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**COMMITTEE FOR INLAND FISHERIES OF AFRICA**

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# MANAGEMENT OF SHARED INLAND FISHERY RESOURCES IN SUB-SAHARAN AFRICA

## INTRODUCTION

1. This document highlights issues of common concern for the management of shared inland fishery resources in Sub-Saharan Africa,[1] which was one of the topics selected by the Committee at its Twelfth Session (Yaoundé, Cameroon, 2–5 December 2002) for consideration at its Thirteenth Session.

2. Discussion begins with a review of points bearing on the application, in shared inland fishery circumstances, of the Code of Conduct for Responsible Fisheries and related fisheries instruments, particularly the International Plan of Action for the Management of Fishing Capacity (IPOA–Capacity), the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA–IUU) and the Strategy to Improve Information on Status and Trends Reporting of Capture Fisheries (Strategy STF).

3. Management issues and problems that are of special significance to cases of transboundary fishery resources are then outlined.

4. Considered against this background are regional consultation mechanisms that have been put in place or are being prepared or contemplated by Sub-Saharan countries sharing major inland fishery resources.

[1] Major shared stock inland fisheries within the Sub-Saharan region include those of large lakes (Albert, Chad, Edward, Kariba, Malawi/Niassa/Nyasa, Mweru, Tanganyika, and Victoria) as well as large transboundary river systems (Congo, Limpopo, Niger, Nile, and Zambezi).

## APPROPRIATE POLICY INSTRUMENTS FOR MANAGEMENT OF SHARED INLAND FISHERY RESOURCES IN SUB-SAHARAN AFRICA

### *Code of Conduct for Responsible Fisheries*

5. As is well known, the Code encompasses virtually all of the activities in the fisheries sector in a comprehensive and integrated manner, setting out principles and international standards of behaviour for responsible practices to ensure the effective conservation, management and sustainable development of living aquatic resources for present and future generations, with due respect for the ecosystem and biodiversity.

6. Through its Articles covering general principles and six thematic areas,[2] the Code provides guidelines for achieving responsible fisheries by means of broad stakeholder participation, transparency, institutional strengthening and the implementation of the precautionary and ecosystem approaches.

7. Common management objectives for Sub-Saharan inland shared-stock fisheries may be framed with reference to the Code of Conduct, which was unanimously adopted in 1995 by the FAO Conference. Although the CCRF is a voluntary instrument, countries, as Members of FAO – and all Members of CIFA, *ipso facto* – are committed to its implementation to the extent possible.

### *Related international fisheries instruments*

8. Other voluntary fisheries instruments developed within the framework of the Code of Conduct and integral to it include the International Plans of Action on the Management of Fishing Capacity (IPOA–Capacity), the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA–IUU) and the Strategy to Improve Information on Status and Trends Reporting of Capture Fisheries (Strategy STF).

9. The **IPOA–Capacity**[3] calls on "States and regional fishery organizations … to achieve … no later than 2005, an efficient, equitable and transparent management of fishing capacity". It specifies that, when confronted with an overcapacity problem which undermines the achievement of long-term sustainability outcomes, States and regional fishery organizations should initially limit fishing capacity at its existing level and then progressively reduce it. Even where long-term sustainability outcomes are being achieved, the IPOA urges caution in the development of fishing capacity.

10. Based on a 2004 evaluation of progress in individual States throughout Africa,[4] the general impression is that much remains to be done on the specific issue of capacity management. No country appears yet to have formalized a national plan of action (NPOA) on management of fishing capacity. However, many African States are using fishery management planning to progress towards improved licensing and rights-based fishing, which provides a platform for fishing capacity management in both non-shared and shared fisheries.

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[2] The six areas include: fishery management; fishing operations; aquaculture development; integration of fisheries into coastal area management; post-harvest practices and trade; and fisheries research.

[3] Adopted by the Committee on Fisheries (COFI) in February 1999.

[4] "International Plan of Action for the Management of Fishing Capacity (IPOA-Capacity): Review Of Progress in Africa." Paper made available at: Technical Consultation to Review Progress and Promote the Full Implementation of the IPOA to Prevent, Deter and Eliminate IUU Fishing and the IPOA for the Management of Fishing Capacity, Rome, Italy, 24-29 June 2004.

11. The purpose of the **IPOA–IUU**[5] is to prevent, deter and eliminate IUU fishing by providing all States with a set of comprehensive, effective and transparent measures on the basis of which they may act either directly or through the relevant Regional Fisheries Management Organizations (RFMOs). FAO Members have been urged to formulate National Plans of Action (NPOAs) to combat IUU fishing by adapting elements laid out in the IPOA to their particular national context – not later than three years following the endorsement of the IPOA by the FAO Council. These plans should also include, as appropriate, actions to implement initiatives adopted by relevant regional fisheries management organizations to prevent, deter and eliminate IUU fishing. In doing so, States should encourage the full participation and engagement of all interested stakeholders, including industry, fishing communities and non-governmental organizations

12. An FAO Regional Workshop on the Elaboration of National Plans of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing – Southern and East Africa Subregion was held at Kariba, Zimbabwe, from 24 to 28 November 2003. It was attended by 33 participants from FAO Members, including 21 participants from CIFA region countries with shared inland fisheries interests linked to major transboundary lakes and/or rivers (Burundi, Botswana, Ethiopia, Kenya, Malawi, Mozambique, Namibia, Uganda, Zambia, and Zimbabwe).

