in 0304	frozen fillets HS 0304.89
5th	Fish	prepared or preserved HS 1604.20
6th	Molluscs	prepared or preserved HS 1605.59

[15] FAO Fish Trade Market Report 2019 - Japan

7th	Fish, other than species in 0303	frozen; excluding fillets, livers and roes HS 0303.89
8th	Sardines, sardinella, brisling or sprats	frozen; excluding fillets, livers and roes HS 0303.53
9th	Scallops	prepared or preserved HS 1605.52
10th	Molluscs	live, fresh or chilled HS 0307.91

There are five products on Japan's export list that Seychelles can target for trade with Japan for reprocessing. These are sea cucumber, fresh fish, mackerel, sardines and other fish species.

Import statistics indicate that six products offer some potential export niche for Seychelles. These are tuna and bonito, fish (other species), crabs, preserved and prepared fish, livers, roes and milt and prawns.

Table 11: Top 10 imported fish and seafood products in Japan 2019

Imports - Top 10 Products (Value)		
1st	Shrimps, prawns	frozen HS 0306.17
2nd	Tunas, skipjack, stripe-bellied bonito	frozen fillets HS 0304.87
3rd	Pacific salmon	frozen; excluding fillets, livers and roes HS 0303.12
4th	Shrimps, prawns	prepared or preserved, not in airtight containers HS 1605.21
5th	Fish, other than species in 0304	frozen fillets HS 0304.89
6th	Squid, cuttlefish	frozen HS 0307.43

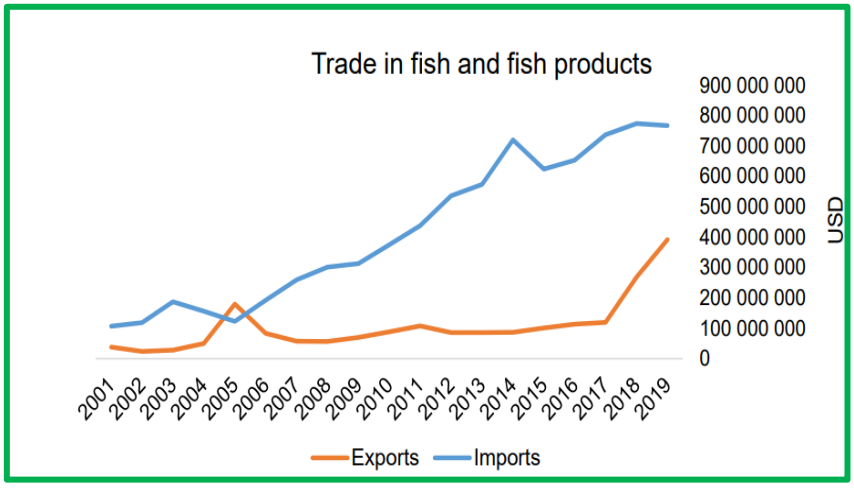
6th	Squid, cuttlefish	frozen HS 0307.43
7th	Crabs	frozen HS 0306.14
8th	Fish, other than species in 0304	frozen meat; excluding fillets, livers and roes HS 0304.99
9th	Fish, other than species in 1604	prepared or preserved; whole or in pieces HS 1604.19
10th	Livers, roes, milt	frozen HS 0303.91

There is a range of fish products in this supply chain that has potential for the local processors to tap into from this market, in either fresh or frozen form or as value-added fish products.

United Arab Emirates Market Trend

Exports and Imports Potential

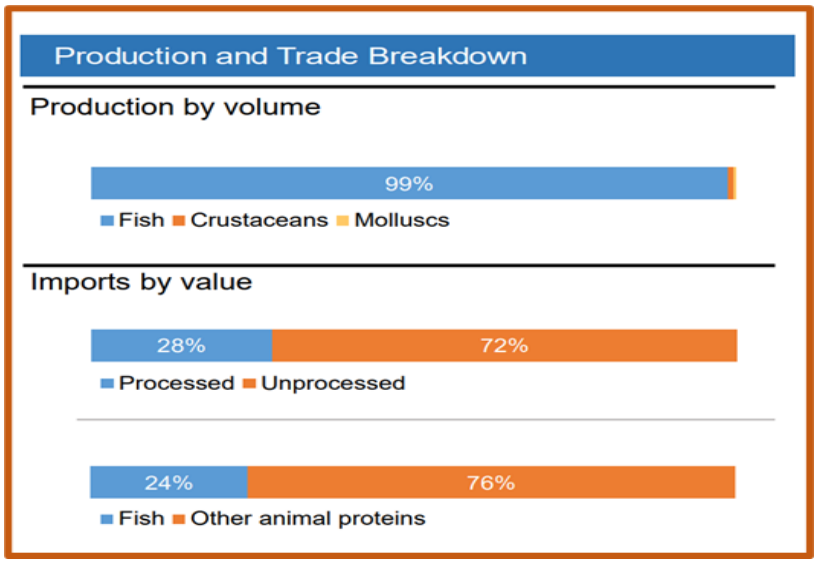
The United Arab Emirates (UAE) fish trade indicates the following patterns for imports and exports of fish and seafood products for 2019[16].



Total exports in 2019, were UDS$392.2 billion while imports were USD$767.1 billion. The total percentage of fish production was 95% for wild capture and only 5% from aquaculture indicating that the UAE relies less on farmed fish. Consumption of fish per capita is 26.4kg which is similar to some European countries as mentioned.

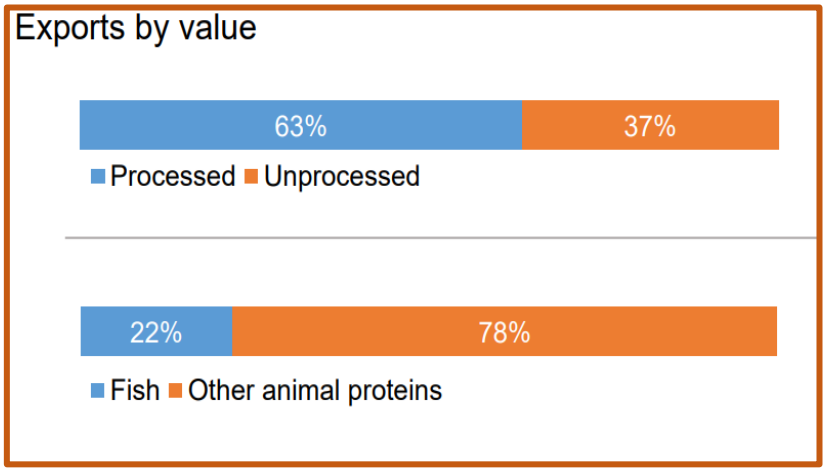
[16] GlobeFish - FAO, Fish Trade Market Profile 2019 - UAE.

Table 12: UAE production by value in 2019[17]



Fish is the main production at 99% of total volume in 2019, while imports of fish was 24% with 28% of total being processed fish products and 72% from unprocessed fish products. This market has huge potential for Seychelles, being dependent on fish imports. Again, from the supply chain local processors has opportunities to sell into this market.

Table 13: UAE Export in 2019



Export data indicates that 63% of fish are from processed sources and 37% are unprocessed, while 22% of total export value are from fish. The low percentage of exports to imports further justifies that the UAE market offers another good potential for trade with Seychelles given that most fish imported remain for internal consumption as only 22% of fish are exports[18].

In terms of production, the species favoured in the UAE exports are listed in table 14.

[17] GlobeFish - FAO Fish Trade Market Profile 2019 – UAE.
[18] Ibid.

Table 14: Top 10 Species Production in 2019[19]

Production - Top 10 Species (Volume)	
1st	Spangled emperor
2nd	Orange-spotted grouper
3rd	Pink ear emperor
4th	Narrow-barred Spanish mackerel
5th	Sardinellas nei
6th	Spinefeet (Rabbitfishes) nei
7th	Emperors (Scavengers) nei
8th	King soldier bream
9th	Grunts, sweetlips nei
10th	Snappers, jobfishes nei

Fish species for example snappers, job fish, emperor and grouper are listed products. UAE remains a significant target market for Seychelles exports from a supply chain perspective.

Table 15: Top 10 Exports in 2019[20]

Exports - Top 10 Products (Value)		
1st	Shrimps, prawns	frozen HS 0306.17
2nd	Shrimps, prawns	prepared or preserved, not in airtight containers HS 1605.21
3rd	Shrimps, prawns	prepared or preserved, in airtight containers HS 1605.29
4th	Fish	prepared or preserved HS 1604.20
5th	Tunas, skipjack, bonito	prepared or preserved; whole or in pieces HS 1604.14
6th	Lobsters	frozen HS 0306.12

[19] International Trade Centre, UN (ITC) trade map, www.trademap.org
[20] Ibid.

