



Ministry of Fisheries and Marine Resources

Namibia

**“Market and Product Development in the Monk Fish Sector”
-The case of Namibia**



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TABLE OF CONTENTS

<i>i.</i>	<i>Abstract</i>	<i>i</i>
1.	INTRODUCTION	4
1.1.	BACKGROUND	4
1.2.	OBJECTIVES OF THE STUDY	4
1.3.	METHODOLOGY	4
1.4.	OVERVIEW OF THE MONKFISHERY	5
2.	MARKET ANALYSIS	5
2.1.	DEMAND AND SUPPLY ANALYSIS	6
2.2.	PRICE ELASITICITY OF SUPPLY	7
2.3.	EXPORT VALUE	8
2.4	COMPETITIVE ANALYSIS	8
3.	PRODUCT DEVELOPMENT	9
4.	FINDINGS	11
5.	CONCLUSION	11
6.	REFERENCES	12

i. Abstract

As part of the Namibian government initiative on sustainable resources development, the Ministry of Fisheries and Marine Resources strongly urges right holders to continuously engage in value addition and market diversification of their products in an effort to realise maximum returns on their products. The importance of being in line with consumer preferences to enable them to secure markets also is highly encouraged.

The international scene is growing with emerging competitors thus puts increasing pressure on companies to be on par with technological advances for value added and efficient production.

The paper examines the progress made in terms of product development and market expansion within the monkfish sector.

In addition an insight to competitive strategies used by the monkfish industry is also briefly discussed as a result of the increasing international competition that creates a challenge for the industries to operate efficiently and create a competitive edge from their competitors.

1. INTRODUCTION

1.1. BACKGROUND

Namibia is situated on the south-west coast of Africa bordering the south-Atlantic ocean between Angola and South Africa. Namibia is rich in natural resources including the fishing sector and has an exclusive economic zone of 200 nautical miles.

Prior to independence Namibia's fisheries have been highly over exploited, given the free access and unregulated fisheries. General fish stocks were depleting due to over fishing by foreign vessels that took catches to other countries for processing, and therefore generating little benefit for Namibia. It is after independence that Namibians gained ownership of their marine resources and implementing management policies in their interests to maintain and rebuild the fish stocks.

Today the fishing industry is the second contributor to GDP, second to mining in Namibia, contributing an average of 7% at current prices to GDP over the past five years marking the success in the management of the commercial fisheries. In addition, Namibia is one of the highest developing countries that supply fish to the European market marking its successful management within the once almost depleted fishing sector. The monkfish is an abundant species that is also found in Namibian waters. The monkfish industry is 100% exported and is one of the most expensive fish species thus earning considerable foreign exchange for the country. It is caught inshore by smaller trawlers than those of the hake fishery. The catches of monkfish saw a gradual incline over the years as a by catch of hake and landings reached as high as 14802 mt in 1998, *Fishing Industry Handbook, 2003*. This raised concerns of the overexploitation of the scarce resource that led to it being a quota regulated industry in 2001.

1.2. OBJECTIVES OF THE STUDY

Namibia commitment to value addition is clearly stated in the national policy, therefore, it is the intention of this study to examine the monk fishery over the past five years. This study is to look into the progress the sector has made in terms of marketing and product development.

Thus the objectives of the study are to look into the success of the management of the fishery by:

- examining the advancement of product development within the monkfish sector and value addition in the sector
- analyse market expansion and price elasticity of supply
- and investigating competitive strategies used by the industry

In general the study supports the policy of providing market information regarding prices, trends and consumer requirements as stipulated in Namibia's *Marine Resources Policy, 2004*.

