

**Report of the**

---

**SECOND TECHNICAL CONSULTATION ON THE DEVELOPMENT AND  
MANAGEMENT OF THE FISHERIES OF LAKE KARIBA**

**Kariba, Zimbabwe, 30 November–1 December 2004**



Copies of FAO publications can be requested from:

Sales and Marketing Group

Information Division

FAO

Viale delle Terme di Caracalla

00100 Rome, Italy

E-mail: [publications-sales@fao.org](mailto:publications-sales@fao.org)

Fax: (+39) 06 57053360

Report of the  
SECOND TECHNICAL CONSULTATION ON THE DEVELOPMENT AND MANAGEMENT OF  
THE FISHERIES OF LAKE KARIBA

Kariba, Zimbabwe, 30 November–1 December 2004

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries

ISBN 92-5-105367-7

All rights reserved. Reproduction and dissemination of material in this information product for educational or other non-commercial purposes are authorized without any prior written permission from the copyright holders provided the source is fully acknowledged. Reproduction of material in this information product for resale or other commercial purposes is prohibited without written permission of the copyright holders. Applications for such permission should be addressed to the Chief, Publishing Management Service, Information Division, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy or by e-mail to [copyright@fao.org](mailto:copyright@fao.org)

© FAO 2005

## **PREPARATION OF THIS DOCUMENT**

This is the report adopted on 1 December 2004 in Kariba, Zimbabwe, by the second Technical Consultation on the Development and Management of the Fisheries of Lake Kariba. This document was prepared by the Subregional Office for Southern and East Africa.

### **Distribution:**

Members of CIFA  
Participants in the Technical Consultation  
Other interested nations and international organizations  
FAO Fisheries Department  
Fisheries Officers in FAO Regional and Subregional Offices

FAO Subregional Office for Southern and East Africa.  
Report of the second Technical Consultation on the Development and Management of the Fisheries of Lake Kariba. Kariba, Zimbabwe, 30 November–1 December 2004.  
*FAO Fisheries Report*. No. 766. Rome, FAO. 2005. 21p.

### **ABSTRACT**

This document is the final report of the second Technical Consultation on the Development and Management of the Fisheries of Lake Kariba. The major topics discussed were an overview on the importance of co-management as a tool for sustainable fisheries management and development in Zambia and Zimbabwe; fishers' views on the importance of the kapenta fishery and the artisanal fishery; status of fisheries on the Zambia and Zimbabwe side of Lake Kariba; and an overview on the management and development of the fisheries of Lake Kariba. The summary of the main recommendations and decisions is shown in Appendix D.

## CONTENTS

	<b>Paragraphs</b>
OPENING OF THE TECHNICAL CONSULTATION	1–8
AGENDA AND ARRANGEMENTS FOR THE TECHNICAL CONSULTATION	9
ELECTION OF CHAIRPERSON AND RAPPORTEURS	10
SUMMARY OF MAJOR DECISIONS AND RECOMMENDATIONS MADE AT THE FIRST TECHNICAL CONSULTATION	11–12
AN OVERVIEW OF THE IMPORTANCE OF CO-MANAGEMENT AS A TOOL FOR SUSTAINABLE FISHERIES MANAGEMENT AND DEVELOPMENT IN ZAMBIA	13–18
AN OVERVIEW OF THE IMPORTANCE OF CO-MANAGEMENT AS A TOOL FOR SUSTAINABLE FISHERIES MANAGEMENT AND DEVELOPMENT IN ZIMBABWE	19–25
FISHERS’ VIEWS ON THE IMPORTANCE OF THE KAPENTA FISHERY	26–27
FISHERS’ VIEWS ON THE IMPORTANCE OF THE ARTISANAL FISHERY	28–31
STATUS OF FISHERIES ON THE ZAMBIAN SIDE OF LAKE KARIBA	32–37
STATUS OF FISHERIES ON THE ZIMBABWEAN SIDE OF LAKE KARIBA	38–41
AN OVERVIEW ON THE MANAGEMENT AND DEVELOPMENT OF THE FISHERIES OF LAKE KARIBA	42–51
RECOMMENDATIONS	52–66
ANY OTHER MATTERS	67
ACKNOWLEDGEMENT	68
DATE AND VENUE OF THE THIRD TECHNICAL CONSULTATION	69
ADOPTION OF THE REPORT AND RECOMMENDATIONS	70
<b>APPENDIXES</b>	<b>Page</b>
A. Agenda	15
B. List of participants	16
C. List of working documents	18
D. Summary of major decisions and recommendations	19