7th	Fish, other than species in 0303	frozen; excluding fillets, livers and roes HS 0303.89
8th	Salmonidae	fresh or chilled; excluding fillets, livers and roes HS 0302.19
9th	Flat fish	frozen; excluding fillets, livers and roes HS 0303.39
10th	Fish, other than species in 0302	fresh or chilled; excluding fillets, livers and roes HS 0302.89

Table 16: Top 10 Imports in 2019

Imports - Top 10 Products (Value)		
1st	Shrimps, prawns	frozen HS 0306.17
2nd	Tunas, skipjack, bonito	prepared or preserved; whole or in pieces HS 1604.14
3rd	Atlantic, Danube salmon	fresh or chilled; excluding fillets, livers and roes HS 0302.14
4th	Fish, other than species in 0302	fresh or chilled; excluding fillets, livers and roes HS 0302.89
5th	Seabream	fresh or chilled; excluding fillets, livers and roes HS 0302.85
6th	Catfish	frozen fillets HS 0304.62
7th	Yellowfin tunas	frozen; excluding fillets, livers and roes HS 0303.42
8th	Fish, other than species in 0303	frozen; excluding fillets, livers and roes HS 0303.89
9th	Seabass	fresh or chilled; excluding fillets, livers and roes HS 0302.84
10th	Lobsters	frozen HS 0306.12

UAE offers export potential in six different import product categories for Seychelles, such as prepared fish (tuna, bonito), fresh fish and frozen tuna (yellowfin) from the featured data[21]. Note that pelagic species are more prevalent for export in the UAE from SFA export data.

Israel Market Trend

Exports and Imports

Israel fish trade on evaluation has a promising potential for Seychelles. This is because the level of imports for fish commodities are very high compared to their exports. The high import percentage means that there is demand for fish in the country. The graph illustrates imports of fish and fish products have increased steadily since 2001 to reach USD$673.188 million while exports is USD$20.869 million in 2019. Most fish production is by aquaculture at 89%, and wild fishing 11% of total production that same year. Consumption per capita is currently at 26kg.[22]

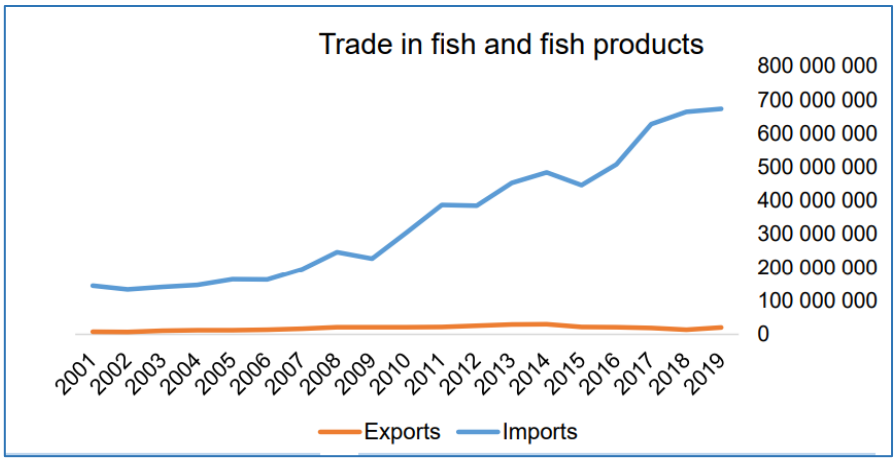
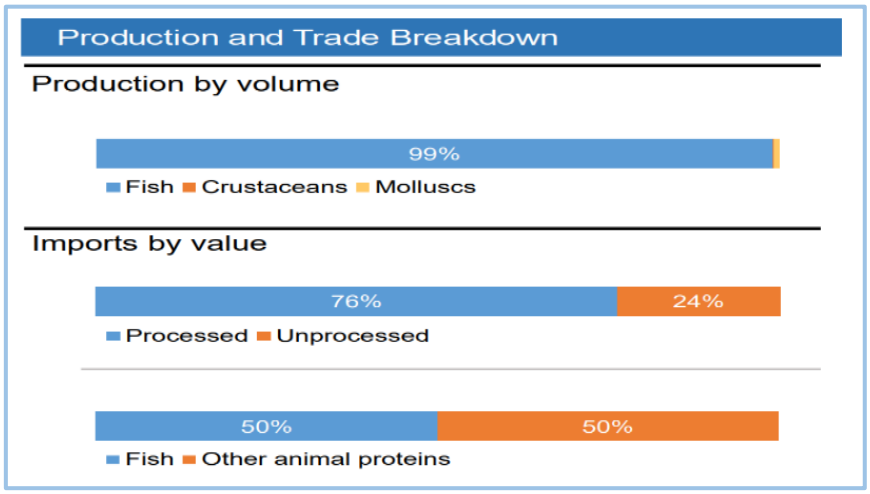


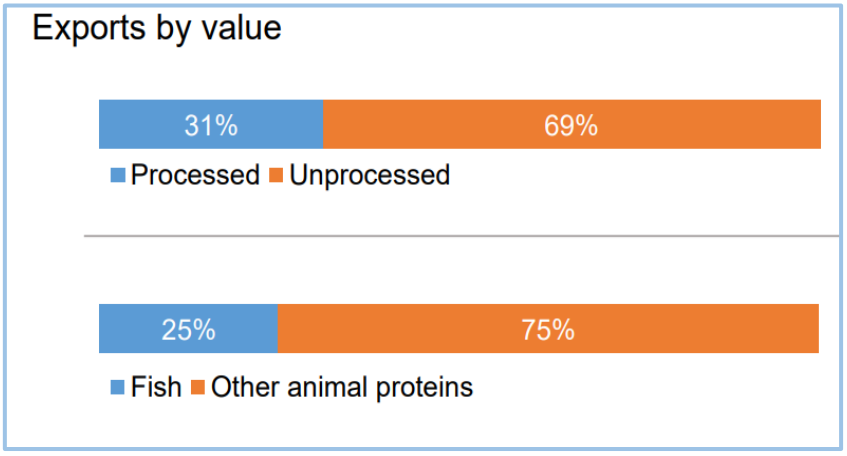
Table 17: Production by volume in 2019



[21] International Trade Centre, UN (ITC) trade map, www.macmap.org
[22] GlobeFish - FAO Fish Market Profile 2019 – Israel.

There is a high importation rate from this market for fish in its processed form which may present opportunity for processors to launch into more value-addition tapping Israeli market.

Table 18: Export by value in 2019



Fish production is high on account of the high percentage from aquaculture[23]. Processed fish from imports are 76% compared to exported fish products at 31%. Exports for unprocessed fish are also high at 69% compared to 25% for fish.[24] Again, the supply chain in this market is justified by the percentage imports that are processed.

Israel imports and exports are outlined and in comparison, to other targeted markets offers a very good potential for Seychelles products especially premium product ranges as shown in table 19.

Table 19: Exports of fish and fish products by Israel in 2019[25]

Exports - Top 10 Products (Value)		
1st	Freshwater ornamental fish	live HS 0301.11
2nd	Fish	prepared or preserved HS 1604.20
3rd	Fish	live HS 0301.99
4th	Caviar	prepared from fish eggs HS 1604.31
5th	Rock lobster, other sea crawfish	frozen HS 0306.11
6th	Fish, other than species in 0303	frozen; excluding fillets, livers and roes

[23] GlobeFish - FAO Fish Trade Market 2019 - Israel
[24] Ibid.
[25] International Trade Centre, UN (ITC) trade map www.macmap.org

7th	Tunas, skipjack, bonito	prepared or preserved; whole or in pieces HS 1604.14
8th	Fish, other than species in 1604	prepared or preserved; whole or in pieces HS 1604.19
9th	Salmon	prepared or preserved; whole or in pieces HS 1604.11
10th	Herrings	salted or in brine, not dried or smoked HS 0305.61

Prepared fish, preserved fish, tuna, bonito, fillets and frozen, live and whole or in pieces fish products are exported by Israel. Thus, as a supplier Seychelles can benefit from the market for the similar fish species listed.

