



RAPA REPORT: 1987/8

Report of the Twenty-Second Session of the

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# **INDO-PACIFIC FISHERY COMMISSION (IPFC)**

Darwin, Australia, 16-26 February 1987

REGIONAL OFFICE FOR ASIA AND THE PACIFIC (RAPA)  
FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS  
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## PREPARATION OF THIS REPORT

This is the final version of the report approved by the Twenty-second Session of the Indo-Pacific Fishery Commission.

### ABSTRACT

This is the final version of the report of the Twenty-second Session of the Indo-Pacific Fishery Commission (IPFC), held in Darwin, Australia, from 16 to 26 February 1987. Major topics discussed were: the exploitation and management of marine fishery resources in Southeast Asia, trends of fisheries in the region, the development of fish utilization and marketing in the Indo-Pacific Region, progress in the implementation of the Strategy and Programmes of Action of the FAO World Conference on Fisheries Management and Development, matters related to functions and responsibilities of the IPFC Standing Committee on Resource Research and Development (SCORRAD), future inter-sessional activities of the Commission, subjects for symposia at future sessions and cooperation with other bodies dealing with fisheries in the Indo-Pacific region. A list of the main decisions, directives and recommendations are listed in Appendix D.

#### Distribution:

Participants in the session  
Members of the Commission  
Other interested nations and international organizations  
FAO Fisheries Department  
Fishery Officers in FAO Regional Offices

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## OPENING OF THE SESSION

1. The Indo-Pacific Fishery Commission (IPFC) held its Twenty-second Session and Symposium on the Exploitation and Management of Marine Fishery Resources in Southeast Asia from 16 to 26 February 1987 at the Sheraton Darwin Hotel, Darwin, Australia. The Session was attended by the representatives of eleven Member Nations of the Commission, and by seven observers (from the U.S.S.R., the South Pacific Forum Fisheries Agency and two non-governmental organizations). A list of the delegates and observers is given in Appendix A to this report.
2. At the official opening of the Session, the Commission was welcomed by the Chairman of IPFC, Mr. M. Blamey, Director, Australian Fisheries Service. He conveyed the wishes for a successful outcome of the Commonwealth Minister of Primary Industry, the Hon. John Kerin, who had been unable to attend the session.
3. He emphasized the value of IPFC as a catalyst of change and as a vehicle for improving fisheries management in the region. The Symposium and the meeting of the Standing Committee on Resources Research and Development (SCORRAD) which preceded the main session, had demonstrated the challenges confronting governments in the region, their active search for ways to do things better and the ability of IPFC to address topical problems.
4. He expressed the hope that delegates would leave the Session better equipped to deal with management problems and a resolve to have management issues given greater priority in the political agenda of their governments. As the work of this Session became known, the benefit of the IPFC as an organization and as a process for making recommendations to governments would be reinforced. He concluded with the hope that FAO, despite difficulties would remain in the forefront of changing perceptions, and help in creating an environment for the political will of nations to deal effectively with the problems of fisheries management.
5. In his opening remarks, Dr. Armin Lindquist, Assistant Director-General a.i., Fisheries Department, FAO, conveyed the best wishes of Mr. Edouard Saouma, Director-General of FAO, for a successful session.
6. He referred to the Symposium and to the session of SCORRAD, held immediately before the session of IPFC. Their results were particularly important for coastal fisheries due to identification of the need for biological, economic and social management with involvement of fishermen.
7. He informed the Session that INFOFISH, originally initiated by IPFC, would become an independent inter-governmental organization in 1987, and invited the member countries to join the organization. In regard to inland fisheries, the transfer of species from one water body to another needed special attention in the region. In this connection, a code of practice developed elsewhere could be usefully employed. He pointed out the need to consider proposals for the intersessional activities of IPFC in the light of the present economic situation. He concluded by thanking the Chief Minister of the Northern Territory, the Government of Australia, and the Australian Development Assistance Bureau (ADAB), for their support in holding the Twenty-second Session of IPFC in Darwin.
8. Inaugurating the Session, the Honourable Steve Hatton, Chief Minister of the Northern Territory, on behalf of the Australian Government, conveyed the apologies of the Commonwealth Minister for Primary Industry, the Honourable John Kerin, for his inability to officiate at the opening of the Twenty-second Session of IPFC.
9. The Chief Minister informed delegates that fishing made a significant contribution to the economy of the Northern Territory and that it was a major growth area in terms of primary industry.
10. The Northern Territory recognized that, given effective management and marketing, there were great opportunities for development of its marine resources. The government was establishing the shore-based infrastructure required for the Territory to capitalize on those resources of which development of the France Bay Mooring basin was just the beginning. The benefit to be gained from landing the catch however, would not be fully realized until handling, processing, cold storage and sales facilities were further upgraded.
11. The Northern Territory Government was also encouraging industry to develop under-exploited offshore resources. Both the Territory and the Australian government were taking measures to ensure that development went

hand in hand with timely biological research and resource management. He referred to the fact that aquaculture of barramundi and prawns held great promise. Prawn hatcheries had already been established and barramundi aquaculture would begin this year.

12. In concluding, the Chief Minister wished the delegates success in their important deliberations.

## **ADOPTION OF THE AGENDA AND ARRANGEMENTS FOR THE SESSION**

13. The Commission adopted the Agenda given in Appendix B to this report. The documents placed before the Commission are listed in Appendix C.

## **SYMPOSIUM ON THE EXPLOITATION AND MANAGEMENT OF MARINE FISHERY RESOURCES IN SOUTHEAST ASIA**

14. A Symposium on the Exploitation and Management of the Marine Fishery Resources in Southeast Asia was held from 16 to 19 February 1987 in conjunction with the Session. The list of participants in the Symposium is given in Appendix E to this report. The agenda is given in Appendix F and the list of documents in Appendix G.

15. The Symposium was arranged in five substantive sessions: i) Causes of excess fishing effort and conflict; ii) Country experiences; iii) Consequences of excess fishing effort; iv) Experiences in dealing with excess effort and conflict and v) Improved approaches to the management of fisheries. The report of the symposium was placed before the Commission as document IPFC/87/3. The Commission concurred with the main conclusions of the Symposium. The report and the documents of the symposium will be published separately. A summary of the report is given in Appendix H.

## **INTERSESSIONAL REPORTS OF THE IPFC EXECUTIVE COMMITTEE**

16. The Secretariat presented the reports of the Sixty-second and Sixty-third Sessions of the IPFC Executive Committee held in Bangkok, Thailand, in October 1985 and September 1986 respectively. The reports were before the Commission as documents IPFC/87/4 and IPFC/87/5. The Commission noted that the Executive Committee's reports covered other items in the agenda and discussion was limited to only a few points in the reports.

17. In regard to the question of deploying the research vessel Dr. Fridtjof Nansen for resources survey in South-east Asian waters in 1987, the Secretariat informed the Commission that the vessel would not be available for this purpose, as the plans for its operations for 1987 and 1988, in Africa and the west coast of Central America, had been already finalized.

18. The Commission was informed that there was no progress in obtaining funding for the project proposal on the Technical Support Unit to the Committee for the Development and Management of Fisheries in the South China Sea as it had not yet been possible to identify donors.

19. The delegation of the United States of America, referring to a statement at the Sixty-third session of the Executive Committee that an offer to host the Twenty-third Session of IPFC in Hawaii would be made by the United States, informed the Commission that the government deeply regretted its inability to make the offer. This decision was due to budgetary constraints and was part of a general policy in regard to the hosting of all international meetings.

## **REVIEW OF MAJOR FISHERIES ISSUES IN THE REGION**

### **(a) Coastal Fisheries**

20. The agenda item on the Review of Major Fisheries Issues in the Region opened with a discussion of coastal fisheries. The basic working paper was document IPFC/87/3, the Report of the Symposium on the Exploitation and

Management of Marine Fishery Resources in Southeast Asia. Since this report covered most of material in the other working papers, all papers were introduced simultaneously.

21. The Symposium, which was held on 16-19 February, had more than 60 participants from ten countries. Forty-seven papers, mostly from Southeast Asian countries, had been prepared for the Symposium.

22. During the first two days of the Symposium, four major subjects were presented and discussed. These were:

- (i) the causes of excess fishing capacity and conflict;
- (ii) the general experiences of countries in the region;
- (iii) the consequences of excess fishing effort on the resources and on economic and social aspects; and
- (iv) case studies of different approaches to dealing with problems of excess capacity and conflict.

23. During the third day, the Symposium participants broke up into four working groups dealing with the major functions that needed to be performed in order to achieve improved fisheries management practices.

24. The groups dealt with: 1) the process of, and organization for management; 2) the information required for decisions on coastal fishing capacity 3) the different regulatory techniques; and 4) the needs for enforcement and the problems of integrating investment and support programmes within management programmes.

25. Each of the working groups prepared sets of guidelines and suggestions for actions and decisions that would improve fisheries management. These were discussed, revised and adopted by the Symposium on the final day.

26. In introducing the subject, the Secretariat presented the major highlights of the suggestions and guidelines adopted by the Symposium, as follows:

- (i) The Symposium fully recognized that excess fishing capacity was a severe and pervasive problem throughout Southeast Asia.
- (ii) There was full agreement that systems of exclusive user rights, of one form or another, were essential for fisheries management. This point had also been made at the FAO World Conference on Fisheries Management and Development.
- (iii) It was agreed that limited entry systems needed to be introduced into all large-scale fisheries as a matter of priority.
- (iv) In the case of small-scale fisheries, the rights needed to be established through zonal controls such as Territorial Use Rights in Fisheries.
- (v) In all situations, there was a vital need to encourage the development and strengthening of fishermen organizations and to provide them with increased authority to manage their fisheries.
- (vi) Generalizations about opportunities for increased yields from presently under-exploited stocks for fishing areas needed to be carefully examined in order to avoid undesirable investments in development.

