

## **DEVELOPMENT OF FISHERIES IN THE MALDIVES**

Maizan Hassan Maniku

### **INTRODUCTION**

Maldives is made up of truly coral cay islands, the largest no more than 8 sq. km. These tiny islands are grouped into 26 natural atolls, which are for administrative purposes divided into 20 Atolls.

The archipelago is geologically situated in a very calm area away from the tropical cyclones and monsoons, however, in the recent years, frequent storms have been experienced through out the Maldives, causing severe erosion of the always-dynamic beaches.

Like all island states, the ocean exerts a strong influence on the physical, biological and socio-economic conditions of the islands and its people. Climate is moderate by the maritime influence on these islands, which results in uniformly high temperatures through out the year.

Economic activities in the Maldives is dominated by Fisheries until the postwar period, and by tourism, both of which are sensitive to external forces and strongly influenced by climatic factors. Fisheries although largely artisan, is one of the most important economic activity, in a situation where the population is spread thinly over 200 islands.

Although total population numbers are low; settlement is usually concentrated in the capital island where population densities reach roughly 20,000 per sq. km. Thus human demands on the coastal and marine resources are increasing and the potential impacts of climatic changes aggravates these pressures, thus resulting in the degradation or loss of some natural ecosystems that are important to the economy of the Maldives.

### **FISHERIES DEVELOPMENT UNTIL THE '80s**

Coral reefs represent one of the most important resources of the Maldives. They are an invaluable asset, providing a continuous supply of sand to beaches and the formation of the islands, they are habitats for a variety of marine communities and serve as spawning grounds for a large number of reef fish. Reefs also function as protective barriers to beaches coasts and small islands through wave reflection, dissipation and shoaling, which serve to reduce the incident waves. These islands do not have a continental shelf, thus oceanic conditions do reach these atolls at the

door step. Reefs are thus a significant contributor to the economic resource base both in the extractive and non-extractive form.

Fishing, although largely artisan or small scale commercial, is an important activity for the Maldives. Ancient mariners as far back as 300BC have visited the Maldives bisecting the Indian Ocean. There has been documentation with regard to the processed skipjack, which is produced even today and marketed by the Sri Lankan as "Maldivian Fish". Chinese travelers to the Arabian seas mention the dried fish as a very suitable ration during travelling for long distances, since they can be kept in normal environmental conditions for many years.

The major two species that have been exploited until the beginning of the 20th AD, have been tuna and Cowrie shells. Cowrie shell trade lasted over 8 centuries, when the colonial masters visited the Indian Ocean. There has been records that the Portuguese forcibly entered into a trade agreement with the Maldivian Sultan Kahlū Mohamed (1491-1492; 1494 - 1510; 1512 - 1529) who granted them the right to establish a "factory" in Male' in 1518, thus taking full control of the cowrie trade. Until 1649 the entire trade of Maldives was monopolized by mammali Marakkar, Mapilla Merchant living at Cannanore and who styled himself as "Lord of the Maldivian Islands".(Rasain11:1991).

Coming of the Europeans have placed extra demand on the resource base specially the cowrie trade which ultimately collapsed during the late 17th Century. Thus Maldives lost its market share of the Indian Ocean Trade as the cowries no more were looked as a monetary unit. With the coming of the British and their colonization of Ceylon and Maldives becoming a protectorate, a representative in Ceylon conducted the international and regional affairs.

Dried Maldivian fish always had a market in Ceylon (Sri Lanka); there exists regular trade records in Colombo archives dating back mid-1800s of imports of Maldivian Fish (dried skipjack) from the Maldives. This remained the main export until the beginning of the '70s, when Sri Lanka had foreign exchange problems. The exports of this product basically came to a stand still, and the government opted for alternatives that are just emerging in the Indian Ocean.

Distant water fleets such as the Japanese longliners started their operations in the Indian Ocean; which was opportune for the Maldives to introduce the frozen fish export scheme to save the industry.

Government's involvement in the fishing industry has always been limited to the collection and export of Tuna and Tuna products. In the '60s efforts have been made to revitalize the fisheries sector by the introduction of engines, however, due to the low income levels of the communities and lack of need to increase fish pro-

duction, the mechanization program did not materialize until 1974.

Significant developments that has shaped the fishing industry that we see today has taken place during the first half of the '70s:

1. Collapse of the Maldivian Fish market in Sri Lanka. (1971)
2. Initiation of frozen fish export scheme (1972)
3. Mechanization of the fishing craft (dhoni) (1974)
4. Introduction of Tourism in the Maldives (1972)

By the end of the '70s, substantial number of fishing craft was mechanized and the fish production grew at a steady rate. The first World Bank funded Fisheries Project was initiated in 1979, focusing on mechanization and support infrastructure development. The project was completed in 1983. Demand for reef fish and reef associated products grew during the mid '80s. The Far Eastern buyers and fish traders have created this demand. Thus the government initiated formal Marine scientific research in the country. Marine Research Section was established as a unit within the Ministry of Fisheries, mainly to assess the status of the stock and assist both the private sector and the public sector in sustainable exploitation of the resources.

Tourism grew at a much faster rate than the fisheries sector, which provided investment opportunities within the Maldives and it created extra job opportunities as well as trade opportunities. By the middle of the '80s, fisheries were losing its share of contribution to the National GDP. However, Fisheries has become a very important sector for those living far from the tourist zone as well as for those working in the private business sector.

