

FISH STOCK MANAGEMENT POLICIES - THE SITUATION IN MALAYSIA

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Summary

The need for stock management policies in Malaysia was not felt until the introduction of more progressive and efficient methods of fishing for the exploitation of the coastal fishery resource during the last decade. Such developments resulted in remarkable increases in fishing effort and intensity and in landings. Stock management policies have, nevertheless, been subjugated and dictated by administrative, political and socio-economic pressures. Problems encountered in research, socio-economic, administrative, political and other spheres are discussed. Laws relating to fisheries, which were once in separate ordinances, have now been consolidated, with provisions for conservation and protection of fisheries and for the rational exploitation of fish by the enactment of the Fisheries Act in January, 1963 and the regulations following thereunder. Though the need for stock management policies is generally accepted in a developing country, such as Malaysia, it is desirable that the formulation and implementation of such policies, while achieving the aims of management, will not adversely affect the development and growth of the fishing industry. Some guidelines for stock management policies are proposed.

1. INTRODUCTION

Prior to the development and expansion of "new fisheries" when traditional fisheries were in operation the need for stock management policies was not felt and perhaps ignored. Such laws and regulations that were promulgated arose out of the need mainly to prevent unfair competition between traditional fishing gears and methods of fishing, such as between static and mobile fishing gears, differences in mesh size of fish nets fishing the same stocks or species, encroachment of a fishing unit onto the traditional fishing grounds of another and to prevent obstruction and destruction to vessels and nets by derelict static fishing gears as well as the use of illegal fishing methods, such as piscicides and explosives.

This thinking and practice has prevailed during the last decade or so during which in Malaysia, as in many other countries in the IPFC/IOFC region, the emphasis has been and is on the development of fisheries. The process of development has contributed to the introduction of more efficient methods of fishing resulting in increases in fishing effort and in landings.

Nevertheless, in spite of the awareness of the need for the management of the fisheries at all levels following the unprecedented and remarkable performances achieved during the last decade, attention to stock management policies, unlike the other management policies, has been subjected to, and dictated by, administrative, political and socio-economic pressures.

This is perhaps understandable in the developing phase of the fisheries as stock management policies are generally considered to be in conflict with development policies with the former having a dampening and retarding effect on the latter.

2. SOME CONSIDERATIONS

The following discussions are based on the fisheries of the west coast of Peninsular Malaysia as they generally reflect the situation of highly developed (with particular reference to size) and intensive fisheries, as in a number of countries in this region. In the east coast of Peninsular Malaysia and in the states of Sarawak and Sabah the fisheries are as yet underdeveloped but could in the future, with the implementation of development programmes, develop similar situations and face similar problems.

2.1 Research and Biological

- Generally research and performance have lagged as a result of earlier attitudes and the present emphasis on development. Research has been and is mainly directed towards identifying and developing fish resources.
- Biological information to formulate stock management policies is almost totally lacking.
- Commercial fisheries statistics have not been in a form that could provide useful and necessary information on catch and effort.
- Development of fisheries by the private sector and consequent explosive growth in effort and landings have outpaced the efforts to assimilate data to define stock management policies.
- The multi-species fisheries fished by a variety of fishing gears, dispersed landings of catches and scarcity of numbers of, especially good quality, high priced species, at any one or more adjacent landing places present special problems in carrying out research.

2.2 Socio-economic

- The explosive growth of the trawl fisheries has led, more or less, to over-development. It has attracted more fishermen, introduced more fishing boats and created more resource-based industries on land than ever before.
- Excessive effort is directed to preferred species, such as shrimp and jelly-fish, of high export demand and value.
- Artisanal fisheries, which still employ by far the greater number of fishermen, have been adversely affected by the development of the trawl fisheries.
- The impetus of development is sustained by the private sector to protect their investments as long as profits can be made.

2.3 Administrative and Political

- The administrators with responsibility to develop the fisheries in all its various aspects often neglect the need to accept stock management policies.
- The demand by the private sector to promote and support development does not make the administrators' task of formulating stock management policies any easier.
- The need to maintain the established rate of growth and production and to improve these is the prime concern.

2.4 Others

- As fishing generally extends beyond the territorial limits of 12 nautical miles the advisability and need for stock management measures are questioned especially when fishing by other nationals is unrestricted.
- Rational fishing to exploit the stocks at the optimum level to maintain the level of production for all time is yet to be understood and the misconception that fish resources are inexhaustible still prevails.

