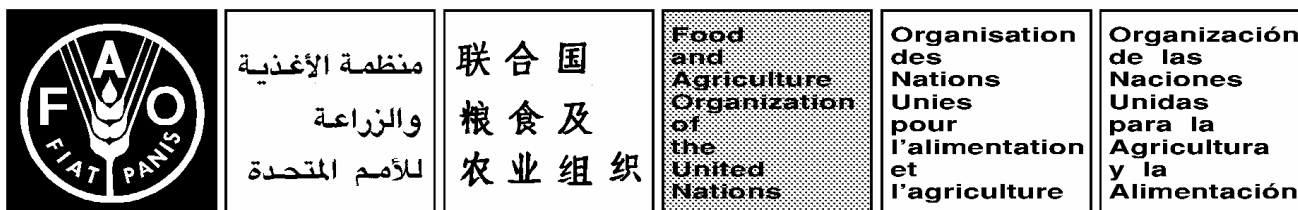


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COMMITTEE FOR INLAND FISHERIES OF AFRICA

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OPPORTUNITIES FOR AND REQUIREMENTS OF A NACA-LIKE MECHANISM IN AFRICA

INTRODUCTION

1. The 1999 Africa Regional Aquaculture Review (CIFA/OP24) evaluated 30 years of aquaculture developments efforts, using lessons learnt from these experiences to outline the key elements of a general aquaculture development strategy and to establish the foundation for a network of practitioners to facilitate information exchange. The Review concluded that there was a strong need for the support of information exchanges throughout the Region in research, development, training and extension. As part of the “way forward”, the Review recommended that collaboration, coordination and information exchange be prompted between national and regional aquaculture agencies and institutions.
2. The Second Session of the COFI Sub-Committee on Aquaculture (Trondheim, Norway, 7-11 August 2003) recommended that priority be given to, among others, the development of regional networking (FAO Fisheries Report No. 716, para 14). The Sub-Committee recognized the importance of the initiative to establish a NACA1-type organization in the Americas and that this could provide a model for increased uptake and cooperation in other regions (para 18). In this light, one of the top priority areas of work identified by the Sub-Committee was the promotion of regional network and cooperation (e.g., through NACA-like organizations).
3. In December, 2003, FAO sponsored a Mission to prepare a *Report on Africa Intergovernmental Aquaculture Networking Opportunities and Options*. The Mission visited Burkina Faso, Cameroon, Kenya and Zambia to assess networking needs and opportunities. The summary of the Mission Report is presented in Annex I.

1 NACA: the Network of Aquaculture Centers in Asia-Pacific

I. MAJOR CONCLUSIONS AND RECOMMENDATIONS OF THE MISSION

4. The Mission concluded:

- Aquaculture is recognised as promising means of increasing fish production to meet the fish consumption demand of the increasing population and reducing the pressure on capture fisheries, the majority of which are currently either exploited to the maximum or over-fished. Other benefits of aquaculture include: reducing poverty by providing employment, improving household income and rural livelihoods, enhancing food and nutritional security, providing sources of protein, fatty acids and micronutrients, as well as generating foreign exchange earnings through export of high value farmed fish.
- The potential for aquaculture development exists in a variety of environments including rivers, lakes, dams and other water reservoirs, swamps and wetlands.
- The principal constraints to aquaculture development which have been noted by previous workers include: lack of quality seed, in quantity and constantly available to contribute to making aquaculture a profitable enterprise; lack of feed in quality and quantity; weak extension service and the very limited transfer of research results and technological innovation to fish farmers; lack of regular availability of relevant aquaculture information; lack of institutional arrangement in countries to foster national direction in fish culture development; lack of clear-cut aquaculture legislation and framework on which strategic aquaculture development plans can periodically be formulated.
- To a greater or lesser degree, the principal constraints listed above can all cost effectively be addressed through regional collaboration and networking in Africa as NACA has done for Asian countries.
- In contrasting African and Asian aquaculture, the main observations are that in Asia there is a long aquaculture tradition/history going back 2000 years; whereas in Africa aquaculture practice is not more than 50 years old, aquaculture is not widely spread, farmers are still in the process of accepting fish as a farm crop and they have very limited skills in aquaculture.
- The principal lessons from Asia for Africa in establishing an African Intergovernmental Aquaculture Network Organisation, similar to NACA include that regional collaboration and networking will:
 - (i) Eliminate duplication of efforts;
 - (ii) Facilitate technical information generation, packaging and dissemination together with technology transfer;
 - (iii) Pool together national resources and strengthen national systems.
 - (iv) Hasten widespread and coordinated aquaculture development;
 - (v) Ensure effective use of scarce resources and the sharing of benefits between members;
 - (vi) Better attract funding from development partners.
 - (vii) Maximise utilisation of all resources especially available training/research facilities and human expertise to achieve faster aquaculture growth;
 - (viii) Promote Technical Cooperation Among Developing Countries (TCDC).
- There is an overwhelming support from within the Region for the concept of establishing a Regional Intergovernmental Aquaculture Network Organization for Africa similar to NACA to facilitate and hasten aquaculture development. The aquaculture network is viewed as an effective vehicle for coordinating aquaculture technical information exchange, technology transfer, training and collaborative research in agreed priority aquaculture areas. Consequently the mission concluded that there is a need for initiatives to establish an African Regional Aquaculture Development Network.