Table 20: Imports of fish and fish products by Israel in 2019[26]

Imports - Top 10 Products (Value)			
			USD
1st	Pacific, Atlantic, Danube salmon	frozen fillets HS 0304.81	135 172 000
2nd	Tunas, skipjack, bonito	prepared or preserved; whole or in pieces HS 1604.14	102 023 000
3rd	Pacific, Atlantic, Danube salmon	fresh or chilled fillets HS 0304.41	90 283 000
4th	Tilapias	frozen fillets HS 0304.61	57 862 000
5th	Atlantic, Danube salmon	fresh or chilled; excluding fillets, livers and roes HS 0302.14	44 023 000
6th	Atlantic, Danube salmon	frozen; excluding fillets, livers and roes HS 0303.13	21 406 000

[26] International Trade Centre, UN (ITC) trade map www.macmap.org

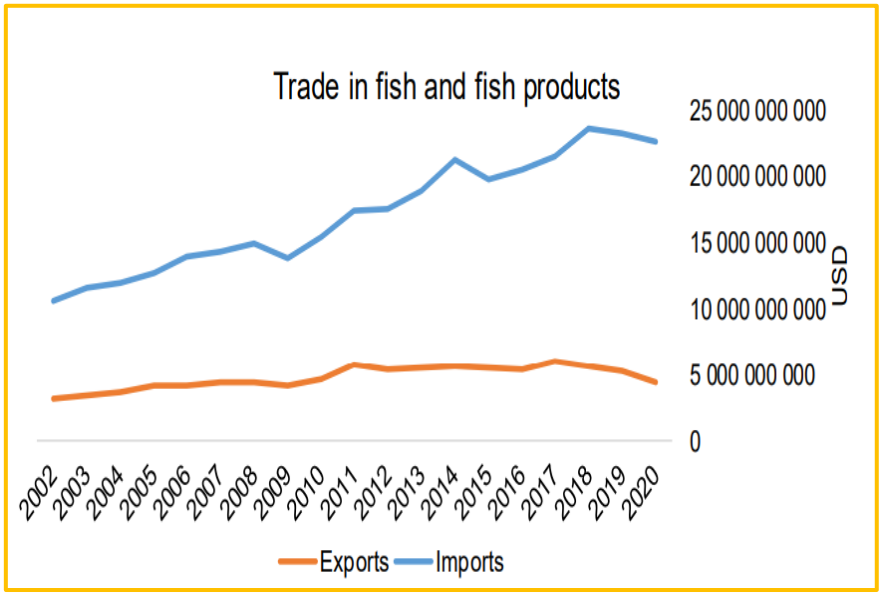
7th	Seabream	fresh or chilled; excluding fillets, livers and roes HS 0302.85
8th	Seabass	fresh or chilled; excluding fillets, livers and roes HS 0302.84
9th	Tunas, skipjack, stripe-bellied bonito	frozen fillets HS 0304.87
10th	Nile perch	frozen fillets HS 0304.63

Imports includes fish species common to some of the markets mentioned for tuna and bonito, where Seychelles are supplying except for preserved or prepared products in the same commodity category, where there is additional potential in this market for value-added products.

United States of America Market Trend

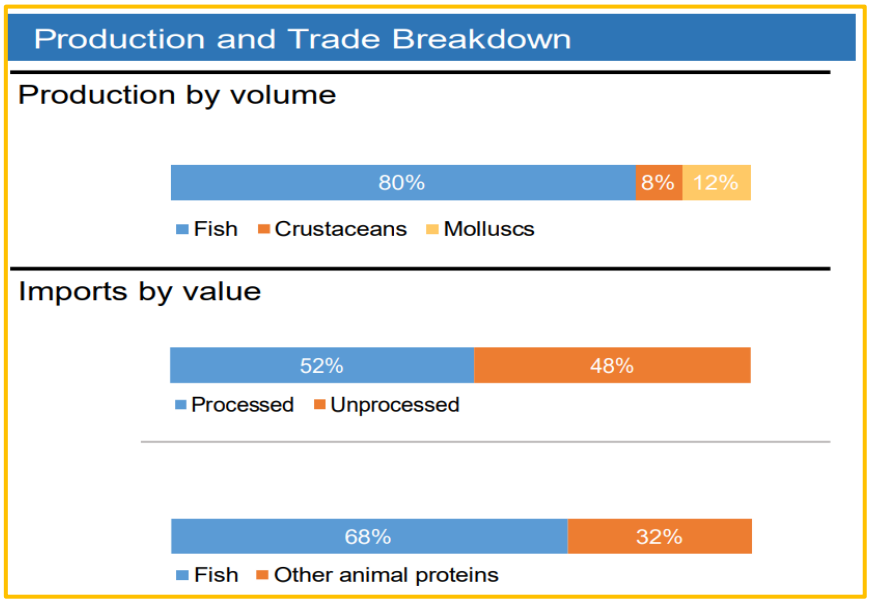
Exports and Imports

The United States exports of fish and fish products in 2020, totalled USD$4.3 billion, with fish consumption per capita at 22.4kg[27]. Fisheries production were 90% total for the annual year compared to aquaculture at 10% of total production. Trading of fish and fish products are illustrated in the graph for 2002-2020. Imports comprise USD$22.7 billion, meaning the USA imports more than it produces. The opportunity for local processors to tap into this market is through the supply chain as 80% of fish are processed (table 21)[28].



[27] GlobeFish, FAO Fish Market Profile 2019 - USA
[28] Ibid.

Table 21: Production of Imports from USA in 2020[29]



The production breakdown shows that fish production in terms of volume and imports makes up the highest percentage at 80%. The total percentage of import value for processed and fish product were 52% and 68% respectively. This means that the market has good potential for both processed and fresh fish products. Of the ten top production species from the USA, skipjack tuna is similar to Seychelles.

Table 22: Top 10 Production Species in volume[30]

4th	American sea scallop	229 308
5th	Pacific cod	210 453
6th	Atlantic menhaden	198 200
7th	American cupped oyster	188 285
8th	Pink (Humpback) salmon	179 603
9th	Skipjack tuna	173 574
10th	Channel catfish	153 795

Note that only the species that corresponds to those found in Seychelles have been illustrated i.e.: Skipjack tuna at 9th position.

[29] FAO GlobeFish – USA Market Profile 2020
[30] Ibid.

The total percentage of exports by value for fish and processed products were 43% and 18% respectively, compared to unprocessed and other animal proteins in the USA featured in Table 23 indicating much of exports are unprocessed fish.

Table 23: Export by value in 2020[31]

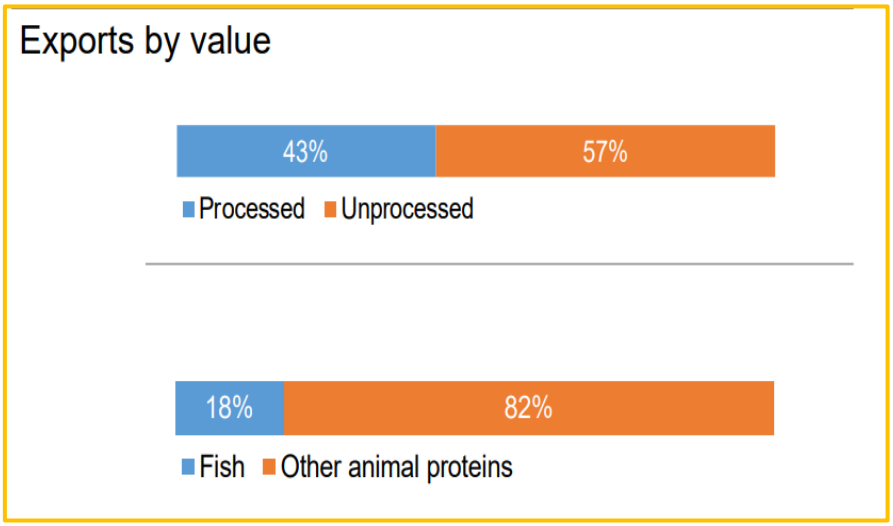


Table 24 shows the list of products exported from the USA to the EU and China. The products have been selected based on their potential commercial development locally in Seychelles. The value-added products are 'other animal proteins' from their production export list.

Table 24: Products Exported by USA in 2020

Product	Category	HS code
Lobsters	Live, fresh or chilled	HS0306.32
Fish, other than species	Frozen, excluding fillets, liver and roes	HS0303.89
Livers, roes, milt	Frozen	HS0303.91
Flours, meals and pellets (not for human consumption)	From fish or aquatic invertebrates	HS2301.20
Fish fats or oils or fractions thereof	Not chemically modified or from fish livers	HS1504.20

The scope to enter the USA market with additional fish-based products is available for local processors.

