

# Putting a Plug on Increasing Fishing Capacity: NPOA for the Management of Fishing Capacity in Malaysia

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The word ‘capacity’ is commonly used to describe skills, capabilities or competence, but in fisheries this word may also be related to several specific issues that include harvesting fish by fishing vessels as well as to the biological concept of fishing mortality, fishing technologies, fishing power, and economics. In order to accommodate the differences in the definitions of fishing capacity, the Food and Agriculture Organization of the United Nations (FAO) has adopted a definition of fishing capacity as the “amount of fish (or fishing effort) that can be produced over a period of time (e.g. a year or a fishing season) by a vessel or a fleet if fully utilized and for a given resource condition”. The existence of too many fishing vessels operating over limited fishery resources is one of the major contributors to the depletion of fishery resources due to overcapacity. Therefore, countries all over the world are taking actions to curb this problem, and Malaysia as a maritime nation has addressed this concern by putting in place its National Plan of Action for the Management of Fishing Capacity (NPOA - Fishing Capacity).

The National Plan of Action for the Management of Fishing Capacity (NPOA – Fishing Capacity) in Malaysia aims to manage fishing capacity in order to balance fishing efforts with available resources in a sustainable manner. The development of the NPOA – Fishing Capacity is based on results of the country’s efforts to assess the fish stocks with particular attention given to cases requiring urgent measures, and is meant to address the management of fishing capacity for stocks recognized as significantly overfished. The NPOA – Fishing Capacity therefore focuses on the management of fishing capacity in marine capture fisheries through the implementation of a range of policies and technical measures aimed at ensuring the

desired balance between fishing inputs and outputs in terms of production (Ali, 2010).

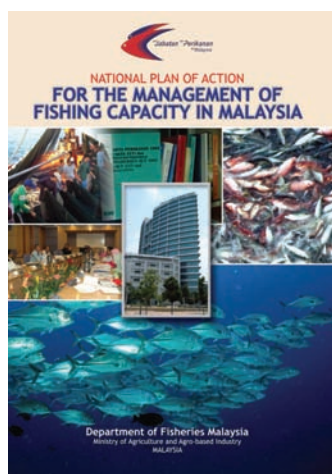
Moreover, the development of NPOA – Fishing Capacity is also in accordance with Section II of the International Plan of Action for the Management of Fishing Capacity which stipulates the need to “develop, adopt and make public by the end of 2002, national plans for the management of fishing capacity”. However, the success of the implementation of the NPOA – Fishing Capacity would depend on the close cooperation between the implementing agencies and stakeholders, and in the process should be able to address the need to overcome several issues and challenges, some of which are shown in **Box 1**.

## Management Initiatives to Control Fishing Capacity

The list in **Box 1** may not be exhaustive but considering that the issues and challenges are real, countries in the region should exert efforts to address such issues. In this connection, Malaysia has paved the way by drawing up some initiatives (**Box 2**) to demonstrate its government’s commitment to control fishing capacity in the country.

### Fishing zones

The zoning system in Malaysia implemented since the 1980s, has demonstrated some forms of good management of fisheries and fishing capacity. The division of the sea area into 5 zones, namely: A, B, C, C2 and C3 according to gear type and tonnage (**Fig. 1**) was initially meant to minimize conflicts among users, as well as provide a fair share of resource distribution among the fishers.



### Box 1. Issues and challenges that need to be addressed for the successful implementation of the NPOA - Fishing Capacity in Malaysia

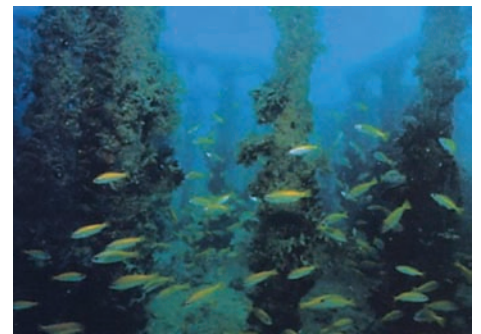
- Multi-species and multi-fleet situation of the country’s marine capture fisheries
- Small-scale nature of the fisheries
- Coastal resources are fully exploited
- Use of destructive fishing as well as less selective gears and methods
- Habitat destruction
- Encroachment of vessels into coastal waters or illegal fishing
- Presence of illegal fishing vessels in national waters
- Inadequate enforcement capability
- Inadequate public awareness and insufficient community participation
- Conflicts in policies and objectives

