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## FISHCODE MANAGEMENT

## FAO/NORWAY PROGRAMME OF ASSISTANCE TO DEVELOPING COUNTRIES FOR THE IMPLEMENTATION OF THE CODE OF CONDUCT FOR RESPONSIBLE FISHERIES

## SUB-PROGRAMME F: PROVISION OF SCIENTIFIC ADVICE TO FISHERIES MANAGEMENT

## REPORT OF A WORKSHOP ON THE STATUS AND MANAGEMENT OF ANCHOVY FISHERIES IN THE GULF OF THAILAND

Cha-am, Thailand 21-23 July 1999

WORKSHOP PROCEEDINGS

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS ROME, FEBRUARY 2000

## **Preparation of this document**

This report is an expanded version of an earlier report issued in Thai in 1999. Ms. Mala Supongpan, Ms. Jean Schofield and Messrs. Veravat Hongskul, Purwito Martosubroto and Siebren Venema have contributed to it, the latter being responsible for the final document.

The substantial papers presented at the first day of the Workshop are also being edited and will appear as a supplement to this report.

> S.C. Venema Project Manager FISHCODE

#### **OPENING OF THE WORKSHOP**

(1) The Workshop on the Status and Management of the Anchovy (Engraulids) Fisheries in the Gulf of Thailand was held at the Cha-am Methavalai Hotel, Phetchaburi Province, from 21 to 23 July 1999. The Workshop was funded by the FAO/Norway Inter-Regional Programme of Assistance to Developing Countries for the Implementation of the Code of Conduct for Responsible Fisheries (FISHCODE), Sub-Programme F: Assistance to Developing Countries for Strengthening the Provision of Scientific Advice to Fisheries Management. It was attended by 120 participants representing public and private institutions, among others: research (four Marine Fisheries Development Centres), planning and management (Department of Fisheries and ten Provincial Fisheries Services), Universities (Chulalongkorn, Kasetsart, and Prince Songkhla Universities), representatives of local fishermen, of processing and marketing industries and of an international organization (FAO). A full list of participants is given in Appendix A.

(2) In his introductory address, Dr. Anant Saraya, Director of the Marine Fisheries Division, Department of Fisheries (DOF), highlighted the objectives of the Workshop and mentioned the composition of the participants. The Governor of Petchaburi Province, Mr. Chuchart Poolsiri, welcomed the participants. He then briefly described the development of the anchovy fishery in his Province and its associated problems. The special address delivered by Mr. Dhammarong Prakobboon, Director-General of the Department of Fisheries, highlighted the general status of fisheries development in Thailand. Despite the high revenue obtained from export, he indicated various problems currently being faced by the anchovy fishery. He conveyed his gratitude to FAO for the support in holding the Workshop. The Workshop was inaugurated officially by him. His opening address appears as Appendix B.

## **OBJECTIVES AND PROCEEDINGS OF THE WORKSHOP**

(3) The objectives of the Workshop were: (a) to review the status of fisheries and management of anchovy with particular attention to the recent conflict arising in the fishery; and (b) to develop policy options for the management of fisheries.

(4) The Workshop was conducted in Thai to encourage, as much as possible, the full and frank participation of fishermen in the Workshop discussions. English translation was provided by Dr. V. Hongskul of FAO/RAP and Thai scientists from time to time for the benefit of the non-Thai speaking participants. The Workshop agenda appears in Appendix C. As anchovy fisheries in Thailand had become a controversial news item in the local newspapers due to a conflict among groups of fishers, daily press releases of the Workshop were also issued by the RAP Information Officer (Appendix E).

## SUMMARY OF PRESENTATIONS

#### Session I: Biology, distribution and fisheries of anchovy in Thailand

(5). Assistant Prof. Dr. Chareon Nitithamyong, Department of Marine Science, Faculty of Science, Chulalangkorn University, chaired the first session. He invited Mr. Siebren Venema to present FAO activities relating to the present Workshop. Mr. Venema, Project Manager of FISHCODE, highlighted the activities of the project in the global and regional context. In Southeast Asia, the project has organized a series of activities, such as a regional workshop on Monitoring, Control and Surveillance (MCS) held in Kuala Lumpur and Kuala Terengganu (Malaysia) in 1998, a workshop on fishery and management of Bali sardinella (*Sardinella lemuru*) in Bali Strait (April, 1999) and a similar workshop for the short mackerel (*Rastrelliger* spp.) fisheries and their management in the west coast of Peninsular Malaysia (May, 1999). He stressed that issues currently faced by the anchovy fisheries and their management should be freely discussed at this Workshop in an effort to solve the problems in the fisheries. Presentations on the biological and the socio-economic aspects of the fisheries were then made by Messrs. Rangsan Chayakul, Somporn Boongerd, Pairochana Saikling and Mrs. Amphon Laowapong (see supplement to this report).