5. The Mission recommended:

- While in the long term it is desired to have a single Intergovernmental Aquaculture Network Organization for the whole of Africa similar to NACA, this should be developed gradually. The process of developing the single network should start with an interim network option. The proposed interim network options include:
 - (i) Establishing a CIFA Subcommittee for Aquaculture with the FAO Regional Office for Africa providing the Secretariat. Membership would be open to all CIFA members. Funding would come from extra budgetary funds including member country or donor contributions.
 - (ii) Formation of a Committee for the Development of a Regional Aquaculture Network Organisation for Africa. Membership will be open to the first ten or more member countries, which sign a Memorandum of Understanding (MOU) to establish the Committee. Initially the development of the MOU could be coordinated by the CIFA Secretariat. After the MOU is signed member countries would have to agree on a host country and a Secretariat. Funding of the Secretariat should come from extrabudgetary funds including member country or donor contributions.
 - (iii) Establishment of Aquaculture units (Secretariat) within the existing sub regional Organisations. The proposal is to sensitise member countries of CIFA who are also members of existing sub regional Organisations like COMESA, ECOWAS, UEMOA, SADC to request their Organisations to establish aquaculture network units (Secretariats). Funding for such units will be provided in the budget of the sub-regional organisations. The sub-regional aquaculture units will collaborate with CIFA and the single Intergovernmental Organisation once finally established.
- The proposed Intergovernmental Aquaculture Organization for Africa (IGO) is for the whole of Africa and is to consist of a Secretariat and network centres to be selected from member countries. The IGO Secretariat will act as a clearinghouse for information collection and exchange and coordinate the network centres' agreed priority activities. The detailed functions will be contained in the constitution establishing the IGO once adopted by member countries.

6. In line with recommendations of the Mission, FAO distributed a survey to CIFA Member Countries to solicit their views on the establishment of an African Aquaculture Network. The replies of twelve Member Countries (approximately 30% of CIFA membership) are presented in Annex II.

II. ASSESSMENT OF THE NEED FOR AN AFRICAN AQUACULTURE NETWORK

7. In March, 2004, FAO and ICLARM organised a regional aquaculture workshop in Limbé, Cameroon. During this workshop, African participants discussed the way forward for aquaculture development in the Region and drafted the *Limbé Declaration* (Annex III). The group envisaged that aquaculture would “grow into an important pillar of development in many areas in the region.” However, they further recognised that, “to achieve this vision, the countries in the region need to work together to increase their knowledge base, exchange best practice experiences and speak with one voice in the global marketplace.” This “working together” is accomplished through networking.

8. Reviewing the survey results presented in Annex II, although aquaculture's component of total fish production was extremely modest, generally less than one percent, all countries stated that they possessed a higher aquaculture potential and that this level of contribution could be increased. In citing the top five constraints to achieving increased aquaculture production, 70% of respondents indicated inadequate extension, education and technology adoption were important limitations. Sixty percent of countries also included that information and data availability combined with accompanying weak research were other restraints.

9. Referring again to Annex II, all respondents supported the establishment of a regional network. In addition to endorsing the concept of an aquaculture network, 100% of the respondents felt that a major role of this network should be in facilitating the sharing of aquaculture-related information; 60% of countries declaring that access to information would be the greatest advantage of a network. Eighty percent of those replying also felt the proposed network should play an important part in assisting with technology transfer. Furthermore, 70% indicated that a network should aid in linking aquaculture institution in the Region and 60% saw a role for networking as assisting in collaborative research.

10. While there is considerable support expressed for an African Aquaculture Network, and there is certainly a corresponding understanding that such a network would have cost implications, only 60% of countries replying to the survey indicated they would be able to second staff to such a network and only 50% stipulated they would be able to provide some financial support. The difficulties in supporting networking are perhaps reflected by the fact that only approximately one-third of countries had some form of national aquaculture networking in place.

