

The fisheries sector of mauritius economics essay



This proposal will support the development of the dissertation in an attempt to evaluate the factors affecting the Mauritian tuna industry, forecast export and formulate future strategy to ensure its sustainability in line with the vision of the government to make the fisheries sector an economic pillar with due regard to sustainability of aquatic resources and social development. In the wake of assessment of the socio-economic and other external factors impacting on the tuna industry, the dissertation will align itself within the government mission to provide an enabling environment for the promotion of the sustainable development of the fisheries sector and to ensure continued economic growth and social development within the framework of good governance. As a result, it will contribute to sustainable development and food security within the context of the realisation of the project “Mauritius ile durable”

BACKGROUND

2. 1 Geography

Mauritius is the central member of the Mascarene group of islands which involve Mauritius, Rodrigues and Reunion and it is situated at Latitude 20° South and Longitude 58 ° East, which is about 800 km from the south-east of Madagascar. They are all volcanic islands which are surrounded by coral reefs with average temperature between 22 °C and 28 °C. The islands are often faced with cyclonic weather which occurs almost annually between the months of December and April. The productivity of the oceanic water around Mauritius is estimated to be 5 TC/km²/ year, which is low compared to 200-300 TC/km²/year for the waters surrounding the Seychelles Groups.

2. 2 The Fisheries Sector of Mauritius

Mauritius is a maritime state with an Exclusive Economic Zone (EEZ) of about 1. 9 million km². In 1978, Mauritius, a signatory member of the third Convention on the Laws of the Sea proclaimed its 200 nautical EEZ and has the potential to develop the marine resources both for employment and economic benefits for those engaged in the fishing sector. The islands that comprise the Republic of Mauritius are widely dispersed and therefore the EEZ covers a larger area of sea relative to the land area.

Figure 1: Exclusive Economic Zone

Source: Albion Fisheries Research Centre

In December 2008, the Republic of Mauritius and the Republic of Seychelles, both parties to the United Nations Convention on the Law of the Sea (UNCLOS), made a Joint Submission to the United Nations Commission on the limits of the Continental Shelf (CLCS) beyond their respective 200 nautical miles Exclusive Economic Zones in the region of the Mascarene Plateau. The CLCS appointed a sub commission that examined the Joint Submission in 2009. Following the extensive deliberations, the CLCS finally made its recommendation in March 2011 which resulted in Mauritius and Seychelles being jointly conferred the jurisdiction upon the joint area of ECS of 396, 000 km².

Source: Mauritius Oceanography Institute

The Mauritian Economy is based on exportation of Sugar, Textile, Tourism and Fisheries. The fishery sector of Mauritius plays an important role in the national economy. Fishery constitutes an important source of protein for the

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population of the country contributing to nutrition, food security and foreign exchange earnings as well as supporting poverty alleviation. It comprises the banks fishery, artisanal fishery, fish aggregating devices (FAD) fishery, tuna fishery, sports fishery and aquaculture.

Artisanal fishery

The term artisanal fisheries typically refers to traditional fisheries that involve households (as opposed to companies) which use relatively small amounts of capital and small fishing craft, making short trips and staying close to shore with the catch intended mainly for local consumption (Charles, 2001 ; FAO 2004a).

Banks fishery

The banks (St Brandon, Nazareth, Saya de Malha and Chagos) found around 250 to 1200 nautical miles to the north of Mauritius are exploited by Mauritian fishing vessels producing frozen fish. The Banks fishery is the traditional supplier of chilled and frozen fish on the local market. The banks are exploited by refrigerated mother vessels which carry around 20 small dories. Fishing method used is hand line.

Aquaculture

Aquaculture is considered in all forecasts as the only reliable sustainable additional source of supply. Aquaculture is farming of fish, shellfish and aquatic plants in fresh or salt water.

Sports and Aquarium fishery

The Sport Fishery involves local fishermen and mostly Tourists. It is an important attraction in Mauritius.