27. The implications of these highlights were examined during the discussion and led to the following recommendations:

- (i) The Commission *recommended* that Governments should organize national conferences on fisheries management and that the participants should include policy-makers, fishery administrators, researchers from universities, government and other research institutions, and representatives of large-scale and small-scale fishermen organizations. The conferences should be designed to provide the basis for improved fisheries management plans. At the request of Governments, FAO should provide what assistance it can, in the form of assisting in the formulation of the conferences, provision of experts and provision of materials.



- (ii) The Commission *recommended* that Governments should encourage the development of more regional projects oriented towards fisheries management, such as projects for training, research and the testing and demonstration of management techniques. FAO was requested to help in stimulating such projects, identify sources of funding and cooperate with regional bodies in the implementation of the projects.
- (iii) The Commission *recommended* that Governments should encourage the strengthening of local fishermen groups, encourage them to become more deeply involved in the management of fisheries and be given greater responsibilities for management. At the request of Governments, FAO should cooperate to the extent that it can, in facilitating this process.

28. The attention of the Commission was drawn to two proposals for modification of the boundary of the Major Fishing area for Statistical Purposes No. 71 — the Western Central Pacific contained in Appendix I. It was noted that these proposals had been made to bring the statistical areas more in line with oceanographical or ecological divisions than boundaries presently existing between areas. There was general agreement on the revisions of the boundary between the Indian and Pacific Oceans in the Malacca Strait which would now be placed at longitude 2° 30' N.

29. In regard to the revision of the northern boundary of the region to include the greater part of the South China Sea within the Western Central Pacific, the delegation of the United Kingdom pointed out that it might be difficult to separate statistics of catches by Hong Kong vessels into the two areas and that further time was required to consider the matter. It was therefore proposed that a period of ninety days be allowed for comments before the changes would be implemented. The changes would not be implemented if objections were received within that period. If acceptable, the changes would be implemented as soon as retrospective statistical series could be constructed.

#### (b) Tuna fisheries

30. The Commission was reminded that the ITP had been established in 1982 in Colombo with the objective of establishing a tuna data centre under the policy guidance of IPFC and IOFC. It had been originally due to terminate in 1986 but had been extended up to 1989 with financial support from participating countries as well as UNDP. Those countries which had not yet made a financial commitment to support the work of the programme were urged to give urgent consideration to this matter.

31. The Government of Japan had agreed to give further support to the Japanese Trust Fund Project of the ITP. This support had made it possible to provide assistance, in particular to Indonesia and the Philippines in the field of sampling and tagging and this assistance was now being also extended to Malaysia and Thailand.

32. It was noted that the total world catch of tuna and tuna like species in 1985 was some 3.1 million tons which represented an increase of some 18 per cent on catches in 1980. The major events affecting the industry in recent years had been the sharp fall in price, e.g. yellowfin prices which had stood at US\$1,150 per ton in 1982 had fallen to US\$820 in late 1985 and similar falls had been reported in the case of most other species.

33. There had also been marked shifts in areas of fishing from the Atlantic to the Indian Ocean as well as a diversion of effort from the Eastern to the Western Pacific. The gradual move to purse-seining at the expense of pole and line and longline fishing had also continued. The Philippine delegation noted that this, together with the widespread use of Fish Aggregating Devices (FADs), had been a major factor in the expansion of Philippine catches.

34. Economic factors had also caused some shifts in the location of processing plants and points of landing.

35. Two main issues were raised during the discussion — the question of data and that of economic analysis of the tuna fisheries.

36. On the first of these issues the Japanese delegation stated that Japan was participating in the provision of data and suggested that all fishing countries should provide data on an equal basis. Other delegations noted however, that for stock assessment purposes, very detailed information was not necessary for some stock assessment techniques e.g. production modelling. However, other methods of analysis, for instance, by tagging experiments as undertaken by the South Pacific Commission (SPC), would need detailed information.

37. The Commission endorsed the proposal which had been approved by the IPFC Executive Committee at its Sixty-third Session to hold a FAO Expert Consultation on the Interactions in the Pacific Ocean Tuna Fisheries, subject to the availability of funds.

38. The Commission was informed that United States of America vessels operating in international waters were not obliged to supply their Government with detailed fisheries data unless this was required by a Treaty to which the United States was a party. It was noted, that some progress had been achieved by the ITP in the collection of data and in particular, catch and effort statistics by 5 degree squares in the Indian Ocean from Japan up to 1984 and from France and Spain up to 1985. However, some data was lacking, e.g. for the Republic of Korea, for catch and effort after 1982.

39. The Korean delegation explained that the National Fisheries Research Development Agency had taken many steps, such as training captains and using computers, in order to collect reliable data. As a result of these efforts the data collection system of Korea would be greatly improved within a few years.

40. The Commission noted that the project lacked basic economic data and that SCORRAD had confined its discussions on tuna to biological considerations with minimal discussion on economic factors. The USA delegation stated that, despite the success of US vessels in the Western Pacific, vessels continued to be laid up for economic reasons e.g. low ex-vessel prices. The cost of insurance had in the meantime also increased sharply. The Japanese delegation also noted that the Japanese fleet had been in trouble due to the establishment of Exclusive Economic Zones (EEZ), increases in operating costs, and low prices as a result of severe competition from new entrants to the industry. As a result, the number of vessels had been reduced and the Government had given assistance to the private sector in the form of credit at rates below the commercial rates. The delegation of Japan also pointed out the necessity to work out tuna fisheries development plans carefully in the light of the world market situation.

41. As regards the provision of assistance in the field of economics and marketing, it was noted that INFOFISH provided current data on the state of the market. The Commission felt however, that countries needed more disaggregated information on the particular conditions and special characteristics of the Japanese, EEC and North American markets.

### **(c) Inland fisheries development**

42. The Secretariat reviewed the activities on inland fisheries development on the basis of documents IPFC/87/10 and IPFC/87/Inf. 6 and 7.

43. A number of recommendations had been followed-up since the Third Session of the Working Party of Experts on Inland Fisheries, the Workshop on Strategies for the Management of Fisheries and Aquaculture in Mangrove Ecosystems and the Expert Consultation on Inland Fisheries of the Larger Indo-Pacific Islands, which were held in Bangkok during 1986.

44. The Commission noted the major activities carried out by the FAO Fisheries Department and member countries which are set out below.

45. In regard to transfer of species, the Secretariat was preparing an updated list on transfers within the Region. The EIFAC Code of Practice to reduce the risk of adverse effects was currently being scrutinized in New Zealand for its applicability in the region. A publication on the best indigenous fish species for enhancing inland fisheries in the region was under preparation. All activities by IPFC member countries on fish genetic resources were also being monitored by the Secretariat.

46. In the area of statistics, improvement of inland water and aquaculture fishery statistics was being implemented by distribution of new, more precise forms prepared by FAO, which were distributed on a trial basis in 1985 for 1984, and should have been in full use since 1985. The Commission encouraged countries to use the new forms, if they had not already done so.

47. In the field of reservoir fisheries management, a study in Sri Lanka reservoirs and a Technical Cooperation Programme field project on Fisheries Development in reservoirs of Pakistan were being executed. Simple models

for prediction of fish yields from inland water bodies, including reservoirs, were being prepared at present for Thailand and Indonesia.

48. A synthesis of guidelines on planning for inland fisheries under constraints from other users was in an advanced state of preparation. It was targeted at fishery planners. It would be of assistance to them during early discussions on development of new water and land resources for multiple resource utilization. The synthesis would provide technical guidelines on various types of water resources manipulations, their impact on fish stocks, and put forward mitigating measures and advice on how to optimize fisheries under constraints.

49. The Expert Consultation on Inland Fisheries of the Larger Indo-Pacific Islands highlighted the need for a regional review of the current and potential use of irrigation and other canals for fisheries. This activity would be probably initiated in 1988.

50. A joint workshop of the Working Parties on Inland Fisheries and Aquaculture would be held during their next sessions, on the subject of significance of the common and Asian major carps for capture fisheries in the region.

51. In giving its general endorsement to the recommendations in Document IPFC/87/10, the Commission felt that particular attention should be given to the risks connected with introductions of species to, and transfers between, water bodies and *recommended* that member countries in the Region continue to scrutinize the applicability of the EIFAC Code of Practice for introductions and transfers. The Commission also *recommended* that member countries improve the collection system of statistics on their inland fisheries, including subsistence fisheries, and on aquaculture.

#### (d) Aquaculture

52. The Secretariat briefed the Commission on activities related to aquaculture in the intersessional period with special reference to those recommendations of the 6th Session of the Working Party on Aquaculture which were accorded priority by the Twenty-first Session of IPFC. It was noted that, due to financial constraints, it had not been possible to implement two of the seven recommendations (viz. a regional workshop on aquaculture engineering and cooperative FAO/WHO research on the possible transmission of diseases and parasitoses in certain integrated aquaculture systems).

53. The Third Session of the Working Party on Inland Fisheries, had been requested to review the major achievements and constraints of aquaculture development in 1984-1986 due to the postponement of the Seventh Session of the Working Party on Aquaculture. It was noted that this postponed session was now scheduled for June 1988.

54. The Commission was informed about the findings of the regional fish disease survey conducted in 1985-1986 and the recommendations of an International Expert Consultation on Ulcerative Fish Diseases in the Asia-Pacific Region, which followed the survey (document IPFC/87/11). Based on the findings of the survey, it had been established that the region was facing an epizootic fish disease of viral origin, of which the primary causative agent was a Rhabdovirus. However, the aetiology of this disease syndrome was not yet fully understood and the role of environmental stressors in triggering the cyclical outbreak of the disease as well as the mechanism of its transmission required further study. The Expert Consultation had outlined a number of research proposals in order to clarify the background of the disease which was apparently spreading further in the region.