Substantial investments both by the private and the public sector has been made, however, almost all the public sector investments have been towards collection and exports of tuna and tuna products.

All through out this development, methods used for catching the tuna have remained the same. Pole and line method has remained a very successful and environment friendly method, that has survived over many centuries. Today, it is still considered to be one of the most efficient and environment friendly method of catching tunas. Other methods that have been introduced in the recent past have been the use of gillnets for sharks, longlining for large tunas and vertical longline for reef fish fishery.

With the availability of finance effort has been made by the private sector to develop a fishery for reef associated species. In recent years a number of reef associated fisheries, such as giant clam, sea cucumber, grouper and snapper fisheries have been developed. However, due to the limitation of reefs any fishery developed

towards the reef stock has collapsed. This has prompted the government and some of the private entrepreneurs to initiate aquaculture activities. Recently the Ministry of Fisheries and Agriculture in association with the oceanographic society has completed a marine culture activity by introducing seaweed, *Euchemia*. Another private party has started research on breeding sea cucumbers in the north of the country. The Marine Research Center is presently involved in the culture of artificial pearls for the tourism market. Thus the potential exists for establishing aquaculture activities to enhance fisheries production in the Maldives.

### **FISHERIES BEYOND THE '80s**

In the recent past a lot of effort have been place on the reef environment, both from the tourism and the fisheries sector. A large number of building materials is being exploited from the reef system. These are recent economic activities that require careful and integrated planning. The Ministry of Fisheries, Agriculture and Marine Resources is presently working on an Integrated Reef Resources Management (IRRM) system that could be adopted through out the country that will take care of the problems faced by the various stakeholders.

IRRM is a more holistic approach to reef management and combines fishers knowledge with the scientific characterization of the reef fisheries resources, and the expertise and input of all Ministries with jurisdiction in the areas impacting the reef resources. This approach helps to ensure that management solutions will be comprehensive, adaptive and sustainable to the country.

IRRM builds on the successful results of earlier efforts. In fact, IRRM has evolved over time through the feedback received from the research community of the Marine Research Center and the socio-economic implications and conflict issues identified by the MoFAMR. The long-term goal is to develop an IRRM Policy Guideline for all the Administrative Atolls by the year 2000. This would involve identifying a suitable Strategy in the overall National Development Program. To achieve this goal a number of activities presently are being carried out.

The IRRM Plan realizes many of the priority actions and activities agreed to at South Asia Regional International Coral Reef Initiative (ICRI), workshop held in the Maldives in 1995. The major initiative of ICRI - the Global Coral Reef Monitoring Program (GCRMN) is being fully integrated into the overall coral reef management as well. This program has assisted the overall IRRM Program by providing standard monitoring methodology.

Beyond the reefs and the outer rim of the Atoll boundaries - fisheries is taking a new turn as well.

Just a decade after the introduction of the Alifushi Boatyard built second generation mas-dhoni and the establishment of an well-organized Fish Aggregating Devices (FAD) Program throughout the country, full utilization of the pelagic tuna resources within a 35-mile range has been achieved. Catches have peaked at 120,000Mt(1995) and has remained constant since then. However, there has been a remarkable change is the development of the fishing craft. This could be considered a major revolution in the tuna fishing industry. The size of the fishing craft has increased from a mere 50 footer to a range between 70 and 80 footer in the southern three Atolls - Gaafu Alifu, Gaafu Dhaalu and Seenu; even though few vessels of this size is introduced in the central region of the archipelago. These vessels have a horsepower of over 240, and are well equipped with board and lodging facilities and well equipped with modern equipment such as GPS, communication system and some vessels are planning to introduce fish and bird finders as well. Eventhough their capacities have increased to an average of 12 -14 tons of fresh tunas, their range is still limited to not more than two to three days, as they do not have ice on board.

The confidence obtained by the masterfishermen and the crew can be seen by the fast growth of this size craft within the past four years, from one vessel in Gaaf Alifu Villingili to more than 20 vessels in the region. All these vessels are built out of timber without any financial input form the public or the financing sector. The need exist to strengthen this development, if the production has to increase and if the Maldivian tuna fisheries has to expand from the subsistence level to the emerging commercial level.

## **FUTURE DEVELOPMENTS**

While we are at the brink of the new millenium, this fast phase of growth experiencin in the fisheries sector need to be sustained. This can only be done by providing inputs in the from of credit, training and development of a more conducive environment for investing in the fisheries sector. Opportunities exist both in the reef associated fishery as well as the pelagic fishery, however, there is the dirth need to train local fishermen to introduce the new technologies that are available, for which the need for research is minimal.

Considering the size of the population and the progress made by the various economic sectors, the country faces innumerable problems, solutions for which there are few examples available through out the world. Considering the growth achieved by Maldives over the past thirty years, there are no similar examples available that could be adapted. Manpower problems, problems associated with the size of the critical mass would always be a concern in any developmental activity. New ideas

and new avenues have to be sought if Maldives is to continue its present pace of growth.

## CONCLUSION

New management, development and production trends and patterns are now gradually emerging from activities, experiences and experiments of the past few years. After years of relentless government driven production of goods and services to meet materialistic consumption needs, there is today a realization that such excessive production-consumption-orientation is unsustainable. The integrity and ecological functions and needs for conserving the environment were not adequately considered and internalized in the process. In its place, fishing communities are now being encouraged through their community level governance structures to work out management systems, which are more community driven.