13. The purpose of the Workshop was to encourage: increased awareness about the problems and effects of IUU fishing and the need for countries to take concerted action to combat it; an in-depth and comprehensive understanding of the IPOA–IUU and its technical guideline; a clearer definition of the steps that countries should take to develop their NPOAs–IUU; a sharing of experiences about IUU fishing by the participants, and a greater appreciation of the need for enhanced regional harmonization of measures to combat IUU fishing in southern and eastern Africa.

14. Participants at the Workshop emphasized that transshipment on the fishing grounds in inland fisheries had caused similar problems to those evident in marine fisheries. In particular, it was noted that transshipment in inland fisheries distorted data upon which stock assessment and management decisions were based and, in some instances, led to illegal transfers of fish, often with a loss of revenue to governments. The Workshop agreed that the transshipment of fish on the fishing grounds in inland fisheries was a source of major concern for countries and that it should be addressed through bilateral arrangements and multilateral mechanisms.

15. Although countries in the CIFA region are widely aware of the IPOA-IUU,[6] NPOAs to combat IUU fishing generally have not yet been elaborated. However, an important recent development linked to Sub-Saharan Africa's most significant shared inland fishery is the elaboration of the regional plan of action (RPOA) to combat IUU fishing within Lake Victoria and its basin, which was adopted by the Lake Victoria Fisheries Organization (LVFO) Council of Ministers on 27th May 2004. The RPOA–IUU will be implemented by the three Lake Victoria countries of Kenya, Tanzania and Uganda.

16. Concerned with the persistent deficiencies of fisheries statistics, data and information systems worldwide, FAO over the course of several years through a series of working parties and

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[5] Adopted by COFI in March 2001 and endorsed by the FAO Council in June 2001.

[6] "Action taken by FAO Members to implement the International Plan Of Action To Prevent, Deter And Eliminate Illegal, Unreported And Unregulated Fishing (IPOA-IUU)." Information paper presented at: Technical Consultation to Review Progress and Promote the Full Implementation of the IPOA to Prevent, Deter and Eliminate IUU Fishing and the IPOA for the Management of Fishing Capacity, Rome, Italy, 24-29 June 2004 (TC IUU-CAP/2004/Inf.3).

consultations drafted the Strategy for Improving Information on Status and Trends of Capture Fisheries, or "**Strategy–STF.**"[7] As described in document CIFA/XIII/2004/4, a project now being prepared under the FishCode Programme will support implementation of the Strategy. The FishCode STF Project is expected to become operational by late 2004. It is hoped that CIFA region countries with both shared and non-shared fisheries resources will fully collaborate with project activities, which will be executed through two main components, as follows:

a) Component 1: "Development of inventories, methodologies and operational guidelines."

b) Component 2: "Field training and implementation."

17. Component 1 mainly involves normative work (inventories of fishery statistical and data collection systems used by all countries and regional fisheries bodies, overview of fish stocks and/or fisheries management units, identification of training needs), but includes key field testing activities as well.

18. The aim of Component 2 is to improve substantially the quality of collection and processing of fisheries statistics and other data and information on capture fisheries in selected developing countries with important inland or marine fisheries. This would lead to better data for fisheries management at national level and, in cases of stocks shared between neighbouring countries, at regional level as well. Improvements in reporting to FAO and other agencies would be an important additional benefit.

## MANAGEMENT CHALLENGES

19. Management issues and problems in shared inland fisheries of Sub-Saharan Africa arise from a variety of interacting factors that can broadly be regarded either as "internal" or "external" to the sector. Examples of the former include the following.

a) overfishing caused by uncontrolled and sometimes rapid increases in effort;

b) technological innovations leading to greater efficiencies and/or operational range for certain fishing units;

c) use of destructive fishing practices and gear;

d) inadequate, outmoded fisheries legislation, and legislation that is not harmonised between jurisdictions on shared water bodies; and

e) weak systems of fisheries monitoring, control and surveillance.