55. During the intersessional period, the Network of Aquaculture Centres in Asia (NACA) had been expanded by linking four national centres of Indonesia (2), Nepal, and the Philippines to the four existing regional lead centres and further linkages were in a preparatory phase. A new programme of seconding junior scientists of national institutions to multidisciplinary research teams of the regional lead centres was initiated in 1986. Beside its traditional 1 year training course in the Philippines and 4 month course in China, NACA had organized four short-term training courses in 1986 on priority areas such as giant freshwater prawn farming, Penaeid shrimp hatchery management, marine finfish cage culture and composite carp culture. A regional workshop on the socio-economics of aquaculture development had also been organized by NACA in 1986.

56. NACA was in the process of reconstituting itself as an inter-governmental organization, and a Provisional Governing Council had held its first meeting in 1986 at which the draft of a legal constitution and financing arrange-

ments had been discussed and endorsed in principle. During the transitional period, member countries were requested to continue and increase their voluntary contributions to the core expenditures of NACA. UNDP had announced its intention of providing funding support to the core activities of the Network on a decreasing scale up to 1992.

57. The Commission noted the commencement of a FAO executed regional aquaculture development project for the South Pacific funded by Japan. The project, covering 15 South Pacific countries will promote socially/culturally feasible aquaculture techniques and was planned to be linked to the research, training and information activities of NACA.

58. The Commission also noted that a UNDP funded regional seafarming development project was planned to be implemented within the existing framework of NACA, to reduce the cost of core activities and that a similar arrangement was being considered by FAO for implementation of a regional fish health management project if funding support was forthcoming from UNDP.

59. The Secretariat also highlighted the recommendations of the 18th FAO Regional Conference for Asia and the Pacific held in June 1986 (document IPFC/87/Inf. 12) which had *inter alia* discussed the progress and problems of aquaculture development in the region based on an analytical study prepared by the FAO Regional Office for Asia and the Pacific (RAPA).

60. In the discussion, the delegation of Australia and the Philippines reported recent outbreaks of the epizootic ulcerative fish disease. Viral origin had been confirmed in both cases. Several delegations stressed the need for providing funding support for the strengthening of fish health management capability in the region. The Commission *recommended* that UNDP funding for a regional project which should also cover shrimp/prawn health management be pursued further.

61. Progress was reported in the establishment of both large-scale and small-scale Penaeid shrimp hatcheries throughout the region. It was generally felt that improvements in hatchery-reared shrimp seed supply had reduced dependence on wild stocks for shrimp aquaculture. This, in turn, facilitated better protection of valuable mangrove habitats by improving the economy of pump-fed shrimp ponds constructed outside the tidal zone. It was pointed out however, that further improvements were needed in the induced breeding techniques of cultured Penaeid shrimp species if the dependence of shrimp hatcheries on breeders captured from wild stocks was to be eliminated.

62. Some delegations emphasized the fact that while the rapid expansion of coastal aquaculture, especially shrimp culture, was planned in many countries of the region, global demand for the product had not yet been properly studied. This could lead to overproduction and severe reduction in the profitability of coastal aquaculture. The Commission *recommended* that FAO and Member countries take steps to intensify in-depth market studies already initiated by INFOFISH.

63. A number of delegations also stressed the need for intensifying nutritional research and diet development for cultured warmwater fish and crustacean species. Another research area could be the influence of rapid development of coastal aquaculture. Suitable fish/shrimp feeds should be developed primarily using locally available agricultural by-products and substituting as much of the animal protein component as possible with plant protein.

64. Genetic degradation of some cultured stocks was identified as one of the constraints to aquaculture development in the region. The establishment of regional gene banks for the most important cultured species was considered timely and it was *recommended* that FAO should elaborate suitable proposals to establish the required capability in the region with international assistance.

#### **(e) Current issues in the development of fish utilization and marketing in the Indo-Pacific Region**

65. The Secretariat presented the current issues in the development of fish utilization and marketing in the Indo-Pacific region on the basis of document IPFC/87/12 and highlighted the relevant recommendations of the report of the First Session of the COFI Sub-Committee on Fish Trade (document IPFC/87/Inf. 13).

66. The limitations on the fish resources of the region implied that besides the development of aquaculture, the other main possibility for increasing fish supplies for both domestic and export markets, to close the projected gap

between supply and demand in the future, was the reduction of post-harvest losses. Significant losses were occurring between capture and consumption due to spoilage, by-catch discards, diversion to animal feed and insect infestation of dried fish. The important components of an approach to reduce such losses were investment in economically viable infrastructure and physical facilities and training programmes at all levels from producer to the retailer and consumer with clear demonstration of the economic benefit of better post-harvest utilization.

67. The Commission noted that a considerable degree of capability in the area of fish technology was already available in the countries of the region. There was a wide scope for spreading the impact of this technological competence by promoting greater interaction between the technologists and industry within the countries and intra-regionally in the spirit of Technical Cooperation between Developing Countries (TCDC).

68. In regard to fish trade, it was noted that increased attention was being focused on the improved participation of developing countries in international fish trade. In this context, the establishment of the COFI Sub-Committee on Fish Trade provided another valuable international forum for discussion of the technical and economic aspects of international fish trade.

69. The Commission appreciated the intention of the Sub-Committee to maintain a strong regional orientation and that the role of FAO in this connection would be fulfilled through the network of regional fish marketing information and technical advisory services, of which INFOFISH was the component for the IPFC region. The COFI Sub-Committee on Fish Trade had recommended the strengthening of regional fish marketing services as they were an excellent mechanism for delivery of technical assistance in export promotion. Noting that INFOFISH would become an Inter-Governmental Organization in 1987, the Commission stressed that strong support and active participation of the countries of the region was essential to enable INFOFISH to deliver its services effectively.

70. The Commission noted that the continuing inconsistency in the quality of fish products exported from the region was one of the biggest problems in the area of quality assurance. This was not only resulting in loss of export income due to detentions and low prices, but also leading to accrual of the value added at the retail end to reprocessors rather than to exporters since the major importers tended to regard exports from the region as raw material for reprocessing.

71. Several delegations emphasized the importance of implementing an adequate quality assurance programme for exported fish products. The delegations of Australia, Indonesia, France, Japan, and Sri Lanka informed the Commission about the features of quality assurance programmes implemented in their countries. It was well appreciated that concentrated training right down to the operator level was an essential component of the implementation of quality assurance programmes and FAO was commended for the attention being paid to training at both national and regional levels.

72. Considering the paramount importance of quality assurance the Commission *recommended* that governments should pay attention to the urgent need for a quality assurance package for the fish export industry to obtain maximum financial benefit from exports and to the importance of training at all levels as a component of such a package.

73. The Commission noted that the recommendations of the First Session of the COFI Sub-Committee on Fish Trade were both relevant and useful. The delegation of Australia, emphasizing the usefulness of the 'Register of Import Regulations for Fish Products' in its present form, expressed reservations regarding the suggestions made in the Sub-Committee report for expansion of the Register to include export regulations, which might divert attention from its important primary function.

## **A REVIEW OF THE PROGRESS IN THE IMPLEMENTATION OF THE STRATEGY AND PROGRAMMES OF ACTION OF THE FAO WORLD CONFERENCE ON FISHERIES MANAGEMENT AND DEVELOPMENT**

74. The Secretariat reported on the state of implementation of the Strategy and Programmes of Action of the 1984 FAO World Conference on Fisheries Management and Development on the basis of document IPFC/87/13. A preliminary progress report on this subject was to be submitted to the Seventeenth Session of the Committee on

Fisheries, in May 1987. Of the nineteen member countries of the Commission more than half had replied to the Director-General's letter requesting national progress reports. The Secretariat explained that additional information from the region could still be included in a document to be presented to the FAO Conference in November 1987.

75. The Strategy adopted at the FAO World Fisheries Conference stated that States should adopt standards and specifications with respect to the identification and marking of fishing vessels (page 19, (XVI) of the Report in English). As a follow-up an Expert Consultation on the Technical Specifications for the Marking of Fishing Vessels had been held. Its report was before the Commission as IPFC/87/18 and Inf. 11. The Commission found the report very useful and timely and some delegations referred to their experiences in the marking of fishery vessels.

76. The Secretariat briefed the Commission on the operational and pipeline activities in the Indo-Pacific region in follow-up to the five Programmes of Action. Special reference was made to the low level of response in respect of the funding for regional projects under Programme of Action No. V, Promotion of the Role of Fisheries in Alleviating Under-nutrition. In the ensuing discussions the delegates of Japan and Thailand referred to their contributions to activities in the Indo-Pacific region, which had been considerable. The Secretariat informed the Commission that a document would be presented at the forthcoming Seventeenth Session of the Committee on Fisheries giving a breakdown of support according to region and Programme of Action.

77. In concluding its comments on this agenda item the Commission emphasized the need for further support to the Programmes of Action.

#### **MATTERS RELATED TO THE FUNCTIONS AND RESPONSIBILITIES OF IPFC (REVIEW OF THE FUNCTIONS OF SCORRAD)**

78. The Commission unanimously approved a motion duly submitted by the delegation of Australia to suspend Rule IX 2(c) of the Rules of Procedure, as follows "Considering the importance of discussing the Report of the Fifth Session of SCORRAD at the Twenty-second Session of IPFC, the delegation of Australia suggests that in accordance with Rule XV of IPFC's Rules of Procedure the Report of SCORRAD be discussed without referring it to the forthcoming Sixty-fourth Session of the Executive Committee".

79. Mr. R. Shomura, Chairman of SCORRAD up to the end of its Fifth Session, introduced the agenda item by reviewing the report of the Session, which was before the Commission as document IPFC/87/14.

80. During the course of the four previous sessions of SCORRAD, some dissatisfaction had been voiced regarding its effectiveness. At its Sixty-third Session, the Executive Committee of IPFC had been of the view that it was essential for SCORRAD to examine its role and functions.

81. Therefore, the members of SCORRAD had focused their attention on reviewing the problems facing the Committee, with special reference to the topics covered and the conduct of the sessions. Key problems identified during the discussions included the dearth of working scientists at sessions; the lack of adequate review of the reports of the IPFC Working Parties for the purpose of tendering advice to the Commission on their results; the difficulty of fulfilling the task of covering a wide range of resource issues; and the lack of focus on substantive issues in the proceedings of sessions.