[31] FAO GlobeFish – USA Market Profile 2020

Table 25: Imports to the USA in 2019[32]

Product	Category	HS code
Shrimps Prawns	Frozen	HS0306.17
Crabs	Frozen	HS0306.14
Shrimps, Prawns	Prepared or preserved	HS1605.21
Tuna, Skipjack, Bonito	Prepared or preserved	HS1604.14
Crab	Prepared or preserved	HS1605.10
Fish	Prepared or preserved	HS1604.20

The main products have been selected as they are similar to species that are available in the Seychelles and have the same commercial potential to export. The fact that the USA imports such products again, indicates the opportunities for developing these products from Seychelles especially in the preparation of prepared and preserved products.

In summary, all the main markets currently targeted have potential in the supply chain in the export markets. Further opportunities lie in value-added products for niche markets supplying for example, the aquaculture farming in UAE, Israel and Singapore. High-end luxury products such as sea cucumber and lobster, but also crab and tuna and roes from other pelagic species can be developed from Seychelles. New markets like China, Singapore UAE and Japan have real potential for growing local exports of specific fish products as illustrated.

5 CONSUMER BEHAVIOUR PATTERNS

A. European Market

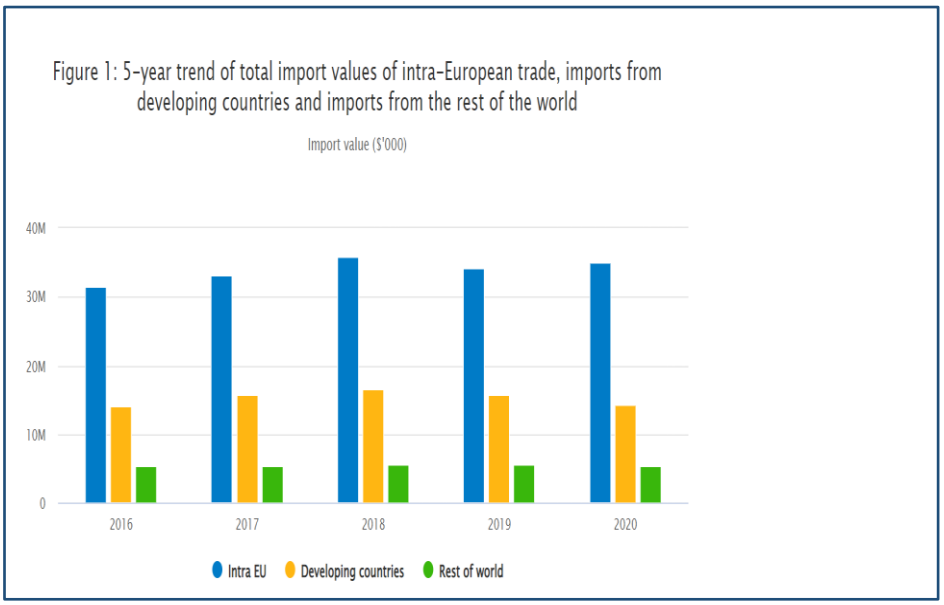
According to reports from CBI[33], in 2020 seafood imports to the European Union valued at $54.8 billion. Seafood imports have continued to rise since 2015, peaking at $58.0 billion in 2018. In 2019, imports dropped by 4%. Though this downward trend continued in 2020, the decline was smaller with imports falling only 1% in 2020.

In 2020 extra-European imports (which are total imports from outside of Europe) reached $19.8 billion but experienced a fall compared to total imports in the same year. After a similar peak at $22.3 billion in 2018, extra-European imports fell by 4% in 2019, but fell a further 7% in 2020.

[32] Ibid.
[33] Centre for Business Intelligence, Ministry of Foreign Affairs, Netherlands, EU.

Imports from developing countries reached $14.4 billion in 2020. These also peaked in 2018 ($16.6 billion), falling by 6% in 2019 and falling a further 8% in 2020. Imports from developing countries made up 73% of total extra-European imports in 2020, only a slight drop from 2019 when this was 74%.

This suggests that the relative significance of developing-country imports with respect to total imports in Europe has remained stable as shown in the graph below.



Tuna is the most consumed marine species in Europe, according to the European Market Observatory for Fisheries and Aquaculture Products (EUMOFA)[34]. A EUMOFA study in 2016 identified that in Europe, consumption of tuna and tuna-like species commodity group which included tuna and swordfish from bycatch, comprised 96% tuna and 4% swordfish, with consumption per capita at 2.88kg of the commodity group 'tuna and tuna-like species. These species are popular in Northern and Southern Europe. Of the main species caught from bycatch, swordfish and mahi mahi (Dorado)[35] offers the most opportunity for Seychelles exporters.

There is also a growing trend in ethnic retail foods in the EU as a result of increased immigrant settlements and also due to the popularity of cosmopolitan lifestyles, the EU population are more adventurous in their food choices. This is a good opportunity to promote lesser known fish that are of low value to the communities because some of these species like mackerel, sardines are staples for these immigrants[36].

[34]The EU Fish Market 2016 Edition – PDF at EUMOFA www.eumofa.eu
[35] CBI EU, 2019
[36] Ibid.

Table 26: Most consumed fish species in the EU[37]

Products
Mackerel
Herring
Mussel
Plaice
Sole
Sardine
Trout
Gilt-head seabream
European seabass
Monk
Clam
Hake
Tuna
Scallop
Squid
Salmon
Cod
Tropical shrimp
Freshwater catfish
Alaska pollock

Other species from bycatch with similarities with Seychelles fish species, the Patagonian toothfish (sea bass) which has a flesh texture similar to job fish is also growing in popularity in Europe, most especially the UK market which is worth exploring by local processors. Specificities of the European market are that Northern Europe have preference for processed fish while Southern Europe prefer fresh fish. Therefore, both regional areas have potential to expand bycatch production from selective species that are consumed in Europe.

B. USA Market

The National Oceanic and Atmospheric Administration's (NOAA) 2020 report found that Americans consumed 19 pounds of seafood per capita in 2020, a decline from 19.3 pounds average in 2019. An increase trend in versatility at home and in the food service business saw an increase in the consumption of shrimps to five pounds per person. Canned tuna also saw a jump in consumption, with U.S. consumers eating 2.6 pounds per capita of the shelf-stable species in 2020. Comparatively, Americans ate 2.2 pounds per capita of canned tuna in 2019. Collectively, the top 10 most-consumed species in the U.S. amounted to 77 percent (14.6 pounds) of total per capita seafood consumption for 2020, with 4.4 pounds attributed to other species. 2019 figures suggest that U.S. consumers are diversifying seafood consumption, by eating more and different seafood. While the top 10 seafood species

[37] EUMOFA The EU Fish Market 2016 Edition, page 18.

accounted for 14.28 pounds of the category consumed per capita in 2019, 4.92 pounds came from other species.[38]

Table 27: Top 10 seafood consumed in the USA 2019

Species	2019	Change from 2018
Shrimp	4.7	0.00
Salmon	3.1	0.54
Canned Tuna	2.2	0.10
Alaska Pollock	0.996	0.23
Tilapia	0.98	-0.13
Cod	0.59	-0.04
Catfish	0.55	-0.01
Crab	0.52	-0.01
Pangasius	0.36	-0.27
Clams	0.3	-0.02
Per Capita Consumption	19.2	
Total Top 10	14.28	
All Other Species Consumption	4.92	
Top 10 as % of Total Consumption	74%	

In 2018, NOAA[39] found that U.S. consumers ate 16.1 pounds of seafood per capita, an increase from the 16 pounds recorded in 2017. Approximately 13.77 pounds, or 86 percent, of seafood consumed by Americans in 2018, included shrimp (4.60 pounds), salmon (2.55 pounds), tuna (2.10 pounds), tilapia (1.11 pounds), Alaska pollock (0.77 pounds), pangasius (0.63 pounds), cod (0.62 pounds), catfish (0.56 pounds), crab (0.52 pounds), and clams (0.32 pounds). The top ten list accounted for 2.33 pounds of the total per capita consumption level in 2018, indicating that Americans are eating and enjoying a greater variety of seafood. Further factors are that families are turning toward healthy eating habits and prefer to be able to prepare food easily by including seafood at supper or for snacks. Consumption of canned fishery products totalled 3.5 pounds per capita in 2018, and cured fish accounted for 0.3 pounds per capita[40]. Seafood consumption is still trending positively in the United States, according to the National Fisheries Institute (NFI).