## OPENING OF THE TECHNICAL CONSULTATION

1. The outgoing Chairman Mr Charles Maguswi, Director of Fisheries, Zambia, welcomed the delegates from Zimbabwe and Zambia to the second Technical Consultation. He recalled the discussions, decisions and recommendations made during the first Technical Consultation, held in Siavonga, Zambia, in November 2002. He noted that this Technical Consultation was important considering that the closed fishing season in Zambia starts on 1 December 2004. He commended FAO for continuing to facilitate the two countries in coming together to discuss the common fishery management and development issues.
2. The Technical Consultation was attended by delegates from Zambia, Zimbabwe, Representative of the Kapenta Fisheries Association, representative from Gatche Gatche fisheries Association and FAO. The list of participants is given in Appendix B.
3. Ms Rachel Gwazani, Senior Warden, Zimbabwe Parks and Wildlife Management Authority, welcomed participants, on behalf of the Government of Zimbabwe. She stressed the importance of cooperation and collaboration in the sustainable management of the lake.
4. She noted that the Technical secretary Mr Ssentongo has for years worked tirelessly on joint country programs. She indicated her appreciation and on behalf of the Joint Committee meeting that he will be greatly missed as a full time FAO representative, since this is his last meeting as an FAO Fisheries Liaison Officer.
5. She pointed out to the delegates that fisheries on Lake Kariba have the potential of providing an answer to the global fish shortages. Fish farming is another mean fish can be increased in Lake Kariba. Since such forms of production can have both positive and negative impacts on the environment it is critical that all stakeholders are actively involved in any implementation and monitoring of such projects. There is need for continued joint technically informed decisions on introduction of more methods in fish production to meet fish demand nationally, regionally and internationally. For example, fish production in Lake Kariba can be increased through cage culture if all the supporting studies are conducted scientifically and timely.
6. The participants introduced themselves before Mr Wilson Mhlanga, Senior Warden in Charge of Lake Kariba introduced the guest of honour the Executive Mayor of Kariba Municipality, Mr John Houghton.
7. His Worship the Mayor of Kariba Municipality, stressed the importance of Lake Kariba to the fishing industry (artisanal/industrial); tourism, the natural beauty of this man made Lake and the contribution to employment in Municipality where unemployment is high. He pointed that the kapenta fisheries was at its maximum exploitation level, but there was still room for increased fish production through fish farming and cage culture to alleviate poverty. He was however happy with the precautionary approach not to rush these activities to the detriment of the environment. He outlined other important activities going on Lake Kariba such as tourism supported by the fine hotels around the lake.
8. His worship the mayor thanked FAO for organizing the meeting and wished the Technical Consultation success in its deliberations.

## **AGENDA AND ARRANGEMENTS FOR THE TECHNICAL CONSULTATION**

9. The agenda and arrangements for the session were presented by the Technical Secretary and adopted as presented in Appendix A

## **ELECTION OF CHAIRPERSON AND RAPPORTEURS**

10. The outgoing Chairman indicated that the host country takes up the Chairmanship. Accordingly, Ms Rachel Gwazani assumed the Chair. Mr. Patrick Ngalande and Mr. Wilson Mhlanga were nominated as Rapporteurs.

## **SUMMARY OF MAJOR DECISIONS AND RECOMMENDATIONS MADE AT THE FIRST TECHNICAL CONSULTATION**

11. The secretariat reviewed the major decisions and recommendations made during the first Technical Consultation in Siavonga, Zambia, November 2002. In the ensuing discussion the delegates considered the past recommendations on :

- the status of the fisheries of Lake Kariba national sectors;
- fishery statistics and socio-economic data;
- extension/information dissemination;
- fish processing and marketing;
- fisheries research use and needs;
- post-harvest processing and community support;
- the role of women in Lake Kariba fisheries;
- integrated environmental management programme of Lake Kariba;
- resource and credit assistance for fishers;
- fisheries Co-management; and
- infrastructure.

12. The Technical Consultation took note of the good follow-up action on fisheries research use and needs; integrated management programmes for the Lake; fisheries co-management; and on the follow-up action by FAO to arrange the Second Consultation. It was recommended that in future more effort should be taken to follow-up on the implementation of all decisions and recommendations made at joint meetings

## **AN OVERVIEW OF THE IMPORTANCE OF CO-MANAGEMENT AS A TOOL FOR SUSTAINABLE FISHERIES MANAGEMENT AND DEVELOPMENT IN ZAMBIA**

13. The delegation of Zambia presented an overview on the importance of co-management as a tool for sustainable fisheries management and development. It was reported that Lake Kariba still remains one of the most important fisheries in Zambia. The lake supports an artisanal gillnet fishery, industrial kapenta also known as pelagic fishery and a newly developing fish farming enterprise using cages. Operators in the industrial fishery are also involved with crocodile farming.

## **Co-management processes**

14. The delegates were informed that from 1920's to 60's fisheries in Zambia had been managed by various Game Ordinance Acts. In 1974 a Fisheries Act not very different from the Game Ordinance Acts was enacted. There was not much compliance to regulations by the fishers because communities did not participate in the process of developing these pieces of legislation. Alternative management strategies had to be sought and fisheries co-management was thus introduced to the lake communities in 1994.

15. It was noted that the initial agreements relating to 60 percent retention from fishing licenses and another 60 percent from fish levies by Fisheries Village Management Committee's (FVMC's) have not been fully implemented because government has not enacted the revised Fisheries Act, while the Councils are remitting 25 percent of levy collection to Zones.