82. The Commission was informed that within the constraints of time available at SCORRAD sessions and considering the background of most delegates, the latter could not effectively undertake review of Working Party reports as well as review of documents on a wide range of resource issues.

83. The Commission noted that there were three basic options for the future of SCORRAD, i.e. continuation of SCORRAD as presented constituted; its abolition; or the reforming of SCORRAD to improve its efficiency. The Commission noted that SCORRAD itself had recommended that it should continue to exist but had acknowledged that modifications should be made in its role and functions. For this purpose, it had submitted two possible options to the Commission elaborated in paragraphs 17-20 of the report of SCORRAD and reproduced here in an extract shown in Annex J.

84. These options essentially implied changes in the present terms of reference of SCORRAD, either to reduce the advisory functions related to research fields other than resources, or to reinforce these functions which currently cover all research areas including resources.

85. Consequent to an exhaustive discussion, the Commission *recommended* Option (1), which would enable concentration of the resources and time available to SCORRAD on marine fisheries.

86. The reports of the Working Parties would be submitted (through the Executive Committee) to the Commission in accordance with the Rules of Procedure.

87. Recognizing however, that IPFC delegates would not be able to review these reports thoroughly enough, if they were made available to them only at IPFC sessions, the Commission *recommended* that the reports of Working Parties should be sent by the Secretariat to the IPFC Member Countries at least 3 months in advance of a regular session.

88. Regarding the intersessional activities of SCORRAD and the agenda of its next session, the Commission *recommended* focus on the following items:

- (i) Collaborative research programme on Penaeid Shrimp Recruitment: the programme proposed by Australia should be supported by FAO within its financial possibilities and additional funding should be sought to support the active participation of developing countries.
- (ii) Collaborative programme on Tuna Tagging: the responsibilities involved in establishing this programme should be carefully investigated by SCORRAD in collaboration with IPTP and the countries concerned.
- (iii) Research strategy for the IPFC Region: SCORRAD should investigate ways and means by which marine resources management oriented research could be developed in the region, including the identification of possible additional collaborative research programmes and regional projects.

## PROPOSED FUTURE INTER-SESSIONAL ACTIVITIES OF IPFC

89. The Commission noted the information given in document IPFC/87/15 in respect of the Regular Programme and extra-budgetary sessions of IPFC and its subsidiary bodies, scheduled for 1987, and in respect of other meetings planned to be held in the Indo-Pacific region, with the following qualifications:

- (i) the Seventh Session of the Working Party on Fish Technology and Marketing had been postponed and would be held in November 1987
- (ii) the session of the IPFC Executive Committee scheduled to be held in October 1987 had been cancelled due to budgetary constraints
- (iii) the First Session of the Governing Council of INFOFISH would be held at RAPA, Bangkok, from 26-31 March 1987
- (iv) the Expert Consultation on the Use of Computers in Fishery Statistical Applications, scheduled to be held in June 1987, had been cancelled due to budgetary constraints.

90. In respect of the sessions proposed for the next biennium 1988/89, subject to the approval of the Twenty-fourth Session of the FAO Conference, the Commission noted the following changes:

- (i) The session of the IPFC Executive Committee planned for September 1988, would be the Sixty-fourth session instead of the Sixty-fifth.
- (ii) The venue of the Twenty-third Session of IPFC planned for October 1989 would depend on a new hosting offer (see also paragraph 107.).
- (iii) A SCORRAD workshop under the collaborative research programme on Penaeid Shrimp Recruitment should be included.

## SUBJECTS FOR SYMPOSIA AT FUTURE SESSIONS

91. The Commission discussed possible subjects suggested for a symposium at the Twenty-third Session of IPFC. After considering the proposals made during the Symposium on the Exploitation and Management of Marine Fishery

Resources in Southeast Asia at the current session, and the recommendation made by SCORRAD at its Fifth Session, the Commission *recommended* the theme "Artificial Reefs and Fish Aggregating Devices as Resource Enhancement and Management Tools"

## **COOPERATION WITH OTHER BODIES DEALING WITH FISHERIES IN THE INDO-PACIFIC REGION**

92. The Commission was reminded that an important element of the Strategy adopted at the 1984 World Conference on Fisheries Management and Development was the establishment of closer collaboration between FAO regional fishery bodies and projects on the one hand and regional economic groupings and organizations concerned with fisheries on the other.

93. The Commission noted with appreciation the progress made in such collaboration during the intersessional period.

94. FAO had cooperated with the Asian Development Bank in several areas, such as the provision of technical advice in identifying possible investment opportunities in several countries of the region (Indonesia, Malaysia, Thailand); and assistance, on request, in execution of the technical assistance component of investment projects. Consequent to a very successful joint ADB/INFOFISH training course, organized in 1986, on fish handling and quality control, the possibility of organizing such courses on a regular basis was being explored. ADB had also shown special interest in FAO activities related to multispecies fish resources appraisal in the IFPC region.

95. Cooperation with the Association of Southeast Asian Countries (ASEAN) had included execution of the preparatory assistance phase of the ASEAN/UNDP/FAO Regional Small-Scale Coastal Fisheries Development project. Under the project some seven study tours had been organized on a TCDC basis.

96. The services of a consultant had been provided by FAO to assist a Task Force of the ASEAN Coordinating Group on Fisheries, in finalizing a proposal for the establishment of an ASEAN Fisheries Development Centre. FAO/UNDP and ASEAN were making arrangements for a regional project on monitoring, control and surveillance of fisheries in the Exclusive Economic Zones of ASEAN countries, and a regional project on coastal fisheries rehabilitation through seagrass restoration for the ASEAN region was in the pipeline.

97. FAO was cooperating with the International Centre for Living Aquatic Resources Management (ICLARM) in the preparation of a manual on the acquisition of socio-economic information in fisheries. ICLARM had collaborated in the preparation of a FAO Technical Paper on stock assessment methods using programmable pocket calculators. FAO support had been provided to ICLARM's network of tropical fishery scientists, including contributions to the network's newsletter. ICLARM had participated in the stock assessment training courses organized by FAO/DANIDA. An ICLARM expert had been contracted to conduct a giant clam survey in Kiribati in the frame of the UNDP/FAO South Pacific Regional Development Programme. Assistance was being extended by ICLARM to FAO in multi-species fish stock assessment. ICLARM had also cooperated in the symposium at the current session of IPFC.

98. Included in the active cooperation between FAO and the Southeast Asian Fisheries Development Centre (SEAFDEC) were joint workshops/seminars organized in 1985 on shared stocks in Southeast Asia and on fisheries policy and planning. The Aquaculture Department of SEAFDEC continued to serve as the regional lead centre of NACA in the Philippines. In 1985/86 a FAO staff member had been posted to SEAFDEC to assist the implementation of the Southeast Asian Fisheries Information System project (SEAFIS). There was also mutual attendance by the two organizations at various fisheries meetings of common interest.

99. The Commission noted the information provided on several areas of cooperation between FAO and the South Pacific Commission (SPC). These included in particular the continuing cooperation with the SPC Tuna and Billfish Assessment Programme, the assistance provided by the UNDP/FAO South Pacific Regional Development Programme primarily in the field of training, and cooperation between SPC and IPTP in regard to tuna statistics.

100. The observer from the South Pacific Forum Fisheries Agency (FFA) expressed his appreciation of the valuable cooperation between FAO and FFA. He referred in particular to the arrangement under which two pro-



fessional posts in FFA were financed through the UNDP/FAO South Pacific Regional Development Programme. He drew the attention of the Commission to the details given in the working paper which showed the wide spectrum of cooperative activities between the two organizations.

101. Commenting on the information given regarding the cooperation between FAO, FFA and SPC, the delegation of Indonesia expressed interest in receiving further information on the SPC Fishing Vessels Observer Training Course and the FFA projects Ocean Resources Management Advice and Refresher Course on EEZ Management.

## **ANY OTHER MATTERS**

102. The Chairman welcomed the observer delegation from the USSR whose arrival at the Session had unfortunately been delayed due to travel problems.

103. The observer delegation stated that the USSR attached great importance to the development of close economic and scientific/technical cooperation with developing countries of the region in the area of rational exploitation of living marine resources in accordance with the provisions of the UN Convention on the Law of the Sea. In the frame of appropriate bilateral agreements, assistance could be given to the developing countries in the organization and restructuring of their fishery industries and in the assessment of their fishery resources. Joint ventures established with developing countries were not profit-oriented but were primarily targeted at the increase of catches on a rational scientific basis. The Soviet Union also attached great importance to developing multilateral cooperation in the frame of IPFC. The results of intensive oceanographic and stock assessment research work showed that there were certain fishery resources in the Indian Ocean and the South-western Pacific which could be subjected to more efficient exploitation. It was also recognised however, that further increase of catches was not free from problems. The protection and rational utilization of the marine resources of the region required close cooperation of specialists of all countries involved, in which the Soviet Union was willing to participate.

104. The Commission expressed its deep appreciation and gratitude to Tengku Dato' Ubaidillah and Mr. Richard S. Shomura who had been long-standing members of the Malaysian and United States delegations to IPFC, on the eve of their retirement from the service of their governments, for their valuable contribution to the work of the Commission and their devotion to its spirit and ideals.

105. Noting that Ms. Agnes Jiannee, Technical Assistant, of RAPA, Bangkok, who had been associated with IPFC from the inception of the Commission, had retired from the service of FAO during the inter-sessional period, the Commission also expressed its deep appreciation of her devotion to the work of the Commission. It requested the Secretary to convey its sentiments and good wishes to Ms. Jiannee.

## **ELECTION OF OFFICERS**

106. Sri Lanka and Japan were unanimously elected as Chairman and Vice-Chairman.

107. Indonesia and Thailand were unanimously elected as the other two members of the Executive Committee.

## **DATE AND PLACE OF THE TWENTY-THIRD SESSION**

108. The Commission noted with appreciation the offer by the delegation of Sri Lanka to host the Twenty-third Session in Sri Lanka in October 1989.