According to a January 2018 survey, 55 percent of Americans living in the Northeastern United States frequently eat seafood at home. The Midwestern United States had the lowest consumption of seafood during that time[41]. The average annual expenditure on fish and seafood per consumer unit in 2021, was USD$ 168 and mostly in the Southern regions[42]. Consumer demand for tuna remained good in the USA market, with peak

[38] National Fisheries Institute (NFI), May 2021
[39] National Oceanic and Atmospheric Administration's (NOAA) 2020
[40] Ibid.
[41] Statista 6th February, 2023 – Fish consumption in the USA
[42] Ibid.

consumption of tuna steaks in July and August. The cumulative imports of non-canned tuna during the period in 2018 increased by 6 percent to 48 000 tonnes, compared with the same period in 2017. About 58 percent of these imports were frozen fillets (27 500 tonnes), some 10 percent higher year-on-year. Whole air-flown tuna had a 30 percent share at 17 700 tonnes. The USA market imports most of its tuna from Thailand with an increase growth demand of 10% for canned tuna in the first quarter of 2018 according to FAO market report.

The demand trend on the USA market for canned tuna and steaks indicate that in this market tuna is best exported in its fresh or frozen form whilst the lower graded species are suitable for targeting manufacturing plants specialising in canning tuna. The potential opportunities for value-addition are for preserved products mentioned above. The cruise ship industry also shows prospects in the supply chain as cruise tourism rebounds.[43] The issue is maintaining the supply flow to ensure that competitors such as, Thailand does not retain the whole market share. The potential to optimise the trade agreement conditions with the USA that gives preferential rates and most favoured nation (MFN) status to Seychelles will strengthen market position.

C. China Market

Chinese consumers are increasing their spending on high quality, value-added fish and seafood products (Wang et al., 2021), per capita consumption of fish and seafood growing faster than that of meat. Fish and seafood consumption has increased in response to the rapid increase in disposable income. Consumption grew faster in rural areas than in urban areas from 2015 to 2019. As Chinese consumers living in third tier (and below) cities and rural areas are expected to drive the next wave of consumption (Tan & Wang, 2020), high-end imported seafood products will find new opportunities for growth in China. With imports of US$15.3 billion, China was the second largest fish and seafood importer in the in the world 2020, after the United States (US$23.0 billion). Chinese imports grew in value at a compound annual growth rate (CAGR) of 13.7% from 2016 to 2020. In terms of volume, China ranked 1st in the world. Much of this increase is attributable to growth in luxury seafood products such as lobster, frozen cold-water shrimp, crabs and sea cucumbers. The total value of retail sales of fish and seafood in China grew at a CAGR of 10.3% from 2016 to 2020. Retail sales were valued at US$89.2 billion (42,267.4 thousand tonnes) in 2020. They are expected to increase at a slower rate (5.8%), to US$100.6 billion (50,015.3 thousand tonnes), by 2025. Retail sales in 2020 show that Chinese consumers prefer fresh fish and seafood and frozen processed seafood. This preference is expected to continue during the forecast period. [44]

[43] Intra Fish article – John Evans April, 2022 at https://www.intrafish.com/shipping-logistics/cruise-lines-poised-to-rebound-sparking-optimism-for-seafood-suppliers/2-1-1193688
[44] Euromonitor International, 2021.

Annual per capita consumption in China in US$

Category	2016	2020	CAGR* % 2016-2020	2021	2025	CAGR* % 2021-2025
Meat	188.9	248.2	7.1	262.0	338.0	6.6
Fish and seafood	66.1	87.2	7.2	92.1	119.2	6.7

Source: Euromonitor International, 2021 ***CAGR** - Compound Annual Growth Rate

China's coastal urban areas, where fish and seafood products have been a traditional source of protein, have the highest per capita consumption of such products. The Chinese seafood catering industry is highly concentrated in areas such as the Yangtze River Delta, Bohai Rim, and Pearl River Delta (Tian et al., 2021). The rapid development of fresh food e-commerce in China is slowly changing the stereotypes related to regional dietary preferences. A Chinese market report published in 2019 found that the city with the highest preference for fish and seafood products is Lanzhou, the capital city of northwest China's Gansu province (CBN Data).

Large e-commerce platforms and fresh supermarkets such as Pinduoduo, Alibaba, RT-MART and Yonghui Superstores are bringing an affordable middle-class lifestyle to rural residents through live streaming and aquatic counters, while the ever-improving supply chain logistics and community retail models such as fresh group buying and front-warehousing-to-home are making imported fish and seafood products fresher and more affordable (Wu, 2021).

Per capita consumption of fish and seafood products in kilograms

Category	2015	2016	2017	2018	2019	*CAGR % 2015-2019
Urban	14.7	14.8	14.8	14.3	16.7	3.2
Rural	7.2	7.5	7.4	7.8	9.6	7.5
National	11.2	11.4	11.5	11.4	13.6	5.0

Source: China Statistical Yearbook, 2020

The increase in imports of luxury seafood products to China is associated with multiple factors including the popularity of famous regional seafood cuisines (Shandong's lucai (*鲁菜*) and Cantonese yuecai (*粤菜*), the influence of traditional Chinese medicine, and most importantly, the prevailing notion of social status ("mianzi") and conspicuous consumption linked to the increase in the size of the middle class and in the number of affluent consumers.

Due to the COVID-19 national lockdown, food service closures and losses via institutional sales, the Chinese fish and seafood market experienced a contraction in the overall volume of sales in 2020. Meanwhile, the average unit price for fish and seafood products declined in 2020 as a result of the oversupply situation created by food service closures and reduced exports. Nevertheless, fish increased its share of the overall category in 2020 as it is widely popular among the majority of Chinese households and can be more easily cooked at home than crustaceans, molluscs and cephalopods (Euromonitor International, 2021). Despite the economic decline caused by COVID-19, Chinese consumers are still willing to pay a premium price for fish and seafood products that they perceive to be of better quality, natural, safe and healthy. Also, traditional delicacies like abalone, sea cucumber and fish maw, which are usually served on special occasions, are gaining retail presence and are likely to appeal to consumers (Mintel, 2020).

The outlook for China shows that production growth is expected to slow as the nation follows through on strategies to step up its environmental responsibility and improve product quality, the expectation is that it will dramatically increase its imports to keep up with market demand to target species preferred by Chinese consumers while exporting less. For Seychelles this potentially offers a window of opportunity for exports of premium fish and seafood products in the likes of sea cucumber, fresh tuna and crabs to China.

Growth in fish consumption will remain still high, from a combination of rising incomes and urbanisation, expansion of fish production (aquaculture), improved distribution channels, product innovation, together with a growing recognition of fish as healthy and nutritious food by many consumers, is expected to further grow in the next decade. Being the largest fish producer, China will remain by far the world's largest fish consuming country, projected to account for 37% of the global total consumption in 2030[45].

D. Middle East Market (UAE)

The United Arab Emirates (UAE) is a federation comprising of seven emirates, Abu Dhabi, Dubai, Sharjah, Ajman, Umm Al-Quwain, Fujairah and Ras Al Khaimah, located in the Arabian Peninsula. The country had a population of 9.9 million and almost 90% of the Emirati population consist of immigrants. Dubai and Abu Dhabi are known international trading hubs and global cities. The economy was dependent on fishing before oil was discovered in the

[45] Pittman Seafoods – April, 2020: Asia's seafood consumption and how it is affecting the rest of the world

country. In 2019, the value added of agriculture, forestry, and fishing represented less than 1% of the UAE's GDP (World Bank Economic Report, 2019).

The UAE is a net importer of fish and seafood and the country imports up to 90% of its food consumption. The top suppliers in 2020 were India with a 27.7% market share, Thailand (9.8%) and Viet-Nam (7.8%). Canada ranked 32nd among UAE supplying countries with US$1.9 million, representing a market share of 0.3%. Emiratis are the biggest consumers of fish and fish products among the Gulf Council Cooperation (GCC) countries. A growing population, with diverse background, high income and an increasing appetite for fish is driving the demand for fish and seafood products as well as local production. Rapid urbanization, rising disposable income and protein-preferring youth coupled with tourist visits are forecast to support the growing consumption of fish and seafood. The UAE consumes more than 220,000 tonnes of fish per year, and it has a seafood consumption per capita of 28.6 kg/year, which is higher than the global average (FAO, 2021).

