

Report of the fifth session of the

COMMITTEE ON FISHERIES

Rome, 9-15 April 1970



**FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
ROME, 1970**

REPORT
of the
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12 May 1970

Mr. Michel Cépède
Independent Chairman
Council of FAO

Dear Sir,

I have the honour to transmit to you herewith the Report of the Fifth Session of the Committee on Fisheries which was held in Rome from 9 to 15 April 1970.

Yours faithfully,

K. Sunnanaa
Chairman
Committee on Fisheries

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OPENING OF THE SESSION

1. The Committee on Fisheries (COFI) held its Fifth Session from 9 to 15 April 1970 at FAO Headquarters, Rome, Italy. The Session was attended by the representatives of 29 nations, members of the Committee, by observers from 24 other nations and by representatives from 11 international organizations. A list of participants is given in Appendix A to this report.
2. Dr. Babacar Diop (Senegal), elected Chairman at the Third Session of the Committee, was in the Chair at the opening of the Session.
3. The representatives were welcomed on behalf of the Director-General, in an opening address by Mr. P. Terver, Assistant Director-General, Development Department. This address is reproduced in Appendix B to this report.
4. The guest speaker for this Session of the Committee, Mr. Stephen Tolbert, President of the Mesurado Fishing Company of Liberia, delivered an address at the invitation of the Director-General. The text of this address is reproduced in Appendix C to this report.
5. Following his address, Mr. Tolbert answered a number of questions asked by delegates.

ADOPTION OF THE AGENDA AND ARRANGEMENTS FOR THE SESSION

6. The Committee adopted the Agenda given in Appendix D to this report. The documents which were before the Committee are listed in Appendix E to this report.

ELECTION OF OFFICERS

7. Pursuant to Rule XXX-1 of the General Rules of the Organization and to Rule I of its Rules of Procedure, the Committee was required to elect a Chairman, a first Vice-Chairman and four other Vice-Chairmen at the Session after the election of its members by the FAO Council. As the present members were elected by the Fifty-Fourth Session of the Council on 28 November 1969, the Committee proceeded to the election of officers.
8. A Nominations Committee was appointed, consisting of the out-going officers, but with the representative of Brazil taking the place of Chile which is not currently a member of the Committee. The Nominations Committee therefore consisted of the Chairman (Dr. B. Diop, Senegal), the first Vice-Chairman (Mr. K. Sunnanaa, Norway), and the representatives of Brazil, India, Japan and the United States.
9. On the recommendation of the Nominations Committee Mr. K. Sunnanaa (Norway) was unanimously elected to serve as Chairman of the Committee, Commodore N. Zachman (Indonesia) as first Vice-Chairman, and the representatives of Brazil, Canada, Peru and Uganda as other Vice-Chairmen.
10. After the election, some delegates commented on the nomination process. While expressing their satisfaction with the choice of the Nominations Committee, they pointed out that they would have liked to be informed of the various nominations submitted to it and the principles which had guided the choice of the Committee. It was agreed that these views should be recorded and borne in mind for the next election of officers.

PERSPECTIVE STUDY OF WORLD AGRICULTURAL DEVELOPMENT AND FOLLOW-UP

11. The Committee considered the main areas for further study suggested by work on the Perspective Study of World Agricultural Development, formerly known as the Indicative World Plan, namely: action to improve the quantitative knowledge of the potential harvest from the living resources of the seas; possible action to encourage the utilization of

presently "unconventional" resources and to facilitate the transfer of new techniques to developing countries; research in the problems of fishery management; studies of the comparative returns from different avenues of investment; and research to improve methodology for estimating demand for fish meal and supply of fish for all purposes.

12. Subject to some comments on the proposed research into management problems, discussed in more detail below, the Committee supported the proposals before it for the follow-up work in the fishery chapter of the Plan. In particular, it welcomed the studies on the world appraisal of fishery resources carried out as part of the IWP. In noting that these studies have already been used by some countries in planning their future fishery development, the Committee did not consider that too much effort should be devoted to the further sophistication of the Plan but agreed that so far as possible the resource estimates should be improved and updated and the studies extended to cover fresh waters. Several delegates assured the Committee that their national scientists would continue to cooperate in these studies.

13. The Committee re-emphasized the importance of the need for training of scientists in the field of stock assessment and resource evaluation, including acoustic surveys. The work of FAO in this field, through the holding of training centres and the issuing of manuals, was welcomed. The Committee also welcomed the effective use of existing stock assessment expertise through the assistance given by FAO's headquarters staff to Member Nations and to regional fishery bodies.

14. The Committee discussed in some detail the problems of fishery management. These problems could be considered in two stages: on the one hand the general and theoretical study of the questions, including the effects of different types of management measures, and on the other agreement on the choice of specific measures and their implementation. It was emphasized that the second of these was the responsibility of national governments or of regional fishery bodies. The extent to which FAO could appropriately help these bodies to reach rational decisions by making available general studies of management problems, and reviews of the experience of existing management practices might vary from region to region. Most management actions, and theoretical studies of management problems, have so far been concerned with rather stable demersal fisheries of northern temperate waters. Further studies on those and other types of fisheries were desirable, but FAO could help developing countries best by disseminating already existing knowledge and theories as well as by assisting in developing management concepts and methods applicable to species and areas of direct interest to them.

15. The special problems of countries with developing fisheries were discussed, and it was recognized that bodies with direct responsibility for management should give these particular attention, with a view to ensuring that these countries had opportunities for entering and participating in high-seas fisheries where this was necessary for their economic development.

16. There was general agreement on the need for improved statistics, both in the field of stock assessment as well as in the periodic up-dating of information on other matters, notably the data on which the projections of demand were based.

17. A number of delegations also drew attention to the need for economic studies of investment alternatives. In this respect, specific mention was made of the economic and social factors involved in alternatives such as the mechanization of indigenous fisheries or development of fish culture as opposed to the introduction of industrialized operations.

18. The role of the Perspective Study of World Agricultural Development in the work of the Organization as a whole was also noted. In this respect, an important task was to gear the findings of the Study to the Organization's contribution to the second UN Development Decade and this involved up-dating much of the basic statistical material as well as analyzing the main changes that had occurred since the original studies had been prepared.

INTERGOVERNMENTAL COOPERATION IN THE RATIONAL UTILIZATION OF FISHERY RESOURCES

(a) Activities of international fishery bodies established within the framework of FAO or having special relationship with FAO

19. The Committee reviewed the recent activities and methods of work of the six regional fishery bodies established within the framework of FAO, namely the Indian Ocean Fishery Commission, the Fishery Committee for the Eastern Central Atlantic, the Regional Fisheries Advisory Commission for the Southwest Atlantic, the Indo-Pacific Fisheries Council, the European Inland Fishery Advisory Commission and the General Fisheries Council for the Mediterranean. The Committee also noted the assistance given by FAO in the establishment of the International Commission for the Conservation of Atlantic Tunas, and the proposed International Commission for the Southeast Atlantic Fisheries, which are outside the framework of FAO but with a special relationship with the Organization.

20. The Committee expressed its appreciation of the work done by the Department in facilitating the establishment of regional fishery bodies and endorsed the assistance being given to the development of their programmes.

21. The Committee commended the cooperation of FAO and its Fishery Committee for the Eastern Central Atlantic with IOC and ICES, to develop a Cooperative Investigation of the Northern Part of the Eastern Central Atlantic (CINECA), and noted with interest the establishment of a Coordinating Group for the Planning and Execution of CINECA, for which ICES had taken the initiative at the request of IOC. The Committee also noted that WMO had reacted favourably to the request of ICES and IOC for WMO to collaborate in the meteorological aspects of CINECA.

22. The Committee noted with satisfaction the progress made in the implementation of the International Indian Ocean Fishery Survey and Development Programme under the overall coordination of the Indian Ocean Fishery Commission and with the support of the UNDP. The Committee emphasized the need to provide support in the same way for programmes under the aegis of other regional fishery bodies. Specific reference was made to the Indo-Pacific Fisheries Council in this connection. The Committee agreed that the matter should be pursued by FAO in consultation with the United Nations Development Programme and the Council.

23. The Observer for the Permanent Commission for the South Pacific informed the Committee on the scientific programmes being carried out by the Commission, and hoped that closer cooperation may be developed between FAO and the Commission within the existing working relations between the two Organizations. The Assistant Director-General assured the Committee that the Department would be ready to discuss this matter with representatives of the Commission.

(b) Caribbean and adjacent regions

24. The Committee was informed of the progress made in the implementation of the programme of Cooperative Investigations of the Caribbean and Adjacent Regions (CICAR) sponsored by the IOC and in particular of the results achieved at the second and third meetings of the International Coordination Group of CICAR.

25. The Committee took note of the recommendation made by the Fourth Meeting of Liaison Officers of the UNDP/FAO Caribbean Fishery Development Project, to the effect that participating governments should consider the establishment of a fishery body to ensure the continuation of regional cooperation in the development, exploitation and management of living marine resources after the expiration of the Project. It recalled that a suggestion along similar lines had been made at its previous Session.