3. CURRENT FISHERIES LAWS AND REGULATIONS

The marine fisheries of Malaysia are legally regulated by the Fisheries Act No. 8 of 1963 and the regulations made thereunder. The Act is applicable throughout Malaysia, that is, areas covering Peninsular Malaysia, Sabah and Sarawak. The Act has provisions for the conservation and protection of fisheries in estuarine ^{1/} and maritime ^{2/} waters and for the rational exploitation of fish in these waters by Malaysian citizens or by Malaysian fishing vessels. Besides the prohibition of certain methods of catching fish, the Act provides for the issuance of licences to operate a fishing gear to catch fish, with conditions for restrictions on fishing in specified zones and at specified times, and prescribing minimum size limitations for certain species of fish to be taken and limitations on mesh size used in fishing gears. The registration of fishing vessels is governed by the Merchant Shipping Ordinance, No. 70 of 1952 and, by virtue of the provisions thereunder, a Fisheries Officer is empowered to register such vessels.

^{1/} Extending from the river mouth to a point upstream penetrated by sea water.

^{2/} Adjacent to Malaysia's coastline, both within and outside the 12 nautical mile

The Act also provides for regulations to be made relating, in particular, to maritime and estuarine fisheries and fishing, and for inspection and penalties for breaches of the regulations. The provisions of the Act, so far as they relate to fisheries and fishing in inland waters ^{1/}, do not come into operation in any of the eleven States in Peninsular Malaysia until such time as they have been adopted by a law made by the State Legislature. In this respect the State Authority may make its own rules for the management of inland fisheries and control over fishing in inland waters in the State.

3.1 Prohibitions on Methods of Fishing

Except under the authority of a licence issued under the Act, the Act prohibits the catching of fish by, the use of poisonous and explosive substances, to stupefy or kill them. Any person found in possession of fish killed by poisons or explosives shall be guilty of an offence if he is unable to explain satisfactorily how he came to be in possession thereof.

The Fisheries (Cockles Conservation and Culture) Regulations of 1964 prohibit the use of any mechanical apparatus to take cockles ^{2/} from any cockle bed (natural or cultured) except with the permission of a Fishery Officer.

The use of beam trawl nets for catching prawns is prohibited by the Fisheries (Maritime) Regulations of 1967. The Fisheries (Prohibition of Method of Fishing) Regulations of 1971 prohibit the use of any fishing gear, made up of a triangular net and supported between two poles, operated with a motorized boat by pushing the gear along the seabed, for the purpose of catching fish or prawns. Any person found in possession of such a gear on board any vessel shall be guilty of an offence.

3.2 Size Limitations and Mesh Regulations

There are no regulations in force declaring minimum size limitations on fish caught, though the 1963 Act has provisions for such regulations to be made. The mesh size has, nevertheless, been regulated for the trawl net by the Fifth Schedule of the Fisheries (Maritime) Regulations of 1967. The mesh size of any trawl net, under these Regulations shall be not less than 1 inch (2.5 cm) extension measure at the cod end.

The Fisheries (Cockles Conservation and Culture) Regulations of 1964, however, prescribe that no cockle less than $\frac{1}{4}$ inch (0.6 cm), measured in a straight line across the widest part of the shell, shall be taken from a natural bed for the purpose of transplantation to a cultured cockle bed. The same Regulations also prescribe that no cockle less than 3.2 inches (3.2 cm) measured in the same manner shall be taken from any cockle bed for the purpose of consumption.

3.3 Restrictions on Areas of Fishing

These restrictions are applicable only to fishing by the use of the otter trawl net and they are governed by the terms and conditions spelt out for trawl fishing in the Fifth Schedule of the Fisheries (Maritime) Regulations of 1967. The 1967 Regulations prescribe that, except as may be restricted to any area by the Fisheries Officer in the terms and conditions of the licence, otter trawl nets used by vessels

of 100 tons (101.6 metric tons) gross tonnage and above, with engines of 200 hp and above, shall be used only in waters beyond 12 miles, or

1/ Other than maritime and estuarine waters.

2/ Anadara granosa Linn. (Molluscs: Lamellibranchia: Arcidae).

- of 25 tons (25.4 metric tons) gross tonnage and above, with engines of 60 hp and above, shall be used only in waters beyond 7 miles, or
- of less than 25 tons (25.4 metric tons) gross tonnage, with engines less than 60 hp, shall be used only in waters beyond 3 miles,

off the coast of any of the States of Peninsular Malaysia and of the islands of Pulau Langkawi, Pulau Bidan, Pulau Pinang, Pulau Pangkor, Pulau Ketam, Pulau Tieman, Pulau Red and Pulau Perhentian.

The 1967 Regulations also make provisions for trawl fishing to be carried out with any distance from the coast off the States of Kelantan, Trengganu, Pahang and off the east coast of Johore during the months of November to February, the period of the northeast monsoon, when the coastal seas can be quite rough for the smaller fishing craft. Such provisions empower a Fisheries Officer to permit trawl fishing to be carried out close to the shore simply by endorsement on the fishing licence.