The fisheries sector of Mauritius provides employment to around 13, 000 people in fishing, fish processing, marketing and ancillary activities linked to the fishing industry. Although the contribution of fisheries to Mauritian GDP in 2010 was 1. 3%, its share of national exports was 14. 7%. Exports of fish and fish products amounted to Rs 8. 1 billion (US \$270 million). Demand for fish and fish products has constantly increased leading to more fish consumption which is evidenced by the per capita consumption standing presently at 21. 7 Kg. Ninety percent of our fish and fish products export constitute of tuna. Mauritius is currently a major supplier of canned tuna to the EU market. For the past three years, the seafood industry has been expanding rapidly, with investments in various activities ranging from fishing to seafood processing and logistics services.

2. 3 Overview of the Tuna Industry of Mauritius

The tuna fishery is the most important industrial fishery in Mauritius. Before 1979, tuna was fished mainly with longlines and pole-and-line. Longlining involves the use of line with baited hooks as fishing gears. It is made up of baskets which consist of a main horizontal line about 250 to 800 m long with 4 to 15 branch-lines each with a wire leader and a hook. The longline fishery started in 1970, but stopped operations soon after. Two small longliners started again in 1980, but, their catch was too low and had to stop operations. By 1995, there was only one longliner from Mauritius. In 2004, three foreign owned vessels came to operate in the Mauritian water in longline fishery. Their fishing area was spread widely in the Western Indian Ocean. In 2007, the number of licenses provided to longliners increased to 141, mostly from Taiwan, South Korea, Japan, Indonesia, Belize and Malaysia.

In that year, a total of 15580 tonnes of tuna and related species were transhipped by these longliners of which 4268 tonnes were caught in the Mauritian EEZ.

The purse seine tuna started to operate in 1979 with the first Mauritian purse seiner 'Lady Sushil'. Tuna purse seining involves setting a large wall of net, approximately one mile in length to encircle tuna schools and entrap them. It was operated as a joint venture involving Mauritius Tuna Fishing and Canning Enterprise and two Japanese companies. From then, it made pioneering fishery in the northern sector of the South West Indian Ocean and was one of the vessels to confirm the successful operation of purse seiner in the area. Eight years later, it was joined by a second vessel 'Lady Sushil II'. A third purse seiner 'Cirn ' started operation in 1991. Until 1997, they were operating for the local canning factory. As the canning was not able to conform to the EU regulations concerning safety measures, there was a need for a new factory. Thus, to overcome financial problems and due to changes in the administration of the factory, the vessels were sold off to Princes Tuna Ltd, a UK company and the factories now rely on import of raw materials to meet its requirements. The Princes Tuna Ltd started its operation in 2000. The factory is operated under a British-Mauritian joint venture, Princes Ltd (UK) and Ireland Blyth Ltd (Mauritian company). This new factory satisfies all the norms and regulations of the EU for their exports. A second processing plant, 'Thon des Mascareignes' started its operation in 2005 and is a subsidiary of the IBL Group. This factory produces tuna loins which are exported both to European and non-European markets.

Tuna transshipment is a valuable related activity since several decades. An artisanal tuna fishery has also developed around FADs placed around Mauritius. The economic contribution of tuna and tuna like species stands at €250 million and there is the potential for such contribution to be further increased. The fishing methods adopted for tuna fishery in Mauritius include purse seine, longline and FADs. Tuna is exported to our main market which is the EU. Mauritius benefits from several agreements such as Mauritius EU Fishing Agreement, Fishing Agreement with the Federation of Japan Tuna Fisheries Cooperative Association, Fishing Agreement with Seychelles and a Memorandum of Understanding with Mozambique. These agreements help Mauritius to enjoy preferential market access.

In Mauritius, the export of tuna constitutes 90 % of total export value of fish and fish products. However, there are factors affecting it such as local catch, foreign catch, inflation rate, number of licences, transshipment, employment, foreign exchange, agreements, market price and imports. As a result, the Government has to direct more effort in the importation of fish and fish products to meet the demand of the population.

2. 4 Problems and challenges of the Industry

Though the tuna fishing industry contributes significantly in the economic development, it is recognised that inherent weaknesses of the local fishing companies, coupled with emerging external factors hamper investment for expansion of the sector. Problems such as reduction in the availability of raw materials, food security, increasing competition and rise in operating costs may undermine the sustainability of the industry. In addition, there is indication that preferential access to the EU market is not a guarantee for

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the long-term and the EEZ extension represent real challenges which will require the government to devise new strategies to make the tuna industry more sustainable and a real pillar of the economy.