26. The Committee wished to reaffirm the view that intergovernmental fishery bodies constituted a most suitable machinery for international collaboration in research and in the

rational exploitation of fisheries, provided that the need for such bodies existed in specific situations and areas. It felt that it was for the countries concerned in the Caribbean to consider the setting up of a regional fishery body in the area and make the necessary arrangements. It agreed that FAO should cooperate with the countries concerned in assessing such need with respect to the Caribbean and adjacent regions and, if a regional body were considered necessary, in formulating and implementing plans for its establishment.

(c) International inland waters in Africa

27. The Committee expressed the opinion that the valuable fishery resources of inland waters, including lakes, streams and man-made lakes in Africa and also in other parts of the world, needed increased attention. It thought that thorough investigation of the limnology of these waters and the biology and appraisal of their fish stocks needed to be undertaken in order to provide a sound basis for development and management. It also noted that many of the larger bodies of water were shared by a number of countries and that both investigation and development of their resources required the joint action of riparian countries. The Committee emphasized that in both instances the aid of FAO was required.

28. The Committee recalled its recommendations at its Fourth Session concerning the need to strengthen the Inland Fishery Resources Branch of the Department and the urgency of convening an ad hoc consultation of African countries to examine the steps required for the establishment of an intergovernmental fishery body for the inland waters of Africa. It noted with concern that although the recommendations had been endorsed by the Conference at its Fifteenth Session, budgetary limitations had prevented the implementation of both recommendations. The Committee appreciated the Organization's intention to strengthen the Inland Fishery Resources Branch if funds should become available from savings during the 1970/71 biennium but felt that the urgency of the problems made positive and more rapid action necessary.

29. The Committee was assured that the Secretariat was aware of the urgency of the problems and that measures would be taken this year to ensure the strengthening of the Inland Fishery Resources Branch by the addition of a staff member to prepare for the ad hoc consultation and to assist in dealing with other work on inland waters that the Committee had requested. This would be done through internal rearrangement and would not involve the expenditure of additional funds. The ad hoc consultation of African countries, referred to above, would be arranged to take place in 1971. Such a meeting would have as its primary task the study of the most effective means of coordinating action to cope with common problems in such fields as limnology, fishery biology, fish culture and fishery resource appraisal, development and management. It would also examine the steps required for the establishment of a permanent body in these fields for which FAO could provide the secretariat.

(d) Other areas and stocks

30. The Committee received a statement from the Secretariat concerning the present arrangements for international collaboration in fishery research, statistics, development and management in areas other than those discussed under other items of the agenda. It was agreed that although the tabulations presented in this statement revealed some apparent gaps, these were not such as to demand any immediate action by the Committee or FAO. There was some discussion of the need to manage tuna stocks on a global basis. Some delegates felt that this was desirable in principle but other delegates doubted whether a case for this had been made and whether it would be practicable at the present time.

31. There was wide agreement on the desirability of stronger support from bilateral and multilateral agencies to fishery development on a regional basis, especially concerning surveys and similar resource-oriented work, though it was stressed that this should be complementary to assistance on a national basis.

32. There was also strong support for the idea of international assistance, particularly through UNDP funds, of the work of international fishery bodies in the fields of statistics and stock assessment and related research. This assistance should be so arranged that in addition to the production of statistics and stock assessments for immediate use in management or development planning, developing countries are assisted in improving their own competence in order to be able to implement development projects and continue the work after the termination of international support.

33. The importance of adequate statistics for both development and management was again emphasized. The Committee welcomed the work that FAO had already done in the provision of regional bulletins of fishery statistics, but noted that these needed to be strengthened in some of the detail of species and area breakdowns, data on fishing effort, etc., if they were to serve as a sound basis for the determination of management measures. Until regional reporting can be taken over by appropriate regional bodies, the provision of detailed regional statistical bulletins should receive high priority in FAO's programme. This programme should include the tabulation and publication of data submitted by countries, and work at the national level, both in obtaining current statistics, and particularly in training.

COOPERATION AMONG INTERNATIONAL AGENCIES IN RELATION TO FISHERIES

(a) Implementation of UN General Assembly Resolutions

34. The Committee reviewed and was in general agreement with the draft report prepared by FAO for submission to the Forty-Ninth Session of the Economic and Social Council and to the Twenty-Fifth Session of the General Assembly, on the measures taken by governments and intergovernmental organizations to implement UN Resolution 2413 (XXIII) on the exploitation and conservation of living marine resources. It felt that response to FAO's request for information and comments would have been even more satisfactory if governments and the organizations concerned had been given more time to reply. The Committee requested that the draft report be brought up to date to take account of both the views expressed by the Committee at this Session and of the replies received since the completion of the draft. It agreed that Part IV of the draft, dealing with intergovernmental organizations other than the United Nations specialized agencies, should be revised to provide well-balanced information on the activities of regional fishery bodies in the field of research and management including the limitation and apportionment of catches.

35. The Committee noted with interest Resolution 2560 concerning Marine Science adopted by the UN General Assembly at its Twenty-Fourth Session. It took note of the comprehensive outline of the scope of the Long-Term and Expanded Programme of Oceanic Exploration and Research (LEPOR) which had been noted with appreciation by the UN General Assembly. It noted that the comprehensive outline includes an entire chapter on the evaluation and investigation of fishery resources and two further chapters—on marine pollution and on environmental studies—of direct interest for fishery development and management.

36. The Committee further noted Resolution 2566, also adopted by the UN General Assembly at its Twenty-Fourth Session, concerning Promoting Effective Measures for the Prevention and Control of Marine Pollution, the subject matter of which is referred to in paragraphs 40 to 48 of this report.

37. With regard to Resolution 2580 of the same session of the UN General Assembly, concerning Co-ordination of Marine Activities, the Committee was informed that the Committee for Programme and Coordination of the Economic and Social Council had requested the UN Secretariat to consult with the organizations concerned and submit a report to it at its forthcoming session in May 1970, presenting the arguments for and against a full review of the existing activities of the United Nations system of organizations relating to the seas and oceans. The Committee expressed its hope that such a review would not be considered necessary. It cautioned that such a review would be of doubtful value and would divert

the staff concerned from important substantive work. Moreover, the organizations concerned had striven and succeeded in making complex arrangements for coordinated effort in scientific and technical matters and an inquest at this stage might tamper with these arrangements before their benefits had been fully felt. The Committee noted with satisfaction that the executive heads of FAO, UNESCO and WMO held similar views. It concluded with the hope that if, in the light of conflicting opinions, the CFC did consider a review necessary, it would be of a summary and general nature and not entail any change in existing arrangements.

(b) Relations with IOC and supporting agencies

38. The Committee commended the notable progress made in collaboration between the interested organizations of the UN system and in the coordination of ocean science activities, and noted with satisfaction the establishment of the Inter-Secretariat Committee on Scientific Programmes Relating to Oceanography (IOSPRO), and the discussions held at its first two meetings, in August 1969 and in February 1970, which included support by FAO of the IOC Secretariat; arrangements for the implementation of LEPOR, and FAO's active role in the development of plans for the Co-operative Investigations of the Northern Part of the Eastern Central Atlantic (CINECA) in collaboration with IOC, WMO and ICES.

39. The Committee noted with interest the Resolutions adopted by the Sixth Session of the IOC in September 1969 and hoped that it would be possible to respond positively with regard to those affecting FAO. These include Resolution VI-1, by which FAO should make every effort to ensure that adequate means are available to carry out those parts of LEPOR requiring its support; Resolution VI-2, by which ACMRR and FAO should help in the establishment of a Group of Experts on Long-Term Scientific Policy and Planning which would advise the proposed Executive Council of the IOC on the implementation of LEPOR; Resolution VI-4, by which FAO might ensure an adequate support of the IOC's activities relating to LEPOR; Resolution VI-7, by which FAO might support the development of the Integrated Global Ocean Station System (IGOSS); Resolution VI-8, inviting FAO's participation in a Synoptic Survey of the South China Sea and a third symposium on the Co-operative Study of the Kuroshio and adjacent regions (CSK); Resolution VI-9, requesting FAO assistance in the Cooperative Investigations of the Caribbean and Adjacent Regions (CICAR); Resolution VI-12, relating to CINECA as outlined in the preceding paragraph; and Resolution VI-17, inviting, inter alia, FAO to collaborate with UNESCO on training and education in marine science.

(c) Marine pollution

40. The Committee was given a detailed account of the work of FAO in the field of aquatic pollution in relation to the protection of the environment and the living resources and fishing. Particular reference was made to the positive role played by the ACC Sub-Committee on Marine Science and its Applications in promoting and facilitating collaboration in the field of marine pollution among the UN organizations concerned, as well as to the Joint Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP).

41. The Committee also heard with appreciation statements by the observers from UNESCO/IOC, WMO, IMCO and of ICES who referred to relevant activities of their organizations and confirmed the intention of their organizations to continue and expand the present international collaboration.

42. The Committee, in re-emphasizing its concern about the growing problems resulting from pollution and their increasing dangers both to inland and to marine fisheries, recognized that, because of their multidisciplinary aspects, activities in this field can best be implemented through close cooperation, and in some cases joint action, between the various bodies concerned. The Committee encouraged participation by the Department of Fisheries in the scientific and technical aspects of these activities, which are of fundamental importance to fisheries and aquaculture.