20. Examples of external factors include the following.

a) natural population growth and population influxes brought on by civil conflicts or natural disasters, leading to higher localised exploitation pressures on aquatic resources;

b) habitat destruction, eutrophication, and other forms of environmental perturbation affecting lakes, rivers and wetlands, as for example caused by hydroelectric dams, irrigation diversions, deforestation, cultivation of steep littoral slopes, sedimentation, and pollution from cargo vessels, factories, urban waste, or agricultural chemicals and residues;

[7] Adopted by COFI and the FAO Council in 2003.

c) alien flora and fauna infestations and introductions, leading to drastic changes in conditions for aquatic biota and circumstances of fishing, water transport, and community welfare;

d) climatic variation (short-term cycles and long-term change); and

e) changing or intensified patterns of demand for fish and fish products within both regional and international markets.

21. While certain inland shared-stock fisheries management issues faced by CIFA Member States may in some respects be unique to the Sub-Saharan Africa context, it should also be recognized that they are part of a larger context of shared stock fisheries situations, and indeed other shared natural resource situations, around the world. In this connection, reference should be made to various international fora and experiences where shared resource management issues have been salient concerns.

***Shared natural resources: risks and opportunities***

22. It can be observed with regard to shared natural resource situations generally that the failure to institute cooperative approaches and wise management of vulnerable resources and ecosystem services obstructs possibilities for sustainable growth. It may also provoke, or further provoke, distrust and tension between countries – an unwelcome scenario for any region where risks to food, livelihood, and/or civil security are already of serious proportion.

23. On the other hand, joint natural resource management initiatives can serve as catalysts within and between countries for building confidence and capacity, strengthening security and fostering sustainable development.

***Management of shared fish stocks: basic considerations***

24. A recent FAO Expert Consultation,[8] though focused primarily on questions of transboundary fish stocks and straddling stocks in EEZ and high seas fisheries contexts, provides a set of basic considerations that apply to all shared stock fishery situations, whether inland or marine.

25. The Consultation underscored the fundamental point that: *successful management of shared stocks requires for its success a measure of cooperation between the parties exploiting the stocks*. The Consultation's Working Group on management plans and research programmes specifically[9]

> … noted that cooperation was a prerequisite for effective management of shared stocks, but that, in the absence of the implementation of conservation and management measures, improved stock status could not be assured. Thus, cooperation is to be seen as a necessary, but not sufficient, condition for effective resource management.

26. It was also emphasized that well-designed fishery management plans usually contain at least the following elements.

a) description of the fishery;

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[8] FAO. Report of the Norway-FAO Expert Consultation on the Management of Shared Fish Stocks. Bergen, Norway, 7-10 October 2002. *FAO Fisheries Report.* No. 695. Rome, FAO. 2002. 34p.

[9] The Consultation established three working groups as follows: Group A, Resolving allocation issues; Group B, Achieving coordination of management plans and objectives of research programmes; and Group C, Ensuring implementation and enforcement of management agreements. Particular reference is made in this document to the points raised by Groups B and C.

b) objectives of management;

c) measures to achieve objectives;

d) indicators and reference points used to measure actual performance against objectives;

e) decision rules on how to change management when objectives are not being reached; and

f) information needs and research required to support management.

***Basic "infrastructure" for shared stock fishery management***

27. It was further remarked by the Consultation that, in shared-stock situations, a basic infrastructure required for the coordination of management plans and objectives as well as of research programmes would entail the following elements:

a) Common Objectives

b) Joint Management Plan

c) Cooperative management authority

d) Agreed tools for managers, including indicators and reference points to monitor performance

e) Joint scientific body to provide advice

28. Moreover, again following the discussion of the shared fish stocks Consultation Working Groups, the establishment of such an infrastructure, while essential, requires other enabling conditions for successful management planning and operations in a shared stock situation. There are likely to be other challenges to overcome, and these will be of varying degrees of severity and complexity.

29. First and foremost is the political challenge. Management of shared fish stocks will entail shared responsibilities among States and some devolution of decision-making authority for the common interest – the attainment, collectively and individually, of overall long-term benefit. The range of additional areas of challenge related to management plans and objectives, research programmes, and implementation and enforcement of management agreements are summarised in Table 1.

***Shared inland fishery resource management infrastructure for Sub-Saharan Africa***

30. An overview of major shared inland fisheries in Sub-Saharan Africa, as summarised in Table 2, seems to indicate that, with few exceptions, most elements of the basic "management infrastructure" outlined above are either lacking or only partly in place.

31. Shared management infrastructure is clearly most advanced in the case of **Lake Victoria**, by virtue of the establishment of the Lake Victoria Fisheries Organization[10] and the technical assistance that has been provided through various agencies in support of the LVFO and the Lake

[10] Established by a Convention signed on 30 June 1994, in Kisumu, Kenya by the "Contracting Parties" – the Governments of the Republic of Kenya, the Republic of Uganda and the United Republic of Tanzania. Operations at the Secretariat Headquarters in Jinja, Uganda, commenced in July 1997. For full background and briefing information, see http://www.lvfo.org.