## **Statistics submitted by Zonal Management Committees (zone 1 and 2)**

16. The Consultation was informed that there was need to explore the possibility of collecting Frame and Catch Assessment Surveys through Zonal Management Committee structures. The test case for zones 1 and 2 has proved to be cost effective and updating of such information can be done quarterly.

## **Extension service delivery**

17. The delegates were informed that prior to introduction of co-management there were 256 fishing villages in 1992 and after introducing co-management and re-grouping of fishermen in 1994 there are now 44 fishing villages. Before implementing co-management it was difficult to reach all fishers but now due to establishment of fewer fishing villages delivery of extension services has improved. Zambia has precise estimates of fisher population and gear for 26 out of the 44 villages.

## **Resource and credit assistance for fishers**

18. The Zambian delegation informed the Consultation that the initial Fisheries Co-management arrangement was that the zone should give soft loans to women groups to start up activities to raise funds. A good number of fishing villages have women clubs and other Income Generating Activities (IGA's) like baking scones/buns and flitters, sewing clubs. At least one has grown into a cooperative now and owns a grinding meal i.e. Ngoma Co-operative Society (in zone 2). Zone 4 (Siavonga Area) has been supported by the Germany Embassy to acquire banana boats which have been given to fishers on a loan and also renting them out (as part of fund raising) a DoF now comes under Ministry of Agriculture and Co-operatives (MACO), which promotes setting up of cooperatives. However, this remains misunderstood by most fishing village communities because to them, cooperatives are synonymous to groups interested in obtaining fertilizer and seed crop. There is still need to sensitize fisher communities on the benefits of working as a team.

## **AN OVERVIEW OF THE IMPORTANCE OF CO-MANAGEMENT AS A TOOL FOR SUSTAINABLE FISHERIES MANAGEMENT AND DEVELOPMENT IN ZIMBABWE**

19. The delegation of Zimbabwe presented a paper on an overview of on the importance of co-management as a tool for sustainable fisheries management and development in Zimbabwe. In the subsequent discussions the delegates considered the following issues

### **Management of the artisanal fishery**

20. It was noted that the planning for the Zambia/Zimbabwe SADC Fisheries Project (ZZSFP) on Lake Kariba was carried out in 1989. Implementation of the project began in 1990. During the planning stage, the importance of introducing fisheries co-management was acknowledged.

21. The need to define co-management was acknowledged. In its broad sense, co-management can be defined as an arrangement where management responsibility is shared between the government and the communities. The co-management arrangement varies from situation to situation depending on the degree of delegation of management responsibility and authority between the resource users and the government (national, provincial or municipal).

### **Importance of co-management in data collection**

22. In the past the collection of artisanal catch statistics and socio-economic data was the responsibility of the government fisheries departments. The financial cost of this data collection has increased over the years, thereby threatening the long-term sustainability of the programs.

23. Lake Kariba Fisheries Research Institute embarked on a program to train a selected number of the fishers', or their dependants. These trainees, known as Resource Monitors, were trained in areas such as fish species identification (using the scientific names, as they were already familiar with the common names) and data collection methods.

### **Gender balance in institutional structures**

24. It was noted that women have a key role to play in the co-management process. Several Sub-Area Fishers' Associations have women representatives, who were elected to these posts. The election of these women is a positive development as it is a practical acknowledgement of the important role that women can play in leadership positions. The women who have been elected so far have carried out their duties in a professional and diligent manner. Thus, the participation of women in decision-making enhances the performance of these structures.

### **Status of implementing the FAO Code of Conduct for Responsible Fisheries**

25. Concerning the CCRF, the delegates were provided with a summary of the provisions under implementation, viz.

- Conservation of living aquatic resources – There is legislation that promotes sustainable utilisation of the resources while conserving the biodiversity.

- Maintenance of quality, diversity and availability of the fishery resources –The management mechanism in place promotes a holistic approach to resource conservation that is based on an ecosystem approach.
- Prevention of over fishing – The necessary measures to control overfishing are in place.
- Precautionary approach – This measure is being implemented.
- Monitoring, Control and surveillance of fishing vessels –This mechanism still needs strengthening to ensure its effectiveness.
- Consideration of aquaculture and culture-based fisheries – Culture based fisheries around Lake Kariba are being encouraged and promoted.

### **FISHERS' VIEWS ON THE IMPORTANCE OF THE KAPENTA FISHERY**

26. The Chairman of the Indigenous Kapenta Producers Association informed the meeting that kapenta fishing is a major activity in Zimbabwe and it forms a very important part of the country's economy. It was noted that kapenta fishing is therefore important because of the following:

- Employment Creation – kapenta fishing employs about 30 percent of the populations of Kariba Municipality.
- Kapenta as a source of food is relatively cheaper than meat and thus in demand in many parts of our country.
- Foreign currency generation since kapenta is not only sold locally but sometimes it is exported to other countries such as South Africa, Botswana, DRC and Zambia thereby generating the much needed foreign currency.
- Development of other industry – the fishing of kapenta has led to the development of other industries which supply the equipment and other raw materials.
- Kapenta markets – the selling of kapenta to other countries like Zambia, Botswana, South Africa and DRC has led to other establishment of cordial bilateral relations between the countries.