109. The exact date and place of the session will be decided by the Director-General of FAO in consultation with the Chairman and the authorities of the host country.

## **ADOPTION OF THE REPORT**

110. The report was adopted by the Commission on 26 February 1987.

## **APPENDIX A**

### **LIST OF DELEGATES AND OBSERVERS**

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## APPENDIX B

### AGENDA

Agenda Item		Relevant Documents
1	Opening of the Session	IPFC/87/1
2	Adoption of the Agenda and arrangements for the Session	IPFC/87/1 IPFC/87/Inf.1
3	Symposium on the Exploitation and Management of Marine Fishery Resources in Southeast Asia	IPFC/87/2 IPFC/87/3
4	Intersessional Reports of the IPFC Executive Committee	IPFC/87/4 IPFC/87/5
5	Review of major fisheries issues in the region	IPFC/87/3 IPFC/87/6 IPFC/87/7 IPFC/87/7 Addendum 1
	(a) Coastal fisheries <i>Marine resources</i>	IPFC/87/Inf.3 IPFC/87/Inf.4 IPFC/87/Inf.5
	(b) Tuna fisheries	IPFC/87/8 IPFC/87/9 IPFC/87/Inf.10
	(c) Inland fisheries development	IPFC/87/10 IPFC/87/Inf.6 IPFC/87/Inf.7
	(d) Aquaculture	IPFC/87/11 IPFC/87/Inf.12
	(e) Current issues in the development of fish utilization and marketing in the Indo-Pacific Region	IPFC/87/12 IPFC/87/Inf.13
6	A review of the progress in the implementation of the strategy and programmes of action of the FAO World Conference on Fisheries Management and Development	IPFC/87/13 IPFC/87/18 IPFC/87/Inf.11
7	Matters related to the functions and responsibilities of IPFC (Review of the functions of SCORRAD)	IPFC/87/14 IPFC/87/4 IPFC/87/5
8	Proposed future inter-sessional activities of IPFC	IPFC/87/15
9	Subjects for Symposia at future sessions of IPFC	IPFC/87/16

- |    |   |            |
|----|---|------------|
| 10 | Cooperation with other bodies dealing with fisheries in the Indo-Pacific region | IPFC/87/17 |
| 11 | Any other matters   |            |
| 12 | Election of officers  |            |
| 13 | Date and place of the Twenty-third Session                                      |            |
| 14 | Adoption of the report  |            |

## APPENDIX C

### LIST OF DOCUMENTS

Document No.

IPFC/87/1	Provisional Annotated Agenda and Timetable
2	The Exploitation and Management of Marine Fishery Resources in Southeast Asia (Symposium Prospectus)
3	Report of the Symposium on the Exploitation and Management of Marine Fishery Resources in Southeast Asia
4	Report of the Sixty-second Session of the IPFC Executive Committee
5	Report of the Sixty-third Session of the IPFC Executive Committee
6	Issues in Coastal Fisheries Development and Management in the Indo-Pacific Region
7	Report of the Fifth Session of the IPFC Committee for the Development and Management of Fisheries in the South China Sea, Bangkok, Thailand, 28-30 July 1986
IPFC/87/7 Addendum 1	Proposals to change the Boundary of Major Fishing Area for Statistical Purposes No. 71 (Western Central Pacific)
8	Progress Report on the Indo-Pacific Tuna Development and Management Programme (IPTP)
9	Recent Trends in Tuna Fisheries in the Western Pacific and Southeast Asia
10	Report of the Third Session of the IPFC Working Party on Inland Fisheries, Bangkok, Thailand, 19-27 June 1986
11	Report of the Expert Consultation on Ulcerative Fish Diseases in the Asia-Pacific Region, Bangkok, Thailand, 5-9 August 1986
12	Current Issues in the Development of Fish Utilization and Marketing in the Indo-Pacific Region
13	Follow-up to the FAO World Conference on Fisheries Management and Development
14	Report of the Fifth Session of the IPFC Standing Committee on Resources Research and Development (SCORRAD), Darwin, Australia, 20-21 February 1987
15	Proposed future inter-sessional activities of the Indo-Pacific Fishery Commission
16	Proposed subjects for symposia at future sessions
17	Cooperation with other bodies dealing with fisheries in the Indo-Pacific Region
18	Report on the Expert Consultation on the Technical Specifications for the Marking of Fishing Vessels
IPFC/87/Inf.1	List of documents
2	List of participants

- 3 Report of the FAO/SEAFDEC Seminar on the Planning, Management and Development of Fisheries, Bangkok, Thailand, 7-18 October 1985
- 4 Report of the Sixth Session of the IPFC/IOFC Joint Working Party of Experts on Indian Ocean and Western Pacific Fishery Statistics, Albion, Mauritius, 6-10 May 1985
- 5 Report of the Expert Consultation on Acquisition of Socio-Economic Information in Fisheries, Rome, 30 July – 2 August 1985
- 6 Report of the Expert Consultation on Inland Fisheries of the Larger Indo-Pacific Islands, Bangkok, Thailand, 4-9 August 1986
- 7 Review of the state of water pollution affecting inland fisheries in Southeast Asia (*FAO Fish. Tech. Pap.*, 260)
- 8 Technical support provided by FAO for the Indo-Pacific Region
- 9 Structure of the Indo-Pacific Fishery Commission and Directory of Subsidiary Bodies of the Indo-Pacific Fishery Commission
- 10 Report of the Meeting of Tuna Research Groups in the Southeast Asian Region, Phuket, Thailand, 20-27 August 1986
- IPFC/87/Inf.11 Report of the Expert Consultation on the Technical Specifications for the Marking of Fishing Vessels
- 12 Recommendations related to aquaculture of the 18th FAO Regional Conference for Asia and the Pacific, Rome, July 1986
- 13 Committee on Fisheries – Report of the First Session of the Sub-Committee on Fish Trade, Rome, 7-10 October 1986

## APPENDIX D

### SUMMARY OF MAJOR RECOMMENDATIONS, DECISIONS AND DIRECTIVES OF THE COMMISSION

#### I. RECOMMENDATIONS

##### A. FOR THE ATTENTION OF GOVERNMENTS AND FAO

##### AGENDA ITEM 5

##### **Review of major fisheries issues in the region**

##### *(a) Coastal Fisheries*

1. Organize national conferences on fisheries management aimed at multidisciplinary participation (paragraph 27(i) of the Report).
2. Encourage the development of more regional projects oriented towards fisheries management (paragraph 27(ii) of the Report).
3. Encourage and strengthen local fishermen groups involved in management (paragraph 27(iii) of the Report).

##### *(d) Aquaculture*

1. Seek funding for a regional project for strengthening fish health management capability in the region (paragraph 60 of the Report).
2. Intensify in-depth market studies for shrimp (paragraph 62 of the Report).

##### AGENDA ITEM 7

##### **Matters related to the Functions and Responsibilities of IPFC (Review of Functions of SCORRAD).**

1. Revise terms of reference concentrating advisory functions of SCORRAD on marine fisheries (paragraph 85 of the Report).
2. Despatch reports of Working Parties to IPFC Member Countries at least 3 months in advance of regular sessions of the Commission (paragraph 87 of the Report).
3. Focus intersessional activities of SCORRAD on:
  - (a) Collaborative research programme on Penaeid Shrimp Recruitment (paragraph 88(i) of the Report).
  - (b) Collaborative Programme on Tuna Tagging (paragraph 88(ii) of the Report).
  - (c) Develop a strategy for marine resources management oriented research (paragraph 88(iii) of the Report).

##### AGENDA ITEM 9

##### **Subject for Symposia at Future Sessions**

1. Organize a Symposium on "Artificial Reefs and Fish Aggregating Devices as Resource Enhancement and Management Tools" in conjunction with the Twenty third Session of IPFC (paragraph 91 of the Report).

## **B. FOR ATTENTION OF GOVERNMENTS**

### **AGENDA ITEM 5**

#### *(c) Inland fisheries development*

1. Continue scrutinizing the applicability of the EIFAC Code of Practice for Introduction and Transfers (paragraph 51 of the Report).
2. Improve the collection system of statistics on inland fisheries including subsistence and aquaculture (paragraph 51 of the Report).

#### *(e) Current issues in the development of fish utilization and marketing in the Indo-Pacific Region*

1. Pay increased attention to adequate quality assurance programme for exported products (paragraphs 71 and 72).

## **C. FOR THE ATTENTION OF FAO**

### **AGENDA ITEM 5**

#### *(d) Aquaculture*

1. Elaborate suitable proposals for establishment of regional gene banks (paragraph 64 of the Report).

## **II. OTHER DECISIONS AND DIRECTIVES OF THE COMMISSION**

1. Endorsement of the main conclusions of the Symposium (paragraph 15 of the Report).
2. Major highlights, suggestions and guidelines adopted by the Symposium (paragraph 26(i and vi) of the Report).
3. Modify the boundary of the Major Fishing Area for Statistical Purposes No. 71 – the Western Central Pacific:
  - (i) In Malacca Strait – place new boundary between Indian and Pacific Ocean at longitude 2°30'N. (paragraph 28 of the Report).
  - (ii) Revise northern boundary of the region to include greater part of the South China Sea within the Western Central Pacific unless objections received within ninety days (paragraph 29 of the Report).
4. Member countries provide financial support to ITP (paragraph 30 of the Report).
5. Note offer by Japan to continue supporting the Japanese Trust Fund Project of ITP (paragraph 31 of the Report).
6. Endorsement of proposal to hold an FAO Consultation on the Interactions in the Pacific Ocean Tuna Fisheries (paragraph 37 of the Report).
7. Member countries to use forms prepared by FAO for compiling aquaculture fishery statistics (paragraph 46 of the Report).
8. A joint workshop on the significance of the Common and Asian major carps for capture fisheries in the region to be organized during the next sessions of the Working Parties on Inland Fisheries and Aquaculture (paragraph 50 of the Report).
9. Intensify research on nutritional and diet development, on influence of rapid development of coastal aquaculture and development of suitable fish/shrimp feeds (paragraph 63 of the Report).