Victoria Environmental Management Project. As indicated in Table 2, all basic infrastructural elements for the management of the shared fisheries resources of Lake Victoria appear to be in place. The extent to which the many specific challenges to coordinated action (Table 1) are being effectively addressed will be a matter of considerable interest to the Committee.

32. For **Lake Tanganyika** (Burundi, DR Congo, Tanzania and Zambia), as reported in document CIFA/XIII2004/Inf.4, a process towards establishment of a joint management authority has been initiated on the foundation developed through the FAO-executed Lake Tanganyika Research (LTR) Project (1992 – 2001) and the UNDP/GEF Lake Tanganyika Biodiversity Project (LTBP, 1995 –2000). CIFA at its Eleventh Session was informed of drafting of the Lake Tanganyika Framework Fisheries Management Plan (FFMP), based on the FAO Code of Conduct for Responsible Fisheries and developed through LTR, which was adopted by the CIFA Sub - Committee for Lake Tanganyika, at its Eighth Session in 1999.

33. The FFMP, in combination with the Strategic Action Programme (SAP) and the Lake Tanganyika Convention that were developed under the LTBP and followed-up through its successor project, the 2002-03 Lake Tanganyika Management Planning Project, provided the basis upon which a partnership of the four lacustrine States and international agencies[11] have formulated the Regional Programme for Integrated Management of Lake Tanganyika.

34. The programme framework will allow project contributions from each of the partners to be planned and implemented in a fully complementary fashion. The overall programme, which is fully consistent with strategic aims and action programmes of the OAU's New Partnership for Africa's Development (NEPAD), aims at poverty reduction and socio-economic development within the Tanganyika Basin, and is comprised of four components – namely:

a) Strengthening of institutional capacity (including the setting up of an interim Lake Tanganyika Authority and, following ratification of the Lake Tanganyika Convention, establishment of the permanent Lake Tanganyika Authority;

b) Fisheries management, with reference to the FFMP;

c) Improvement of infrastructure and local development (including better access to health, hygiene and education); and

d) Pollution control and environmental conservation (soil conservation, sediment control, wastewater treatment, mitigation of pesticide and fertiliser impacts, etc.).

35. The Regional Programme will be implemented in stages over a five year period beginning mid-2005. A major part of planned activities relate to the responsible management of Lake Tanganyika fisheries, which are the principal focus of the "Support for the Regional Programme for the Integrated Management of Lake Tanganyika" (PRODAP) project to be funded by the African Development Bank (AfDB). In view of the long experience of the FAO in the fisheries on the Lake Tanganyika, and the close collaboration between FAO/FishCode and the technical departments of the AfDB during the preparation of PRODAP, FAO/FishCode will be associated as a technical partner in this project.

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[11] Representatives of UNDP/GEF, IUCN, FAO and the African Development Bank met to initiate a "Lake Tanganyika Partners" group in June 2003. The group agreed on plans to collaborate with the lacustrine States for an integrated management programme and for launching an appeal for other partners to join in this effort. The Lake Tanganyika Partnership has since been augmented by the participation of the Nordic Development Fund. Other agencies including the European Union (working through the Common Market for Eastern and Southern Africa – COMESA) and Finland have also indicated an interest in principle of joining this partnership

36. However, additional activities are required in order to enhance Regional Programme content related to fisheries, local level impacts, and partner participation. These additional activities need to be formulated as technical assistance projects for possible support by donor partners through FAO Trust Fund contributions. The four lacustrine States, constituted as the CIFA Sub-Committee for Lake Tanganyika, have requested FAO to provide assistance through its Technical Cooperation Programme (TCP) in order to facilitate the formulation of these projects.

37. The two States sharing the fisheries resources of **Lake Kariba** (Zambia, Zimbabwe) have a long history of joint consultation and project collaboration related to management and development issues. In November 2002 a Technical Consultation on Lake Kariba was convened in Siavonga, Zambia,[12] in order to review the current status of the fisheries and issues of legislation and regulation, monitoring, control and surveillance; fisheries management and environmental degradation.

38. A number of recommendations were made on actions that should be taken to enhance coordination and collaboration on a wide range of fronts, including management measures, data collection and reporting, research activities, stakeholder participation, and the functioning of the Lake Kariba Joint Fisheries Technical Committee. A further technical consultation is planned for November 2004.

39. In June 2003, Malawi, Mozambique and Tanzania held a Technical Consultation on the fisheries of **Lake Malawi/Niassa/Nyasa** (Malawi, Mozambique, Tanzania) in Mangochi, Malawi.[13] Major topics discussed included current status of the fisheries in the respective national sectors; legislation and regulation, monitoring, control and surveillance; and fisheries management and environmental degradation issues.