**Box 2. Management initiatives undertaken by Malaysia to control fishing capacity**

- Formulation of several other National Plans of Action, *i.e.* NPOA-Sharks, NPOA-Sea turtles, NPOA- Invasive alien species, NPOA-Dugong, and NPOA-Sea cucumber
- Establishment of fishing zones
- Establishment of marine protected areas and turtle sanctuaries
- Putting in place a good infrastructure for the Vessel Monitoring System (VMS)
- Implementation of the ‘Exit Plan Programme’
- Deployment of artificial reefs
- Establishment of a good licensing policy
- Formulation of good legislative arrangements to control fishing activities
- Development of a very comprehensive database on the fishers and fishing vessels
- Regular collection of data on fish landings

**Vessel Monitoring System**

It is noteworthy that the Exit Plan Programme albeit being voluntary has reduced the fishing capacity within the country’s Zone B fishing areas but the lacuna it had created should be closely monitored to ensure that new level of capacity is maintained. More importantly, the country’s Vessel Monitoring System (VMS) has helped in monitoring the movement of fishing vessels and managed



Above: Trawlers from Zone B under the Exit Plan Programme converted into artificial reefs. *Source: Ali (2010)*  
Below: Artificial reefs for conservation and enhancement of resources

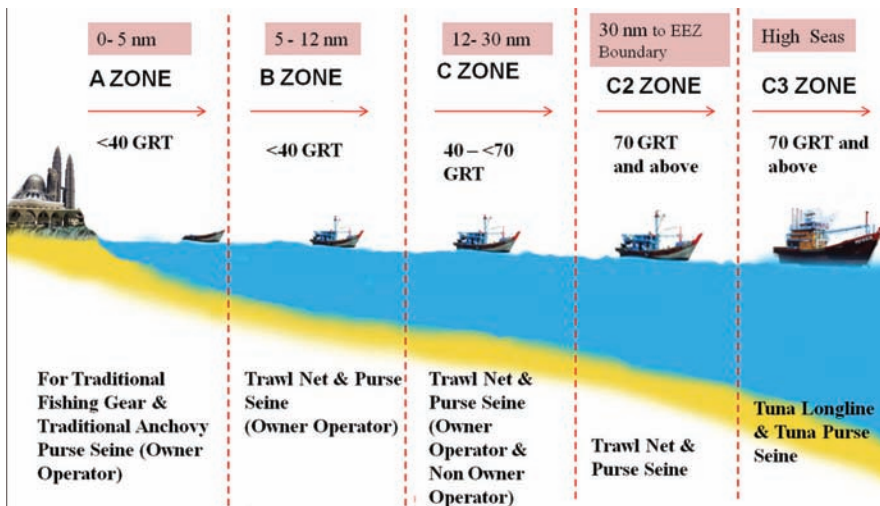


Fig. 1. The fishing zones in Malaysia

Moreover, the zones had provided some forms of control and enabled close monitoring of fishing activities to ensure that the balance between capacity and available resources is maintained.

**Exit Plan Programme**

In order to reduce the fishing effort within the zone B, Exit Plan Programme was developed and implemented from 2007 to 2010. Under this Programme, trawlers from Zone B are bought from the owners at current value and are converted into artificial reefs, and installed at strategic areas. Results have been encouraging and the Programme offered a range of advantages as shown in **Box 3**.

**Artificial reefs**

The artificial reefs deployed along the coast within Zone A have helped in controlling and preventing the encroachment of trawlers into such sensitive area. The structures also facilitated the management of fishing capacity within the zone as well as minimized the conflicts among the users.

**Box 3. Impacts of the Exit Plan Programme**

- Reduced pressure on the resources at the coastal areas
- Competition among coastal fishers mostly using traditional gears had been reduced
- Vessels disposed as artificial reefs enhanced the inshore habitats that indirectly contribute to the conservation of resources
- Increased catch per unit effort observed for fishing gears such as drift net, gill net, hook and line
- Indirectly improved the marine biodiversity, ecosystem and habitat
- More opportunities provided for existing vessel operators to operate further offshore with larger vessels
- Opportunities for alternative livelihood could be provided to fishers intending to leave the industry, since workers in vessels taken out from sea under the ‘Exit Plan Programme’ can seek employment in other vessels to alleviate the problem of shortage of workers

to keep them from going into areas that have been identified as ‘no entry’ areas. In addition, using the VMS (**Fig. 2**), vessels are monitored to ensure that their operations are within the designated area or zone.