43. In this regard the Committee noted with satisfaction that the Joint IMCO/FAO/UNESCO/WMO/WHO/IAEA Group of Experts on Scientific Aspects of Marine Pollution was instrumental in the preparation of reports requested under General Assembly Resolutions 2467 (B) (XXIII) and 2566 (XXIV) concerning Marine Pollution, and was now serving as common advisory body to the sponsoring organizations, so facilitating further action on matters of common interest. It welcomed IOC's decision also to use GESAMP in an advisory capacity, as this will facilitate the elaboration of programmes on marine pollution as part of LEPOR, and the implementation of the proposed world-wide monitoring system. The Committee pointed out that these projects should be oriented so as to provide Member Countries and organizations concerned with the scientific information required for effective control of marine pollution.

44. The attention of the Committee was called to the dangers of contamination of the marine environment and of marine life that might result from atomic weapons and other military equipment installed in the sea-bed, and urged the Secretariat to collaborate with the UN, and other UN Organizations concerned to avoid such risks. The Committee noted that this important matter is under consideration by the UN Committee on Peaceful Uses of the Sea-Bed and Ocea-Floor Beyond the Limits of National Jurisdiction, and hoped that the work in progress would be successful.

45. The Committee was informed of the state of preparations for the FAO Technical Conference on Marine Pollution and its Effects on Living Resources and Fishing (Rome, December 1970), and for a Seminar on Methods of Detection, Measurement and Monitoring of Marine Pollutants to be organized in conjunction with it, with the support of SCOR, UNESCO and possibly also of WMO and IAEA. The Committee encouraged participation by Member Nations in the Conference and agreed that the Secretariat should endeavour to obtain funds from private foundations, bilateral aid and international sources to assist with the attendance of experts from developing countries where pollution problems, particularly in relation with coastal fisheries, require special attention.

46. The Committee agreed with the proposed policy of the Department to promote research as a basis for the adoption of adequate national and international legislation to combat pollution, taking into account fishery needs. It also endorsed the view that the FAO Technical Conference on Marine Pollution could furnish a valuable contribution to the UN Conference on the Protection of the Human Environment to be held in Stockholm in 1972.

47. The Committee noted that the development of both fish pond culture and mariculture in coastal areas, which are expected to expand considerably in the coming years and to play an important role in food production, are particularly vulnerable to pollution. The Committee strongly emphasized the need for FAO to intensify work both in the fields of freshwater and marine pollution through strengthening of regular programme activities and under technical assistance projects aimed at helping developing countries to strengthen their own competence in this field so that they could contribute to international schemes, as the proposed monitoring system, where their participation is essential. The Committee noted the view expressed by the Secretary of IOC that, in order to perform the tasks expected from the Commission in the implementation of LEPOR, the broadened IOC Secretariat will need to have staff with expertise on marine pollution problems.

48. The Committee noted that the work of the Department of Fisheries is liable to be hampered by the lack of staff specialized in aquatic pollution. It recommended that, in connection with the overall expansion envisaged for the forthcoming biennium, consideration be given to strengthening the Fishery Resources Division in this sector.

49. The Committee emphasized the need for training of specialists in the field of marine pollution and noted with appreciation the plans to organize in 1971 a Training Course on Marine Pollution in collaboration with the Swedish International Development Agency (SIDA). The Committee noted with appreciation that the Government of Sweden had made available to FAO the services of Associate Experts in this field.

(d) Relations with UNIDO

50. The Committee commended the FAO/UNIDO Agreement which sets out guidelines for cooperation between the two agencies in the field of industrial development. The agencies could best serve the interests of their member countries, both those who supported and those who received assistance from them, by preventing duplication or conflicting activities. The Committee hoped that FAO would maintain its responsibility for the execution of most projects in the field of the fishery industries in accordance with the Agreement which states that "it is recognized that FAO will have the major interest in the food industries". The Committee urged FAO to insist that any projects in the field of the fishery industries, in which UNIDO might take the initiative in formulation, should be referred to FAO for comment.

(e) Others: UN Resolution 2574A (XXIV)

51. Resolution 2574A (XXIV), adopted by the General Assembly of the United Nations at its Twenty-Fourth Session in December 1969, was brought to the attention of the Committee on Fisheries. The Committee was informed that pursuant to the Resolution, the Secretary-General was ascertaining the views of Member States of the United Nations on the desirability of convening at an early date a conference on the law of the sea to review the régimes of the high seas, the continental shelf, the territorial sea and contiguous zone, fishing and conservation of the living resources of the high seas, particularly in order to arrive at a clear, precise and internationally accepted definition of the area of the sea-bed and ocean floor which lies beyond the limits of national jurisdiction, in the light of the international régime to be established for that area. The Committee was invited to consider what technical preparations might be required in the event that the proposed conference were to be held and were to include fishery matters. As the results of these consultations will not be known until they are reported to the General Assembly at its Twenty-Fifth Session, the Committee considered that it should limit itself at this time to taking note of the Resolution. It agreed, however, that in the event that the General Assembly of the United Nations were to convene the conference envisaged in the General Assembly Resolution 2574A, the Committee on Fisheries and the Department of Fisheries of FAO would be the competent organs to prepare any necessary information of a technical and scientific nature relating to fisheries and would be willing to do so. It agreed furthermore that the General Assembly of the United Nations should be advised accordingly.

(e) Others: Voluntary participation in meteorological work on board fishing vessels

52. The Committee was informed of a request from WMO asking FAO to consider assisting in the arrangements with Member Nations for improved voluntary participation in meteorological observations on board fishing and research vessels, in pursuance of Recommendations 17, 22 and 23 (CMM-V) which were adopted by the Commission for Maritime Meteorology of WMO at its Fifth Session and subsequently approved by the Executive Committee of WMO at its Twenty-First Session.

53. The observer of WMO informed the Committee that more and improved meteorological observations from oceanic areas are required for the implementation of the World Weather Watch (WWW) and also for the International Global Ocean Station System (IGOSS), since the WMO selected ship scheme is a basic element of these two systems. He stressed in particular the need for the fishing and research vessels to transmit meteorological observations at sea to the designated radio-coastal stations comprised in the WMO collection scheme. He also indicated that his organization is interested to know what meteorological information, other than weather forecasts, would be required for the advance planning of large-scale fishery development schemes and which meteorological and ocean-atmosphere interaction studies might be required to assist in forecasting fish abundance.

54. The Committee agreed that FAO should assist and collaborate closely with WMO on these subjects and suggested that ACMRR should consider this matter. It also recommended that

the Department of Fisheries should transmit to the fisheries authorities in the Member Nations the relevant WMO Recommendations and invite their collaboration in these and on the two additional questions.

FISHERY EDUCATION AND TRAINING

55. The Committee received with appreciation and generally approved the report of the Second Session of its Sub-Committee on Fishery Education and Training held in Rome, 6 - 8 April 1970.
56. The Committee stressed the essential rôle of training in fishery development and was unanimous in the opinion that further action was urgently required.
57. The Committee recognized the importance of the FAO Directory of Fishery Training Institutions to enable countries to become aware of existing training facilities. It was stressed, however, that funds to enable trainees to take full advantage of those facilities would need to be found.
58. In this connection it was recommended that fellowship programmes be improved and that the duration and type of fellowships be better adapted to specific needs.
59. It was also stressed that while some flexibility had been introduced in the UNDP/FAO fellowship programme, a larger number of fellowships was needed. Possibilities, including FAO's Regular Programme, of obtaining additional funds to finance fellowships, particularly for the training of technical instructors and extension workers, should be investigated.
60. The advantages of regional training for instructors and extension workers were recognized along with the importance of providing training and materials that took adequate account of the many differences that exist among fishermen in different countries with respect to fishing characteristics, languages, national traditions and customs.
61. Special attention should be given to the need for estimates of manpower and related training requirements of the fishing industry, keeping in mind the prevailing social and economic factors in the various countries. Existing training institutions should be used to the fullest possible extent.
62. The problems of the very many subsistence fishermen that characterize the fishing industry in many countries received considerable attention by the Committee. It was pointed out that there was a special need for simple training aids for illiterate and semi-literate people and that to reach any significant number of them reliance should be placed on the availability and training of extension workers. In training these fishermen, due regard must be had for the extent of the exploitable fishery resources and the market potential. Furthermore a solution for many of these people was conditional upon the overall growth of the economy and changes in the social structure.
63. While certain countries already have considerable fisheries training facilities, lack of utilization and/or loss of graduates from the fisheries industry was sometimes exorbitantly high and it was proposed that an evaluation of the training programmes as to their effectiveness be carried out, with the assistance of FAO if required.
64. The Committee expressed its satisfaction with the arrangements for the FAO Technical Conference on Fishery Education and Training to be held in 1972 and reemphasized its importance. The Committee agreed that the next session of its Sub-Committee on Fishery Education and Training should be held after the Technical Conference.