10. Member countries to increase support and participation in INFOFISH (paragraphs 7 and 69 of the Report).
11. Emphasize the need for further support to the Programmes of Action (paragraph 77 of the Report).
12. Reports of the Working Parties to be submitted to the Commission through the Executive Committee (paragraph 86 of the Report).
13. Organize a Workshop on Penaeid Shrimp Recruitment in the 1988/89 biennium (paragraph 90(iii) of the Report).
14. Tribute to Tengku Dato'Ubaidillah, Mr. Richard Shomura and Ms. Agnes Jiannee for their contribution and service to the work of IPFC (paragraphs 104 and 105 of the Report).
15. Members of the Executive Committee 1987/88 Sri Lanka – Chairman, Japan – Vice Chairman (paragraph 106 of the Report), Indonesia and Thailand elected members (paragraph 107 of the Report), Australian outgoing Chairman (Rule IX of IPFC Rules of Procedure).
16. Date and place of Twenty-third Session tentatively October 1989 in Sri Lanka (paragraph 108 of the Report).

## APPENDIX E

### SYMPOSIUM ON THE EXPLOITATION AND MANAGEMENT OF MARINE FISHERY RESOURCES IN SOUTHEAST ASIA

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## **APPENDIX F**

### **SYMPOSIUM ON THE EXPLOITATION AND MANAGEMENT OF MARINE RESOURCES IN SOUTHEAST ASIA**

#### **Agenda**

1. Opening of symposium.
2. Causes of excess fishing effort and conflict.
3. Country experience.
4. Consequences of excess fishing effort.
5. Experiences in dealing with excess effort and conflict.
6. Improved approaches to the management of fisheries.
7. Adoption of the report.

## APPENDIX G

### SYMPOSIUM ON THE EXPLOITATION AND MANAGEMENT OF MARINE FISHERY RESOURCES IN SOUTHEAST ASIA

Darwin, Australia, 16-19 February 1987

#### LIST OF DOCUMENTS

*Document No.*

*Title*

#### I. OPENING OF SYMPOSIUM

IPFC/87/Symp./I/Inf.1	Annotated agenda and timetable
IPFC/87/Symp./I/Inf.2.Rev.1	List of documents
IPFC/87/Symp./I/Inf.3	List of participants

#### II. CAUSES OF EXCESS FISHING EFFORT

IPFC/87/Symp./II/WP.1	Resource rent, common property and fisheries management: an economic prospective (T.F. Meany)
IPFC/87/Symp./II/WP.2	Economic factors of excess fishing effort (Rolf Willmann)
IPFC/87/Symp./II/WP.3	Potential yield of marine fishery resources in Southeast Asia (S. Chikuni)
IPFC/87/Symp./II/WP.4	Future demand for fish in Southeast Asian Region (P. Smith)
IPFC/87/Symp./II/Inf.1	Fisheries output and price indices: Thailand (Rungruang Isarangkura and Jirapan Davivongs)
IPFC/87/Symp./II/Inf.2	An indexing attempt of prices and outputs of Indonesian marine fisheries (Budiman Hutabarat)
IPFC/87/Symp./II/Inf.3	Malaysia: price-weighted fisheries output index 1971-1985 (Rabihah Mahmood)
IPFC/87/Symp./II/Inf.4	Philippines: Price-weighted output index for marine fisheries (Leonora O. Signey)

#### III. COUNTRY EXPERIENCES

IPFC/87/Symp./III/WP.1	Malaysia (see IPFC/87/Symp./V/Inf.9)
IPFC/87/Symp./III/WP.2	Thailand country experience (Chumpol Nagalaksana)
IPFC/87/Symp./III/WP.3	The status of management of the marine fishery resources in Indonesia (Purwito Martosubroto)

**IV. CONSEQUENCES OF EXCESSIVE FISHING EFFORT**

IPFC/87/Symp./IV/WP.1	Theory and practice of overfishing: a Southeast Asian perspective (Daniel Pauly)
IPFC/87/Symp./IV/WP.2	Economic consequences of excessive effort (Max Aguero)
IPFC/87/Symp./IV/WP.3	Social consequences of excess fishing effort (Conner Bailey)
IPFC/87/Symp./IV/Inf.1	Maldevelopment of a fishery: a case study of Kerala State, India (T.R. Thankappan Achari)
IPFC/87/Symp./IV/Inf.2	Economic effects of overfishing in San Miguel Bay, Philippines (Ian R. Smith and Orestes Salon)
IPFC/87/Symp./IV/Inf.3	Consequences of excessive fishing effort on fishery resources in Thailand (Yingyong Meemeskul)
IPFC/87/Symp./IV/Inf.4	Consequences of excessive fishing effort on economic aspects in Lingayen Gulf, Philippines (Leonora O. Signey)
IPFC/87/Symp./IV/Inf.5	Pangul Bay, Philippines – the cause of its overexploitation and suggestions for its rehabilitation (Jonathan O. Dickson)
IPFC/87/Symp./IV/Inf.6	Conflicts among small-scale fishermen due to “Pantukos” – a fishing gear operated in Manila Bay, Philippines (Jonathan O. Dickson)
IPFC/87/Symp./IV/Inf.7	Biological effects of fishery management measures in the Philippines (Inocencio A. Ronquillo and Ma. Ethel Gabral-Llana)
IPFC/87/Symp./IV/Inf.8	The overfishing of small pelagic fish stocks in the Philippines (P. Dalzell and R. Ganaden)
IPFC/87/Symp./IV/Inf.9	A review of the recent status of exploited stocks of roundscads in the Philippines (R. Calvelo and P. Dalzell)
IPFC/87/Symp./IV/Inf.10	Overexploitation of the demersal resources of Manila Bay and adjacent areas (Geronimo Silvestre, Ricardo Federizon, Jessica Munoz and Daniel Pauly)
IPFC/87/Symp./IV/Inf.11	Social consequences of excessive fishing effort in Thailand (Chumpol Nagalaksana)
IPFC/87/Symp./IV/Inf.12	Consequences of excessive fishing effort on fishery resources in Indonesia (Nurzali Naamin)
IPFC/87/Symp./IV/Inf.13	On the application of catch and effort information from the Hong Kong trawl fishery, and associated problems (A.W.Y. Leung and C.K.C. Lee)

**V. EXPERIENCES IN DEALING WITH PROBLEMS OF EXCESS FISHING EFFORT AND CONFLICT**

IPFC/87/Symp./V/WP.1	Experiences in dealing with problems of excess fishing effort and conflict (Francis T. Christy, Jr.)
IPFC/87/Symp./V/Inf.1	The Australian northern prawn fishery (T.F. Meany)

IPFC/87/Symp./V/Inf.2	Territorial use rights and economic efficiency – the case of the Philippine fishing concessions (Ian R. Smith and Theodore Panayotou)
IPFC/87/Symp./V/Inf.3	Fishery regulations adopted for coastal and offshore fisheries in Japan (Tadashi Yamamoto)
IPFC/87/Symp./V/Inf.4	Territorial use rights in fisheries (TURFs) in Sri Lanka – case studies on Jakottu fisheries in the Madu Ganga Estuary and Kattudel fishery in the Negombo Lagoon (Anton R. Atapattu)
IPFC/87/Symp./V/Inf.5	Relocation programmes for surplus fishermen in Malaysia (Rabiah Mahmood)
IPFC/87/Symp./V/Inf.6	Southern blue tuna (SBT) – An Australian fisheries management case study (P. Franklin)
IPFC/87/Symp./V/Inf.7	The use of artificial reefs as a tool for fisheries management in Thailand (Somsak Pramokchutima and Surapon Vadhanakul)
IPFC/87/Symp./V/Inf.8	Benefits derived from and problems encountered in the use of “Payaw” among tuna fishermen in the Philippines (Prospero C. Pastoral)
IPFC/87/Symp./V/Inf.9	Licence limitation: an approach to the regulation of fishing effort in Peninsula Malaysia (Haji Sulaiman Abu Bakar and Ch’ng Kim Looi)
IPFC/87/Symp./V/Inf.10	Some experiences and highlights of the Indonesian trawl ban: bioeconomics and socioeconomics (Kee-Chai Chong, Aloysius Dwiponggo, Sofyan Ilyas and Purwito Martosubroto)
IPFC/87/Symp./V/Inf.11	Fisheries transmigration scheme: Indonesia
IPFC/87/Symp./V/Inf.12	Community based coral reef fishery resource management in the Philippines: the Balicasag Island experience (Efren Flores and Geronimo Silvestre)

## VI. IMPROVED APPROACHES TO FISHERIES MANAGEMENT

IPFC/87/Symp./VI/WP.1	Discussion guide: institutional framework and the process of management
IPFC/87/Symp./VI/WP.2	Discussion guide: information needed for management
IPFC/87/Symp./VI/WP.3	Discussion guide: formulation and implementation of management measures
IPFC/87/Symp./VI/WP.4	Discussion guide: fisheries enforcement
IPFC/87/Symp./VI/WP.5	Discussion guide: the integration of investment projects and support programmes with fisheries management
IPFC/87/Symp./VI/Inf.1	Formulation of fisheries management plans in Australia (B.V. Lilburn)
IPFC/87/Symp./VI/Inf.2	A re-evaluation of approaches to fisheries development: the special characteristics of fisheries and the need for management (Francis T. Christy, Jr.)
IPFC/87/Symp./VI/Inf.3	Adjustment of fishing effort in the South China Sea (FAO)



## **APPENDIX H**

### **SUMMARY OF THE REPORT OF THE SYMPOSIUM ON THE EXPLOITATION AND MANAGEMENT OF MARINE FISHERY RESOURCES IN SOUTHEAST ASIA**

#### **I. INTRODUCTION**

The IPFC Symposium on the Exploitation and Management of Marine Fishery Resources in Southeast Asia was held in Darwin, Australia, 16-19 February 1987. The Symposium was divided into six sessions. The first five included the introduction and provided background information on the critical factors and different approaches in dealing with the problems of over-capacity and conflict in Southeast Asian fisheries. The sixth session was divided into working groups which produced five sets of guidelines and principles for improving the practices of fisheries management. The presentations and discussions at the background sessions are summarized below, followed by some of the highlights extracted from the sets of guidelines and principles. The papers prepared for the Symposium are reproduced separately.