2. 5 Organisational Reasons

2. 5. 1 Stakeholders and Target Beneficiaries

The immediate beneficiaries of the dissertation will be the Ministry of Fisheries and the Tuna Fishing and Processing Companies. The dissertation will help fisheries administrators and stakeholders to better understand the status of the tuna industry, evaluate the factors affecting its sustainability over the long term so as to increase exports and ensure a more significant and on-going contribution to the Mauritian economy. The dissertation will also provide guidance in the formulation of long term fisheries strategies with respect to the tuna industry and support managers of the companies in decision making towards enhancing development and profitability of their enterprises.

The secondary beneficiaries include amongst others, the fishermen community, workers of tuna processing companies, retailers in food products and the consumers.

Implementation of the recommendations of the dissertation will ensure continued employment for workers of the tuna industry, a sustainable exploitation of the tuna resources taking into consideration the future generation and a guaranteed supply of tuna for the local and international markets.

2. 5. 2 Perceived problems

The dissertation will require the collection and analysis of secondary data relevant to the tuna industry. These data and any other additional information are available at the Ministry of Fisheries, Mauritius Statistics Bureau, the Tuna Fishing Processing Companies, the Mauritius Export Association, Association of Tuna Fishermen, The Small and Medium Enterprises Development Organisation and the Ministry of Industry and Commerce. In addition, extensive research would have to be undertaken through the internet to obtain literature on the works of key writers and their ideas. Relevant journals and magazines from International Organisations such as the EU, FAO and the Indian Ocean Tuna Commission (IOTC) would have to be acquired to obtain up to date information on policies and agreements on tuna development.

Successful implementation of the dissertation will depend on the availability of data necessary to conduct the research and the ability to convince the stakeholders to participate in discussions and provide relevant information on the subject. Arrangement of meetings with the relevant officials of the Ministries and Managers of the Fishing Companies may entail delays in the process of data collection. In addition, holding of meetings with the fishermen community may be difficult to arrange in view of the nature of their works and time availability. Hence, resorting to individual contact may have to be opted

In addition, since not much academic research have been undertaken in this field being given that the tuna industry is an emerging one within the Mauritian sea-food hub, documentation may be limited and dispersed.

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AIMS AND OBJECTIVES

The main aims and objectives of the dissertation are:

To take stock of the status of the tuna industry in Mauritius and its contribution in the economy

This includes collecting data on the level of output, import content, export, employment and contribution to GDP.

To determine and analyse factors impacting on export of tuna

In this context, different factors influencing the export of tuna will be identified and analysed.

To assess the impact of these factors

The level of impact of the different factors will be determined through a regression model.

Investigate the sustainability of Mauritian tuna industry

This means finding the trend in tuna production and exports under the influence of the different factors and determine any problem of sustainability.

Forecast exports for 2012

Given actual conditions and using exponential smoothing, the export forecast for 2012 will be made.

To propose a strategic plan for the sustainable development of the tuna industry for the next ten years

Based on findings, a detailed strategic plan consisting of management measures will be proposed so as to address the various problems which can threaten the sustainability of the industry.

LITERATURE REVIEW AND ANY SECONDARY RESEARCH

The dissertation will deal with the tuna industry in Mauritius and the socio-economic factors impacting on its sustainability. For this purpose, similar studies in this particular field will have to be identified through research works to serve as reference for the present dissertation. Subsequently, a critical review of the literatures will be undertaken in order to identify relevant information pertinent to the requirement of the dissertation and also their limitations.

Through the Internet, a series of literatures concerning tuna has been identified. However, a few of them relevant to the subject of the dissertation have been selected for reference.

Kuldilok (2009) conducted a study on the tuna fishing industry in Thailand to understand if Thailand has been able to achieve sustainability in its tuna fisheries with due consideration the economic, social and environmental aspects. Firstly, the research was undertaken to forecast Thai tuna exports for the five years 2007-2011 using the ARIMA model. Population growth and income were identified as the factors that affect demand. From the forecasting results, it was noted that as tuna stocks are over fished around

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the world, the Thai tuna industry is expected to face a fall in its exports which implies a less productive processing sector.