GENERAL TRENDS AND ORGANIZATION OF THE WORK OF FAO IN THE FIELD OF FISHERIES DURING 1972/73 AND SUBSEQUENTLY

65. The Committee examined tentative proposals for the development of programmes and structure of the Department of Fisheries in 1972/73 and subsequently, which were based on: the Committee's recommendations at its Fourth Session; the recommendations of the FAO Conference at its Fifteenth Session; the Director-General's proposals at the above-mentioned Conference for the Organization's medium-term activities which led to the adoption of Resolution 9/69 on the Medium-Term Programme; and the arrangements underway in the Organization to present its future budget, at least in part, on a programme basis. The Committee noted that these proposals were being submitted to it at a very early stage to obtain its views and guidance and that at its next Session it would be able to review more detailed proposals which would reflect its recommendations at this Session as well as those of the Programme and Finance Committees, the Council, and the suggestions which would be made at the several Regional Conferences later this year—all within the framework of the Director-General's overall Programme of Work for the next biennium. The discussion was, therefore, on the whole, in terms of areas of work and range of activities and not directed towards details.

66. The Committee found that the proposed programme was well in line with the Committee's recommendations at its Fourth Session and with the views expressed by the Fifteenth Session of the Conference. The Committee was accordingly unanimous in endorsing the proposals in general, subject to certain observations. It was agreed that in planning future programmes, the needs of the developing countries should be given priority and that in particular emphasis should be given to the rôle of subsistence fishermen. Delegates particularly stressed the importance of work on: resource evaluation as a basis for rational exploitation and management of exploited stocks; location and appraisal of new or little-exploited resources; promotion of aquaculture; research on the aquatic environment relevant to fishery investigations and operations, with particular emphasis on forecasting and monitoring of production and protection against pollution; assistance in production, processing and distribution; fishery education and training, and assistance to developing countries in the exploitation of export opportunities. In all these cases and in others, ongoing work was commended.

67. With regard to the range of activities, the Committee commended FAO on the way it had developed its relationship with intergovernmental fishery bodies and urged that it continue this work as well as assist, as might be necessary, any future regional bodies in their establishment as well as in any activities which they might undertake. It also noted with satisfaction the progress achieved in establishing cooperation with other organizations in the UN system, including participation in the IOC on a broadened base, which it discussed in more detail in another context.

68. The Committee desired that high priority be given to direct assistance in fishery production and distribution. It valued the functions of the Department as a clearing house for relevant scientific and technical information and its application to all phases of fishing, processing, distributing and marketing. Special attention should be given to the need to assist the very large number of subsistence fishermen in developing countries in raising their standards of production and of living. The crucial rôle of markets in fishery development was pointed out.

69. The Committee gave attention to the work in mobilizing investment capital and the essential rôle played by economic assessment of fishing operations and the determination of viable opportunities, as well as the need in this connection for training in fishing, processing and marketing. A number of delegates emphasized the importance of collaboration with international financing organizations in identifying and promoting development projects, and also to assistance to be given by industrial firms from developed countries.

70. The Committee stressed that great emphasis should continue to be given to FAO's assistance in the development and management of fishery resources. It attached particular importance to the assessment of the potential of fish stocks in marine and inland waters;

the development of fisheries on stocks which are still under-exploited or not exploited at all; the promotion of the culture of fish and other organisms in fresh and brackish waters (and the sea); and research on pollution aimed at the protection of living aquatic resources. The Committee felt that low priority should be given to those stocks whose exploitation depended on the development of new technology, and that the place of such stocks in the overall biological balance should not be overlooked. It emphasized that while the work would mostly be done stock by stock, it must include the synecological aspects. The need for management of mixed fisheries should also be kept in mind. The rôle of FAO in furthering management of fishery resources in the interests of their rational exploitation was discussed. FAO's responsibility was recognized to be great, because fish were the only truly international food resource and international action was therefore important, and the matter merited fuller consideration by the Committee. The Committee, therefore, requested the Secretariat to present at the next Session a document on FAO's rôle in resource management. This should outline FAO's past work in this field, analyze its present and future rôle, and make proposals for specific future work, particularly in relation to the development of principles and methodology.

71. The Committee also commented on the work of each Division. With regard to the Fishery Resources Division, it singled out five activities in particular which should be increased and emphasized:

- (a) work in stock assessment to meet increasing demands for assistance from national and international fishery bodies; to define the scientific basis for management measures, and to provide an objective basis for the evaluation of investment possibilities
- (b) the Fishery Data Centre and related research information to service the Department including the field programme
- (c) work in inland fisheries, particularly regarding the establishment of an intergovernmental inland fishery body for Africa
- (d) work on aquaculture, particularly in brackish water and mangrove areas, of special importance to developing countries
- (e) work on aquatic environment and its direct influence on variations and distribution of resources, their improvement and their protection from pollution. With the assistance of ACMRR, the Division should participate actively in developing the fishery aspects of the Long-Term and Expanded Programme of Oceanic Exploration and Research (LEPOR).

72. In the programme of the Fishery Economics and Institutions Division, the Committee emphasized the importance of the statistical work and several delegations urged greater emphasis on work in the economics of exploitation aimed towards developing principles that could be used by countries or regions in establishing management measures; to provide more specific criteria for investment in developing countries and to follow up on the Conference on Investment in Fisheries, held in 1969. Work to strengthen the institutional base for investment, in terms of trained fishery operatives, improved government administration and services, legislative and fiscal framework, credit and cooperative institutions was also stressed. The Committee felt that the Division should have a substantial input in field project formulation and execution.

73. The Committee supported the work of the Fishery Industries Division and endorsed the tentative proposals for its programme of work, viz: advisory services to industry in the design and construction of improved types of inshore vessels; engineering studies for the development of shore facilities; promoting use of modern techniques and equipment, such as acoustic and electronic gear for fish-finding; plant engineering and design. The Com-

mittee emphasized the Division's technical servicing of vocational training activities, particularly through UNDP-assisted projects, and in improving quality of fish and fish products through improved methods of handling, processing and marketing and through the establishment of suitable codes of practice and the implementation of adequate inspection and quality control programmes.

74. The Committee reiterated its satisfaction with the vertically integrated nature of the Department which enabled it to deal competently with all phases of the fisheries from the resource and its environment to the final product and with problems of diverse kinds—scientific, industrial, social, economic and statistical. It wished to see the recently established three-Divisional structure with strong Departmental leadership continue at least for a period of time. It agreed with the logic of the proposals for the introduction of Services in the Divisions, noting that a similar structure has already been introduced in the Agriculture Department and in the Economic and Social Department.

75. Noting the importance occupied by field programmes in the work of the Department, the Committee requested that documentation be presented to it at the next Session by the Secretariat to enable it to review these activities more thoroughly.

76. The Committee was glad to note that it was expected that the Department would reach in 1972/73 the level originally planned, including the level of staffing contemplated, at the time of its establishment by the Thirteenth Session of the Conference. While a particular budget level to reach this target could not be defined by the Committee, realizing that this would depend on the funds available and the Programme of Work of the Organization as a whole, it emphasized that the expansion envisaged was necessary to allow activities in the fields and on the scale recommended by the Committee to keep pace with growing demands.

THE SECOND WORLD FOOD CONGRESS

77. The Committee noted with interest the background and objectives of the Second World Food Congress, to be held at The Hague, the Netherlands, from 16 to 30 June 1970. It noted the connection between the First World Food Congress held in 1963, the work of FAO on the Indicative World Plan for Agricultural Development, to be evolved into a Perspective Study of World Agricultural Development and the rôle of the Congress in reviewing past action and planning future action, taking into account the importance of using the force of public opinion and the dynamism of youth. The Committee was also given an account of the organization of work planned for the Congress, in terms of commissions, plenary sessions, panels of experts and working groups. It noted that participants are being invited to attend by the Director-General and will do so in their personal capacities, that a number of distinguished individuals have accepted invitations to take a leading part in panels or in a similar capacity and that participation from diverse sectors of fisheries would be helpful in bringing to the attention of the Congress the rôle of fisheries in helping to meet the world demand for animal protein.

MATTERS CONSIDERED BY THE FIFTY-SECOND AND FIFTY-FOURTH SESSIONS OF THE FAO COUNCIL AND THE FIFTEENTH SESSION OF THE FAO CONFERENCE

78. The Committee was informed of the action taken by the FAO Council at its Fifty-Second Session in June 1969 and at its Fifty-Fourth Session in November 1969, and by the Conference at its Fifteenth Session in November 1969, with respect to several fishery matters of concern or interest to the Committee and not covered under other items of its Agenda. In particular, the Committee was given an account of the recommendation made by the Conference to the effect that the Council contemplate the possibility of changing the character of the Committee on Fisheries, whose current members were 34 Member Nations, to convert it into a committee open to all interested nations. The Council had referred this matter to the Programme Committee for consideration at its Seventeenth Session (4 - 15 May 1970) and the relevant paper prepared by the Secretariat of FAO for that Committee (FC 17/6) was made available to the Committee on Fisheries.