### **Problems facing Kapenta industry**

27. During the discussions concerning the kapenta fishery the problem of the low level of the fish catches particularly during the cold season and also the safety of fishing and pilferage where mentioned.

### **FISHERS VIEWS ON THE IMPORTANCE OF THE ARTISANAL FISHERY**

28. The Chairman of Sub-Area Fisher's Association SAFA "B" introduced the views of the members of his association in Nyami-Nyami Rural District; and also provided some information on Binga Rural District.

29. The meeting was informed that the main fish species that are caught are the Nile Bream (*Oreochromis niloticus*) and Tigerfish (*Hydrocynus vittatus*). The other species that is caught in less quantity is the Chessa (*Distichodus schenga*). Kariba Bream (*Oreochromis mortimeri*). There are some species that are no longer easily caught. These are Kariba Bream (*Oreochromis mortimeri*), Red-Breast bream (*Tilapia rendalli*), and the catfish (*Clarias gariepinus*). In the past, the fishers used to catch the Purple Labeo (*Labeo congoro*), and Nkupe (*Distichodus mossambicus*). Fishers in Nyami-Nyami District no longer catch these fish.

30. It was noted that crocodiles sometimes destroy the nets. During full-moon (6–7 days) every month, the catches are low. The peak fishing season is from October to April for Tigerfish, and May to September for breams. Top-set nets are during the hot season, and bottom-set nets are set during the cold season.

31. The Technical Consultation was informed of the following problems facing the artisanal fisheries sector:

- high cost of equipment (nets, boats, twine);
- bad roads to fishing villages means that buyers are not willing to come to the fishing villages in their cars;
- some officers in the local authority and in the Parks Authority who were working with the fishers have left their jobs;
- lack of finance (including loans, and revolving funds);
- unlicensed fishers in fishing camps create problems for the licensed fishers;
- lack of water transport; and
- kapenta rigs fishing in gillnet areas damaging the gillnets.

## **STATUS OF FISHERIES ON THE ZAMBIAN SIDE OF LAKE KARIBA**

32. It was also noted that as the artisanal fishery developed in 1962, there were 2 520 fishermen. The number started declining in 1963 and reached its lowest of 415 fishers in 1967. After the official opening in 1980 of the fishery, 953 fishers were estimated. The number of fishers increased again in the 1980s from 953 to 3 502 in 1990. In 1994, fishing villages were re-organized (re-grouped) and the 1995 Frame Survey recorded a lower fisher population of 1355.

33. It was highlighted that with increased fisher population, there has been a corresponding decrease in catch per fisherman per night. This has resulted in traditional leaders, the Chiefs, calling for a fish ban from December to February and/or complete closure of all identified fish breeding areas along the lakeshore.

34. It was reported that due to the decline in fish abundance the number of days for a fish trader to buy 200 kg fish increased from about four (4) days to two weeks or more. Most industrial fishers are increasingly using fish-finding, echosounders and their rigs are highly mechanized.

35. The delegates heard that the lack of recent kapenta biomass estimates is not health for the management of the kapenta/pelagic fishery. Without this data, it is impossible to estimate number of licenses to be offered for sale in a particular year or season or number of rigs to be allowed in a particular area.

36. It was reported that the numbers of fish species encountered in the research gillnet surveys has reduced from 31 in 1985–86 to 17 in 2000–2003. The fish species catch composition has changed from *Hydrocynus vittatus* (1985–86) dominance to *Synodontis zambezensis* (2000 to 2003) dominance. *Momyrops longirostris* and Cichlid species reflected high contribution to the catch in terms of Index of Relative importance in 1985–86, but in recent years it is almost absent from the research gillnet catches. Fish species of less economic importance (*Barbus paludinosus* and *Brycinus lateralis*) are slowly becoming more prominent.

37. The fish biodiversity is changing possibly due to fishing pressure.

### **STATUS OF FISHERIES ON THE ZIMBABWEAN SIDE OF LAKE KARIBA**

38. Concerning the status of the fishery resource on the Zimbabwe Sector of the Lake the meeting was informed of the following new developments:

- Zimbabwe Parks and Wildlife Authority has been established by an Act of Parliament; and the appointment of staff is underway.
- Scientific Research Officers to cater for the fisheries sector are still to be recruited.
- Routine monitoring programs are in place despite limited financial resources.

### **Kapenta fishery**

39. The delegates took note of the fact that;

- No changes in the number of fishing permits are in place.
- Catch statistics are still being collected from the operators.
- Catches in 2003 were approximately 8 000 tonnes.
- Existence of pilferage by fishing crew on the lake remains a major problem.
- Limited monitoring and surveillance is ongoing.

### **Artisanal fishery**

40. The meeting noted the following issues;

- Fishing still taking place in the designated fishing villages.
- Implementation of co-management program slowed down due to manpower constraints (transformation process).
- Frame Survey was last conducted in 2002 and there is an urgent need for a follow-up.