The livelihoods of workers were also considered as the factors that affect the sustainability of the tuna industry. Economic downturn and natural influences were found to be the factors which affected the Thai tuna industry and led to variability in the income of the workers.

The study also found that Thailand has a comparative advantage in the production and export of fisheries products worldwide. It is noted that this advantage depends on low labour costs which is not in line with economic growth in the Thai economy. Moreover, changes in the rules of origin of the EU were also factors that led to the Thai economy being less competitive. In addition, though supply is limited demand for tuna worldwide keep on growing. This may in turn lead to a rise in the price of tuna and also in the costs of raw materials such as fuel and other inputs. This found to be a constraint to the sustainability and the growth of the tuna industry. As a result, the best solution was to develop the tuna aquaculture which is endowed with vast marine resources. As shown from the analysis, the lower demand forecasts, inadequate raw material, and changes in the EU rules and regulations are the factors that act as impediment to achieve economic, social and environmental sustainability and hinder the growth of the Thailand tuna industry. It was finally noted that proper management measures can help in the development of the tuna industry though it will not achieve the high growth as before.

After perusal of the document, it was found that materials in the study could be referred to as support to the present dissertation. However, it is noted that the study was carried out in 2009 and dealt with data of previous years when the impact of the EURO crisis was not fully felt.

Attempt has been made in the journal of 'Managing fishing capacity in tuna regional fisheries management organisations (RFMOs): Development and state of the art' to review and analyse both the historical development of fishing capacity management in tuna RFMOs and their state of the art practices. Despite the fact, that this far, management measures have not yielded the expected results for capacity reduction, they provide a good basis for improved management of capacity at regional and global levels. Overcapacity is a major threat to the sustainability of tuna resources. Diverse actions are being carried out by tuna RFMOs to counteract this problem.

The author has found that according to research made on managing capacity in RFMO's, overcapacity is a persisting problem that demand for effective management measures to be stabilised. Overcapacity in fisheries emerged as a result to a rise in overfishing. It was underlined that overfishing presents serious challenges and is considered to be the major threat to the health of the marine environment and an obstacle towards the achievement of sustainability in the fisheries sector. In order to solve the overcapacity problem, an International Plan of Action for the Management of Fishing Capacity (IPOA-Capacity) was set up in 1999. This plan of action provided countries and regional bodies with the opportunity to assess capacity levels in fishing and adopt appropriate measures. Though the IPOA capacity has <https://assignbuster.com/the-fisheries-sector-of-mauritius-economics-essay/>

been well recognised, full execution of this plan of action is yet to be attained. It is recognised that open access is amongst the drivers of overcapacity. Worldwide fishery is of immense importance and Regional Fisheries Management Organizations (RFMOs) are key players in their management. RFMOs are engaged in the management of tuna stocks, which are the largest and commercially the most important of all fisheries and which are now facing excessive capacity. The tuna industry contributes significantly to the economy of various countries. As a result, implementation of management and conservation were put in force by the RFMOs and other initiatives to overcome the problem and to ensure its sustainability. Different RFMOs have been set up such Inter American Tropical Tuna Commission (IATTC), International Commission for the Conservation of Atlantic Tuna (ICCAT), Indian Ocean Tuna Commission (IOTC) and Western and Central Pacific Commission (WCPFC) to address the capacity problem and provide solutions to reduce capacity levels in tuna fisheries. Since it is not possible to prevent access to high seas and prevent IUU activities, it is expected that capacity will keep on rising. IUU fishing is a major threat to the long-term sustainability of the world's oceans and is pressing problem that is difficult to counteract. IUU fishing depletes fish stocks, destroys marine habitats and distorts competition particularly in developing countries. The ineffectiveness of management measures open opportunities for foreign illegal vessels to exploit endangered and threatened species of fish which further increase the capacity problem. However, investment in innovative fishing gear can help to deter this problem. Participatory platform to manage tuna stocks have been put in force by RFMOs to suggest measures to solve the capacity problem. Measures previously implemented are further discussed so as to be more

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effective. Creation of a global vessel register, port state measures and trade sanctions may complement current practices to discourage the building of capacity not affiliated to specific RFMOs.