79. Several delegations recalled the conclusion reached by the Committee itself at its Fourth Session in April 1969 and reaffirmed the view that with its present status and structure the Committee had been able to fulfil its functions in a most efficient manner and to achieve in a relatively short span of time considerable prestige and reputation. A number of arguments were adduced against any change in the membership of the Committee. It was pointed out that the very composition of the Committee had enabled it to respond effectively to the rapidly changing circumstances that characterized modern international fisheries. The remark was made that governments, especially from developing countries, would be more conscious of their responsibilities towards the Committee if it remained an elected body with limited membership. It was also indicated that nations that were not members of the Committee could always send observers and that it was an established practice of the Committee to allow observers to participate fully in its deliberations. Delegations in favour of the status quo considered that it was in any event premature to suggest any change at this time and that it was necessary to wait at least until a final decision had been made regarding the technical committees of the Conference.

80. A similar number of delegations expressed opposite views and endorsed the proposals made at the Conference to convert the Committee on Fisheries into a Committee open to all interested Member Nations of FAO. They stressed that it was desirable for all such Nations to be able to take part in the debate on the programme of work and budget relating to fisheries, as present arrangements for the Sessions of the Conference did not afford an adequate opportunity to do so. In their opinion, the Committee should constitute a global forum for discussions on fishery problems of an international character. The great number of countries represented by observers at Sessions of the Committee was clear evidence of their interest in the work of the Committee. In this connection, it was noted that as observers were participating in the discussions as fully as delegates, there was no compelling reason not to grant them equal status. The remark was also made that governments, particularly from developing countries, would be more inclined to send participants if they were delegates rather than observers. The delegations that expressed themselves in favour of enlarging the membership of the Committee agreed, however, that the Committee should not become a committee-of-the-whole of which all Member Nations would automatically be members. In this respect, they endorsed the suggestion made by the Director-General in document FC 17/6 to the effect that the Committee would still be appointed by the Council for a period of two years, but would comprise those Member Nations who have notified the Director-General, by a certain deadline, of their desire to be appointed as members of the Committee in view of their interest in fisheries and of their intention to participate actively in the efficient discharge of the Committee's mandate. They also emphasized that it would be essential to maintain the quality of representation and perhaps necessary to strengthen effectiveness of the existing provision in Rule XXX of the General Rules of the Organization that members should, as far as possible, be represented by their most senior officers responsible for fisheries.

81. The Committee agreed that the various views that had been expressed regarding its status and structure should be brought to the attention of the Programme Committee and of the Council.

ANY OTHER MATTERS

82. The Committee took note of Recommendation 570 on fishery policies in Europe, adopted by the Twenty-First Ordinary Session of the Consultative Assembly of the Council of Europe.

83. The Committee was informed of the arrangements for the Centennial Celebration Meeting in New York, in September 1970, of the American Fisheries Society, at which FAO would be invited to be represented. It was pleased to note that Mr. P.M. Roedel, representative of the United States of America, intended to attend this meeting and he was requested, on that occasion, to convey to the Society the good wishes expressed by the Committee at the present Session.

DATE AND PLACE OF NEXT SESSION

84. The Committee agreed that its next session be held in Rome from 15 - 21 April 1971.

MATTERS REQUIRING THE ATTENTION OF THE COUNCIL

85. The following matters specifically require the attention of the Council:

(a) Matters of substance upon which Council action is required

Consideration of changing the character of the Committee on Fisheries composed of a limited number of Member Nations, to convert it into a Committee open to all interested nations (paragraphs 78-80).

(b) Subjects upon which some discussion in the Council might provide useful guidance for further consideration by the Committee

(i) Cooperation among international agencies in relation to fisheries (paragraphs 34-54), particularly concerning exploitation and conservation of living marine resources (paragraph 34); marine pollution (paragraphs 36 and 40-48); and marine coordination in general (paragraphs 37-39).

(ii) The work of FAO in the field of fisheries during 1972/73 and subsequently (paragraphs 65-76) in relation to the Perspective Study of World Agricultural Development (paragraphs 11-18).

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GUEST SPEAKER

Mr. S. Tolbert
President
Mesurado Fishing Company
Monrovia, Liberia

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Director for Operations	H.C. Winsor
Director, Fishery Resources Division	M. Ruivo
Director, Fishery Economics and Institutions Division	J.A. Storer
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SECRETARIAT

Secretary	F.E. Popper Director of Programme Coordination and Operations
Assistant Secretaries	H. Rosa, Jr. Chief, Fishery Liaison Unit J.E. Carroz Fishery Liaison Officer (International Organizations) V. Shah Technical Officer
Meetings Officer	Mary Clare de Freitas

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ADDRESS BY THE ASSISTANT DIRECTOR-GENERAL, DEVELOPMENT DEPARTMENT,
ON BEHALF OF THE DIRECTOR-GENERAL

Mr. Chairman, distinguished delegates,

On behalf of the Director-General, who is unable to be here today, it gives me great pleasure to welcome you to the Fifth Session of the Committee on Fisheries and I would like to extend a particularly cordial welcome to the new members of the Committee. I am also very glad to welcome observers from other governments and from international organizations, especially the representatives of the Secretary-General of the United Nations and of our sister agencies in the United Nations family. The distinction and the scope of representation at this Session is indeed a gratifying testimony to the importance assigned to the Committee on Fisheries. I would also like to thank Mr. Stephen Tolbert, President of the Mesurado Group of Companies of West Africa, who has kindly accepted the invitation of the Director-General to address this Committee. Mr. Tolbert's presence today continues the tradition initiated by the First Session of the Committee on Fisheries of having an eminent guest speaker address the Committee on some aspects of fisheries of which he has unique experience, to which he has made a valuable contribution, and which is certain to be of general interest to the Committee.

I would now like to make a few brief remarks, if I may, on matters that you will be considering during this Session. One of your main tasks is the review of the programme of work of the Department of Fisheries. Included in your documentation you will find a document entitled "General Trends and Organization of the Work of FAO in the Field of Fisheries during 1972/73 and Subsequently", which outlines the trends in FAO's current programme of work in fisheries that are likely to increase in importance in the next biennium as a result of the recommendations made by the last Session of this Committee and the Fifteenth Session of the FAO Conference. It also examines the future plans of work of the Department of Fisheries in relation to the five areas of concentration selected by the Director-General as focal points for FAO action in agricultural and fisheries development. Four of these are applicable to fisheries: filling the protein gap, war on waste, mobilizing human resources, and earning and saving foreign exchange. It also identifies the future expansion in the range of the Department's activities with reference to relations with intergovernmental fishery bodies, direct assistance in fishery production and distribution, mobilizing investment capital and developing and managing natural resources.

Those of you who are familiar with the pertinent documents presented on this subject at the last two Sessions of the Committee will note that the basic approach this year is different. The document presented to the Third Session consisted of analytical and descriptive material outlining the work undertaken in the regular and field programmes and identified activities to be continued or undertaken under the then existing structure of the Department. The document presented to the Fourth Session followed the above outline modified in the light of your comments and included an advance copy of the fishery chapter of the Director-General's budget proposals for the biennium 1970/71.

We are now again at the beginning of the cycle in which we have to plan for our work during the next biennium, viz. 1972/73. The Committee on Fisheries is the forum which will initiate discussion on this future work. It is felt that the Committee is acquainted intimately enough with the activities of the Department of Fisheries, as contained in the Programme of Work and Budget 1970, so as not to require at this time again a comprehensive list of activities which its comments might serve to modify. I would say rather that the Committee is invited to appraise the perspectives of these activities and to suggest the trends and emphases for the future. To facilitate the deliberations of the Committee, it is

offered for its consideration the parameters which the Director-General has chosen to define the work and approach of the Organization as a whole and within which the work in fisheries has to be guided.

You will appreciate, I am sure, that the formulation, at this stage, of any programme of work and budget for 1972/73 would be highly tentative as the Director-General's decisions will be taken in the light of the views of the Programme and Finance Committees. Moreover, as recommended by the Fifteenth Session of the Conference, the Director-General expects to rely substantially on guidance from the Regional Conferences. As you know, the FAO Regional Conferences are normally held at intervals of not less than two years, in the years in which the FAO Conference does not meet in regular session. The Regional Conferences for Africa, Asia and the Far East, Europe, Latin America and the Near East will be held later this year. The last FAO Conference, in recognizing the growing importance of the role of regional conferences in the elaboration of the general policy of the Organization, decided to better determine their functions. One of the important functions of the Regional Conferences will be to identify the special problems of their respective regions and the priority areas which should be taken into account when preparing the Programme of Work and Budget for the next biennium as well as in relation to Medium-Term Programmes.

The future activities of the Department visualized in the paper to which I refer, Mr. Chairman, are not limited to the biennium 1972/73 but are also projected through further biennia, in accordance with the forward planning of the activities of FAO. Advance planning is being considered by the Director-General on the basis of a Medium-Term Programme recommended by the Ad hoc Committee of Experts to Examine the Finances of the UN and the Specialized Agencies. The principle of planning consists of a two-year programme and budget, a second two-year plan, and a further two-year tentative plan. In Resolution 9/69 concerning the Medium-Term Programme, the Fifteenth Session of the Conference approved the principle of medium-term planning or programming and requested the Director-General to circulate a detailed statement on medium-term activities prior to the next Session of the Council in 1970. The main recommendations of the Regional Conferences are also to be summarised for the same session of the Council. It is highly desirable, therefore, that the Committee on Fisheries also direct its attention to defining priorities for FAO's work in fisheries in the medium-term. In the opinion of the Director-General, the Indicative World Plan for Agricultural Development should substantially assist in forward planning. You have been provided with documentation on the fishery aspects of the Indicative World Plan which contains suggestions for further work. I trust that this will be helpful to your deliberations and provide a framework for your guidance.