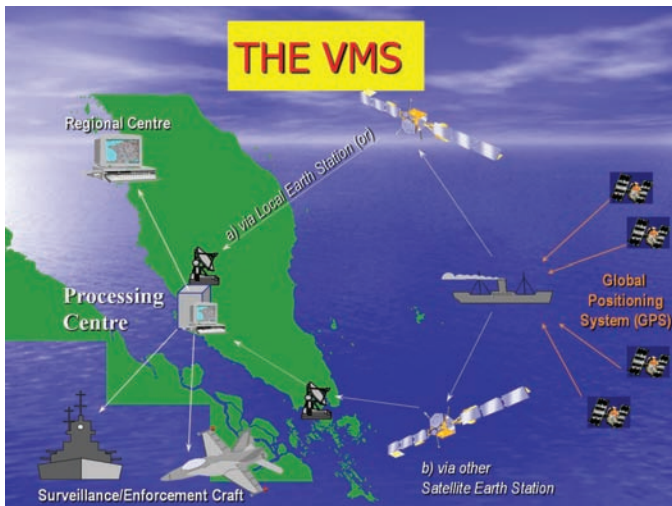


Fig. 2. The Vessel Monitoring System of Malaysia



Above: MCS conducted by Malaysian patrol boat;  
Below: Artificial reefs in Malaysian waters. Source: Ali (2010)

However, having a good VMS infrastructure could only be effective for monitoring vessels that are equipped with the system. Therefore, there is a need for a good surveillance protocol so that the fishing capacity of vessels not equipped with VMS could also be monitored.

The aforementioned initiatives should therefore be effectively implemented in order to realize the successful advancement of the NPOA - Fishing Capacity and achieve its target, considering that the government is also faced with a daunting task of overcoming certain weaknesses. The inadequacy to carry out the MCS efficiently has somewhat been a bane in carrying out the NPOA - Fishing Capacity effectively. Since enforcement by the Department of Fisheries Malaysia alone is insufficient, the cooperation of other maritime enforcement agencies is necessary in which case close cooperation should be promoted among the maritime enforcement agencies. Moreover, in order to achieve good governance of the resources, all stakeholders should also play an important role in the implementation of the NPOA – Fishing Capacity.

The current inadequate involvement of the stakeholders should be improved and strengthened especially in controlling IUU fishing. Furthermore, it is also necessary to improve the legislative aspects including the formulation of specific laws that aim to address overfishing as well as in the use of the VMS as a tool for management. Although Malaysia has put in place some forms of Monitoring, Control and Surveillance (MCS) management system, the country still seems inadequate in addressing surveillance, because such effort would entail a huge budget which in the past few years had been insufficient making it difficult to control over the fishers. Another approach which is now being pursued with respect to monitoring the fishing capacity is enhancing the participation of local communities in the MCS, giving them a basis for striking a balanced level of authority and responsibility during the management of the resources which they are exploiting, and also solving the local conflicts among the fishers.



Regular monitoring of fishing activities being done by the Department of Fisheries Malaysia

## Finding Opportunities to Manage Capacity and Overcoming Threats

Malaysia has been designated as the lead country for the ASEAN Fisheries Consultative Forum (AFCF) key cluster on fishing capacity and responsible fisheries practices, and therefore the country is in a position to take the opportunity to monitor any progress made by the ASEAN countries in implementing the IPOA – Fishing Capacity in their respective countries. Considering that IUU fishing has been identified as an important factor that impedes the efforts to control fishing capacity, Malaysia also sees the opportunity to put in place certain initiatives that concurs



Catch inspection on board

well with the requirements of the European Council (EC) Regulation No. 1005/2008 in Combating Illegal, Unreported and Unregulated (IUU) Fishing. Following the EC Regulation, other countries are also taking measures to combat IUU fishing and that many importing countries also require that a system of traceability on fish and fishery products should also be put in place. This augurs well with

increasing concern on the need to control excess fishing capacity particularly those that are engaged in IUU fishing.

Being the AFCF lead country for fishing capacity and responsible fisheries practices, Malaysia through the Department of Fisheries Malaysia (DOFM) also promotes 'responsible fisheries' which focuses on the importance of enhancing awareness and providing education to the fishers especially on resource conservation and methods of exploitation in a responsible manner. In addition, the DOFM also inculcates upon the fishers the use of environment-friendly gears and the practice of precautionary approach in order to ensure resource sustainability in the long term.