The study has highlighted various problems pertinent to managing measures, threats to long term sustainability, illegal fishing and the effort of RFMO's to address the issue of fishing capacity. Observations made and measures proposed may be used as reference. However, the study has not dealt with an analysis of socio-economic factors which will be an important requirement for the dissertation. Given that Mauritius is endowed with a very large EEZ, it is difficult to enforce surveillance effectively. Illegal fishing still persists and the piracy problem has emerged. Similarly, in the lagoon and off lagoon, illegal fishing has not been eliminated completely. At the same time, the possibility of causing damage to the marine environment cannot be ruled out.

Therefore, the measures mentioned above can be used to solve this problem.

The fish policy paper prepared by the FAO in 2004 based on available data noted that, 75% of fisheries have already been exhausted or been overfished. According to Delgado et al. (2003), since the 1973's, the consumption of fish keeps on rising and in order to meet the rising demand, production has also increased at the same time. The consumption and production of fish are greater in developing countries than in developed countries. Fishery products are considered to be the most highly traded on the international market (FAO, 2004a). It was noted by Schorr (2004) that

about a billion people in the world depend on fish for their livelihood. The fisheries sector has always been considered to be an important sector of many economies. It contributes significantly to the economy in terms of food security, employment and economic benefits especially to those involved in this activity. Bilateral Fisheries Agreements between the EU and third countries which existed since long as the Common Fisheries Policy gives the opportunity for the EU fleet to access resources which its partners cannot or do not want to exploit. However, though The Bilateral Agreements facilitate access to fisheries resources, it has also led to over exploitation of fisheries resources in developing countries thereby reducing the level of competitiveness. It is further noted that increasing tariffs, supply side constraints and different rules of origin are amongst the factors that may hinder growth and development in the developing countries. In addition, subsidies have led to market imperfections, reduction in competitiveness and may lead to economic instability. Moreover, increased international trade may lead to environmental problems and presents challenges towards the achievement of sustainability. In order to achieve sustainability, livelihoods and environmental aspects need to be considered. However, the ability to obtain foreign earnings from trade could be a way for countries to achieve sustainability. As a result, there is a need for efficient use of the fishery and a healthy marine environment in order to maintain productivity and to ensure that it continues to contribute effectively to the socio-economic development countries. The fish and fisheries market has been witnessed a tremendous increase worldwide. Overfishing is considered to be the main barrier that prevents the fishing industry from achieving long term sustainability. Almost all fishing grounds in the world and fishery resources

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are adversely affected by overfishing (FAO, 2004a; Pauly et al., 2002; Stone, 1997). With three-quarters of fish resources already under threat, the importance of fish and fishery as a source of socio-economic development worldwide is questionable. Different management and conservation measures have been implemented to address the problem of sustainability. Moreover, RFMOs have also been set up to regulate capacity measures towards the achievement of sustainability. However, though several actions have been taken to counteract the problem of sustainability, the problem of overcapacity is still persisting and has not been resolved yet.

The FAO has in the paper highlighted the overexploitation of fisheries resources in the world. Reference is made to the growing demand in fish consumption which has entailed an unsustainable exploitation of the resources to increase supply and in so doing has underestimated the benefits of the ecosystem supporting marine life. In order to mitigate impacts of such activities, the attention of the RFMOs has been drawn to direct effort in the setting up of appropriate legislations to control and monitor the exploitation of the resources.

It is recognised that there is growing concern on the conservation and preservation of the fisheries resources. However, the paper has focused on fisheries in general, without highlighting particular attention to factors affecting the tuna industry. It is therefore felt that this paper will have limited contribution to the dissertation.