The proposed expansion of the activities of the Department will of course depend on the rate of its enlargement, which in turn will be commensurate with the funds made available to FAO.

At the Fourth Session of this Committee last year, in considering the budget of the Department for the current biennium, it was recognized that while there had been a net increase in the allocation to the Department, the planned expansion envisaged at the time of the Thirteenth FAO Conference in 1965 had not been maintained. The Fifteenth Session of the Conference confirmed this situation and expressed the hope that the further enlargement of the Department for 1972/73, as proposed by the Director-General, would bring it to the level originally planned. This would involve an increase in the budget for the Department of about 15 percent over the level of the present biennium, excluding mandatory increases, but there cannot be a formal commitment at this time. The Director-General hopes that the FAO budget to be approved by the Sixteenth Session of the Conference will permit that increase to take place. Looking ahead to further biennia beyond 1972/73, the Director-General believes that an annual real growth rate of about 5 percent would be the most reasonable target for the organization as a whole. This, it is hoped, would allow activities in the fields and on the scale envisaged to keep pace with growing demands, assuming FAO's share in inter-agency activities was to remain constant and its participation in voluntary programmes (particularly UNDP) were to grow pari passu. Such a target would have to recognize

that FAO must maintain and deepen its technical competence so as to handle adequately its own regular programme activities and also those of servicing voluntary programmes.

Being very closely involved myself with the field programme of FAO, this leads me, Mr. Chairman, to make a few remarks regarding the growth of our field programme in fisheries. The number of Special Fund-assisted projects in the field of fisheries has increased from three in 1960 to 48 in 1969. They involve about 60 countries and territories and represent a financial investment of almost \$120,000,000 in UNDP and government counterpart funds. These figures are an impressive indication of the efforts being made by the developing countries in the field of fisheries and the assistance provided by FAO in this regard. In addition, there are 38 projects being implemented under the Technical Assistance component of the UNDP, and a large number under the Freedom from Hunger Campaign under Funds-in-Trust and in association with bilateral aid.

While some of the abovementioned projects are multi-disciplinary in character, the major objective in most of them is to promote the expansion of the fishing industry and increase fish consumption. Investment, whether by the public or private sectors, is at the heart of follow-up, and the Director-General foresees an intensification of FAO activities in this regard, in collaboration with the IBERD, Regional Development Banks and private industries.

This, Mr. Chairman, brings me to close my remarks to you at the opening of your Session. The Director-General, while asking me to convey his regrets for not being able to welcome you in person, wishes me to inform you that he will follow your work with great interest and wishes you success in your deliberations. I can also share his thoughts and express my own gratification in making my first personal acquaintance with the Committee on Fisheries.

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Appendix C

ADDRESS BY MR. S. TOLBERT

President
Mesurado Fishing Company
Monrovia, Liberia

Mr. Chairman, Mr. Director-General, Ladies and Gentlemen,

I should like, in this first instance, to extend greetings and warm felicitations to you and to all the members of the Committee on Fisheries gathered here today to commence the Fifth Session of your deliberations; and then, Mr. Chairman, I should like to thank you and, through you, the Food and Agriculture Organization for the great honour which has been conferred upon me through your invitation to participate at this session, and in my personal capacity to address this Committee at this time.

I have had the great honour and privilege over the last 20 years to enjoy a rather close association with the FAO and its work. From the year 1951, I have come to Rome leading the delegation of my country to many of the conferences of this organization. From the year 1953, representing my Government, I have come to Rome to participate in the deliberations of the Council. I have come to Rome to serve as Vice-Chairman of the Conference and again as Chairman of Commission II. In 1967 again I came to Rome to serve as a member of the review team on FAO structure.

Whilst I have thoroughly enjoyed these opportunities to participate in the work and progress of this organization and have found this association most gratifying, I consider that the personal capacity in which I have now come to Rome and the personal role which I am expected to play on this international scene is far more rewarding, and for this opportunity I am far more elated than at any time during the long years of my association in other capacities.

In his letter of 23 December 1969 inviting me to give a lecture at this opening session of the Committee, the Assistant Director-General, Mr. Jackson, suggested that the Committee would be particularly interested in a discussion of the problems and opportunities incidental to establishing and operating a modern fisheries enterprise in a developing country. While I am in no position to speak with authority on the opportunities and problems in all developing countries and would, therefore, not be prepared to undertake this, I would like to endeavour to draw attention to some of these opportunities which we have been able to identify and have had the privilege to enjoy, and some of these problems with which we have dealt and with which we will have to deal in the future in the continuing process of establishing and operating modern fisheries in developing countries, and particularly in West Africa. I should not have to point out to any of you present in this room the great importance which should be attached to the development of fisheries in all developing countries. The emphasis which has been placed by the FAO in its programme of work and budget in the field of fisheries is sufficiently indicative of the great importance which this organization has attached to the development of fisheries resources, particularly in the developing countries. In this connection we must note with pleasure and appreciation that the Department of Fisheries of the FAO has established a new division to be referred to as the Fishery Industries Division, and which will bring together under one head the existing branches concerned with fishing vessels, gear, processing and marketing. It is intended that this new arrangement within the Department shall provide a stronger and better integrated service to the fishing industries in developing countries. The national policies of individual governments and the increasing budgetary appropriations allocated to fisheries resources development within these countries further evidences the importance

attached to the development of these resources. The extent to which governments have indicated their willingness to form regional groupings intended to accelerate the development of fisheries in many regions of the world and more efficiently utilize this resource, further attest to the measure of importance of this industry.

This would seem as it should be, but it is my view that national governments particularly in the developing countries, and international institutions and organizations concerned with stimulating fisheries development in the developing countries, now and in the future, may have to consider a new approach toward establishing new priorities, taking into account the vast potential of this industry and relating this to the comparative little that has been done toward the development of this industry. We have hardly scratched the minimum visible surface of this enormous iceberg of potential, economic, scientific, technological and ecological wealth that has been provided by nature as a gift to mankind.

If we should attempt to adequately describe the opportunities which the development of modern fisheries make possible to the governments of the individual countries concerned, to the masses of the peoples of these countries, to the economies and the social progress of the countries, not to mention the commercial and trade opportunities which are, at the same time, made available to industries of the developed countries concerned with the building and manufacture of industrialized goods such as ships, machinery and equipment, and technical services, we could fully employ all of the time allocated for this paper. But as these opportunities may seem to a large extent obvious to those concerned with fishing, I have considered it more desirable to utilize the time allocated to discuss rather some of the problems which have restricted the more rapid development of the industry and the further utilization of the resource within the context of the new nationalistic concept of the peoples of developing countries.

If I were asked today to submit a plan for the establishment and operation of a new modern fishing enterprise within a given developing country with which we had particular experience, and if I intended to describe the problem areas of such an operation, I would easily establish the following general categories:

- (1) The requirements for production facilities
- (2) The requirements for handling and processing
- (3) The requirements for marketing and distribution
- (4) Capital and financial requirements
- (5) International and regional cooperation

If you will indulge me, I would like to discuss these outlined problem-area categories in the same order as I have listed them.

(1) The requirements for production facilities

When we speak of production facilities, we think in terms of whatever is necessary to be provided in order to efficiently extract from the waters within which we intend to operate, such types of fish that may be economically utilized for food or other by-products as commercial circumstances will permit. It is, therefore, initially necessary to decide upon the type of operation to be engaged in, this decision being based upon the type of market to be catered to and the nature of the products which that market demands. In developing countries, the most accessible market is the local domestic market which is usually accustomed to, and will accept, the types of fish and fish products common in the region; and in planning a new fishing industry the proper importance and priority should be given toward satisfying this market demand. Then, of course, attention could be directed towards entering into the production of such types of fish as may be required on the export market. Gearing the operation to cater for the export market is most essential inasmuch as this market provides the foreign exchange earnings which are vitally necessary for the industry.

Another consideration which should not be overlooked in the initial planning stage is the determination as to whether the extraction process would be limited to the territorial waters of the country within which the operation is planned, or whether further utilization would be intended to be made also in international waters. The former is hardly practicable except in unusual cases where a particularly desirable type of fish is to be found only in certain territorial waters. So for the most part a modern operation should be planned to enable the widest practical utilization of all available resource waters.

In view of the growing sensitivity of national governments towards protecting the resources within their own territorial waters, there is a considerable regulatory tightening which is rendering it more and more difficult to obtain permission to fish within territorial waters; at the same time the areas of territorial waters are widely extended. This particularly affects an operation which is intended to exploit the resource on a regional basis.