11. The promotion of regional networking is not new. In 1993, the *Second Session of the CIFA Working Party on Aquaculture* (CIFA Technical Paper 23) stressed the need for “direct access to past and up-to-date information”. The Working Party recommended regional centers for efficiently collecting, storing and disseminating information on regional and continental bases.

12. One output of the 1993 Working Party was the identification of regional themes which could serve as the nuclei of networks. One such theme was Integrated Irrigation/Aquaculture. In 1999, FAO organized a workshop to elaborate a Proposal for an African Network on Integrated Irrigation and Aquaculture. Although this proposal was prepared, including a list of participating national and international institutions (FAO, 2001), to date, resources have not been secured to be able to operationalise the network.

13. Growing acknowledgement of the importance of aquaculture in the Region offers opportunities to mobilize human and financial resources to redefine developmental approaches to the sub-sector, relying on lessons learnt from the past three decades to orient our future action. Networking should be a part of these new approaches, not only for the reasons of collaboration and exchange, but also because the economies of scale for some key activities are such that a regional approach is more efficient. Yet, establishing a network requires commitment and resources.

III. PROPOSED TERMS OF REFERENCE FOR THE NETWORK

14. The Mission evaluating networking proposed the framework within which such a network should take place. While specific Terms of Reference cannot be elaborated until such a time as the structure of the network is identified, the Mission’s proposals can be considered as the general context within which a network should be developed. The Mission suggested that the essential elements for a successful Aquaculture Intergovernmental Organisation for Africa include:

- (i) Political will and commitment of member countries to support the Network Organisation through sustainable core funding, secondment of staff/experts to the Secretariat of the Network Organisation and sensitising national institutions to participate in activities of the Network Organisation.
- (ii) Clear strategic objectives with realistic targets acceptable to all members.
- (iii) External support for start up and systematic/phased formation and execution of the network activities.
- (iv) Overcoming language and communication/ infrastructure barriers between countries around the continent to achieve faster interaction and networking.
- (v) Sustainable national funding for aquaculture development.

- (vi) Balanced membership. No member should be seen to dominate. There has to be fairness in allocating responsibilities and resources to members.
- (vii) Availability of adequate and sustainable financial resources;
- (viii) Accrued benefits to members like development of skills through specific network organised training or other outputs of the intergovernmental organisation.
- (ix) Motivation of members through regular transfer of technology, exchange of information and regular communication.
- (x) Appropriateness and readiness to facilitate transfer of established technologies from outside.
- (xi) The coordinating Secretariat has to be small and efficient.
- (xii) There has to be transparency in its functions
- (xiii) Use of existing Institutions would enable networking to start immediately based on their experience and available communication facilities and infrastructure

IV. FINANCIAL AND BUDGETARY REQUIREMENTS

15. The establishment of an Aquaculture Intergovernmental Organisation for Africa has administrative and financial implications for the Secretariat and for the governments participating in the work of such a structure.

16. For the Secretariat, the convening and servicing of sessions, as well as the preparation, processing and distribution of documentation and follow-up work, will involve staff time, travel costs and possible contractual services. In assumption of CIFA Sub-Committee to be established would serve as the *ad interim* Secretariat before the formation of an inter-governmental regional aquaculture network organisation for Africa, depending on the specific activities undertaken, it is estimated that approximately three person/months per year of professional staff time and an equal amount of general service staff time would be required.

17. Moreover, the direct costs for meeting sessions of the proposed CIFA Sub-Committee or an inter-governmental regional aquaculture network organisation for Africa include documentation, translation, and interpretation. Indicative costs for simultaneous interpretation and document translation into two languages are approximately US\$ 35,000. If documents are available for translation well in advance of the required date, translation fees can be substantially reduced. Costs of meeting facilities and staff time are omitted from these considerations as they will change depending on venue.

18. For participating governments and observers the additional financial obligations consist mainly of provision of information, and direct participation in meetings.

V. SUGGESTED ACTION BY THE COMMITTEE

19. The Committee is invited to advise on the establishment of an Aquaculture Intergovernmental Organisation; supporting or rejecting the conclusions and recommendations of the Mission Report.

20. In the event that the Committee endorses the establishment of a network, it is also invited to take note of the options for an Aquaculture Intergovernmental Organisation as proposed by the Mission and recommend the structure most suitable to fulfil the Committee's requirements.

21. Finally, the Committee is invited to make recommendations as to how to support such a network in financial and human terms.