(6) Mr. R. Chayakul, fishery biologist, Bangkok Marine Fisheries Development Centre (BMFDC), reviewed the identification, biology and distribution of anchovy in the Gulf of Thailand and Andaman Sea. There are about 12 species of anchovy belonging to two main genera, *Encrasicholina* and *Stolephorus*. About 80-90% of the anchovy catch were *Encrasicholina heteroloba*, *E. devisi* and *E. punctifer*. These live in coastal waters, and the average size of anchovies in the catch ranges from 1.2 cm to 9.4 cm, with a dominant group of 3.5-8.0 cm. Length at first maturity is 5.5 cm. Anchovies spawn almost all year round with peaks in April and October. A female anchovy could produce 2,000 to 3,000 eggs. Anchovies feed on phytoplankton (diatoms, dinoflagellates) and zooplankton (crustaceans). Anchovies are widely distributed in the region, from Indonesia to the Philippines, Hong Kong and Taiwan (province of China). In Thailand, anchovies are distributed throughout the Gulf of Thailand, from Trat to Narathiwat Provinces.

(7) Mr. S. Boongerd, fishery biologist of BMFDC, described various fishing methods and associated fishing grounds for anchovy. Among nine fishing gears employed in Thailand, the popular ones are anchovy purse seine (APS), anchovy purse seine with light (APSL), lift net or cast net with light (LNL), falling net with light (FNL). These gears are employed in various fishing grounds depending on the size of the boat, net and mesh size, depth of water and the availability of (echosounder or sonar).

- APS is used during day time by two fleets: (a) small boats of 7-16 m in length, 5-14 crew with a net of 160-250 m length and 16-30 m depth and 0.4-0.6 cm of mesh size; and (b) larger boats of 20-22m length, 30 crew, equipped with 250-400 m length of net and 40-60 m depth and 0.8 cm mesh size. Search for schools is done by visual observation or with the help of sonar. It is a daily fishing operation with 28-30 fishing days a month. The APS is dominant in Rayong, Chon Buri, Prachuap Khiri Khan, Chumphon, Surat Thani, Ranong, Phuket, Phangnga and Satun. The catches are mostly processed into a boiled-dried product.
- APSL is used at night with lights of 15-20 kW. The fleet is composed of units consisting of one mother boat 16-24 m in length, 1 to 3 (normally 2) luring boats

of 9-14 m in length, with a 20 to 30-strong crew. The purse seine is 250-500 m long, 50-80 m deep, 0.7-0.8 cm mesh size. This is used for night fishing with a frequency of 22-23 days per month, and is common in Trat, Rayong, Chon Buri, Prachuap Khiri Khan, Chumphon, Ranong and Phangnga. The catch is mostly dried, while the remainder is processed into fish sauce.

- LNL is operated at night with lights of 5-25 kW. The boats operated by a 3 to 6strong crew, are 7-14 m (normally 10-14 m) long, a net almost as long as the boat, 10-16 m depth and 0.8 cm mesh size. Fishing is normally carried out at depths of 20-45 m and for about 22-23 days a month. The catches are processed as dried, boiled-dried fish or fish sauce depending on the quality of the fish. Fishing is common in Chon Buri, Pran Buri, and Prachuap Khiri Khan.
- FNL is also operated during the night, using boats of 7-16m in length (normally 10-14m), powered with a 5-30 kW light and with an echosounder. The length of the net is about the same as the boat length, 18-30m deep, 0.5 cm mesh size. The fishing frequency is about 22-23 days per month. This type of fishing is common in Trat, Chantaburi, Rayong, Phetchaburi, Prachuap Khiri Khan, Chumphon, Songkhla, Pattani, Naratiwat, Ranong, Phuket, Phangnga, Trang and Satun. The catches are processed into boiled-dried product.

(8) Mr. P. Saikliang, a fishery biologist of BMFDC, reviewed the current status of anchovy resource and fisheries in Thailand. The rapid development of anchovy fishery was marked by the fast increase of APS from 49 units in 1987 to 386 in 1996. The use of LNL and FNL is more recent than APS and practically it was a modification from squid fishing into anchovy fishing by adding more spot lights. Therefore, both LNL and FNL were registered as squid fishing gear with luring light whose number increased from 775 in 1987 to 1,881 in 1994. Based on the existing data on catch and effort, it was estimated that the MSY for anchovy in the Gulf was around 110,000–120,000 tonnes.

(9) Mrs. A. Laowapong, a fishery economist of the Fishery Economics Division of DOF, described the socio-economic aspects of anchovy fisheries in various landing places in the Gulf of Thailand as follows:

- The majority of fishermen and fish processors in Songkhla Province had primary or secondary education. Seventy-six percent of the fishermen used to be trawl fishermen. The initial investment per boat was Baht 138,897 while the net profit from fishing was highest during May–October, with an average of Baht 28,342 per year. In November–April, the net profit was Baht 18,716
- In Prachuap Khiri Khan, the majority of fishermen were former gill-netters or were hired as crews. The initial investment was Baht. 246,750–321,429. The fishing operation lasted 167–183 days per year and the catch per trip was about 450-663 kg per boat. The net profit per day (including processing) was Baht. 689–2,307.
- In the Chumphon Province, the majority of fishermen had secondary school education and had been gillnet fishermen or hired as crews. The initial investment was Baht. 445,000. The fishing operation, on average, was lasted 173 days. Sixty-five percent of the catches were processed into boiled-dried products.