In most developing countries, governments have, in the past, been rather inclined towards policies to provide the individual fisherman, the small canoe or boat operator, a greater opportunity to share in the overall production for the domestic market, thus ensuring a wider individual participation of the small local fisherman in the expansion of the industry. Fish being a staple commodity in most of these countries, and being considered a natural resource of the country, national policies affecting any aspect of the fishing industry are consequently very susceptible to different forms of political pressures. Consequently, this traditional pattern in the development of the industry will continue to be adhered to and the principle catered to in one form or another. But not withstanding this, I believe that the thinking of national governments for the future development of the industry may have to be adjusted to take into account the fact that huge amounts of capital will be required; planning and organization of technical and management personnel will be necessary; collection, organization, dissemination and proper use of technical information will have to be undertaken in order to fully and beneficially exploit this resource. This can be done either by the national governments themselves or by private enterprise; and since in my opinion private enterprise is much more adept in undertaking this type of responsibility, some compromise in the thinking of national governments that would afford encouragement and assistance to private enterprise in the development of the industry must be made on a more effective basis.

Another major obstacle which would confront the establishment of a new operation is the lack of easily available information on fishing grounds locations; fishing season; fishing equipment, gear and techniques most suitable for the particular operation; and such other vital technical information that is so essential in planning a new operation.

The equipment normally required for efficient production would be properly equipped fishing boats selected on the basis of the type of fishing to be undertaken, and corresponding types of gear with adequate facilities for repair of boats and fabrication of gear. The shore facilities required to support such an operation would include adequate pierage and docking facilities, efficiently staffed and equipped marine, electrical and electronic work-shops, and proper drydocking facilities.

In the selection of the type of boat required for the operation envisaged, proper care has to be taken to ensure that the most economically efficient boat and gear are selected. Too often there is the tendency to select a multi-purpose boat because the initial cost might be comparatively low. I am not quite sure that this thinking is correct because the sophistication and compromises necessary to achieve an acceptable multi-purpose boat may, in the long run, prove economically unsatisfactory.

By far the most important single problem to be overcome in catering to the requirements for production is that of manpower availability. Until recently, and now I am speaking particularly of West Africa, the technological experience of local fishermen was rather limited to canoes and very small fishing boats. Modern fishing techniques, design, fabri-

cation and handling of fishing gear, operation and repair of equipment now common on fishing boats, and navigational and fishing expertise indispensable to the proper handling of modern fishing boats were skills not generally found among local fishermen. Consequently, most modern fishing operations now being established must, to a large extent, depend upon skilled manpower available mostly in the more developed countries. This situation poses the problem of availability and readiness of such expatriate personnel to work in developing countries and the relatively high cost of such personnel, not to mention the many and diverse social problems of adjustment of these expatriate personnel with the local fishermen on the boats, as well as absorbing them and their families within the social life of the community, especially so as these expatriates may be recruited from different nationalities from different parts of the world with correspondingly different backgrounds and sometimes speaking different languages. The obvious solution, of course, would be in the intensive and large-scale training of local personnel to eventually replace these expatriates, but then this also involves considerable time and costs. This limitation of manpower availability would not only apply to personnel required for the operation of production equipment, but also to personnel required for staffing shore facilities necessary to support production operations, as well as management personnel, but this to a lesser degree.

Most of the developing countries are far removed, in terms of distances and international transport facilities, from the sources of supply of technical equipment, machinery, spare parts, and other supply items necessary for normal maintenance and efficient operation of production equipment. In some cases such replacement parts and supply items require as long as six months delivery time, the minimum is probably three months. This situation results in the necessity to carry enormous stocks of spare parts, equipment and supply items at tremendously high cost, particularly in view of the present high cost of financing.

By far the strongest impact in the development of the fishing industry within developing countries during the last two years has been made within the shrimp industry, and it is my feeling that progress in this area of fishing will be accelerated tremendously within the foreseeable future. Shrimp is a high price commodity and is in great demand in almost all of the highly developed countries, particularly the United States, in the Northern European countries, and Japan. Very productive shrimp fishing grounds have been located in the waters of many developing countries in the Far East, in the Middle East, in Latin America and more recently in Africa. At first converted fishing trawlers were used more or less on an exploratory basis; but recently this type of production equipment has been replaced with modern specially designed and equipped shrimp trawlers mostly of steel. There are a few shipbuilders who have now produced fibre glass shrimp trawlers equipped with very modern electronic and other gear. Very large private commercial companies traditionally engaged in the business of food distribution in highly industrialized countries are now investing huge amounts of capital in the production and processing areas of the shrimp industry.

This trend of development in the industry presents problems for local companies, from the point of view of securing their proper share in the exploitation of the shrimp resource within the waters of the country in which they may be operating, and again in their inability because of financial and other limitations to successfully compete with those big private corporations who already command large segments of the market in the highly developed countries. Naturally the primary interest of these giant corporations would be to extract this resource as fast as possible and, in their preoccupation with this, adequate conservation and management practices may be overlooked. This trend may not be easily reversed nor is it necessarily desirable to reverse it, but a formula for cooperation between the smaller local companies and these large international corporations, based upon joint ventures and assuring the fullest possible participation of the local companies in the development of this industry, would seem quite desirable.

The last point I would like to review under production requirements is the determination of what is the most economically feasible size of a production unit. This is a vitally important consideration but extremely difficult to determine as so much depends on so many

imponderables such as the type of fishing involved, the size and type of boat being utilized, the distance from the base of operations to the fishing grounds, and the level of productivity of the boats in relationship to the number of boats the particular fishing grounds will support. For example in the shrimp industry, provided the fishing grounds will support it, it is generally accepted that 15 to 25 boats is the minimum production unit. Suffice it to say, however, that the size of the production unit must bear a proper economic relationship to the quality and extent of the supporting shore facilities and the level of resource availability, and that this relationship should be constantly reviewed and kept within proper balance.

(2) The requirements for handling and processing

In most of the developing countries the traditional method for handling fish and fish products has been with ice. Processing has been in the form of cooking, drying, smoking, salting and, to a lesser extent, canning. Until rather recent years, fish for the local market was sold fresh from the boats and canoes or packed in ice. These were the days when the customers awaited the landing of the boat on the beaches and the fishing wharves and bought the product mostly by auction. In more recent years, however, with the advent of refrigerated trawlers equipped to freeze and pack aboard, it became necessary to modify handling facilities and to cater for different processing facilities, depending on whether the type of fish landed was intended for the local market or for export. It became necessary, therefore, in addition to providing for adequate supplies of ice and ice storage, to cater for adequate and proper pierage for the docking of fishing boats, for the unloading of the catch and storing of the same. Suddenly refrigerated warehouses and cold stores became one of the most important requirements for the handling of fish; and where it was brought in under refrigeration but not frozen, proper freezing and packing facilities became indispensable to an efficient operation.

Consequently, planning for the establishment of a modern fishing venture today must include provision for refrigeration facilities to hold and process the production either aboard ship or to do this ashore. In case of the latter, refrigerated warehouse capacity must be sufficient to cope with the maximum production; and the processing facilities should be designed to handle the volume and variety of production anticipated and to cater for the types of products intended both for the local and export markets. In considering domestic or export potential of locally available fish and the consequent planning provision for processing, it is essential that in case of the latter, market products should be of a relatively high value per metric ton; whereas in case of the former the opposite should be required; for often relatively low value species that have export potential are rendered invaluable due to the pro rata high cost for processing and freight per metric ton, when this is related to the final sales value of the product.

Most export markets today will accept different varieties of locally available fish and fish products when properly cooked and frozen or when only frozen, carefully packed, and attractively presented. In such an operation the most careful consideration must be given to the procedures and techniques of processing to ensure the best quality product capable of meeting the health and sanitation standards rigidly adhered to on the export market.

(3) The requirements for marketing and distribution

Marketing and distribution requirements are relatively simple in developing countries where the product is handled under refrigeration from the time it is extracted from the waters until it is delivered to the retail customer. This is particularly practical and simple where the production equipment has facilities aboard for freezing and packing of the product. It becomes slightly more complicated, but not difficult, where the product is frozen and packed ashore. This, however, is not the traditional method for handling fish in developing countries. Whilst it requires a much higher initial capital outlay to provide a fleet of refrigerated vans and a network of cold stores or refrigerated depots throughout

the distribution area being serviced, it is in the long run the most sanitary, practical, and economically efficient method of distribution. It minimizes loss from spoilage; it improves the availability of the product in remote areas of developing countries where the supply of protein is highly desirable for the diets of the people, and it ensures the quality of the product at the point of retail distribution.

This method of distribution also lends itself very well to a rather simple marketing arrangement. The entire distribution area to be serviced may be divided into zones on the basis of population and road facilities, and at an appropriate point within each zone the refrigerated cold store may be installed with close proximity to the local market of the zone. Attached to each such cold store would be a number of small transport vans specially designed and equipped to distribute the frozen products to all points within the zone within a period of not more than 2 to 3 hours.

A general agent is appointed to each zone and is responsible for the distribution and sale of the product throughout his zone. The product is delivered from the central cold stores, usually located in the main fishing port, by large refrigerated vans to the network of cold stores within the distribution area. Communication between the network of cold stores and the central cold stores is essential and may easily be maintained by radio. This network of cold stores sell directly to the retailers whom we in the fishing industry affectionately refer to as "the Mammies". They in turn sell retail in the local market and from house to house.