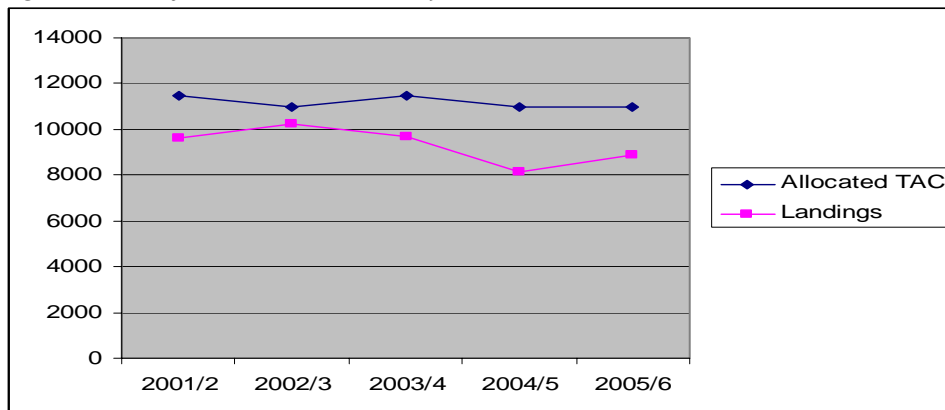
1.3. METHODOLOGY

The methodology used in this study was based on primary and secondary information. A desk study was carried out mainly using available information especially from the Ministry of Fisheries and marine Resources. Furthermore, interactive consultation with the Monk Association took place in a form of interviews. In addition, Statistical information from Eco-database and Economic model were used to validate any statistical data.

1.4. OVERVIEW OF THE MONKFISHERY

Since 2000, the management of the monk fishery has been based on total allowable catches (TAC's) and fishing rights of exploitation, individual quotas and vessel licences were set as in other commercial fisheries. Catch statistics for the monk fishery date as far back as 1981; however for the purpose of this study the focus is from 2001, since the inception of the quota system of the fishery. Figure 1 shows the total allowable catch and catches of the monk fishery since 2001/2 fishing season up until 2005/6 fishing season. It is clear that catches have not reached the TAC allocated to the monkfish sector which has brought about a gradual decline in TAC. The TAC decreased during the 2001/2 fishing season, increased the following season and then decreased further over the next three fishing seasons mainly depending on the capacity that is prevalent. Further analysis shows that there is a general positive relationship between the TAC allocated to the monkfish directed fishery and the catches as a result, see Figure 1.

Figure 1: Monkfish TAC and catches by season, 2001-2006



Source: Statistics Division, MFMR

The catches of monkfish industry declined as apposed to the years when it was regulated by fishing effort where vessels landed well over 14000 mt while during the years of 2001 and 2005, the highest catches recorded were 10058 mt in the monkfish directed industry, *Statistics Division, MFMR, 2006*. The decline in catches could be attributed by many other factors.

The monkfish resource is said to be in a sound condition and the biomass level is calculated to be above the level where the productivity of the resource will be at its maximum, *Namibia's Marine Resources Policy, 2004*.

At present there are 9 right holders fishing for monk with 25 vessels licensed for the 2006/7 fishing season with 486 employees of whom 96% are offshore, *Monk Quota Applications, 2006*.

The monk sector consists of four joint venture companies that cooperate in catching, processing and marketing of their products. These agreements have thus far proved to be successful with the vast majority of companies.

2. MARKET ANALYSIS

The Ministry of Fisheries & Marine Resources strongly urges right holders to continuously engage in value addition and market diversification in an effort to realise maximum returns on their products as stated earlier. In support of this, the Government encourages and promotes active participation on of Namibian companies within joint ventures with foreign companies in all disciplines of fishing, processing, marketing and distribution as part of skills transfer, *Namibia's Marine Resources Policy, 2004*.

Thus the importance of value addition should not be undermined as an important element in realising positive economic benefits for the industry and the economy as a whole, Christianson, B. 2006.