#### Session II: Post-harvest, processing and marketing aspect

(10) Most of the anchovy catch was processed into fish sauce, budu (fermented fish sauce) and salted-dried products. The boiled-dried product is a new product that has enjoyed an increasing demand for export and has become one of the driving forces in the rapid expansion of the fisheries. The main importing countries are Sri Lanka for the dried fish, and Hong Kong, Taiwan (Province of China), Singapore and Malaysia for the boiled-dried fish. Export earnings from dried anchovies increased tremendously, from Baht. 27 million in 1984 to Baht. 530 million in 1997.

Presentation of papers was made by the private sector, while the session was chaired by Associate Professor Dr. Ruangrai Tokrisna of the Faculty of Economics, Kasetsart University.

(11) Mr. Chaiwin Yongsawadikul (a representative of the fish sauce industry) presented a summary on the requirements of fresh anchovy, marketing trends and the number of people involved in the fish sauce industry. A total of about 1,500 fishing boats, with over 9,000 crew and about 100,000 people on shore are engaged directly in fish sauce processing. At present there are about 100 basic fish sauce factories in Rayong, Chantaburi, Trat and Samut Songkhrarm. In addition, 140 more factories are utilizing concentrated fish sauce for further processing into lower-grade fish sauce. The fish sauce industry also supports the packaging industry which at present consists of about 1,000 packaging factories employing 25,000 labourers. Waste products of the fish sauce industry are utilized for feeds in aquaculture and as fertilizer in some plantations (coconut, rubber and rambutan plantations).

(12)Mr. Supat Eongransri (representing exporters) highlighted the status of anchovy exports. He indicated that the boiled-dried processing of anchovy was introduced by the Taiwanese ten years ago. The boiled-dried products are exported to Japan, Korea and Malaysia. Malaysia is a big importer for this product, consuming approximately 50-60 tonnes/day (including domestic product). In recent years, the boiled-dried products have been gaining value on the domestic market owing to the decrease of dried fish production in the country. The price of the boiled-dried product varies depending on the size and quality (including colour) of the product. A product comprising of 4-5 cm fish with blackish colour costs Baht. 30/kg while the product of the same size but with whiter colour is valued at Bat. 50-55/kg. Mr. Lumsan, a fish processor from Chon Buri informed the meeting that the processed product of the smallest anchovy, called "sai mai" (silk thread) fetches 10 times the price of the normal fish size. He further informed that the demand for "sai mai" in Japan is for more than 6,000-9,000 tonnes a year. In the past, the Japanese imported "sai mai" from Indonesia but, due to current economic crisis, the products from Indonesia have declined. However, as "sai mai" is a juvenile anchovy, increased exploitation of it would endanger the resource sustainability.

(13) Mr. Arseed Laorhem (a representative of the boiled-dried fish processing group) highlighted various aspects of the boiled-dried processing. The high peak of the processing period is from May to October and lasts about 100 days. On average the number of processing days in a month ranges from 18 to 22 days. The boiled-dried processing has attracted a lot of interest and about 2,000 families in Songkhla Province have switched from duck farming to anchovy processing. A family could earn about Baht. 800–1,000 per day. On the whole, these activities generate earnings of about Baht. 36-40 million per month.

(14) Mr. Titikorn Lohakup (representative of the dried anchovy processor group) described various aspects of the dried anchovy processing. As drying is done using sunlight, such activity is limited during the rainy season. In Trat Province, there are about 300 anchovy fishing boats (100 large, 200 small) and about 4,000 workers. The high seasons are January-May and October-December. The dried anchovy products are exported to Sri Lanka, some of which are re-exported to Pakistan and India. About 70 containers of dried anchovy are exported monthly.

#### SUMMARY OF PANEL DISCUSSION

#### Session III: Management of the anchovy fisheries

(15) The panel discussion was led by four senior staff of the Department of Fisheries and of the University of Prince Songkhla, who were directly or indirectly involved in anchovy fisheries or had conducted some studies on the development and management of anchovy fisheries. The chairman of the session was Associate Professor, Dr. Kungwan Juntarashote of the Department of Fisheries Management, Kasetsart University.

(16) Mr. Somsak Chullasorn (Marine Fisheries Adviser, DOF) described the flow of information from various Marine Fisheries Research Centres to DOF in the development of management measures for a particular fishery. The information includes distribution, spawning area and season, age and growth, food and feeding, fishing ground and level of exploitation. For anchovy fisheries, various management measures have been formulated since 1983 which are as follows:

- Notification of the Ministry of Agriculture and Cooperatives (MOAC) of 14 February, 1983: light luring fishing using a net with a mesh size less than 2.5 cm is prohibited in all areas in the Gulf or many other bays in Thai waters;
- Notification of MOAC of 28 May, 1984: fishing is prohibited at the spawning grounds and nursery areas in Prachuap Khiri Khan, Chumpon and Surat Thani Provinces during 15 February to 15 May of each year;
- Notification of MOAC of 24 January, 1985: all types of purse seines are prohibited in Trat Bay;
- Notification of MOAC of 31 January, 1988: anchovy purse seiners (APS) are allowed to fish only during day time;
- Notification of MOAC of 16 April , 1990: anchovy fishing is prohibited within 3,000 m from shore at Thap Sakae, Bang Saphan, Bang Saphan Noi in Prachuap Khiri Khan Province and Pathiu in Chumphon Provinces;
- Notification of MOAC of 14 November, 1991: night fishing by anchovy purse seiners with luring light (APSL) is prohibited in all provinces; the notification takes force on 1 January, 1992.