The problems confronting a local fishing company in entering into and competing on world markets are much more diverse and complicated. Problems such as acceptability of product, presentation of product, meeting health and sanitation requirements in different countries, overcoming trade barriers and tariff protection policies in certain countries, understanding the market sensitivities and requirements in these countries and overcoming them, coping with the difficulties incidental to international refrigerated transport arrangements, are only some of the problems that have to be resolved in order to compete successfully on the export market.

It is in this connection that I believe joint ventures with large international corporations, who already control large segments of the food distribution industry in the more developed countries, can be very beneficial to the fishing industries in the developing countries. These large corporations already have properly organized international distribution networks which can easily absorb production from the developing countries, provided the quality of the product is acceptable, and it is possible to establish a proper working relationship that would be mutually satisfactory and beneficial.

(4) Capital and financial requirements

In most developing countries the infra-structure necessary for the development of the fishing industry has been provided to a very minimum extent. The ancillary facilities and services indispensable to an efficient fishing operation have, in most cases, to be catered for by the private enterprising company establishing the operations. In many countries loading and unloading facilities such as piers and docks, drydocking and repair facilities have to be provided by the enterprising company, and sometimes the provision of these facilities includes such expensive capital cost items as dredging.

In addition to these facilities which should not normally be provided by private enterprise at enormous costs, further large investments in cold stores and dry stores, ice plants processing facilities, refrigerated transport facilities and modern refrigerated fishing boats have to be made by the enterprising company. Attention must be drawn to the particular problem of financing during the construction period of such shore facilities already mentioned. In the case of vessels, in addition to financing during the construction period, financing must also be provided during the delivery period. This latter problem can be quite serious in view of the fact that there are in many of our areas few shipyards in or adjacent to some developing countries.

The extremely high cost of money which has been apparent within the last 12 months places an even greater strain on the unproductive development period. So also does the necessity to carry large stocks of specialized technical equipment, spare parts and supply items, because of the lack of locally available stocks and the physical distance from the sources of supplies in the developed countries.

The capital and financing required therefore to establish and operate a modern and vigorous fishing industry in a developing country is staggering, and may be the severest limitation on the rapid development of this industry. Companies that have been successfully established have tended to develop very slowly and to expand very gradually as sources of finance became more and more available. Adequate sources of cheap long-term finance have only, to a very limited extent, become available in some of the developing countries through the establishment of national and regional Development Banks, and only through limited contact has accessibility to international banking institutions sometimes been achieved. Bilateral assistance has, in some cases, been provided by many of the developed countries for the construction of fishing boats and other industrial installations, but to a large extent this assistance has been provided on the basis of guarantees from local National, and Central Banks. I do not refer here to bilateral assistance directly between Governments.

Serious consideration must be given, in close cooperation with private enterprise, by national governments and international institutions concerned with the development of this industry, with the view to finding means whereby this serious problem can be ameliorated.

(5) International and regional cooperation

Creatures of the ocean have no nationalities. They are by nature migratory and respect no national boundaries. And despite the efforts of countries to claim more and more of this natural resource by extending the limits of their territorial waters, practical fishing operations must be considered internationally.

To develop the industry and efficiently exploit the resource, maximum cooperation should be maintained between the countries within any particular region and other highly industrialized countries not necessarily of the region but whose long-range vessels are oft times exploiting the waters of the region to a much larger extent than the vessels of the countries geographically located within the region. The exchange of technical information so vitally necessary to the industry, development of better and more equitable trade relations, more direct participation in bilateral arrangements, and the establishment of a closer and more effective working relationship between the local private enterprise sector and the private enterprise of these countries within and outside the region, must form the basis of this cooperation of which I speak.

In order to achieve this, we must overcome the problems of extreme nationalism, the problems of economic orientation resulting from former political ties, the national differences on the basis of political ideologies. We must work together as people of a common interest with a single motivation, taking the fullest advantage of every opportunity to achieve the objective of contributing to our countries, improving the conditions of our people, and enhancing the planned development and rapid expansion of the industry in which we are so involved, and which is so vital to the industrial, economic, and social advancement of our respective developing countries.

I could close on this note, Mr. Chairman, except that in addressing this FAO Committee on Fisheries I must, at least in a few words, relate to the work of FAO itself what I have said about the problem areas in establishing and operating modern fishery enterprises in developing countries.

It is good to know that FAO is competent and active in each one of these areas and can be of material assistance to governments and industry in tackling and solving the problems. Against each of the problem areas that I have enumerated you could put one or several ac-

tivities now in the programme of the FAO Department of Fisheries. Let me mention a very few of these: What comes most readily to my mind are the FAO projects for the Survey and Development of Pelagic Fish Resources along the coast of West Africa from Cape Blanc to the mouth of the Congo River; there are similar fishery development projects in the Caribbean and in the Central American region; also in the Philippines. Most of these projects involve several disciplines and cover the range of factors I have described as necessary to determine a fishing operation. The requirements for handling and processing, marketing and distribution are dealt with in FAO's work again in West Africa and elsewhere, for instance in some countries in the Far East. The meeting of capital and financial requirements - a most important aspect - is facilitated by the FAO Investment Centre which closely collaborates with the World Bank and the Regional Development Banks. In promoting private investment in fisheries, such activities as the International Conference on Investment in Fisheries, held in 1969, can be very helpful.

But I must not go on, as I could, merely listing these examples. Let me return to my main theme and conclude this paper.

In summing up, I venture to say that the opportunities for the developing world are enormous, that admittedly the problems are great, but that if we all work together - private enterprise, national governments, international organizations - we can solve them and working together we can mobilize the tremendous potential of the sea for the benefit of the developing countries and mankind as a whole. I am sure, Mr. Chairman, that this worldwide group of top fishery administrators and the Organization that it guides have a vital role to play in this development and will surely play it well.

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Appendix D

AGENDA

1. Opening of the Session
2. Adoption of the Agenda, and arrangements for the Session
3. Election of officers
4. Perspective Study of World Agricultural Development and follow-up
5. Intergovernmental cooperation in the rational utilization of fishery resources
 - (a) Activities of international fishery bodies established within the framework of FAO or having special relationship with FAO
 - (b) Caribbean and adjacent regions
 - (c) International inland waters in Africa
 - (d) Other areas and stocks
6. Cooperation among international agencies in relation to fisheries
 - (a) Implementation of UN General Assembly Resolutions
 - (b) Relations with IOC and supporting agencies
 - (c) Marine pollution
 - (d) Relations with UNIDO
 - (e) Others
7. Fishery education and training
8. General trends and organization of the work of FAO in the field of fisheries during 1972/73 and subsequently
9. Second World Food Congress
10. Matters considered by the Fifty-Second and Fifty-Fourth Sessions of the FAO Council and the Fifteenth Session of the FAO Conference
11. Any other matters
12. Date and place of next Session
13. Adoption of Report

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LIST OF DOCUMENTS

- COFI/70/1 Provisional agenda
- 2 Annotated agenda and timetable
- 3 Fishery aspects of the Indicative World Plan and proposed follow-up
- 4 Intergovernmental cooperation in the rational utilization of fishery resources
- (a) Activities of international fishery bodies established within the framework of FAO or having special relationship with FAO
- 5 (b) Caribbean and adjacent regions
- (c) International inland waters in Africa
- (d) Other areas and stocks
- Sup. 1 Caribbean and adjacent regions: Third meeting of the International Coordination Group of CICAR
- 6 Cooperation among international agencies in relation to fisheries
- (a) Implementation of UN General Assembly Resolutions
- (b) Relations with IOC and supporting agencies
- Sup. 1 Resolutions adopted by the UN General Assembly at its Twenty-Fourth Regular Session
- 7 Exploitation and conservation of living marine resources
- 8 (c) Marine pollution
- Sup. 1 Tenth Session of the ACC Sub-Committee and its Applications
- Sup. 2 Second Session of the Joint Group of Experts on the Scientific Aspects of Marine Pollution
- 9 (d) Relations with UNIDO
- 10 (e) Others
- 11 Fishery education and training
- 12 General trends and organization of the work of FAO in the field of fisheries during 1972/73 and subsequently
- 13 Second World Food Congress
- 14 Matters considered by the Fifty-Second and Fifty-Fourth Sessions of the FAO Council and the Fifteenth Session of the FAO Conference
- 15 Report of the Second Session of the Committee on Fisheries Sub-Committee on Fishery Education and Training

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Cooperation among international agencies in relation to fisheries
(e) Others: Voluntary participation in meteorological work on
board fishing vessels

COFI/70/Inf. 1, Rev. 1 List of documents

- 2 Information for delegates
- 3 The prospects for world fishery development in 1975 and 1985
- 4 List of available papers
- 5, Rev. 1 List of participants
- 6 Summary record of the Fourth Session of the Committee on Fisheries
- 7 Council of Europe Recommendation 570 on Fishery Policies in Europe
- 8 Comprehensive Outline of the Scope of the Long-Term and Expanded Programme of Oceanic Exploration and Research
- 9 Address by Assistant Director-General, Development Department, on behalf of the Director-General

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