Almost 90% of the Emirati population consist of immigrants, and fish and seafood products are integral part of traditional meals in the countries of origin of these migrants. Moreover, a study shows that online searches for seafood products soared in recent years, placing seafood among the fastest growing protein being searched in the GCC countries. Between 2015 and 2018, online searches for seafood increased by 170% in the UAE. Fish and seafood products are viewed as healthy, and people are reducing their consumption of meat. The UAE is by the way one of the top destinations for premium seafood and demand for lobsters, scallops, and other high-quality fish is on the rise.[46]

From 2016 to 2020, per capita consumer expenditure on fish and seafood increased by 2.7%, a slightly higher growth over consumer expenditure on meat. From 2021 to 2025 per capita consumer expenditure on fish and seafood is forecast to grow by 3.1% and reach US$201.9.

Per capita consumer expenditure on meat and fish and seafood in the United Arab Emirates, historic and forecast, US$

Category	2016	2020	CAGR* % 2016-2020	2021	2025	CAGR* % 2021-2025
Meat	415.2	459.8	2.6	457.0	512.5	2.9
Fish and seafood	161.9	180.0	2.7	179.0	201.9	3.1

Source: Euromonitor International, 2021

***CAGR**: Compound Annual Growth Rate

The country imports 75% of its annual fish consumption while aquaculture provides 2% of total fish consumption (FAO, 2021). In 2020, the UAE's imports of fish and seafood from the

[46] Sector Trend Analysis – Fish and Seafood Trend in the UAE at https://agriculture.canada.ca/en/international-trade/market-intelligence/reports/sector-trend-analysis-fish-and-seafood-trends-united-arab-emirates. Accessed December 2022.

world were valued at US$637.0 million, while its exports were valued at US$331.6 million. India imports valued amount to US$176.2 million. Whilst the import vale for Thailand and Vietnam amount to US$62.3 million and US$49.8 million respectively. Among the top 10 suppliers, imports from Ecuador (CAGR of 147.7%), Greece (CAGR of 83.9%) and Spain noticeably grew during the 2016-2020 period[47].

To reduce its dependency on fish imports and ensure food security, the UAE government is focusing on increasing production in the aquaculture sector and foster a climate that supports local production. For example, it has established the Sheikh Khalifa Marine Research Centre whose hatchery has the capacity to produce nearly 30 million fish fingerlings per year in two stages (Ministry of Climate Change and Environment, 2021). In 2018, the UAE launched its National Food Security Strategy and fish was identified as one of the strategic food items. For this, the government plan to invest in research and development to increase the efficiency of local food production to meet the need of a growing population. There are about a dozen of aquaculture farms registered with the Ministry that produced 3,223 tons of fish in 2019, representing one percent of domestic consumption (Ministry of Climate Change and Environment, 2020). The government is also encouraging local and foreign investments in aquaculture projects by creating incentives for the sector, including the relaxing of institutional and investment constraints and mapping out suitable sites for development of land-based aquaculture farms (FAO).

Table 28: Top 10 global suppliers of seafood in the UAE[48]

Country	2016	2017	2018	2019	2020	CAGR* % 2016-2020	Market share % 2020
World	**647.3**	**698.4**	**715.3**	**669.8**	**637.0**	**-0.4**	**100.0**
India	162.7	186.4	191.1	195.5	176.2	2.0	27.7
Thailand	63.2	85.5	70.3	69.3	62.3	-0.4	9.8
Viet-Nam	50.5	45.1	72.8	57.2	49.8	-0.4	7.8
Norway	49.5	52.8	54.5	56.0	45.3	-2.2	7.1
China	33.7	43.6	50.3	44.0	42.6	6.0	6.7
Pakistan	42.5	34.2	28.2	33.0	40.3	-1.3	6.3
Greece	2.0	2.6	2.2	1.5	22.9	83.9	3.6
Turkey	15.1	12.3	15.5	17.7	20.3	7.6	3.2
Ecuador	0.5	1.2	0.5	1.1	18.0	147.7	2.8
Spain	3.0	2.6	3.3	4.2	14.8	48.6	2.3

In 2020, retail sales of fish and seafood in the UAE were valued at US$638.7 million (201.6 thousand tonnes). Sales of fish and seafood are forecast to register a CAGR of 26.3% from 2021 to 2025 and reach US$840.5 million (245.4 thousand tonnes) in sales in 2025. Retail sales of processed seafood were valued at US$104.4 million (8.4 thousand tonnes) in 2020. Shelf stable seafood led the way in terms of sales with US$71.4 million (6.6 thousand tonnes),

[47] https://agriculture.canada.ca/en/international-trade/market-intelligence/reports/sector-trend-analysis-fish-and-seafood-trends-united-arab-emirates.
[48] Ibid.

followed by chilled processed seafood (US$20.8 million/0.6 thousand tonnes) and frozen processed seafood (US$12.2 million/1.2 thousand tonnes).

Covid-19 lockdowns pushed consumers to have increased interest in frozen fish and seafood as these products can be stored at home for a long period to reduce frequency of visits to retail outlets. The convenience of frozen fish and seafood will encourage consumers to increasingly prefer this segment over non-frozen options even after the pandemic. Sales of fish and seafood suffered from the closing of foodservice outlets as sales in hotels and restaurants make up a large share of sales in the UAE. Interestingly, demand for organic fish and seafood is on the rise supported by immigrants with high income and the increased awareness of consumers to buy from sustainable fisheries (Euromonitor International, 2021).

Table 29: Consumption of products by retail sales index

Retail sales value of fish and seafood by segment in the United Arab Emirates, historical and forecast US$ million, fixed exchange rate

Category	2016	2020	CAGR* % 2016-2020	2021	2025	CAGR* % 2021-2025
Fish and seafood	512.1	638.7	5.7	665.6	840.5	26.3
Fish	426.7	526.4	5.4	549.4	689.6	25.5
Crustaceans	72.1	94.5	7.0	97.3	126.5	30.0
Molluscs and cephalopods	13.3	17.8	7.5	18.9	24.4	29.2
Processed seafood	78.7	104.4	7.3	100.7	129.5	28.5
Shelf stable seafood	53.3	71.4	7.6	66.1	85.0	28.6
Chilled processed seafood	16.0	20.8	6.8	22.4	29.6	32.2
Frozen processed seafood	9.3	12.2	6.8	12.2	14.9	21.6

Source: Euromonitor International, 2021

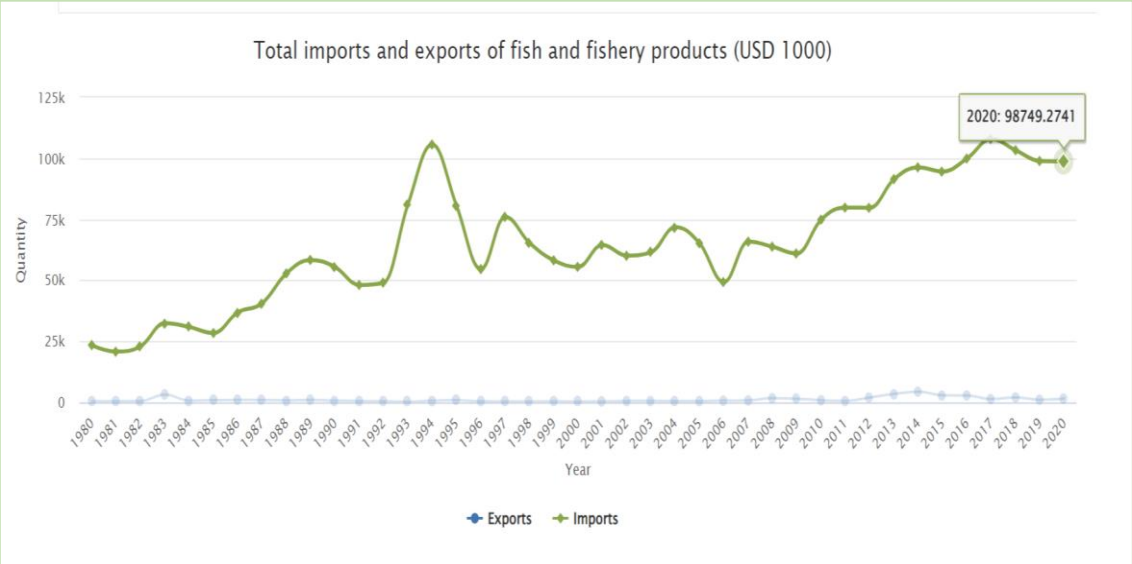
***CAGR**: Compound Annual Growth Rate

According to Mintel's Global New Products Database (GNPD), there were 83 launches of processed fish products in the UAE between 2016 and 2020. In 2020, the top claims (may contain more than one claim per package) were ethical-animal, premium, ethical - environmentally friendly product and social media. New variety/range extension was the leading launch type, followed by new product, new packaging and new formulation. The top five brands were California Garden, Siblou, Al Alali, Freshly Foods and LuLu. The top flavours were unflavoured/plain, smoke, florentine, tomato and paprika/sweet paprika.