(17) Mr. R. Chayakul of BMFDC reported that over 90% of APS catches consisted of anchovy while the by-catches of most anchovy gear are less than 10%, except for FNL which is higher than the others. Mr. M. Aimsaard (from the Lower Gulf Marine Fisheries Development Centre) indicated that conflicts in the Songkhla Province occurred among

fishermen using three main fishing gears, namely, mini shrimp trawl, small gillnets (for shrimp, crab and fish) and FNL. He further indicated, however, that the current conflict was not necessarily due to depleted resources but was more of a social conflict.

(18) Mr. Viroj Chantanimi (President, National Fisheries Association of Thailand) pointed out that conflicts in the anchovy fishery in Songkhla had taken place owing to the inappropriate handling by the management people who, according to him, were due to lack of understanding of fisheries problems. He further underlined the following important issues:

- (i) in the fishermen's view, any notification on management measures should be discussed thoroughly, including their consequences, i.e. MCS, losses and gains of the stakeholders and research backup;
- (ii) understanding of responsible fisheries should be promoted among the younger generation, either through special training or through inclusion of these subjects in the school curricula; and
- (iii) fishery research should be strengthened in order to provide relevant information relating to management and should be continuously conducted.

## **DISCUSSIONS ON FISHERIES MANAGEMENT**

## Session IV: Development of Fisheries Management Plan

(19). This session was chaired by Dr. Veravat Hongskul of FAO/RAP. The first paper was presented by Dr. B. Pollock, FAO consultant, who highlighted the principle and process of development of a fishery management plan. He outlined the fundamental issues relating to fishery management: (1) each stakeholder tries to maximize benefits; (2) stakeholder involvement reduces conflicts; (3) final arrangements are usually a compromise; (4) wrongdoers blame others or never admit guilt; (5) the processes of fishery management are just as important as the final outcome.

(20) Dr. Pollock described the need for a fishery management plan: (a) it provides a complete overview; (b) it demonstrates organization; (c) it provides accountability and transparency; and (d) it provides a basis for further review. He emphasized that no fishery management plan is perfect, as it is a process and therefore continuous review for the plan is always envisaged. The people who should be involved in the development of a management plan are the stakeholders. Their involvement will lead to commitment and ownership and thus give them rights and responsibilities in co-managing a fishery.

(21) He further explained the outcome of any management plan which in general comprises: (a) a draft fishery management plan; (b) issues identified and ranked; and (c) options to improve the plan. As a management plan is not a static product but a dynamic one, the plan should always be reviewed and someone should be responsible for it and its review. The content of a management plan varies, depending on the fishery and its level of development, and it may comprise various components, as described in Appendix D.

(22) An important component to safeguard the management plan is MCS. Mr. P. Flewwelling, FAO Consultant, described the concept of MCS in offshore and inshore

fisheries respectively, where in the latter it is more complex, owing to the high number of fishers involved and their high dependency on resources for their livelihood.

(23) It was noted that various management measures had been introduced to curb conflict between anchovy fishermen using light attraction and small-scale fishermen. The most recent one was the Notification of the Ministry of Agriculture and Cooperatives dated 28 July 1998 which, inter alia, specifically prohibits the use of nets with a mesh size of less than 2.5 cm for lift net (LNL), and falling nets (FNL).

(24) In the process of developing a management plan for anchovy fisheries, various issues facing the fishery should be identified. These issues may fall into the category described by Dr. Pollock in Appendix D. Those potential issues were further addressed by Dr. P. Martosubroto of FAO, who highlighted the process of prioritization. This approach was applied in the working group discussion that followed which embraced three major areas: Group I discussed the fisheries, management, MCS and consultation with stakeholders and extension services; Group II discussed research and stock assessment: and Group III discussed the post-harvest processing.

(25) During the working group discussions, a large number of issues were identified by the respective groups. Group I listed 33 issues relating to various aspects found in a wide range of subjects encompassing jurisdiction, laws, enforcement, contradicting objectives of fishery management, stakeholders' consultation and extension. Lack of good data and information on biological and socio-economic aspects, were listed among issues (a total of 22) emphasized by Group II, in addition to the insufficient information exchange among researchers. Uncertainty of the MSY estimates was also expressed in the discussion of Group II owing to the limited information available. In the case of Group III, they identified six important issues relating to the post-harvest sector. By and large the processing sector is still a traditional one where a large number of people are involved. Group III emphasized the sustainability principle and felt that if a sustainable harvest is not ensured, the end result will have an impact on the lives of many people. A list of the most important issues identified is given in Table 1.

## Session V: Conclusions and Recommendations

(26) The final session was chaired by Assistant Professor Dr. Suraphol Sudara, Department of Marine Science, Chulalongkorn University. Results of the working group discussions were brought into the plenary session with the aim of coming up with prioritization of the many issues. Following a dynamic debate, a democratic voting procedure was conducted in an effort to finally agree on the top ten priority issues (see Table 1). Based on these main issues, actions were recommended as given in the last column of that table.