### **Research programme and joint fisheries management**

41. Regarding the fisheries research programme it was noted that only long-term monitoring was taking place and there has been a delay in convening the inaugural meeting.

## **AN OVERVIEW ON THE MANAGEMENT AND DEVELOPMENT OF THE FISHERIES OF LAKE KARIBA**

42. The Secretariat introduced the document entitled an overview on the management and development of fisheries of Lake Kariba. The meeting was informed that there was a need to adopt an integrated and precautionary approach to the management and development of the fisheries of Lake Kariba including activities concerning culture fisheries. In the subsequent discussions the following issues were highlighted.

### **Pollution and environmental degradation**

43. It was noted that the following sources of pollution and environment degradation have been identified in the Lake Basin:

- artisanal and industrial mining;
- urbanization;
- discharge of domestic, animal and industrial waste;
- deforestation;
- erosion;
- pesticides; and
- aquatic weed infestation

### **Possible presence of heavy metals**

44. The delegates were cautioned on the presence of heavy metals. It was recalled that two zinc, copper and lead mines are located in the drainage basin of the Sanyati River, a major river running northwards which flows into Lake Kariba. Furthermore, there are extensive copper, manganese, nickel and zinc mining activities in the Zambia sector, which might influence the metal levels in the Lake and Zambezi River system to increase.

### **Options for rational management of the shared fisheries of Lake Kariba**

45. It was emphasized that the problems of Lake Kariba should be addressed jointly by Zambia and Zimbabwe. Cooperation could be enhanced under the umbrella and framework of SADC and other economic groupings such as COMESA as well as the international community including FAO and other technical and donor agencies

46. Regarding the Code of Conduct for Responsible Fisheries the meeting took note of the following immediate management measures:

- Implementation of the Code of Conduct for Responsible Fisheries (CCRF) and the supplementary technical guidelines for inland capture fisheries and aquaculture development
- Introduction of by legislation, measures for the protection of native species and biotopquaes;
- Protection of endangered species such as Labeo , *Oreochromis macrochir* and *O. andersonii*;
- Control of illegal fish trade and theft of fishing gears; and
- Need for legislation enabling the implementation of closed fishing seasons, closed fishing areas, and restricting use of prohibited gears, explosives and toxins.



## **Research on policy, legislation, governance and institutional arrangements**

47. The following major areas for research to improve policies and performance of the fisheries sub-sector were considered in relation to policies *per se*, but also with respect to institutions and organizations, and processes or instruments of direct relevance to the artisanal fisheries sub-sector. The following issues were emphasized:

### ***Policies***

- relevance of development policies on fisheries;
- relationship of artisanal fisheries in policy formulation and implantation;
- impact of other sector policies;
- relative importance of formal and informal policy; and
- linkage between fisheries policy and legislation.

### ***Institutions and organizations***

- structure as artisanal fisheries sub-sector;
- structure and functions of Fisheries Department, Park of Zambia and Wildlife Management Authority of Zimbabwe and relevant research institutes; and
- regional fisheries management organizations.

### ***Processes or instruments***

- trade-offs between policy objectives;
- process of policy and implementation;
- involvement of fishers and fish traders;
- awareness of policy makers to the mainstreaming of gender and diversity issues;
- strengthening mechanisms of local governance, in a changing environment; and
- relation to international planning process.

## **Institutional mechanism**

48. The meeting noted the following principal deficiencies common to institutional frameworks were identified and can be summarized as follows:

- inadequate budgetary allocation to fisheries sectors by central governments;
- inadequate funding for research;
- inadequate human resources and equipment;
- poor enforcement of fisheries regulations; and
- insufficient linkage between central administration and field agents at local level.

## **Monitoring Control and Surveillance (MCS)**

49. It was recognized by the delegates that the purpose of MCS is twofold:

- to ensure compliance with fisheries management rules; and

- to collect scientific and other information relating to fishing activities to form foundation for the devising of sound fisheries management measures.

### **International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA–IUU)**

50. The Technical Consultation recalled that the IPOA–IUU is guided by the principles set out in, and pursues the strategies associated with, the 2001 FAO International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA–IUU) and the 2002 FAO Technical Guidelines for the Implementation of the International Plan of Action to Deter, Prevent and Eliminate Illegal, Unreported and Unregulated Fishing.

51. The delegates agreed that Zambia and Zimbabwe should take the necessary measure to prevent, deter and eliminate illegal, unreported and unregulated Fishing (IUU) around Lake Kariba. It is also necessary to develop a Regional Plan of Action (RPOA–IUU) for Lake Kariba to be implemented by the two countries. It was also noted that each member country (Zambia and Zimbabwe) need to develop a National Plan of Action (NPOA) IUU.

## **RECOMMENDATIONS**

### **Major decisions and recommendations**

52. The Second Technical Consultation took note of the good follow-up action on fisheries research use and needs; integrated management programmes for the Lake; fisheries co-management; and the assistance from FAO. It was however, strongly recommended that in future more efforts should be taken to follow-up on the implementations of all decisions and recommendations made at joint meetings.