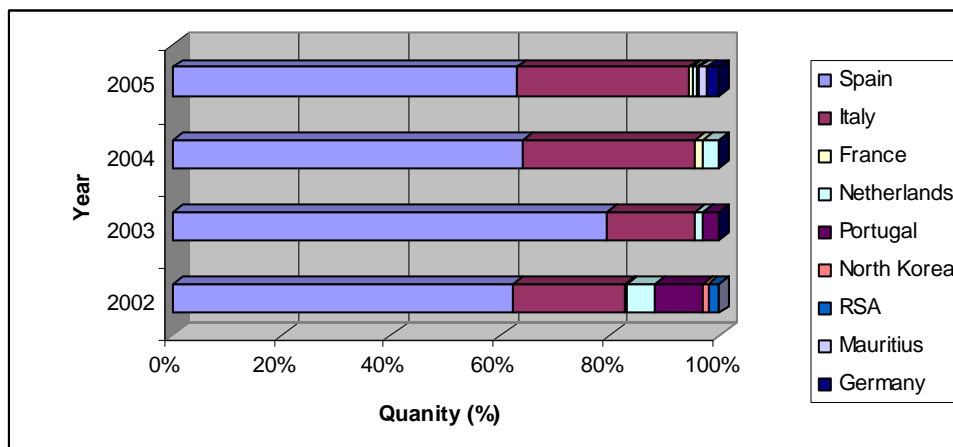
Right holders have operational links with European retailers (Spain and Italy) and some have managed to secure joint venture operations with European marketing companies. More specifically some companies

have contracts with super market chains while others sell to restaurants via an approved distributor for each market where they are shipped off by containers to their destinations.

Figure 2 below shows the export quantity in percentage terms by country during the period of 2002 to 2005. It is evident that Spain is the main market where over 60% of total monkfish products was exported to over the past four years its highest being during 2003 where it made up 80% of total exports. Italy, Portugal, Netherlands and Germany's demand for Namibian monk fish showed a significant demand over the years.

A closer look shows that markets have emerged significantly over the years especially in 2005 where countries like Mauritius and Germany have shown a demand for Namibian monkfish. Nevertheless the smaller markets such as those of North Korea, France, South Africa, and Monaco have still shown the need for Namibian monk fish. More significantly very little is exported to Asia and South Africa is the only African country where monk is exported to.

Figure 2: Namibian total quantity exports by country (%), 2002-2005



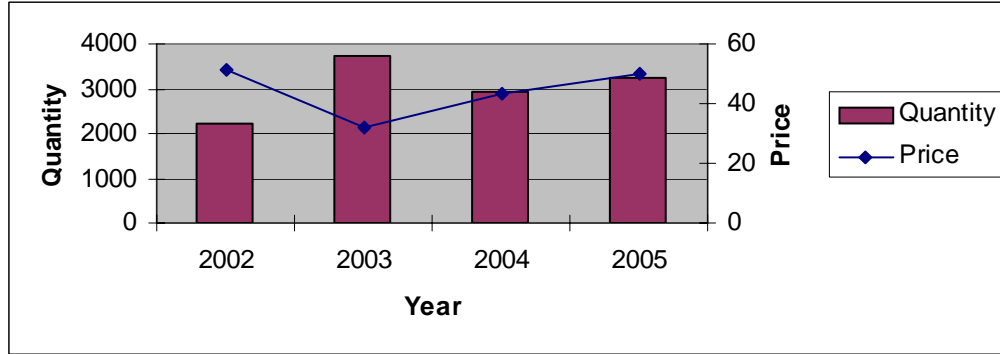
Source: Eco-data base, MFMR

2.1 DEMAND AND SUPPLY ANALYSIS

Figure 2 indicates the emergence of smaller markets such as Mauritius, France and Germany signifying that Namibian monkfish continues to be a highly sought after product in the international markets and phenomenally the overall world demand is greater than supply primarily due to the abundance of this resource.