40. The meeting recommended the formation of an *ad hoc* committee to fulfil in the short term the functions of the Fisheries Management Standing Committee, as stipulated in the draft "Convention on the Sustainable Development of Lake Malawi/Niassa/Nyasa and its Basin." The *ad hoc* committee will work out mechanisms for implementation of the recommendations, identify funding sources, and initiate a request for TCP assistance for the immediate future. It was also recommended that the three bordering States of Lake Malawi/Niassa/Nyasa take necessary measures to speed up the establishment of the Fisheries Management Standing Committee. A further joint technical consultation is planned for 2005.

41. Based on information reviewed by the Secretariat, little has been done in improving shared fisheries management infrastructure in the other major lakes of Southern and East Africa, including lakes **Albert** (DR Congo and Uganda), **Edward** (DR Congo and Uganda), and **Mweru** (DR Congo and Zambia). All been the focus of various and intermittent development and research activities (Table 2), but management activities largely remain national rather than transnational in scope. Past reports have cited problems of weak management performance and high incidence of IUU fishing in relation to all of these water bodies. For Lakes Albert and Edward, the situation is expected to improve markedly with the inception of two initiatives – the

[12] FAO Subregional Office for Southern and East Africa. Report of the Ad Hoc Technical Consultation on the Development and Management of the Fisheries of Lake Kariba. Siavonga, Republic of Zambia, 19–20 November 2002. FAO Fisheries Report. No. 720. Rome, FAO. 2004. 18p.

[13] FAO Subregional Office for Southern and East Africa. Report of the Technical Consultation between Malawi, Mozambique and Tanzania on the Development and Management of the Fisheries of Lake Malawi/Niassa/Nyasa. Mangochi, Republic of Malawi, 17-19 June 2003. Rome, FAO. 2004.

African Development Bank supported Fisheries Pilot Project (LEAF/AfDB) and a project to develop joint management under the Nile Equatorial Lakes Subsidiary Action Program (NELSAP) of the Nile Basin Initiative (NBI).

42. With regard to **Lake Chad** (Cameroon, Chad, Niger and Nigeria), projects were designed under the framework of the 1994 Lake Chad Basin Commission Master Plan, with funding provided from GEF. These projects related to issues of: water resources; agriculture; forestry; biodiversity management; livestock; and fisheries. They also were intended to develop common approaches on resource exploitation, information systems, and research activities. A regional study on options and mechanisms for policy formulation for the Lake Chad Basin was implemented from 1998 to 2001, funded by the European Union. This project and the FAO Sustainable Fisheries Livelihoods Programme (SFLP) organized a workshop in 2001 to address artisanal fisheries, poverty alleviation, and implementation of the Code of Conduct for Responsible Fisheries. As a result of the workshop, it was agreed to provide SFLP support for the Lake Chad Basin Fisheries Forum, as reported at the Twelfth Session of CIFA in 2002 (CIFA/XII/2002/Inf.5).

43. Considerable work is still required in order to achieve a fully integrated and effective management infrastructure for the shared fish stocks of Lake Chad and further activities are anticipated in this respect under the planned NEPAD initiative for "Integrated Management of the Lake Chad Basin."

44. Mechanisms have not generally been established for coordinated riparian country management of fisheries resources *per se* in **major transboundary rivers** in Sub-Saharan Africa. Sub-Saharan rivers support important subsistence and small-scale commercial fisheries in many localities. However, the sector tends to be regarded as a subsidiary part of larger water and catchment management concerns where international cooperation agreements and action plans have been established for major transboundary river basins.

45. In southern Africa, a framework for international cooperation is provided by the SADC Protocol on Shared Watercourse Systems for the basins of both the **Zambezi River** (Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania, Zambia and Zimbabwe) and the **Limpopo River** (South Africa, Botswana, Zimbabwe, Mozambique). The Zambezi and Limpopo are two of the seven river basins identified for support under the Short Term Action Plan (STAP) of NEPAD. Within STAP emphasis will be placed on: development of national integrated water resources management (IWRM) policies; mitigation of floods and droughts; meeting basic water; food and energy security; and management of transboundary water resources to enhance regional cooperation.

46. The basins of the **Niger River** (Benin, Burkina Faso, Cameroon, Chad, Guinea, Ivory Coast , Mali, Niger and Nigeria) and the **River Congo** (DR Congo, Republic of the Congo, Angola, Zambia, Tanzania, Central African Republic). International initiatives to establish a cooperative framework for management of Congo Basin resources, including shared fish stocks, have yet to commence, though progress is anticipated under the STAP initiative of NEPAD. The Niger Basin Authority (NBA – formerly the River Niger Commission, created in 1964) and the World Bank agreed in late 2002 to elaborate a shared vision and an agenda for sustainable development of the basin – a collaboration inspired by the cooperation model developed as part of the Nile Basin Initiative. A new GEF funded project has recently been approved to develop and implement sustainable measures for reversing trends in land and water degradation in the Niger River Basin. Freshwater conservation projects are underway in a number of countries as part of an effort to develop a Niger Basin network of protected wetlands under the Ramsar Convention.