(27) In addition, a small working group consisting of staff of DOF and FAO consultants had drafted a list of possible management measures (see Table 2). This list was presented in English by Mr. Venema, and in Thai by the Chairman. In the ensuing discussions, the fishermen did not agree with any of the proposed management measures. Although most participants appreciated the presentations and discussions on the development of a fishery management plan, the anchovy fishermen still demanded their right to fish with luring lights.

(28) The discussions did not result in clear solutions for the current crisis, also because of the fact that representatives of small-scale fishermen, who claim to be most affected by the

developments in the anchovy fisheries, had refused to participate in the current Workshop. Nonetheless, the Chairman of the Sub-Committee on Management Measures for Anchovy Fisheries, appointed by the National Board on Thai Fisheries Policies, expressed his appreciation for the invitation to participate at the Workshop. Information and discussion at this Workshop shall form a solid basis for the Sub-Committee in formulating appropriate measures for further consideration by the Thai Government.<sup>1</sup>

RANK	ISSUES	SUGGESTED ACTION
1	Introduction of coastal fishing zones	Establishment of sound fishing zone scheme
2	Stakeholders were not involved in decision-making process for resource management	Promotion of participatory management
3	Promotion of sustainable utilization of fishery resources	Research to set up criteria for the limit of fishing effort
4	Not enough research on impacts of resource utilization on environment	Research on environmental aspects of fishing
5	Utilization of immature resources	Research leading to mesh size regulation
6	Lack of understanding on conservation and management principles	Training and extension
7	Fishing fleets' movement due to monsoon causing conflicts between multiple resource users	Regulation on fishing by area
8	By-catches of other commercially important species	Better data collection and research on by-catches
9	Limit of number of fishing vessels	Registration, licensing and limitation of licenses
10	Not all fisher groups participated in the consultations on management	Promotion of participatory management

Table 1. Ranked issues and suggested actions as identified by the Workshop

<sup>&</sup>lt;sup>1</sup> Apparantly the list of possible management measures was used by the Sub-Committee on Management Measures for Anchovy Fisheries and the National Board on Thai Fisheries Policies and zoning was introduced in the Songkhla area.

#### Table 2 Options for management of Anchovy Fisheries in the Gulf of Thailand

## **Problems:**

- 1. New light luring gears becoming popular, i.e. purse seines with lights and falling nets with lights
- 2. No real statistics on number of fishers/ number of boats/ number of gears for anchovy fishery
- 3. Open access in marine fisheries
- 4. Small scale fisheries being squeezed
- 5. No effective zoning and enforcement
- 6. Mesh sizes down to <0.5 0.6 cm
- 7. Total catch estimates indicate MSY not exceeded but CPUE decreasing and small-scale fishers being hit hardest

## **Options for management:**

- 1. Declare anchovy fishery as limited entry fishery, no new licenses or entrants.
- 2. License and register all fishers and gears for anchovies
- 3. Communities be advised that licensing and registration will occur at time of meetings all not registered within one week of meeting will not be permitted to fish anchovies.
- 4. No multi-gear fishing without licenses, e.g. No squid fisheries can fish anchovy.
- 5. Enforce ban on APSL, or raise license fees for "light" gear to be used to subsidize small scale fishery
- 6. Establish mesh size restriction > 0.6 cm
- 7. Set zones:

Boat size	Distance
	from shore
Small scale	0 – 5 km
<14 m	5 – 12 km
14 – 16 m	12 – 24 km
>16 m	> 24 km

#### **Process:**

a) Pre-decision

Consult with all commercial and small scale fishers and NGOs

b) Post-decision

Extension information process

## Medium/long-term action

- 1. Reduce pelagic fleets through:
  - a. Immediate freeze and
  - b. No replacement
- 2. After 1 (a) full registration of all vessels and gears
- 3. Introduce license system
- 4. Introduce fishing rights by province
- 5. Introduce quota system

## Other action

- 1. Stock assessment
- 2. Bio-economic analysis
- 3. Study of the effect of light fishing on inshore resources
- 4. Gear selectivity study
- 5. By-catch study

# Appendix A

## LIST OF PARTICIPANTS

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Mr. Modkori Laela	Anchovy fishing, Songkhla
Mr. Mudren Kan-ii	Anchovy fishing, Songkhla
Unidentifiable signature	Anchovy fishing, Songkhla
Unidentifiable signature	The Press (The Nation)
Lieutenant colonel Thongplew Srinim	Saun Ruen Luadee Security Protection of Thailand (Army)
Dr. Suthep Suwanket	Wongwasd Aquatic Production Company (Consultant)
Leiutenant Somchai Chumnong	Policeman, Prachuap Kiri Khan
Mr. Sombat Masrinual	Policeman, Prachuap Kiri Khan
Ms. Saowanee Worapanich	Natural Resources Institution
Dr. Angkarp Korsriporn	Chulalongkorn University
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Mr. S. Mathews	International Collective of Fishworkers, Madras, India
Dr. Veravat Hongskul	Senior Fishery Officer, FAO/RAP Bangkok
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Dr. Heiko Seilert	APO (Marine Fisheries), FAO/RAP Bangkok
Mr. Siebren Venema	Project Manager, FISHCODE, GCP/INT/648/NOR, FIP, FAO Rome
Dr. Purwito Martosubroto	Fishery Resources Officer, FIR, FAO Rome
Dr. Barry Pollock	FAO Consultant
Mr. Peter Flewwelling	FAO Consultant