### **Co-management in fisheries**

53. It was noted that both Zambia and Zimbabwe have made progress to develop the co-management mechanism in order to facilitate the development and sustainable management of Lake Kariba Fisheries. It was recommended that the processes of co-management should be supported and strengthened by the ministries responsible for fisheries as well as the Park and Wildlife Management Authority in the case of Zimbabwe. Additionally, in strengthening co-management the role of women, gender balance and equity should be given serious consideration and priority.

### **Kapenta fishery (the introduced *Limnothrissa miodon*)**

54. The kapenta fishery is a major activity in both Zambia and Zimbabwe and contributes to the nutrition, food security and national economies, despite the declining stock and other negative impacts on kapenta, it was recommended that fisheries research addresses the problem of the low level of the landed fish catches particularly during the cold season; and that management resolves the issue of safety of fishing, pilferage and high cost of fishing equipment.

## **Artisanal fishery**

55. The delegates took note of the important contribution of the artisanal fisheries to food security around Lake Kariba as well as the numerous problems faced by the artisanal fishers. It was strongly recommended that the riparian governments of Lake Kariba, the Park and Wildlife management Authority, NGOs, and IGOs including FAO give support the artisanal fishery in order to eliminate the following constraints:

- High cost of equipment (nets, boats, twine);
- Lack of extension services and data recorders;
- Lack of financing mechanisms;
- Unlicensed fishers contributing to IUU;
- Difficult in water transport; and
- Destruction of gillnets and other gears by other lake users.

## **Status of fisheries in the Zambia and Zimbabwe sector**

56. The Technical Consultation noted there are acute scarcity of financial and human resources to conduct applied fisheries research; to collect fisheries statistic, socio-economic data and biological data; and also to implement an effective monitoring, control and surveillance system lake wide. It was strongly recommend that the riparian governments and the PWMA of Zimbabwe provide adequate funding and human resources to research, extension services, management authorities.

57. It was also recommended that policy and decision makers in the two countries support periodical frame survey and catch assessment surveys which provide vital information needed for planning sustainable fisheries management and development.

## **Pollution and management degradation**

58. The Technical Consultation reviewed and discussed possible sources of pollution environmental degradation and likely effluent of heavy metal into Lake Kariba and the Zambezi River system. It was recommended that the environmental institutions in the riparian countries of Lake Kariba together with the Zambezi River Authority, implement a system to monitor the impact on the following:

- Mining activities;
- urbanization;
- the discharge of domestic, animal and industrial waste;
- deforestation;
- erosion;
- pesticides;
- aquatic weed infestation; and
- occurrence of copper, lead, mercury, manganese, nickel and zinc.

## **Conservation of biodiversity and control of alien species**

59. The Technical Consultation noted the use of alien species in fish farming including cage culture on Lake Kariba . It was recommended that the riparian governments take the

necessary measures to protect the indigenous species by controlling further introduction of herbivorous and predatory fish species in the Kariba system.

### **Development of culture-based fisheries around Lake Kariba and along the Zambezi River**

60. It was recommended that the riparian countries of Lake Kariba adopt a precautionary approach in developing and management of aquaculture around Lake Kariba and along the Zambezi Basin.

### **Fisheries policy, legislation and management plans**

61. The Technical Consultation noted the lack of fisheries policy, up to date fisheries Acts and fisheries management plans in both Zambia and Zimbabwe. The absence of these management tools impedes sustainable fisheries management and development. It was therefore recommended that the riparian governments provide the necessary financial and human resources to establish these tools and mechanisms.

62. The Technical Consultation called on FAO to assist Zambia and Zimbabwe in formulating viable national fisheries policies.

### **Monitoring, control and surveillance (MCS)**

63. The Technical Consultation noted the importance of MCS in sustainable fisheries management and development and recommended that the MCS system be strengthened in order to:

- ensure compliance with fisheries management rules, and
- collect scientific and other information relating to fishing activities to form foundation for the devising of sound fisheries management measures.

64. It was also recommended that the two governments (Zambia and Zimbabwe) provide adequate funding for the effective implementation of MCS.

### **International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA–IUU)**

65. The delegates agreed that Zambia and Zimbabwe should take the necessary measure to prevent, deter and eliminate illegal, unreported and unregulated Fishing (IUU) around Lake Kariba. It was also recommended that the fisheries management authorities in the two governments take urgent steps to develop a National Plan of Action (NPOA–IUU) as well as a Regional Plan of Action (RPOA–IUU) for Lake Kariba to be implemented by the two countries.

### **Regional cooperation and collaboration in fisheries management**

66. It was acknowledged that there is a need to strengthen regional cooperation and collaboration in the management of transboundary fisheries of shared lakes and rivers. It was noted that within the secretariat of both SADC and COMESA there is no fisheries representation to facilitate member countries coming together to discuss common fisheries

development and management and fisheries trade. The Delegates at the Consultation called on the Governments of the Republics of Zambia and Zimbabwe to inform the SADC and COMESA Secretariats about the urgent need for a fisheries desk officer to deal with fisheries matter on a day to day basis.