47. International cooperation between the countries sharing the basin of the **River Nile** (Burundi, DR Congo, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, Sudan, Tanzania, Uganda) is coordinated through the mechanism of the Nile Basin Initiative (NBI), with a Secretariat located in Entebbe, Uganda.[14] The NBI's Shared Vision Program comprises a set of seven water related projects related to: transboundary environmental issues, regional power markets, water use for agricultural production, water resources planning and management, communications for confidence building and stakeholder involvement, applied training to strengthen institutional capacities, and socio-economic development and benefit-sharing.

## SUGGESTED ACTION BY THE COMMITTEE

48. The Committee is invited to consider and comment on the above review of policy instruments for management of shared inland fishery resources in Sub-Saharan Africa, the challenges to be addressed in efforts to establish and operate a successful shared fish stocks management infrastructure, and the current status of joint management efforts linked with major transboundary lakes and river systems within the CIFA region.

49. The Committee is also invited to provide updates on particular experiences with shared inland fishery resource management within the region, including observations on problems encountered and prospects for their resolution.

50. The Committee is further invited to provide guidance on short term and long-term actions to be taken by Members to enhance the management of shared fisheries in Sub-Sahara Africa.

[14] For full background and briefing information, see http://www.nilebasin.org.

**Table 1. Management challenges for shared stock fisheries***

| Issue area | Points for recognition, accommodation |
|---|---|
| ***Management plans and objectives*** | • *nearly always an overall long-term benefit in achieving coordination in managing shared stocks.* |
| Setting priorities | • the need and urgency for coordination may vary across different fisheries. High impact events (e.g. fishing long-lived, high-valued species with risk of irreversible damage) require priority attention. |
| Varying goals/aspirations between parties | • Different socio-economic conditions and policies among stock sharing parties sharing any particular stock may be expressed in different overall policy goals and lower-level operational objectives, and in long-term and short-term dimensions. Compromise may be needed to select, for example, mid-term objectives with agreed targets and limits. |
| Different time scales for different management processes | • Political cycles of briefer duration than management responses mean possible conflict between long-term and short-term interests; these different processes should be decoupled as far as possible.<br>• balance may be required between meeting short-term needs (e.g. of fisher family depending on tomorrow's catch) with longer-term goals and benefits; incremental steps required to meet the long-term goal should be identified, along with the cost (possibly to be borne by the society) needed to meet it.<br>• differing time scales may exist for different management process – e.g. collection and analysis of data and information, building of appropriate capacity within any participating party, and changing of public opinion towards fisheries and their management. |
| Flexibility for change | • plans need to take account of dynamic nature of shared stock systems and specify measures accordingly (e.g. changes in the distribution, abundance and/or migration patterns of target species).<br>• On-going research and monitoring of the changing natural, social, economic and political conditions should underpin plans so that adjustments in harvesting activities and management measures can be made. |
| Linkages between science, management and politics | • Those giving advice need to provide options to decision makers along with implications of selecting one option over another (including an assessment of uncertainty and risks in all aspects of the social, economic and ecological dimensions).<br>• Decision makers need make choices and also make reasons for decisions transparent to all stakeholders. |
| Communication | • diversity of target audiences needs recognition, along with need for effective communication in readily understandable terms (jargon, technical terms, concepts etc.) to build confidence and trust among different parties.<br>• structures to facilitate dialogue among different groups needed (e.g. mechanisms to encourage cross-disciplinary dialog or dialog among fishers from different parties).<br>• informing the wider public a key element of coordination, especially in terms in influencing the political process to assist in the development and implementation of fisheries management; fishers, other stakeholders should be encouraged to provide more information to media outlets. |

* Adapted from: FAO. Report of the Norway-FAO Expert Consultation on the Management of Shared Fish Stocks. Bergen, Norway, 7-10 October 2002. *FAO Fisheries Report.* No. 695. Rome, FAO. 2002. 34p.