3.4 Closed Areas

There are no regulations in force declaring closed areas for any particular method of fishing or for the catching of any particular species of fish, though the 1963 Act has provisions for such regulations to be made.

3.5 Restrictions on the Hours of Fishing

These restrictions are applicable only to the taking of cockles, as governed by the Fisheries (Cockles Conservation and Culture) Regulations of 1964, and to trawl fishing, governed by the Fisheries (Maritime) Regulations of 1967.

- Except otherwise empowering a Fisheries Officer to prescribe by public notice the periods of time during which cockles may be taken from natural beds, the 1964 Regulations prescribe that cockles shall be taken from natural beds within the period of 06.00 to 18.00 hours. The above mentioned public notice by a Fisheries Officer may also prescribe the purpose for which cockles may be taken (viz. transplantation, consumption, etc.) from natural beds.
- The 1967 Regulations prescribe that for boats of 25 tons (25.4 metric tons) gross tonnage and below, with engines of 60 hp and below, fishing with an otter trawl net shall be carried out only within the period of 06.00 to 18.00 hours.

3.6 Closed Seasons

There are no regulations in force declaring closed seasons for any particular method of fishing or for the catching of any particular species of fish, though the 1963 Act has provisions for such regulations to be made.

3.7 Limitations of Total Effort or Total Catch

Limitations of total effort are by the issuance of licences to operate a fishing gear. There are no limitations on total catch.

- The Fisheries (Cockles Conservation and Culture) Regulation of 1964 prescribes that the taking of cockles from natural or cultured beds shall be by licence granted under this Regulation.

- With respect to fishing and fisheries in maritime and estuarine waters, fishing appliances (viz. nets, traps, hooks and lines, etc.) and fishing stakes cannot be operated without a licence or permit, as the case may be, granted under the Fisheries (Maritime) Regulations of 1967.
- The 1967 Regulations also empower the Director General of Fisheries to determine the number of licences that may be issued in any one calendar year.

Although the 1963 Act provides in general for the conservation of maritime and estuary fishery resources, stringent regulations have not been brought into force to drastically control levels of exploitation of any particular resource, since the problem of over-exploitation of the resource leading to irrecoverable levels of depletion has not arisen.

4. SOME PROPOSALS AND CONCLUSIONS

Even though the need for stock management policies is generally accepted the peculiar situation in developing countries with developing fisheries presents a special problem. That is, to formulate and implement stock management policies which, while achieving the aims of management, would not adversely affect the rate of growth, the development attained and the planned development of the fishing industry.

Stock management policies based on the biological aspects of the stocks alone would be inadequate in the present state of the development of the fisheries and due consideration needs to be given to socio-economic, administrative and political repercussions. Thus, all of the provisions of the Fisheries Act 1973 and the Regulations made thereunder were based on biological/scientific considerations alone - typical examples are the restriction of trawlers to fish in specified areas according to boat size, and the limitation of the hours of operation of small trawlers (those below 25 tons) to the daylight hours only. These provisions had their origins during the early days of the introduction of trawling when a storm of protests was received from traditional fishermen on the grounds that trawling had a damaging effect on the resource and that it jeopardized the livelihood of those operating traditional gear. Hence to prevent clashes between the two parties (which have been of such violence as to result in death and sinking or burning of vessels and gear), specified areas have been set aside exclusively for traditional fishing. It was argued that larger trawlers with their consequent capacity to fish further afield should be restricted to fish further from shore, hence the seven mile limit. As encroachments into prohibited areas are more likely to involve small trawlers during daylight hours only.

Some guidelines for stock management policies are:

- To curb the further expansion of overdeveloped fisheries through restriction on the issue of new fishing licences and non-renewal or replacement of lapsed fishing licences.
- To control the growth of new fisheries from their very beginnings (e.g. through phased issue of fishing licences).
- To control the establishment of resource-based industries which through competition lead to greater fishing intensity and pressures on the stocks of preferred species.
- To control the quality, with respect to size of selected high-value species for export, to prevent the development of excessive fishing effort which leads to the exploitation of undersized animals.
- To develop the technology and skills to expand fishing, which is still mainly coastal, to offshore waters.

- To enforce the use of fishing log books by major fisheries to obtain catch and effort data, amongst others, for research and development planning.
- To promote and strengthen research activity.
- To improve the present state of commercial fishery statistics and strengthen the system for their collection.
- To promote regional cooperation by compiling and providing commercial catch statistics on common user stocks for the management of such stocks and their fisheries.