

# ROUND TABLE

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*Java Sea fisheries,  
a provisional approach*

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## AGENDA

### 1. General Presentation

- 1.1. General picture of the Java Sea fisheries (pelagic and demersal)
- 1.2. Some definitions

### 2. Preliminary Results of the Project

- 2.1. Production models
- 2.2. Multispecies Analytic Models
- 2.3. Migrations

### 3. Regulations

- 3.1. Kind of regulations
- 3.2. Existing and planned regulations

A round table session was carried out and all the participants had opportunity to participate in the discussion on the Java Sea fisheries. Presentations on the overall picture of the fisheries and some definitions used, preliminary results on biology, population dynamics and exploitation, and regulations practiced in the Java Sea were delivered.

In addition, the three participants coming from Malaysia (Mr. Mansor M. Isa), Philippines (Ms. Rosita Calvello) and Thailand (Ms. Amara Cheupan) were speaking on fisheries management measures in each of their country in order to compare the situation on a regional basis.

The officials of the fisheries services (DGF and its regencial agencies), shipowners, and the economists of the Project took an active part in the discussion by delivering their experiences and their view points. In fact, it was a prelude to the coming seminar on socio-economics and innovations scheduled to be performed in November 1995.



### 1. General Presentation

It is believed that both inshore as well as off-shore small pelagic fish resources of the Java Sea has been intensively exploited. On the other hand, exploitation on demersal fish resources are less intensive than those of pelagics, especially the off-shore ones.

Interactions might occur between pelagics and demersals, primarily on biological and technological interactions which take place mainly in the terms of predator relationship, competition on food and/or in space, while technological interactions may occur in the terms of what some fishing gear e.g. lampara may capture pelagics as well as demersals.

In general there are three kinds of fisheries, i.e., small scale or coastal fisheries, artisanal and industrial fisheries. The term of municipal fisheries is known from the Philippines, namely fisheries that operated less than 3 GT motorized as well as non powered boats.

In tropical multi-species fisheries, overfishing on one species may occur without people involved in the exploitation, assessment or management knowing this fact, as that overfished species is replaced by another one, the level of the catch remaining the same.

### 2. Preliminary Results of the project

#### ■ PRODUCTION MODELS

In using production models, standardization of effort should take into account those variables which effectively play a significant role in fishing mortality. The use of powerful light intensity in purse seine fishery should be taken into account in determining fishing effort.

#### ■ MULTI-SPECIES ANALYTIC MODELS

Analytical models, which were originally developed for application to single species populations, can be used to predict the possible impact of changes in fishing intensity or size limit on the direction of change in overall yield of the fishery. Refinement of this estimates evidently depends upon better estimates of natural mortality  $M$ , fishing mortality  $F$ , and growth parameter  $k$  of the Von Bertalanffy growth formula.

#### ■ MIGRATIONS

Spatio-temporal migrations are evidently existing for scads. The euryhaline species, e.g. *D. russelli* might have more restricted migration than the stenohaline one, i.e. *D. macrosoma*. A joint program on *Decapterus spp.* between Indonesia, Malaysia and the Philippines would be very useful, as the regional scale seem necessary.

As far as fish migrations are concerned, the use of methodologies other than analysis on length statistical data should be carried out to verify the present results.

### 3. Regulations

Regulations have previously been implemented in the Java Sea. Based upon ministerial decrees zoning of fishing grounds closed and opened areas, and mesh size regulation exist,

but are mainly ignored by the fishermen. Since 1980 the trawling has been banned in the Java Sea to protect the small fisheries and annual fishing licences based on the boat tonnage are now obligatory. However the number of licences is not limited and whoever wants to invest in the fishery sector and can buy one is allowed on the sea.

The feasibility of mesh size regulation on purse seine fishery is questionable for the fishery based on the use of more and more powerful light so that fish of any size will be aggregated and captured.

At the present stage, as the stocks do not seem to be overfished, any modification or addition to the existing regulations are too early. If the fishing pressure increases again, then effective control on fishing efforts should be enforced.

The enforcement of the regulations should be strengthened along with the actualization of the MCS (Monitoring, Control and Surveillance).

The participation of the community in the planning, actuating and enforcing regulations should be taken into account in any fisheries management measures.

## CONCLUSION

### ■ JAVA SEA PERSPECTIVES

Considering the debates during the seminar the quota solution to regulate the Javanese fisheries seems almost excluded due to the necessity to set up a heavy control system (there are many places of landing in the region) as well as the kind of fisheries which all exploit a complex of species.

The pelagic resources presenting a high annual variability it would be wiser to consider an adaptive management of the resource playing possibly on :

- Regulation of the fishing effort
- Protection of the fishing areas
- Exploitation of other species
- Minimal size of fish at landing
- Governmental subsidies to maintain temporary inactive fleet

Rare are the examples of pelagic fisheries management in developing countries. However, among these few examples, we can notice the management of the Sardines exploitation implemented in Morocco. The main measures have been :

- Transfer of part of the traditional fleet in other fishing areas
- Control of the exploitation level in the most endangered zones
- Development of a mobile fleet able to move quickly in order to take the most advantage of the occasional peaks in production

In the Java Sea, the fishery sector is an important receptacle of manpower coming from the overpopulated agricultural zones of this coast. A global management approach will be necessary and will have to take into account the constraints on the resources, on the regional economy as well as on the employment.