This paper of ' Ocean Tuna Fisheries, East Asian Rivalries, and International Regulation' has been prepared in the context of the Japanese policies and

the overcapacity/IUU fishing conundrum. Despite all efforts made both on a national and international stage, piracy continues to be a persistent problem. Moreover, IUU fishing keeps on rising affecting both territorial and international waters. IUU fishing represents a major threat to the long-term sustainability of the world's oceans and is pressing problem that is difficult to counteract. IUU fishing depletes fish stocks, destroys marine habitats, distorts competition particularly in developing countries and also affects the socio economic development of many people. It is widely recognised that fish stocks are under severe pressure and is a highly contested issue internationally. This persistent problem arose as a result of innovative fishing techniques which were harmful to the marine environment, increase in fishing fleets and continuous rise in the global demand for fish and fishery products. As estimated by the FAO (2004), half the fish stocks were already at full exploitation levels; seventeen percent of the fish stocks were overexploited; seven percent were actually depleted. It has been widely recognised that tuna stocks worldwide are at risk, especially in the Pacific regions. It should however be noted that all tuna stocks have not been depleted yet. Since the implementation of the U. N. Law of the Sea Convention (" UNCLOS") in 1982, many actions have been taken together with other fishing agreements to contribute to the sustainability of fisheries. However, since the UNCLOS contains no provision, did not comprise of guidelines to control the exploitation of the marine environment and a scheme to ensure the conservation of migratory species, the UNCLOS agreement has been proved to be a failure. In order to deal with the persistent problem which the UNCLOS could not, RFMOs have been established in every ocean to adopt management and conservation

measures to protect migratory species in order to ensure its sustainability.

The FAO adopted the Code of Conduct to reduce overexploitation of fish and prevent illegal fishing. Further, International Plans of Action (“ IPOAs”) was adopted to resolve overcapacity in fishing and IUU fishing. In view with the IPOA policy and to achieve sustainability, Japan has significantly reduced its capacity of fishing fleet. Moreover, Japan has also taken into consideration the International Commission for the Conservation of Atlantic Tuna (“ ICCAT”), and in the Western and Central Pacific under the WCPFC to deal with IUU issues and better contribute to the conservation of marine resources. However, though Japan has made much effort to reduce its fleet capacity, larger international efforts are required ensure sustainability. Efforts are also needed by other nations so as to achieve sustainability.

This paper discusses the sustainability of the world oceans under the impact of major threats of IUU fishing and the emerging problem of piracy. It underlines the depletion of the world tuna stock and highlights the actions of RFMO’s to adopt management and conservation measures of migratory fish species which were not taken into account under the UNCLOS agreement. In addition, mention is made on the FAO Code of Conduct for responsible fisheries to reduce over-exploitation of fish and the International Plans of Action to resolve over capacity in fishing.

Issues discussed in the paper may be of relevance to the dissertation with regards to effort directed for the preservation and conservation measures taken to ensure continuous use of the resources to satisfy the need for the future generation. The paper has, however, not discussed other external factors such as climate change, the rising price of fuel and the impact of the <https://assignbuster.com/the-fisheries-sector-of-mauritius-economics-essay/>

EURO crisis. Mauritius, being located in the region of piracy operation may be affected by instability in the supply of raw materials for its industry and hence putting at stake the sustainability. It is observed that in the paper, the problem has only been referred to without proposing concrete actions for its elimination.

According to the paper of 'EU CFP Reform: Towards Sustainable EU-ACP Fisheries Relations' it is found the fisheries sector is an important sector for Coastal ACP countries. The EU imports constitute of more than 60% with 10% of EU fish imports coming from ACP countries. In order to contribute towards sustainable fisheries, the EU needs to take into consideration factors such as access to resources, access to markets and investments which are important for the EU-ACP fisheries relations. In addition, appropriate framework should be established so that all aspects of fishing relations with developing countries contribute to sustainable fisheries. Thus, the challenge of achieving economic, environmental and social sustainability in fisheries requires the establishment of Sustainable fisheries development which are consistent with FAO Code of Conduct for Responsible fisheries. Thus, to benefit from successful fisheries, participative and transparent dialogue regarding the measures the EU should be taken to make developing countries achieve sustainable fisheries and also in terms of transparency and participation of all stakeholders. Good governance agreements between the EU and the coastal countries are also needed. The good governance agreement should also include severe laws regarding access and use of appropriate gears for fishing.

Tuna agreements should be in line with RFMO's which manage tuna and tuna like species and to enable all countries to have equal access to tuna resources. It is noted that new fishing players can have access to high seas, and overcapacity can be reduced only if current fishing players giving up part of their share and reduce the capacity of their fishing fleets. Measures to place limit on catch and criteria for access, if not addressed, may undermine attempts to achieve environmental and s