The Symposium was organized by the Food and Agriculture Organization of the United Nations. More than 45 papers were prepared for the Symposium, most of which came from the Southeast Asian countries of Indonesia, Malaysia, the Philippines and Thailand. There were over 60 participants from ten different countries.

#### **II. CAUSES OF EXCESS FISHING EFFORT**

This session focussed on the critical factors leading to the problems of excess fishing capacity and conflict in marine fisheries. The condition of free and open access to fishery resources, resulting from the absence of satisfactory property rights, is the fundamental cause of waste and conflict in fisheries. With free and open access, fishermen will continue to enter fisheries as long as their average revenues are greater than their average costs, even though the amount of fishing capacity is well beyond the optimum level and may even be beyond the level of maximum sustainable yield.

Economic forces drive the dynamics of the fisheries. When prices increase and costs decline, the problems of over-capacity and conflict become more severe. Currently, the high export demand for shrimp and prawns is a major cause of over-investment in fisheries. In the future, the demand for fish in general within the region will greatly exceed potential supplies. This will lead to increased prices for fish and even greater pressure on the fisheries. The need for effective management measures will become increasingly critical.

#### **III. COUNTRY EXPERIENCES**

In Indonesia, the major problem occurred in conflicts between shrimp trawlers and small-scale fishermen. Although attempts had been made to limit the number of trawlers and prohibit trawling in inshore areas, those proved to be difficult to enforce. In 1980, a total ban on trawling was initiated in the most severely exploited areas and has resolved the conflicts. There is still need for improved legislation, enforcement mechanisms and better data, particularly on social and economic aspects.

In 1981, Malaysia adopted a Comprehensive Fishing Licencing Policy in response to the conflicts between large- and small-scale fishermen and to the evidence of severe over-fishing. Under this policy all vessels are licensed and fishing capacity has been limited. In addition, there are zonal controls limiting the areas in which the trawlers can operate. Malaysia has adopted a system for buying out superfluous vessels and removing them from the fisheries.

The Philippines has experienced severe over-fishing. It is estimated that the current biomass of demersal resources is only about 30 per cent of what it was in the late 1970s and that over-fishing of demersal stocks is leading to the dissipation of economic rents of about US\$ 60-85 million per year.

A tremendous increase in fishing effort in the Gulf of Thailand has led to severe over-fishing, particularly of demersal stocks. It is estimated that the existing Thai fishing effort is 80 per cent over that required to achieve

maximum sustainable yield. Severe economic hardships have led the small-scale fishermen to engage in illegal fishing methods. Control is extremely difficult due to inadequate legislation and lack of co-ordination among government agencies. Thailand is now experimenting with the introduction of physical barriers to trawling by placing obstacles on the bottom, such as concrete tetrapods and old car bodies.

#### **IV. CONSEQUENCES OF EXCESS FISHING EFFORT**

This session dealt with consequences of excess fishing effort with regard to the resources and economic and social aspects. As the basic papers and case studies fully demonstrate, over-fishing is a severe problem that pervades throughout the region. Abundance and catches of demersal stocks have generally declined and there have generally been shifts in composition of species. Economic consequences include low incomes to fishermen and low, sometimes negative, returns to capital. Studies in the region indicate that losses due to surplus fishing effort amount to hundreds of millions of US dollars per year. Conflicts between commercial and small-scale fishermen are leading some fishermen to resort to destructive fishing techniques in order to survive. In addition, there is an increasing diversion of fish supplies from rural to more affluent urban consumer and export markets.

#### **V. EXPERIENCES IN DEALING WITH PROBLEMS OF EXCESS FISHING EFFORT AND CONFLICT**

Although the problems are severe, there are several situations where positive steps are being taken to deal with the problems. The establishment of satisfactory exclusive rights is occurring in situations where the conditions are appropriate. Fisheries for sedentary species or using fixed gear are sometimes subject to exclusive use rights, as in the case of the trap and pound-net fisheries in Sri Lanka and the municipal bangus fry fishery in the Philippines. Social conditions within communities also facilitate the acquisition of exclusive use rights, as in the case of a coral reef fishery in Balicasag Island in the Philippines and in several small communities in the region where traditional Territorial Use Rights in Fisheries (TURFs) are still maintained. National governments have also taken actions in several cases that have created or facilitated the creation of exclusive fishermen rights. This is most notable in Malaysia which has introduced a licence limit system and in Japan and Australia.

#### **VI. IMPROVED APPROACHES TO FISHERIES MANAGEMENT**

##### **A. Institutional framework and the process of management**

Emphasis is given to the need for strong management authority whether at the national, regional or local level; effective participation of fishermen in the management process; and the introduction of exclusive user rights. Co-operation among all units responsible for fisheries is essential. There is a pressing need to develop and strengthen fishermen organizations and to provide them with increased authority to manage their fisheries.

##### **B. Information needed for management**

There is a critical need to increase the information that is important for effective fisheries management. It is recognized, however, that acquisition of information can be costly and time-consuming. The absence of fully satisfactory information should not delay the imposition of management measures where the problems are severe. It is important to acquire information on the present fishery situations; on the constraints in the fishery systems such as resource limitations, absence of alternative employment opportunities and imperfection in laws and regulations; and on the dynamics of the main components such as the movement of prices and costs.

##### **C. Formulation and implementation of management measures**

Management measures must be designed to minimize damaging interactions between small-scale fishermen. Immediate steps need to be taken to reduce excess fishing capacity in large-scale fisheries. This requires the introduction of limited entry systems as a matter of priority. For small-scale fisheries, local fishermen management groups should be created allowing them to exercise control over fishing activities within their zones or TURFs.

#### **D. Fisheries enforcement**

Fisheries enforcement requires a strong political commitment on the part of governments and adequate legislative and financial support. It is essential that fishermen, politicians, enforcement personnel, fisheries extension staff and the community at large be made aware of the management rationale and the economic and social benefits. For small-scale fisheries, governments should promote self-management by fishermen through the recognition and preservation of traditional management practices and the provision of greater management authority to fishermen organizations.

#### **E. Integration of fisheries investment projects and support programmes with fisheries management**

Governments and bilateral and international funding and development agencies should give priority to investment projects and programmes which facilitate management such as: creation of alternative employment opportunities, upgrading institutional capacity for management including promotion of fisheries organizations, and buy-back schemes to reduce excess fishing effort. Governments and funding and development agencies should exercise caution with regard to investment projects, credit and subsidy programmes which serve to increase fishing capacity either directly or indirectly.

## APPENDIX I

### PROPOSALS TO CHANGE THE BOUNDARY OF MAJOR FISHING AREA FOR STATISTICAL PURPOSES NO. 71 (WESTERN CENTRAL PACIFIC)

A number of fora, including the South China Sea Committee, have recently drawn attention to some irrationality in the boundary of FAO Major Area for Statistical Purposes No. 71 — the Western Central Pacific. Two points have been under discussion — the boundary with area 61 — the Northwest Pacific and that with area 57 the Eastern Indian Ocean.

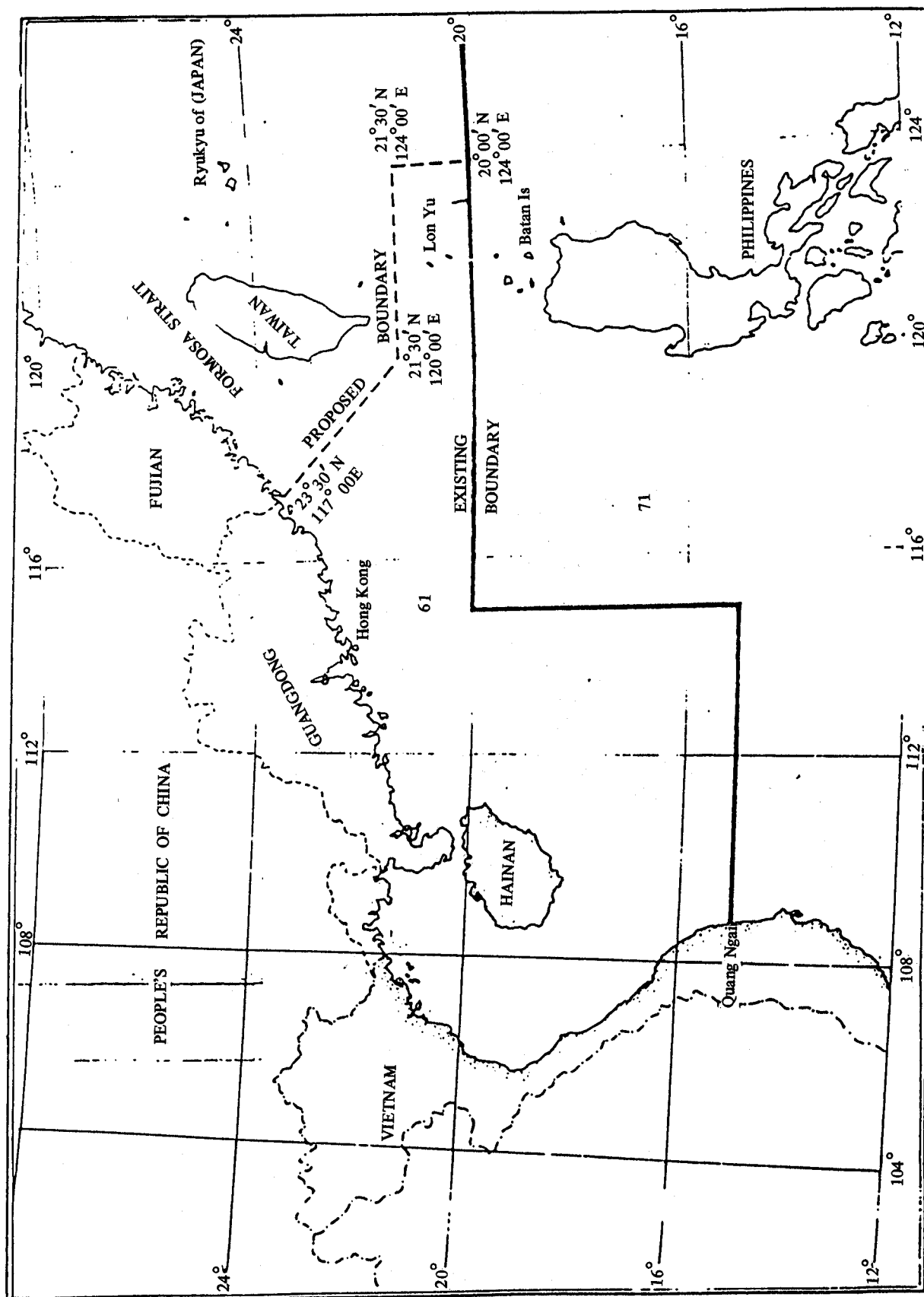
#### (a) Boundary with the Northwest Pacific