Looking at figure 3, the average price of monkfish experienced a sharp decrease in 2002 from N\$51.08/kg to N\$32/kg and this saw a significant rise in demand for monkfish. Since that period the average price has increased to N\$43.47 in 2004 and to N\$50.05 in 2005. The price increase over the past two years was brought about from the appreciation of the Euro against the Namibian dollar in 2005. The quantity exported decreased between 2004 and 2005, however due to the price increase experienced in 2005 from 2004 the industry earned a higher return on their exports.

Figure 3: Average monkfish prices and export quantity, 2002-2005



Source: Eco-data base, MFMR

Namibian monkfish is a highly sought after product and its demand is expected to increase as a result from the increasing demand for fish products especially in the European market mainly due to fish's nutritional value, thus seen as a healthy source of food.

2.2 PRICE ELASTICITY OF SUPPLY

There are various empirical methods used for seafood market research and often researchers use demand and supply models to measure the sensitivity of quantity supplied to price changes or consumer income changes where elasticity measures are developed, *James L. Anderson, 2003*. The most common estimated elasticities are price elasticities.

We will use price elasticity of supply which measures the percentage change in quantity supplied resulting from a one percent change in price. This measure provides suppliers with an idea of how sales might be affected by changing prices.

It is calculated as follows:

$$\text{Price elasticity of supply (PEoS)} = \% \text{ change in quantity supplied} / \% \text{ change in price.}$$

It would also be interesting to measure the responsiveness of quantity supplied to changes in price in the European market where over 90% of monkfish products are exported to.

Table 1 shows the export quantity and average price in the European market during the years 2002 to 2005

Table 1: Total Export Quantity and Price to Europe, 2002-2005

Year	Quantity (mt)	Price (N\$)
2002	2,145	51.71
2003	3,747	32
2004	2,952	43.48
2005	3,183	50.2

Source: Eco-data base, MFMR

- If PEoS is greater than one, then supply is price elastic (supply sensitive to price changes)
- If PEoS is equal to one, then supply is perfectly elastic
- If PEoS is less than one, then supply is price inelastic (supply is not sensitive to price changes)

Using the information from Table 1, price elasticity during the years was:

- 1.97 between 2002 and 2003
- -0.58 between 2003 and 2004
- 0.52 between 2004 and 2005

Deducing from the above information supply was elastic between 2002 and 2003 with a value of 1.97 meaning that a change in the demand for monkfish products would bring about a small change in price as experienced in 2004 where the price increase by 21% and a large change in quantity supplied where it decreased by 36% . During 2003 and 2004 price elasticity of supply was -0.58 depicting inelastic supply thus a change in demand would bring about a large change in price as experienced in 2005 and a small change in quantity supplied similarly the same can be said with respect between 2004 and 2005 where price elasticity of supply was 0.52 which is fairly inelastic. Having said this it is clear that supply over the past few years has been inelastic where changes in price had modest changes to the quantity supplied and assuming that the demand for monkfish products increase and with slight changes in the TAC , prices will also increase however this will not lead to a significant increase in quantity supplied, thus signifying the inelasticity of supply.

2.3 EXPOPRT VALUE

Table 2 shows the value of export production of all fish and monkfish during 2001 and 2005 which gives the Namibian dollar equivalence of foreign currency earnings brought to Namibia due to the sale of fish. On average monkfish has contributed about 5.3% to the total fisheries export value over the past five years. The TAC decreased during 2003/2004 fishing season and 2004/2005 fishing season and similarly catches during that period also decreased and due to the increase in prices the export value is expected to further increase from the provisional figure that is given as N\$ 3 257.7 million.

Table 2: Total export value of fish and monk fish, 2001-2005 (N\$ millions, current value).