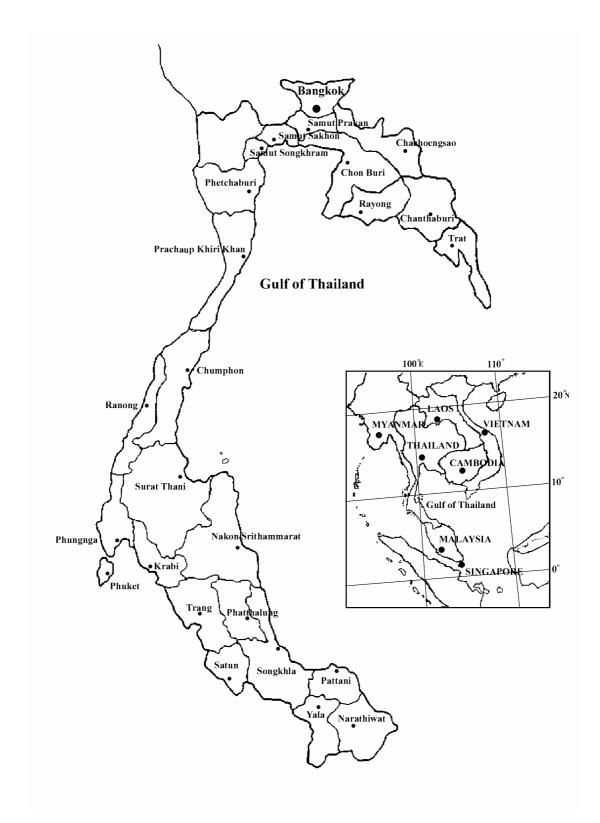


Figure 1 Map of Thailand

## **Appendix B**

#### **OPENING ADDRESS**

by

## Dhammarong Prakobboon Director-General of the Department of Fisheries

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- Governor of Petchaburi Province,
- Fisheries association leaders,
- Fishermen representatives,
- University lecturers,
- Government services from DOF and other relevant institutes,
- FAO representatives,
- honoured audience,
- ladies and gentlemen,

I am pleased to be here in this honoured workshop on "Anchovy Fisheries in the Gulf of Thailand" today. As most of you know, Thailand has been the leader in fisheries in South East Asia for some time because we have very efficient marine fisheries. The anchovy fishery is one of the important fisheries that have shown rapid growth. Apart from being consumed locally, anchovy is exported in the form of processed product that brings in foreign exchange of about 1,000 million Baht annually. This, of course, is the result of the hard work of the fishermen. However, we are now faced with various problems in the development of marine fisheries such as the problem of over-exploitation of the resources and the problem of allocation of areas for fishing which have resulted in conflicts among fishermen.

The government, namely DOF and other institutes involved in fisheries, has recognized these problems. In this regard, we in DOF has established fisheries policies in Thai waters. For the anchovy fisheries we have set up management measures in an effort to deal with the problem in the fisheries. DOF presented the anchovy fisheries policy to the Board of National Fisheries Policy on 3 June 1999 for consideration. The policy regime emphasized rehabilitation of fisheries resources and fishing areas, fisheries resources management and coastal fisheries, and the proposed solution for the fishermen's conflict that has been frequently occurring until now. You are aware that any management measure introduced will affect the stakeholders concerned. Therefore, in the formulation of management measures we need to involve all stakeholders concerned. This means that government and representatives of fishermen and processors need to work together. Therefore, holding this workshop is of importance. The participants should be able to discuss and exchange ideas freely to come up with conclusions and recommendations for the

sustainable development and management of the anchovy fisheries without destroying the environment.

I would like to thank the staff from government sectors and the staff from FAO for organizing this workshop. I wish you a fruitful discussion and deliberation and I now declare the workshop open. Thank you.

## Appendix C

#### AGENDA AND TIMETABLE

#### Tuesday, 20 July 1999:

#### 17.00 Registration at Cha-am Methavalai Hotel, Phetchaburi Province

#### Wednesday, 21 July 1999:

#### 08.30-09.15 Opening Ceremony

- Introductory Remarks by the Director of Marine Fisheries Division, Dr. Anan Saraya;
- Welcome address by the Governor of Phetchaburi Province, Mr. Chuchart Poolsiri;
- Opening address by the Director-General of Thai Department of Fisheries, Mr. Dhammarong Prakobboon.