The data indicates that in the UAE market, premium quality products generate high consumer demands and consumers are very inclined to new innovative products as well. There is an opportunity for Seychelles in the UAE to focus on exclusive commodities since the market is very conducive.

E. Israel

The main imported fish species in Israel include fresh and frozen Atlantic salmon from Norway and Canada, fresh and frozen Nile perch from Kenya and Uganda, tinned sardine from Portugal, and frozen mackerel, hake, herring and tilapia, and recently tuna from Seychelles. Fish markets are present in the three largest Israeli cities of Tel Aviv, Jerusalem and Haifa; they handle fresh, chilled and frozen fish produced from all over the country. Fish consumption grew by 23 percent in 2020, with imports of frozen fish products consumption recorded at 65 percent of all fish consumed. There has been a decline of fish imports from the Atlantic Ocean, which make up the bulk of imported fish products, driven by domestic fish production and in particular aquaculture production which plays a dominant role within the Israeli market for fish products. In 2017, imports of fish and fishery products were valued at USD 627.5 million, compared with USD 19.5 millions of exports. Annual per capita fish consumption averaged about 22 kg in 2016. Economically, fisheries constitute a minor segment of Israel's total GDP. Red mullets, shrimps, sharks, rays and groupers are the predominating species consumed with mackerels and sardines as the principal pelagic species targeted by the purse seiners from its domestic production. Imports remain high and offers potential in the market for Seychelles as a supplier of fresh, preserved fish but also in feed for the aquaculture farming.



Source: FAO Market Trend Statistics, 2020

6 POSITIONING IN THE MARKETS

From the market data presented accessibility into the selective markets is dependent on several factors as well which will improve market position in terms of increasing market share performance and selling opportunities. The main approaches for positioning Seychelles fish and fish products in export markets relate to:

Quality

Fish quality is based on size, freshness, shape, fat content, texture and colour, that are used to grade the product. Buyers have specific preferences depending on the supply demand. For example, fresh and frozen raw tuna (which is dominantly exported by local processors) are graded A or AAA. The latter is the highest grade supplied to restaurants for the sashimi business while grade A is the lowest and supplied to canning factories. Identifying species that are earmarked for the specific supply demand in the chosen market is important. Yellowfin tuna, bourgeois, sea cucumber, crabs and lobsters are quality products if harvested properly. Grading all harvested catch will improve quality assurance practices and ensure that those targeting consumer markets are of high-quality matching customer expectations in markets like Japan.

Product Differentiation

The potential to commercially develop value-added products from local supplies for export are possible though on a low scale targeting niche so that other competing fish products other than fresh or frozen enters export markets. This will step up opportunities for selling fish that have low margins targeting sub-culture groups such as migrants' settlements in Europe. Other opportunities lie in processing premium products from tuna in preserved, smoked or brine categories. Crab meat and sea cucumber in processed form are also viable in China, Japan, UAE and Singapore markets. This type of diversification will increase market share of Seychelles.

Distribution Networks

Establishing networking with other entities offer growth potential to enter markets. For example, the European market has a vast network of importers, traders and agents. The vertical integration can make access to the market challenging, while working with locals can make it easier to find the best opportunities in the market. Europe hosts major trade hubs for distributing products across the region. The Netherlands, Germany and Belgium are Europe's major seafood trade hubs. Port cities like Rotterdam, Hamburg and Antwerp act as gateways to the rest of Europe. As intra-European trade is also strong in Europe, doing business with importers from this region establishes a connection to the rest of Europe.

Importers, distributors and wholesalers all act as middlemen to canning factories, which have the biggest demand for this product. Importers often supply tuna loin to wholesalers and distributors, who sell the tuna on to the canning industry. Making direct contact with these importers is a good way to gain access to this market. Other processors cater to the private labels of large chain grocery retailers such as Aldi, Lidl or Edeka. Companies like Amacore Seafood and Anova in the Netherlands, are important re-exporters of frozen tuna products in

Europe and processor have a direct supply link opportunity available by establishing these points of contact in the European market.

The business environment in Japan operates differently. Most fish traders and wholesalers are family-owned businesses and operate through family connections. Tapping into this market for trading exports requires a local agent with knowledge of the market and good networks with these companies. Other possible networking is with the high-end food retail supermarkets in Japan but due to stringent food regulations in Japan, it is feasible to effect partnership with a supplier that is knowledgeable on the specific requirements. Japan has a good market for sushi and sashimi, innovative products in its preserved form and luxury seafood products like sea cucumber are in high demand and fetch high prices. As such, its positioning must be based on high quality products.

Partnerships and Affiliates

Other possibilities to enhance market positioning of local exports and increase accessibility in international markets, can be undertaken through the Department of Fisheries with support provided through the following:

Implement a networking connection through the marketing unit to facilitate and connect local exporters with distributors and suppliers in trading markets. This can be achieved by strategic alliances, partnerships or affiliates with regional and international bodies specialising in the fish and seafood sector, to promote the country's exports through business events. Some examples are, ProEcuador, Vasep in Vietnam and UPAMES operating in Senegal assists stakeholders to connect with international companies.

Establish partnership with organisations specialising in exports from developing countries, which helps companies to enhance their professionalism and boost their exports. The Centre for the Promotion of Imports from developing countries (CBI) works closely with other agencies such as the Swiss Import Promotion Programme (SIPPO) in Switzerland, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in Germany and the Belgian development agency (Enabel) in Belgium. Other services provided are contacts with reliable importers and financing opportunities. This will enable expansion within the EU markets for processors.

Private consultancy firms that can offer services to increase exports to a certain market is another option. A company such as the Seafood TIP from the Netherlands, for example, is a private agency that has lots of data and contacts worldwide. These private consultants' work is based on an annual membership or an hourly consultancy fee. Seafood TIP reports on price trends, trade and market demands that could help exporters make sound business decisions. Due to their detailed knowledge, they can be a good, reliable and personalised source for local exporters.

Certification

The Marine Stewardship Council (MSC) certification must be implemented to give exporters trading opportunities in wider EU markets, because trading under the sustainable eco brand will give Seychelles fish brand better competitive advantage over competitors since many international companies, retail chains are pro-sustainable products. The FiTI program currently being phased locally is a good starting point to action this process. The export trade in the EU has other specific requirements in relation to certification. As a standard procedure, exporters must be accredited for food safety depending on the specific requirements of the buyer. The most commonly requested food safety certification schemes for seafood products are the International Food Standard (IFS) and/or the British Retail Consortium (BRC) standard, and sometimes also GLOBALG.A.P. which is universally recognised in the region.

The European Green Deal (EGD) is the EU's response to the global climate emergency. EGD policies will likely impact trade within, and imports to the EU, the environmental and sustainability standards may become stricter at a later stage. This will mean more requirements for businesses from developing countries that export to the EU. The EGD aims for an ambitious GHG emissions reductions by 2030 and climate neutrality by 2050, which aspires to create equitable, healthy, and ecologically sustainable food systems, is built around the Farm-to-Fork Strategy. The policy puts a strong emphasis on the circular economy as well as on sustainable food production, processing and distribution. This has an impact on production, since it means that regulations governing the harvesting, processing and distribution of local fish products in Europe will become stricter over time. In terms of sustainable consumption[49], there are already concrete plans to require origin information for certain products, setting minimum mandatory criteria for sustainable food procurement and a proposal for a sustainable food labelling framework.

The high-end retail niche market demands the use of new technology such as traceability or blockchain, and a much higher level of control of the supply chain. Consumers are more interested in the source of their seafood, which encourages traceability in retail and also stimulates the increase in organically certified seafood. As an exporter, it is not easy to fulfil these demands; however, it can provide local processors/exporters broader market access and premium prices should they invest in certified products.

Branding

Trading under a brand will boost products sales as having a common brand unifies product visibility and creates awareness among consumers. The small-scale fisheries sector will gain more under a brand as it represents Seychelles and selling under the umbrella of the Seychelles Fish Brand must be actively encouraged and compulsory for all processors to increase promotional value of products on the markets. A promotional campaign to relaunch the brand should be undertaken to publicise it in all the selected markets to create business opportunities aligned with sustainable development of the sector.

[49] https://www.ec.europa.eu/food/horizontal-topics/farm-fork/strategy -sustainable food consumption

Packaging

The quality and type of packaging is very important and is market specific. For example, in Japan aesthetics are key, and creative packaging and displays of fish products determine the price value and enhances selling opportunity. Packaging from sustainable or made from environmentally friendly materials are more likely to sell better because consumers are more environmentally conscious in global markets with the growing influence of environmentalists. Review of packaging used for exports and local products on sale should be eco-friendly, branded and eye-catching.