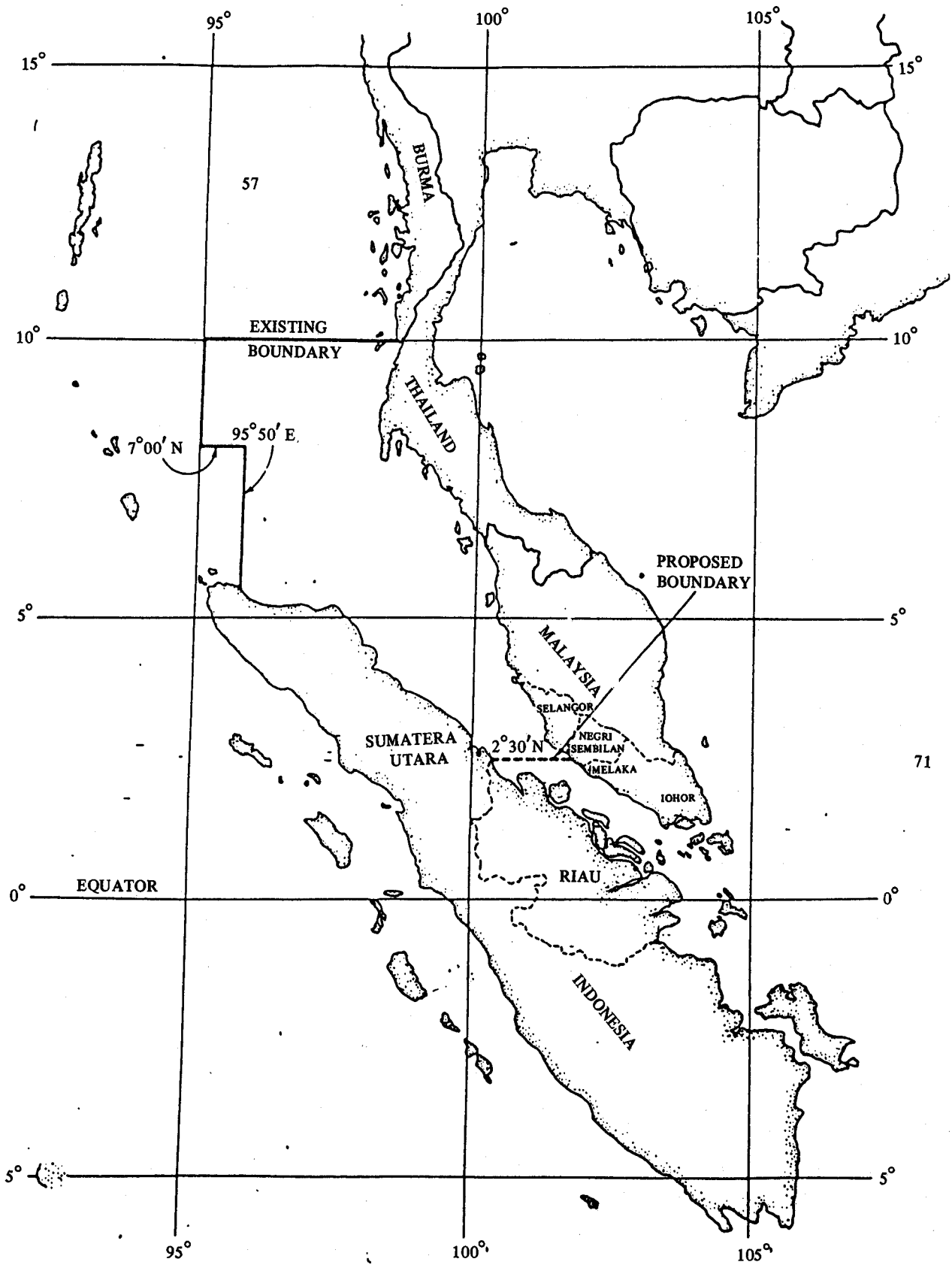
The present boundary between these two areas leaves a substantial part of the South China Sea in area 61. The proposal in Annex I would have the effect of transferring almost all the South China Sea into the Western Central Pacific — Area 71, and would thus facilitate an eventual division of this area. While representing an improvement on the existing division, the proposed change is not an ideal solution, as it still leaves the northern most part of the South China Sea and the Formosa Strait in the North Western Pacific. It does, however, have the advantage that it will facilitate the recompilation of Chinese statistics and the future supply of data on the revised basis. A slightly modified version of this change was approved in principle by the 5th Session of the South China Sea Committee, and has been noted without comment by the 63rd Session of the IPFC Executive Committee.

#### (b) Boundary with Eastern Indian Ocean

A number of scientists concerned with the marine resources of the Western Central Pacific have recently drawn attention to some difficulties presented by the boundaries defining this area. The attention of interested countries has already been drawn to the desirability of modifying this boundary and an earlier proposal (circulated in a letter of 17 February 1986) which would have made the boundary at the north western end of the Strait, thus including the whole of the Strait in the Western Central Pacific, was approved by Indonesia and Thailand. Further discussion, however, has indicated that a more satisfactory boundary between these two areas would be at latitude 2°30'N. Many of the stocks to the northwest of this line are common to both the Andaman Sea and the Malacca Strait, and thus for management (and therefore statistical) purposes are better dealt with as part of the eastern Indian Ocean. However, to the southeast of 2°30'N oceanographical and biological conditions are more closely related to those of the Sunda shelf, and the southeastern part of the Strait should therefore remain within the Western Central Pacific.

Such a boundary should also not present serious administrative problems since it very nearly coincides with the provincial borders of (i) Sumatera Utara and Riau in Indonesia, and (ii) Selangor and Negri Sembilan in Malaysia.





## APPENDIX J

### EXTRACT FROM THE REPORT OF THE FIFTH SESSION OF IPFC STANDING COMMITTEE ON RESOURCE RESEARCH AND DEVELOPMENT DARWIN, AUSTRALIA, 20-21 FEBRUARY 1987

“15. The consensus of the Committee was that SCORRAD should not be abolished but that some modifications were needed to remedy the present deficiencies. There was also general agreement that SCORRAD could be streamlined by reducing its scope by more realistic and manageable terms of reference.

16. The Committee was, however, not able to reach consensus as to whether the modifications should aim at (1) reinforcement of SCORRAD's general advisory capability in all research areas including those covered by the Working Parties, thereby reducing its scope for detailed resources research or alternatively, (2) reinforcement of its advisory role on marine resources research, by eliminating its responsibility for screening the reports of all the Working Parties which would then be submitted directly to IPFC. These two options are therefore presented to IPFC for further guidance, and decisions.

17. *Option 1: Reduction of advisory functions related to research fields other than resources* – This would imply that the reports of the various Working Parties would be directly submitted to IPFC. SCORRAD would then be in a position to focus its attention on resources matters and on statistics. (Attention in regard to the latter is now needed since the Joint Working Party on Statistics with IOFC has been abolished). SCORRAD would also be in a better position to deal with collaborative research programmes such as the one presented by Australia (paragraph 23). SCORRAD's function would then be to provide advice to IPFC on resources matters (statistics, state of the stocks, and potential) as well as related research problems. This option does not necessarily require that SCORRAD sessions should be held in conjunction with those of IPFC. It however, implies an additional cost to FAO for providing for the participation of specialists on *ad hoc* basis to deal with specific issues and shortens the process of screening the reports of the Working Parties. This option acknowledges that the original task was not feasible.

18. *Option 2: Reinforcement of advisory functions related to all research areas including resources* – This would enable SCORRAD to focus its attention on the reports of the Working Parties with sufficient time to discuss the content of the reports.

19. It could also promote collaborative research programmes in various research fields. It would however, have to give up its specific responsibility for resources research.

20. This option would further create a need to establish a new Working Party on resources evaluation and statistics for the purpose of elaborating detailed proposals and recommendations for SCORRAD's attention. It may lead to better advice to IPFC on all research areas as greater consideration could be given to the recommendations of the various Working Parties. This option implies, however, higher costs to FAO than Option 1 because of the creation of a new Working Party.

21. The Secretariat suggested that in considering these options SCORRAD should bear in mind the importance of budgetary constraints and the fact that the recent trend had been to cancel or postpone sessions of Working Parties. One delegation suggested that if the presence of officers other than senior officers was required at sessions of SCORRAD, the expenses should be borne by FAO.

22. There was unanimous agreement that whichever option was considered, marine resources were extremely important and that adequate attention had to be given to the related research programmes.”