#### **ANY OTHER MATTERS**

67. There were no other matters raised.

#### **ACKNOWLEDGEMENT**

68. The delegates commended FAO for the assistance in organizing the second Consultation and wished for a third Consultation in the year 2006.

#### **DATE AND VENUE OF THE THIRD TECHNICAL CONSULTATION**

69. It was agreed that the third Technical Fisheries Consultation be held in the year 2006 in Siavonga Zambia. The exact date of the meeting will be determined by FAO after consulting the host Government of the Republic of Zambia.

#### **ADOPTION OF THE REPORT AND RECOMMENDATIONS**

70. This report with its recommendations was adopted at Kariba on 1 December 2004



## **APPENDIX A**

### **Agenda**

1. Opening of the Technical Consultation
2. Administrative arrangements
3. Summary of recommendations made in Siavonga 2002
4. An overview on the importance of co-management as a tool for sustainable fisheries management and development in Zambia
5. An overview on the importance of co-management as a toll for sustainable fisheries management and development in Zambia
6. Fishers views on the importance of the kapenta fishery
7. Fishers views on the importance of the artisanal fishery
8. Status of fisheries on the Zambian sector of Lake Kariba
9. Status of fisheries on the Zimbabwean sector of Lake Kariba
10. An overview on the management and development of the fisheries of Lake Kariba
11. Formulation of management decisions and recommendations

## APPENDIX B

### List of participants

#### ZAMBIA

Mr Charles Maguswi  
Deputy Director, Fisheries, Management and  
Extention  
Ministry of Agriculture and Cooperatives  
Fisheries Department  
P O Box 350100  
Chilanga,  
Tel.: 260 1 278 418  
Fax: 260 1 278 618  
E-mail: [piscator@zamnet.zm](mailto:piscator@zamnet.zm);  
[c.maguswi@zamnet.zm](mailto:c.maguswi@zamnet.zm)

Mr Mainza Kalonga  
Acting Chief Fisheries Officer  
Department of Fisheries  
P O Box 350100  
Chilanga,  
Tel.: 260 1 278418  
Fax: 260 1 278 618  
E-mail: [fishculture@zamnet.zm](mailto:fishculture@zamnet.zm)

Mr Patrick Ngalande  
Acting Chief Fisheries Research Officer  
Department of Fisheries  
P O Box 350100  
Chilanga,  
Tel.: 260 1 278 597418  
Fax: 260 1 278 618  
E-mail: [pngalande@yahoo.co.uk](mailto:pngalande@yahoo.co.uk)

Mr Mbamwai Mbewe  
Senior Fisheries Research Officer  
Department of Fisheries  
Lake Kariba Fisheries Research Unit  
P O Box 9 Sinazongwe,  
Tel.: 260 1 483146/8  
E-mail: [mbamwai@yahoo.com](mailto:mbamwai@yahoo.com)

#### ZIMBABWE

Hon. Mr John Houghton  
Honourable Executive Mayor of Kariba  
Municipality  
P O Box 130  
Kariba  
Tel.: 263 61 2737  
Fax: 263 61 2933  
E-mail: [kem@zambezi.net](mailto:kem@zambezi.net)

Mr Wilson Mhlanga  
Senior Warden (Kariba-Binga)  
Ministry of Environment and Tourism  
Zimbabwe Parks and Wildlife Management  
Authority  
P. Bag 2075  
Kariba  
Tel.:263 61 2936/7  
Fax: 263 61 2939  
E-mail: [wmhlanga@africaonline.co.zw/](mailto:wmhlanga@africaonline.co.zw/)  
[wmhlanga@comone.co.zw](mailto:wmhlanga@comone.co.zw)

Ms Rachel Gwazani  
Senior Warden Scientific Services  
Parks and Wildlife Management Authority  
P.O. Box CY 140 Causeway  
Harare  
Tel.: 263 4 792786/9  
Fax: 263 4 747430  
E-mail: [rgwazani@yahoo.co.uk](mailto:rgwazani@yahoo.co.uk)

Mr Cleophas Machacha  
Councillor  
Municipality of Kariba  
P O Box 130  
Kariba  
Tel.: 263 91 406763  
Fax: 263 61 2593



Mr Nesbert Mapfumo  
 Chairman  
 Indigenous Kapenta Producers Association  
 Kariba People's Projects  
 PO Box 182  
 Kariba  
 Tel.: 263 61 2593  
 Fax: 263 61 2593

Mr Tichaona Manzungu  
 Chairman  
 Gatche Gatche Fishers Association  
 PO Box 264  
 Karoi

Mr Paul Mwera  
 Technical Manager  
 Lake Harvest  
 PO Box 321, Kariba  
 Tel.: 263 61 3201 – 2

#### **FAO PARTICIPANTS**

Mr George W. Ssentongo  
 Fisheries Officer  
 FAO Subregional Office  
 for Southern and East Africa  
 Old Mutual Centre  
 PO Box 3730,  
 Harare, Zimbabwe  
 Tel.: 263 4 791420/791485/71495  
 Fax: 263 4 700724  
 E-mail: [George.Ssentongo@fao.org](mailto:George.Ssentongo@fao.org)