**Table 2. (Cont.)**

| Issue area | Points for recognition, accommodation |
|---|---|
| ***Research programmes*** | • *need to balance: (a) excellence; (b) relevance; (c) independence; (d) timeliness, (e) comprehensiveness; and (f) cost-effectiveness.* |
| Setting priorities | • large data requirements across social, economic and ecological dimensions need prioritization to obtain the most important information at the lowest possible cost.<br>• setting priorities should involve all relevant stakeholders, especially the beneficiaries of the research (not just the providers of the research).<br>• balance between immediate users' needs and possible future needs (e.g. for analysis of ecosystem data, top priorities may be to include those environmental parameters that have an impact on the fishery as well as those like habitats and food web distortions on which the fishery itself has an impact). |
| Data collection and manaagement | • data collection schemes should be based on a common framework to enable coordinated data collection on the fishing fleet, monitoring and control, landing sites etc. along with joint programmes such as surveys where appropriate.<br>• important not to overlook wealth of existing information including from other agencies or institutions, e.g. social and economic data relevant to fisheries, as well as local knowledge of fishers. |
| Availability of adequate equipment and human capacity | • urgent need to attract and retain staff trained in the one or more of the many disciplines of fisheries management, and to keep existing staff abreast of new research demands and technologies.<br>• research in shared-stock environment often provides opportunity for transfer of technologies and expertise and for building on strengths of one or more of the parties to avoid unnecessary duplication and costs through sharing of expertise, equipment and facilities (e.g. laboratories, research vessels). |
| Data-poor situations | • problems of insufficient data for proper support of management decision-making common throughout world, and particularly in small-scale fisheries and developing countries.<br>• generally possible to initiate some sort of management on basis of existing information, and to build the information base as management evolves.<br>• use of data and information collected for similar fisheries and situations to that of the data-poor one, knowledge of local fishers, and rapid assessment techniques. |
| ***Implementation, enforcement of management agreements*** | • *usually far more complex for shared fisheries than for non-shared fisheries.* |
| General | • requirements vary depending on the complexity of different fisheries (e.g. the number of Parties, the nature of the fishery and the movement of the stock).<br>• where possible and appropriate, policies should be put in place to facilitate industry contributions towards the cost of fishery management. |
| Basic tools | • maintenance of a register for vessels authorized to fish the stock;<br>• use of a system to monitor fishing activities<br>• port/landing site inspections of vessels, catch on board and catch offloaded. |
| Information exchange and compliance | • exchange of information from records and checks should be at pre-determined intervals in an agreed form.<br>• State Parties to shared fishery need to ensure compliance by their respective fishing vessels with agreed management measures, in accordance with their national legislation.<br>• harmonization of policies and legislation with respect to enforcement matters therefore recommended. |

**Table 2. Status of "Management infrastructure" for major shared stock fisheries, Sub-Saharan Africa***

| Transboundary Fisheries Resource Base –Lakes | Common objectives | Joint management plans | Cooperative management authority | Agreed managers' tools | Joint scientific body | Remarks |
|---|---|---|---|---|---|---|
| **Albert and Edward**<br>• DR Congo<br>• Uganda) | Improved living standards and livelihoods; conservation of biodiversity. | To be developed through project under Nile Equatorial Lakes Subsidiary Action Program (NELSAP) of Nile Basin Initiative (NBI) | Not yet established | To be developed | Not yet established | • Past/ongoing studies: Makerere University; Dar-Es Salam University; Nairobi University; Uganda Fresh Water Fisheries Research Organization (UFFRO), Uganda National Agricultural Research Organisation (NARO).<br>• Current/upcoming projects: Lake Albert and Lake Edward Fisheries Pilot Project (LEAF/AfDB); NELSAP |
| **Chad**<br>• Chad<br>• Cameroon<br>• Nigeria<br>• Niger | Sustainable development and conservation of Lake Chad. | To be developed through proposed NEPAD Project. | Lake Chad Basin Commission (LCBC) | To be developed | Not yet established | • Past/ongoing studies: Lake Chad Basin Commission (LCBC); Lake Chad Research Institute (Nigeria); Cameroon Department of Fisheries (MINEPIA); National Institute for Freshwater Fisheries Resesearch (Nigeria, NIFFR); management constraints identified in Lake Chad Basin fisheries project (EU-INCO DEV).<br>• Current/upcoming projects: NEPAD initiative for "Integrated Management of the Lake Chad Basin." |
| **Kariba**<br>• Zambia<br>• Zimbabwe | Sustainable development of fisheries in Lake Kariba. | Discussed at a Technical Consultation in 2002 | Cooperative mechanisms:<br>• Protocol Agreement on kapenta fisheries<br>• Joint Fishery Management Committee<br>• Joint Fishery Technical Committee | Proposed for development. | Protocols exist to provide a platform for assessing, initiating and promoting research and development activities | • Past/ongoing studies: Lake Kariba Research Station, University of Zimbabwe; Fisheries Research Branch, Dept. of Fisheries, Zambia.<br>• Current/upcoming projects: strengthen unified data collection and storage system; strengthen routine monitoring; enhance institutional research capacity; develop relevant research programmes to address outstanding management issues; disseminate results for public utilization. |
| **Malawi/Niassa/ Nyassa**<br>• Mozambique<br>• Malawi<br>• Tanzania | Improved living standards and livelihoods; conservation of biodiversity. | Discussed at a Technical Consultation in 2003 | Lake Malawi/Nyasa/Niassa Basin Convention (drafted) | To be developed | To be established | • Past/ongoing studies: Tanzanian Fisheries Research Institute (TAFIRI); Mozambique Fisheries Dept.; Malawi Fisheries Dept.; information on stocks and management from numerous projects, e.g. Trophic Ecology of the Demersal Fish Community of Lake Malawi/Niassa, Central Africa (multidisciplinary project funded by the EU-INCO-DEV) and GOM/FAO/UNDP Chambo Fisheries Research Project. |