Promotional Events

Participation in international and local fishery events must be actively pursued for networking, marketing and PR opportunities to market local fish products. This should be carried out via all media channels both in traditional and digital platforms to raise awareness and followers, in order to boost selling opportunities.

Distribution Accessibility

Most of the fish exported are by airfreight due to the distribution and supply chain delivery being faster. Sea freight is used for bycatch exports only as the fish are whole and bulky and air transport will be more costly in weight. In view of this, policy makers should consider negotiations with airline companies to facilitate trade by air transportation. This will optimise the distribution chain of products. Consideration to improve distribution to markets should include adopting new technologies in fisheries such as ultra-low temperature and packaging materials that enhance fish quality for longer periods.

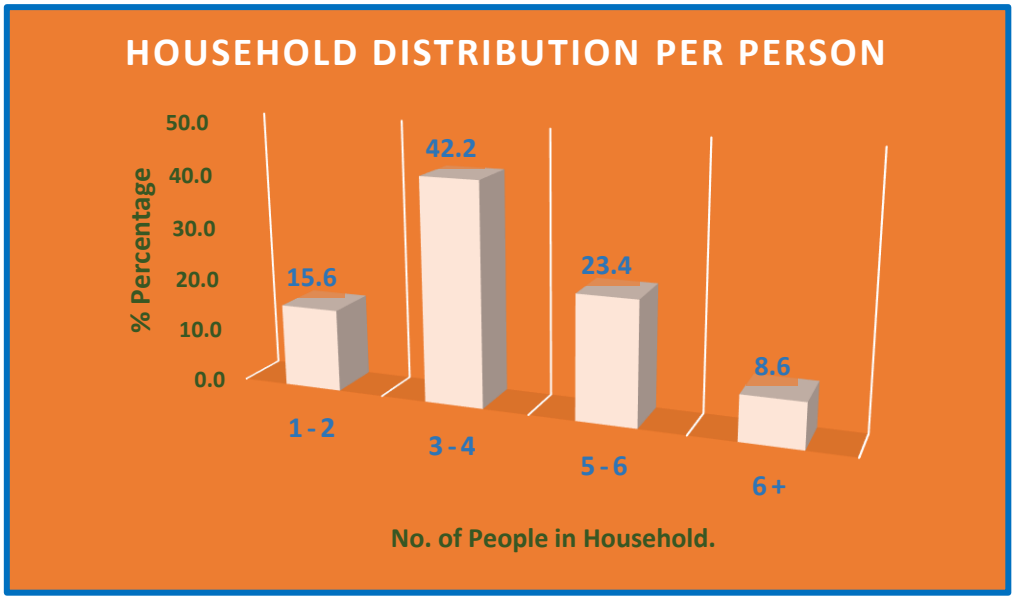
Other possibility to use sea freight is available for product category targeting aquaculture farms in Singapore, UAE, China and Japan. Feasibility to expand this trade to other regions is possible as well in the future where untapped markets in Chile, Mexico, Argentina, Ecuador and New Zealand

7 DOMESTIC MARKET DEVELOPMENT

Domestic market information from the intelligence plan to identify prospects for artisanal fishing activities and address the lack of selling points for fishermen, indicates potential for fish products in the local market. From the consumer behaviour survey data findings, trends were indicative that fish is regularly consumed and there is preference for fresh fish. Other findings showed that there is also a demand for some new products and consumers were willing to try if these were available on the market. There is also potential to target a niche by customising products which will offer additional boost to selling fish in their value-added form.

7.1 MARKET ACCESS

The average family size is between 3-4 persons per household at 42.2% and households with 5-6 persons comprising 23.4% and 1-2 persons 15.6% and over six persons 8.6%. As there is a higher percentage of smaller family groups, products can be customised to suit their needs. Family sized portions and products targeting children can be developed further.



At present, available value-added fish products on sale are fish balls, fish fingers, burgers and fillets in plastic packaging. Rebranding some of these products for children and making it available in pouches, boxes can be a possibility to increase price value of these current products being retailed. Potential to make tuna spread in tubes for children, is another possibility that targets families. Ready-prepared meals in different ranges for busy families, tourists living in self-catering accommodation, and young professionals living in flats/apartments that want convenience is a niche that can be explored. Other potential is within institutionalised markets, such as schools, prison, hospitals, nursing homes where packed meal products can be sold.

The start of aquaculture farming is a potential for supplying fish meal and the growing attention on agriculture provides another point to develop fertiliser from fish waste for agricultural use.

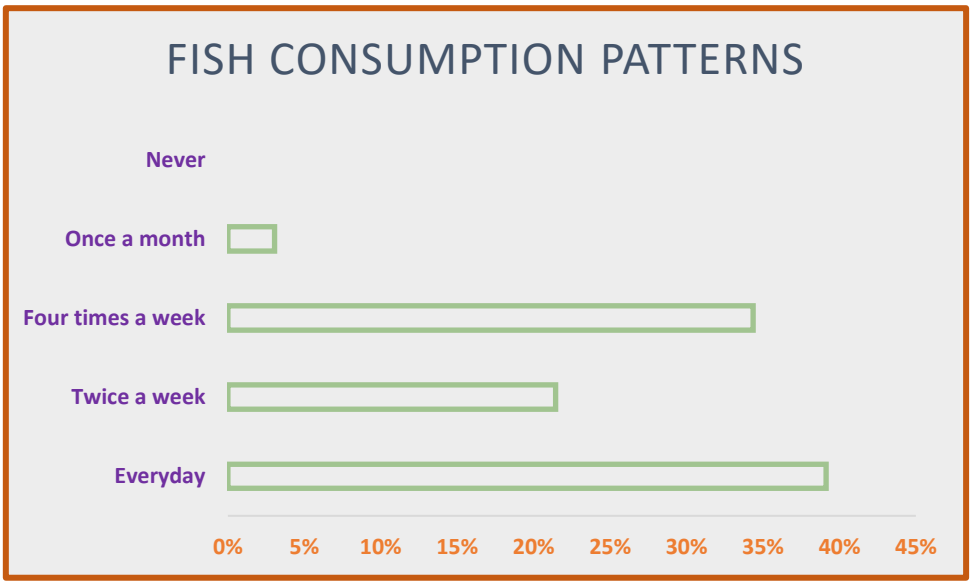
Partnering with a food retailer or restaurant targeting airport passenger traffic is another viable opportunity. For example, airport passenger traffic movement which is on average 300,000 throughput[50] annually provides potential to open a sushi bar at the airport and supply fresh fish; selling products like fish jerky in vacuum packed containers that can be sold in the Duty-Free outlets at the airport, offers selling points as both artisanal and semi-industrial fishermen have opportunities to supply catch to meet this demand, thus mutually benefiting stakeholders.

[50] SCAA Annual Reports – Statistics

In relation to the hospitality industry, networking events and partnerships can be reinforced to build long-term relationships with hoteliers to purchase from licenced operators. Culinary food festivals organised by the Tourism Department, are activities that can give exposure to fish and seafood products to visitors and locals alike, offering potential to sell.

Seychelles local residents are also diverse and the growth in the expatriate communities as per the population census in 2019[51], shows that specific products targeting niche cultures can be developed as well. Large communities of Ugandan, Kenyan, Indians, Phillipino for example, has scope to sell fish like mullets, mud crabs which is not popular among Seychellois but a staple in these communities.

The domestic market though small does have potential to sustain itself through innovation and from market survey there is a high consumption of fish meaning the market is stable for artisanal fishery as illustrated.



The focus is rather on improving marketability of products to increase selling opportunities.

A final pertinent factor that needs addressing is the regulatory and compliance measures requiring enforcement and changes in policies to improve market conditions, pricing opportunities to mutually benefit processors and fishermen, and the impact of supply on the sector's operations and value-chain potential that influence market competition conditions which is needed to drive innovation and revenue.

[51] National Bureau of Statistics Population Census 2019 Provisional Report.

8 CONCLUSIONS

To conclude, in general the scope for marketing fish and fish products from the small-scale fisheries sector is tenable into the exclusive niche markets overseas. The domestic market has also good potential to increase value of fish sold to local consumers. Both markets require deployment of some innovative steps to access target markets, and adaptability. As proposed support in opening access to markets in relation to certification, branding, partnerships are needed for the marketing strategy to have positive results.

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