Year	2001	2002	2003	2004	2005*
Export value	2 862.7	3 311.2	3 506	3 348.1	3 257.7
Monk export value	143.3	196.7	106.7	97	234.3
% of export value	5%	6%	3%	2.80%	7.20%

Source: Economic model, MFMR

Note: * provisional figure

2.4 COMPETITIVE ANALYSIS

The competitors in the monkfish industry are Brazil, China, South Africa, and USA amongst other European countries. The fishing commercial world faces hyper competition where competition is very intense and thus all competitors must constantly seek to find new ways to add value for the customer. It would be interesting to look at what competitive strategies are used within the monk industry as a whole to compete on the international market.

By far the best known and most widely used strategies are Michael Porters' generic competitive strategies, *Investment Management, 2006* and distinguish which approach the monkfish industry takes. The strategies are cost leadership approaches, broad-market differentiation, focus strategy.

- **Cost Leadership**

Fishing companies can acquire a competitive advantage via a cost leadership strategy where they produce in large quantities and a low level of differentiation is required. The aim here is to achieve economies of scale in production and marketing and thus aim for the average consumer.

- **Broad-market differentiation**

A differentiation strategy involves marketing a product that is clearly distinguishable from others in the market place. In the fish market, this means the product has attributes that are distinct from others in the form of the product form.

- **Focus strategy**

The focus strategy involves a segmentation approach where markets are identified on the basis of the specific product form or marketing channels.

The monkfish industry finds itself using a combination of all three strategies to various markets, but the most dominant of them all is the broad-market differentiation approach. For example, certain companies supply skin on monk tails to the Spanish market while skinless tails are supplied to the Dutch market. The key to differentiation is product quality; however a danger in this is that of the time frame the company can sustain the product differentiation advantage.

The monkfish industry world-wide is so controlled such that prices do not fluctuate much and no major discrepancies in prices exist in the market which in a way pushes companies to focus on a differentiation approach.

3. PRODUCT DEVELOPMENT/ANALYSIS

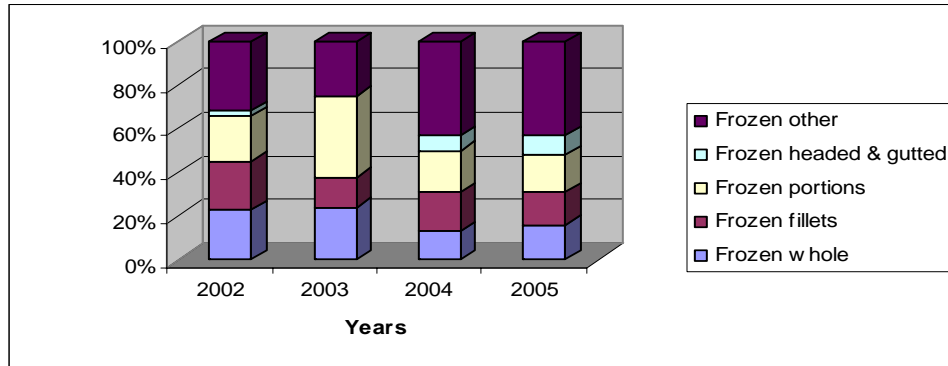
Namibia's commitment to value addition is clearly stated in current national policy. The policy document entitled: Marine Resource Policy: Towards Responsible Development and Management of the Marine Resources sector (2004) encourages value added processing of fish and support the development of high value products for domestic, regional and international markets. Specific mention of value addition is detailed in several pieces of legislation in Namibia. The investment climate is guided by the following:

- Foreign investment act (e.g. certificate of status investment, tax and non-tax incentives etc)
- Income Tax Act (e.g. manufacturing status provision)
- Export Processing Zone Act
- Labour Act and Company Act

In Namibia, monkfish known as the goosfish, anglerfish or all-mouth is mainly processed onboard vessels into various product forms such as fillets, headed and gutted and frozen portions/ tails. In general, not all Namibian companies produce the same product forms, more specifically they engage in monk tails (skin/less), fillets and cheeks or only in one product form. It is also worth noting that further valued addition to the Namibian monk products exported takes place outside the country in the hands of the retailers to suit their consumer preferences. This indicates that there is a huge potential for Namibian companies to have a diversified product line. This means that any change in demand will largely affect the product prices and little effect to quantity supply with reference to price elasticity supply analysis. Therefore, it is vital to encourage companies diversify their products base to increase the demand which will lead to the increase in prices in the international market and consequently the export value in Namibia will increase.