# Session 1: Fishery biology and socio-economic aspects of the anchovy fisheries in the Gulf of Thailand

Chairperson: Dr. Chareon Nitithamyong, Chulalongkorn University

- 09.30-10.00 Introduction (Messrs. Siebren Venema and Veravat Hongskul)
- 10.10-10.20 Species, biology and distribution (Mr. Rungsan Chayakul)
- 10.20-10.40 Development of anchovy fisheries, fishing methods, fishing season and fishing grounds (Mr. Somporn Boongerd)
- 10.40-11.10 Current state of the anchovy fisheries (Mr. Pairochana Saikliang)
- 11.10-11.30 Socio-economic aspects of the anchovy fisheries (Ms Amporn Laowapong)
- 11.30-12.00 Discussion

## Session II: Post-harvest processing and marketing aspect

Chairperson: Dr. Ruangrai Tokrisna, Kasetsart University

- 13.30-13.50 Processing, marketing and export trend
- 13.50-14.10 Fish sauce production and trend
- 14.10-14.30 Dried anchovy production and trend
- 14.30-15.15 Discussion

#### Session III: Management of the anchovy fisheries

	Chairperson:	Dr. Kungwan Juntarashote, Kasetsart University
15.30-17.30	Panelists: Mr Mr Mr	ion: Management measures and related regulations . Somsak Chullasorn . Piya Kijthaworn . Monthon Eiamsa-ard . Rungsan Chayakul

18.00-22.00 Welcome dinner

#### 22 July 1999:

#### **Session IV: Development of Fisheries Management Plan**

Chairperson: Dr. Veravat Hongskul, FAO/RAP

- Do we need a fisheries management plan? Principle and process of the 08.30-08.50 development of a fisheries management plan (Dr. Barry Pollock)
- 08.50-09.10 MCS : Is it needed and how to strengthen it? (Mr. Peter Flewwelling)
- 09.10-09.40 Discussion
- 10.00-11.00 Identification of the major elements of anchovy management plan (Dr. P. Martosubroto)
- 11.00-12.00 Establishment of Working Groups and their TORs (Dr. P. Martosubroto)
- 13.30-15.00 Working Group Discussion
- 15.15-17.00 Working Group Discussion

## 23 July 1999:

#### **Session V: Conclusion and recommendations**

Chairperson: Dr. Suraphol Sudara, Chulalongkorn University

- Working Group presentations and prioritization of elements of the draft 08.30-09.30 management plan (Dr. Martosubroto)
- 09.30-10.00 Presentation of suggested possible management actions to resolve the anchovy crisis (Mr. Venema)
- 10.20-11.00 Discussion on proposed management actions
- 11.00-12.30 Summary and conclusions. Closure of the Workshop

## Appendix D

## SUGGESTED CONTENTS OF A FISHERY MANAGEMENT PLAN

## TITLE: Fishery Management Plan for Anchovy Fisheries in the Gulf of Thailand

## **1. Description of the fishery**

- Present fishing areas
- Present fishing methods

## 2. Jurisdiction and legislation

- Governments, provinces and their agencies with roles in the fishery
- Roles of all responsible agencies
- Matrix of laws and regulations pertaining to the anchovy fishery

## 3. Objectives of fisheries management

- Biological
- Social
- Economic

## 4. Monitoring, control and surveillance

- Regulations/rules to be enforced
- Description of existing capacity-preventative and deterrent MCS
- Link with provincial authorities/agencies

## 5. Research and stock assessment

- Current research and stock assessment programme
- On-going data collection on stocks, effort and quota management
- Socio-economic studies
- Environmental issues
- Implications for management

## 6. Conclusion with stakeholders and extension

- Stakeholders
- Consultation processes
- Provision of information
- Partnership status: Government and stakeholders

## 7. Post-harvest sector

- Description of post-harvest sector
- Implications of management measures on post-harvest sector

## Plenary, Discussion, Review of plan

- How and when will the plan be reviewed
- Who has responsibility for the plan and its review

## **Appendix E**

#### PRESS RELEASES

#### RAP 99/19

#### Anchovy Fisheries in the Gulf of Thailand Meeting Announcement

<u>Bangkok, 19 July 1999 (Food and Agriculture Organization)</u> – A Workshop on anchovy fisheries in the Gulf of Thailand will be held in Cha-am from 21 to 23 July. The meeting is co-organized by the Thai Department of Fisheries, Ministry of Agriculture and Cooperatives, in cooperation with the FAO Fishcode project and the FAO Regional Office for Asia and the Pacific.

About 80 participants will attend the Workshop, including the Governors from Phetchaburi and Songkhla province, provincial officers around the Gulf, small-scale fishers, representatives from the fish processing sector, the Chairmain of the Thai Fisheries Association, and several fisheries experts. The discussion will be held in Thai and English. However, simultaneous interpretation could not be provided.

The Workshop will review the existing knowledge on anchovy resources and their exploitation in the Gulf of Thailand. The needs of dried anchovies and fish sauce production should be taken into account in considering the current fishing practice and the needs for conservation and management. The options for future management, in the light of the Code of Conduct for Responsible Fisheries and food security for Thai people, should be addressed. The resulting recommendations of the Working Group should be forwarded for further consideration by the Government of Thailand.

Correspondents are invited to attend the sessions of the meeting, at their own expense. The Workshop is scheduled to run from 08.30 to 17.30 hours daily in the Mechavali Hotel in Chaam, Phechaburi Province. A daily news briefing will be offered to interested journalists after the end of the formal sessions every afternoon.