* N.B: The table is based on a spot inventory of available information and may not be complete or current in all respects.

| Transboundary Fisheries Resource Base –Lakes | Common objectives | Joint management plans | Cooperative management authority | Agreed managers' tools | Joint scientific body | Remarks |
|---|---|---|---|---|---|---|
| **Mweru**<br>• DR Congo<br>• Zambia | Not known from information reviewed. | Not known from information reviewed. | Not yet established | Not yet established | Not yet established | • Past/ongoing studies: Information on stocks and management from numerous projects and the Zambian Catch and Effort Data Recording System (CEDRS); see FAO Fisheries Technical Paper 426/2 (2003) and SADC Water Resource Database (WRD). |
| **Tanganyika**<br>• Burundi<br>• DR Congo<br>• Tanzania<br>• Zambia | Improved living standards and livelihoods; conservation of biodiversity. | Lake Tanganyika Framework Fisheries Management Plan (FFMP) adopted by CIFA Sub-Committee | Lake Tanganyika Authority (to be established by Convention) | Under development | Not yet established. | • Past/ongoing studies: TAFIRI; Scientific Research Institute, Uvira, DRCongo; Lake Tanganyika Research Project (FAO/Finnida); UNDP/GEF Lake Tanganyika Biodiversity Project. |
| **Victoria**<br>• Kenya<br>• Uganda<br>• Tanzania | Improved living standards and livelihoods; conservation of biodiversity | Drafted. | Lake Victoria Fisheries Organization | In place and under further development | Steering Committee and coordination between national fisheries research organizations | • Past/ongoing studies: Kenya Marine Fisheries Research Institute; Tanzania Freshwater Fisheries Research; Uganda National Agricultural Research Organisation (NARO). |

| Transboundary Fisheries Resource Base –Rivers | Common objectives | Joint management plans | Cooperative management authority | Agreed managers' tools | Joint scientific body | Remarks |
|---|---|---|---|---|---|---|
| **Congo**<br>• DR Congo<br>• Rep. of Congo<br>• Angola<br>• Zambia<br>• Tanzania<br>• Cent. African Rep. | To be developed | To be developed | Not yet established | To be developed | Not yet established | International initiatives to establish a cooperative framework for management of Congo Basin resources, including shared fish stocks, have yet to commence, though progress is anticipated under the STAP initiative of NEPAD. |
| **Limpopo**<br>• Botswana<br>• Mozambique<br>• S.Africa<br>• Zimbabwe | To be developed | To be developed through the STAP initiative of NEPAD | Cooperative mechanisms:<br>• Joint Permament Technical Committee<br>• Permanent Technical Committee Limpopo River Commission<br>• SADC Protocol on Shared Watercourse Systems | To be developed | Not yet established | • Past/ongoing studies: Agricultural Research Council (ARC, South Africa); Water Research Commission (SA);uncil for Scientific and Industrial Research (SA); University of Botswana; Agritex (Zimbabwe); Zimbabwe National Rural Unit; SADC Water Resource Database (WRD) |

| Transboundary Fisheries Resource Base –Rivers | Common objectives | Joint management plans | Cooperative management authority | Agreed managers' tools | Joint scientific body | Remarks |
|---|---|---|---|---|---|---|
| | | | | | | |
| **Niger**<br>• Benin<br>• Burkina Faso<br>• Cameroon<br>• Chad<br>• Guinea<br>• Ivory Coast<br>• Mali<br>• Niger<br>• Nigeria | To be developed | To be developed through the STAP initiative OF NEPAD | Niger Basin Authority | To be developed | Not yet established | • Current/upcoming projects: GEF funded project to develop and implement sustainable measures for reversing trends in land and water degradation; conservation projects to develop a Niger Basin network of protected wetlands under the Ramsar Convention. |
| **Nile**<br>• Burundi/DR Congo<br>• Egypt<br>• Eritrea<br>• Ethiopia<br>• Kenya<br>• Rwanda<br>• Sudan<br>• Tanzania<br>• Uganda | To be developed | To be developed through Nile Basin Initiative (NBI) | NBI Secretariat | To be developed | Not yet established | • Past/ongoing studies: CGIAR institutes; Nile Basin research institutes |
| **Zambezi**<br>• Angola<br>• Botswana<br>• Malawi<br>• Mozambique<br>• Namibia<br>• Tanzania<br>• Zambia<br>• Zimbabwe | To be developed | To be developed through the STAP initiative of NEPAD | Cooperative Mechanisms:<br><br>• Framework through SADC Protocol on Shared Watercourse Systems<br>• Bilateral cooperation between Zambia and Zimbabwe through the Zambezi River Authority (hydro-electric issues) | To be developed | Not yet established | • Past/ongoing studies: SADC Water Resource Database (WRD) |