Ms Grace Chagonda  
 Programme Assistant  
 FAO Subregional Office  
 for Southern and East Africa  
 Old Mutual Centre  
 PO Box 3730  
 Harare, Zimbabwe  
 Tel 263 4 253693  
 Fax: 263 4 700724  
 E-mail. [grace.chagonda@fao.org](mailto:grace.chagonda@fao.org)

## **APPENDIX C**

### **List of working documents**

CIFA:DM/LK/04/01	An overview on the importance of co-management as a toll for sustainable fisheries management and development in Zambia
CIFA:DM/LK/04/02	An overview on the importance of co-management as a toll for sustainable fisheries management and development in Zimbabwe
CIFA:DM/LK/04/03	Fishers views on the importance of the kapenta fishery
CIFA:DM/LK/04/04	Fishers views on the importance of the artisanal fishery
CIFA:DM/LK/04/05	Status of fisheries on the Zambian sector of Lake Kariba
CIFA:DM/LK/04/06	Status of fisheries on the Zimbabwean sector of Lake Kariba
CIFA:DM/LK/04/07	An overview on the management and development of the fisheries of Lake Kariba

## **APPENDIX D**

### **Summary of major decisions and recommendations**

#### **For the attention of Governments**

1. Efforts should be taken to follow-up on the implementations of all decisions and recommendations made at joint meetings.

#### **Co-management in fisheries**

1. The processes of co-management should be supported and strengthened by the ministries
2. Strengthening co-management the role of women, gender balance and equity should be given serious consideration and priority.

#### **Kapenta fishery (the introduced *Limnothrissa miodon*)**

1. Fisheries research should address the problem of the low level of the landed fish catches particularly during the cold season.
2. Management should resolve the issue of safety of fishing, pilferage and high cost of fishing equipment.

#### **Artisanal fishery**

1. The riparian governments of Lake Kariba, the Park and Wildlife Management Authority, NGOs, and IGOs including FAO should give support to the artisanal fishery in order to eliminate the following constraints:
  - High cost of equipment (nets, boats, twine);
  - Lack of extension services and data recorders;
  - Lack of financing mechanisms;
  - Unlicensed fishers contributing to IUU;
  - Difficult in water transport; and
  - Destruction of gillnets and other gears by other lake users.

#### **Status of fisheries in the Zambia and Zimbabwe sector**

1. The riparian governments and the PWMA of Zimbabwe should provide adequate funding and human resources to research, extension services, management authorities.

2. Policy and decision makers in the two countries should support periodical frame survey and catch assessment surveys which provide vital information needed for planning sustainable fisheries management and development.

### **Pollution and management degradation**

1. Implement a system to monitor the impact on the following:
  - Mining activities;
  - urbanization;
  - the discharge of domestic, animal and industrial waste;
  - deforestation;
  - erosion;
  - pesticides;
  - aquatic weed infestation; and
  - occurrence of copper, lead, mercury, manganese, nickel and zinc.

### **Conservation of biodiversity and control of alien Species**

1. Take the necessary measures to protect the indigenous species by controlling further introduction of herbivorous and predatory fish species in the Kariba system.

### **Development of culture- based fisheries around Lake Kariba and along the Zambezi River.**

1. Adopt a precautionary approach in developing and management of aquaculture around Lake Kariba and along the Zambezi Basin.

### **Fisheries policy, legislation and management Plans**

1. Provide the necessary financial and human resources to establish these tools and mechanisms.
2. Formulate viable national fisheries policies.

### **Monitoring control and surveillance (MCS)**

1. Strengthen the MCS system in order to:
  - ensure compliance with fisheries management rules, and
  - collect scientific and other information relating to fishing activities to form foundation for the devising of sound fisheries management measures.
2. Provide adequate funding for the effective implementation of MCS.

**International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA–IUU)**

1. The fisheries management authorities of the two governments should take urgent steps to develop a National Plan of Action (NPOA–IUU) as well as a Regional Plan of Action (RPOA–IUU) for Lake Kariba to be implemented by the two countries.

**Regional cooperation and collaboration in fisheries management**

1. The riparian governments of Lake Kariba should inform the SADC and COMESA Secretariats about the urgent need for a fisheries desk officer to deal with fisheries matter on a day to day basis.

**For the attention of FAO**

1. To assist in organizing a third technical consultation on Lake Kariba in 2006.

**This document is the final report of the second Technical Consultation on the Development and Management of the Fisheries of Lake Kariba held in Kariba, Zimbabwe, from 30 November to 1 December 2004. The major topics discussed were an overview on the importance of co-management as a tool for sustainable fisheries management and development in Zambia and Zimbabwe; fishers' views on the importance of the kapenta fishery and the artisanal fishery; status of fisheries on the Zambia and Zimbabwe side of Lake Kariba; and an overview on the management and development of the fisheries of Lake Kariba. The summary of the main recommendations and decisions is shown in Appendix D.**