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#### RAP 99/20

#### Anchovy meeting

<u>Cha-am, 21 July (Food and Agriculture Organization)</u> – Dhammarong Prakobboon, Director-General of the Fisheries Department today called upon all stakeholders to find a compromise in the current anchovy conflict in the Gulf of Thailand. "Over the last couple of months, anchovy fisheries drew the attention of the public due to the demonstrations and demands made by the different parties. Some of the demands of the small-scale fishers to stem the expansion of commercial fishing could be accepted, but not all elements. In the end, we must try to strike a balance and find a middle path", he said.

Opening a meeting in Cha-am, jointly organized by the Fisheries Department and the Food and Agriculture Organization (FAO), the Director-General revealed that a policy and management plan specifically for anchovy fisheries is under preparation by the government.

Taking into consideration the needs of small-scale fishers as well as anchovy fishers, the agreed solution should aim at conserving the marine resources in the Gulf of Thailand.

Siebren Venema, Manager of the FAO Fishcode project, told the meeting that the national fisheries legislation required an extensive overhaul according to earlier studies carried out by project consultants. The FAO Code of Conduct for Responsible Fisheries contains the guiding principles for sustainable fisheries. Fishcode is a project dealing with fisheries monitoring, control and surveillance, and the provision of scientific advice. Mr. Venema said that FAO would organize more workshops in Thailand. But he pointed out that the Fisheries Department as the managers of fisheries will have to come up with solutions for the problems and formulate the right decisions based on sound technical as well as socio-economic data, in close consultation with all concerned.

The meeting is attended by more than 80 participants from the public and private sectors. Over the next two days it will put together the priority elements for a management plan for anchovy. Fishers and representatives from the fisheries processing sector will have the opportunity to present their views to the meeting, and thus assist in preparing appropriate management options for consideration by the Thai Government.

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## Anchovy Zoning proposed

## RAP99/21

<u>Cha-am, 23 July (Food and Agriculture Organization)</u> --- Participants at anchovy meeting today gave a priority vote to a coastal fishing zones system to safeguard the future of all stakeholders in this important sector of the Thai economy. They further recommended that all parties should be involved in the decision-making process with the objective of promoting sustainable utilization of marine resources in the Gulf of Thailand.

During three days of lively debate, over one hundred participants at the meeting prioritized elements for a management plan for anchovy fisheries. They identified the main problems as the open access to anchovy fisheries and the increasing popularity of sophisticated new fishing gear such as purse seiners with lights or falling nets with lights. Although scientists claim that the anchovy resources have been fully utilized, the catch per boat has started to decline. In the process the small-scale fishers are hardest hit by the decreasing anchovy catches.

The meeting concluded that there is now an over-utilization in anchovy fisheries which calls for a reduction in the pelagic fleet through an immediate freeze on the number of boats. After the freeze, all boats and gear should be registered and no replacement boats allowed, so as to gradually decrease the fleet.

The main outcome of the meeting is the recommendation to establish a sound fishing zone scheme. Among 10 priorities, the sustainable utilization of fisheries resources scored highest, particularly the need to reduce pre-mature catching and avoiding non-economic by-catches.

The government is asked to strengthen its management system of fisheries in the Gulf of Thailand by limiting entry for new boats and in general better monitoring and control of regulation. In doing so, it should promote a participatory approach for decision-making, reduce social conflict and promote voluntary compliance by all parties to the necessary regulations.

The meeting, jointly organized by the Fisheries Department and the Food and Agriculture Organization (FAO), was held in Cha-am from 21 to 23 July and attended by over 100 participants from the public and private sectors. The recommendations of the meeting now need further consideration by the Fisheries Department and, ultimately, the National Fisheries Policy Board and the government.

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#### Copy of New Thai Service 26/07/1999

## 26/07/99 THAILAND REVAMP OF FISHERIES POLICY URGED

Ongoing anchovy fisheries conflicts epitomise the urgent need for Thailand to review legislation governing fisheries monitoring, control and surveillance, Radio Thailand reported. Director-general of the Department of Fisheries, Dhammarong Prakobboon said that a policy and management plan specifically for anchovy fisheries is under preparation by the government. Taking into consideration the needs for small-scale fishers as well as commercial anchovy fishers, the resolution should aim at conserving the marine resources in the Gulf of Thailand. He called upon all stakeholders to find a compromise in the current conflict. Some of the demands of the small-scale fishers to stem the expansion of commercial fishing could be accepted, but not all elements. Everyone needs to strike a balance and find a middle path.

Siebren Venema, Manager of the United Nations Food and Agriculture Organization FAO Fishcode Project, told the meeting in Cha-am, Phetchaburi Province, that the national fisheries legislation required an extensive overhaul according to earlier studies carried out by project consultants. The FAO Code of Conduct for Responsible Fisheries contains the guiding principles for sustainable fisheries. Fishcode is a project dealing with fisheries monitoring, control and surveillance, and the provision of scientific advice. He said that FAO would organize more workshops in Thailand. The Department of Fisheries as the manager of fisheries will have to come up with solutions for the problems and formulate the right decisions based on sound technical as well as socio-economic data, in consultation with all concerned.

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