Nonetheless, in trying to put a cap on fishing capacity, there also appears to be certain threats that could hamper the actions taken. The fact that the coastal resources had been fully exploited and are over-fished, the absence of specific legislations on fishing gear that promotes advancements in fishing technology should be addressed as this has led to uncontrollable fishing capacity. Furthermore, the ever increasing demand of the people for food fish, and

Box 4. Strategies adopted for the promotion fishing capacity management

Strategies	Activities
Review and implement effective conservation and management measures	<ul style="list-style-type: none"> <li>a. Control the number of fishing vessels</li> <li>b. Evaluate the suitability of the Individual Quota by Species (IQS) via Total Allowable Catch (TAC)</li> <li>c. Establish 'fish <i>refugias</i>' - closed season, restricted fishing areas</li> <li>d. Implement Exit Plan Programme and encourage alternative livelihoods</li> <li>e. Create consortiums through buy back scheme for trawlers</li> <li>f. Eliminate illegal fishing vessels</li> <li>g. Stop issuance of new licenses for coastal waters.</li> <li>h. Transfer Zone C2 vessels to others potential areas</li> <li>i. Cancel licenses of non-performing Zone C2 vessels</li> <li>j. Evaluate regularly the status of fishing capacity</li> </ul>
Strengthen enforcement capacity and capability	<ul style="list-style-type: none"> <li>a. Allocate assets and adequate budget</li> <li>b. Enhance skills and competence of the enforcement team</li> <li>c. Establish special coordinating fishery body to implement surveillance</li> <li>d. Develop co-management mechanisms</li> <li>e. Deploy artificial reefs as a barrier to deter encroachment by trawlers</li> <li>f. Install VMS on commercial vessels and deploy special monitoring vessels equipped with radar to monitor fishing activities</li> <li>g. Conduct patrols on regular basis</li> <li>h. Enhance coordination among local enforcement agencies</li> <li>i. Enhance cooperation at the regional level</li> </ul>
Promote public awareness and education program	<ul style="list-style-type: none"> <li>a. Organize dialogue sessions and provide briefing sessions for local politicians to keep them abreast with the local scenario</li> <li>b. Build institutional capacity at all levels through leadership training</li> <li>c. Promote community development and management</li> <li>d. Involve stakeholders as a 'key partners' in managing sustainable fisheries</li> <li>e. Active involvement of stakeholders in implementing local program</li> </ul>
Promote responsible fishing practices	<ul style="list-style-type: none"> <li>a. Conduct R&amp;D</li> <li>b. Enforce legislation on mesh size on trawls.</li> <li>c. Promote the use of juvenile and trash excluder device (JTED), turtle excluder device (TED) and selective fishing methods</li> <li>d. Improve existing fishing methods so as to be more environment and resource friendly.</li> <li>e. To design educational programs to instill on the people a positive attitude towards responsible fishing practices</li> </ul>

the apparent increased dependence of the processing and aquaculture industries on marine capture for raw materials and feeds, respectively, have also plagued the efforts to control capacity. In addition, the willingness of boat crew to work longer hours is also seen as a threat to the recovery of the resources and leads increased capacity. While the NPOA - Fishing Capacity is voluntary in nature, the incidence of IUU fishing cannot be ruled out.

Another important aspect that threatens the successful implementation of the NPOA - Fishing Capacity is the impacts of subsidies and economic incentives which can lead to overcapacity. Subsidies will in a way contribute to the capability of a vessel to travel further and work longer hours, and therefore a controlling mechanism is needed to address the issue of overcapacity. Furthermore, the DOFM has developed four strategies in connection with the implementation of the NPOA- Fishing Capacity (**Box 4**).

## Conclusion

Recently, sound and effective management of fishing capacity is one of the highest priorities that had been seriously addressed not only in Malaysia but also globally. In order to obtain the highest level of success towards the achievement of the above target, proper integration of all activities would be necessary, while more holistic actions should be undertaken to manage fishing capacity. Meanwhile, relevant agencies should pool their resources together in order to attain the common goal. The NPOA - Fishing Capacity has been a valuable avenue that paved the way for Malaysia to control fishing capacity. However, in order to sustain the effective implementation of the NPOA – Fishing Capacity, the country has to make sure that effective monitoring, evaluation and review of the status of the NPOA are conducted periodically.

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