Figure 4 below shows the product forms exported during the years 2002 and 2005. Frozen whole has decreased over the years showing that companies are moving into more product diversification, indicated by the part

Figure 4: Product forms exported, 2002-2005



Source: Eco-data base, MFMR

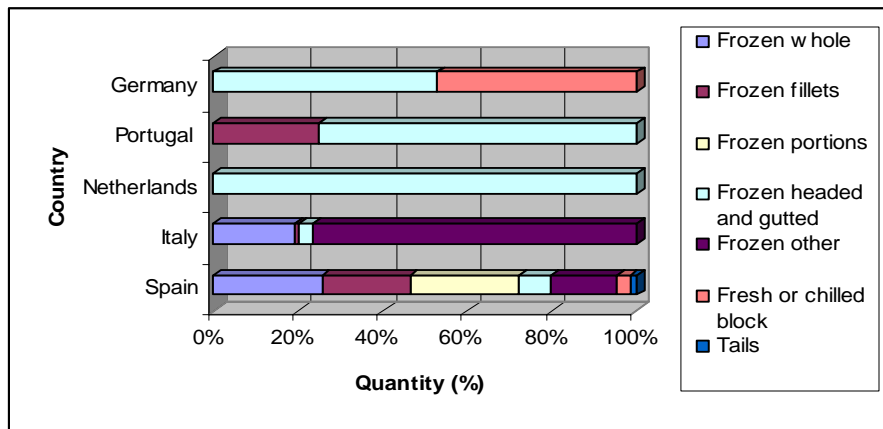
Labelled frozen other making up over 30% of total products exported in the past two years. Headed and gutted is not too popular as compared to other product forms where it has a smaller share of around 10% of products exported. Frozen fillets and frozen whole generally equally have a share of 10% to 20% of total exports.

Furthermore, dog fish and other ground eating shark species are considered to be the immediate substitutes for monkfish products in the market.

Figure 5 below shows the product forms exported to the top five export markets of monkfish during 2005. Exports to the Spanish markets are the most variable as indicated by the chart where all product forms are exported followed by Italy where at least 4 product forms are exported.

It is clear that market demand for Namibian monkfish product forms is not uniform in all countries thus creating room for the Namibian monkfish industry to form niche markets with the respective product forms.

Figure 5: Product forms exported to top five export markets, 2005



Source: Eco-database, MFMR

4. FINDINGS

- Monkfish has contributed a significant amount to the export value of fish and fish products in Namibia. The per capita consumption of fish in Europe has increased signifying rising demand for Namibian fish products and in this regard the monk fish prices, export value and overall fish products will inadvertently increase.
- Namibian monkfish sector has progressed well in terms of establishing and securing markets at international level and there are opportunities for creating niche markets due to the variable monkfish product demand.
- Monkfish companies operate in a monopolistic industry where they have adopted a differentiation strategy in the market as their competitive advantage.
- Value-addition does take place in the monk fishery, therefore companies are encouraged to develop high value products for domestic, regional and international markets (legislation and policy) are evident in this regard.
- The supply of monkfish products has been inelastic over the past few years thus any changes in demand will largely affect the prices while having a modest effect on the quantity supplied.

5. CONCLUSION

In conclusion the Namibian monk industry has progressed over the past five years in terms of export to international markets and this could be used as a benchmark for other sectors in terms of securing markets and their efforts of quality enhancement in their products.

However, the sector is encouraged to do more research and development and add more value addition to their products locally in order to create more employment opportunities and in essence to increase the export value to positively contribute to the Namibian economy.

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