Annex I

Summary of Mission Report

- 1.1 The report is an output of an FAO Aquaculture Mission to Burkina FASO (West Africa); Cameroon (Central Africa); Kenya (East Africa) and Zambia (Southern Africa) to assess the status of aquaculture development networking; the principal constraints; constraints which can be

resolved with cost effectiveness through regional networking arrangements; contrasting Asian and African aquaculture development experience and providing options for establishing an Intergovernmental Aquaculture Organisation for Africa similar to the Networking of Aquaculture centres for Asia and the Pacific (NACA). The Executive Summary provides the main highlights in the report.

- 1.2 Aquaculture is recognised as a more assured means of increasing fish production to meet the fish consumption demand of the increasing population and reducing the pressure on capture fisheries, the majority of which are currently either exploited to the maximum or over-fished. The other benefits of aquaculture include: reducing poverty by providing employment, improving household income and rural livelihoods, enhancing food and nutritional security, providing sources of protein, and generating foreign exchange earnings through export of high value farm fish.
- 1.3 The potential for aquaculture development exists in the form of the systems of many rivers, lakes, dams and other water reservoirs, swamps and wetlands. Tilapia is the main culture fish species. The fish is mainly cultured in small ponds, which are poorly managed and have very low productivity.
- 1.4 The Governments recognise the socio-economic importance of aquaculture, initiating measures to develop and adopt aquaculture policies, strategic plans as well as enabling legislation and environments to ensure application of responsible aquaculture practices.
- 1.5 The Principal constraints to aquaculture development which have been noted by previous workers include:
 - Lack of quality fingerlings for farmers, in quantity and constantly available to contribute to making fish culture an enterprise;
 - Lack of feed in quality and quantity;
 - Weak extension service and the very limited transfer of research results and technological innovation to fish farmers.
 - Limited number of fish species for regular culture;
 - Lack of regular availability of relevant aquaculture information;
 - Lack of institutional arrangement in countries to foster national direction in fish culture development;
 - Lack of clear-cut aquaculture legislation and framework on which strategic aquaculture development plans can periodically be formulated.
- 1.6 To a greater or lesser degree, the principal constraints listed above can all cost effectively be addressed through regional collaboration and networking in Africa as NACA has done for Asian countries.
- 1.7 In contrasting African and Asian aquaculture, the main observations are: that in Asia there is a long aquaculture tradition/history going back 2000 years; aquaculture is widely accepted; there are several approaches to aquaculture; there are several indigenous fish species for aquaculture and the farmers have very high skills in aquaculture. In Africa: aquaculture practice is not more than 50 years old; aquaculture is not widely spread; only pond fish culture is practiced; few fish species are cultured; farmers are still in the process of accepting fish as a farm crop and they have very limited skills in aquaculture.

- 1.8 It is worthy noting that the major advances which have made Asia alone the producer of over 90 per cent of the world's aquaculture current production occurred within the past 20 years. This is the period the countries have been collaborating and networking through NACA.
- 1.9 The principal lessons from Asia for Africa in establishing an African Intergovernmental Aquaculture Network Organisation, similar to NACA include the situations that regional collaboration and networking will:
- (ix) Eliminate duplication of efforts;
 - (x) Facilitate technical information generation, packaging and dissemination together with technology transfer;
 - (xi) Pool together national resources and strengthen national systems.
 - (xii) Hasten wide spread and coordinated aquaculture development;
 - (xiii) Ensure effective use of scarce resources and the sharing of benefits between members;
 - (xiv) Better attract funding from development partners.
 - (xv) Maximise utilisation of all resources especially available training/research facilities and human expertise to achieve faster aquaculture growth;
 - (xvi) Promote Technical Cooperation Among Developing Countries (TCDC).
- 1.10 While Asia as a whole provides the above lessons Bangladesh and China have skills, experiences which are relevant and can be borrowed immediately to promote and develop aquaculture in Africa.
- 1.11 There is an overwhelming support for the concept of establishing a Regional Intergovernmental Aquaculture Network Organization for Africa similar to NACA to facilitate and hasten aquaculture development. The aquaculture network is viewed as an effective vehicle for coordinating aquaculture technical information exchange, technology transfer, training and collaborative research in agreed priority aquaculture areas. Consequently the mission submits that initiatives to establish an African Region aquaculture development network be made.
- 1.12 Finally the mission is of the view that while in the long term it is desired to have a single Intergovernmental Aquaculture Network Organization for the whole of Africa similar to NACA, this should be developed gradually. The process of developing the single network should start with an interim network option. The proposed interim network options include:
- (iv) Establishing a CIFA Subcommittee for Aquaculture with the FAO regional Office for Africa providing the Secretariat. Membership would be open to all CIFA members. Funding would come from the FAO regular budget, extra budgetary funds or member country or donor contributions.
 - (v) Formation of a Committee for the Development of a regional aquaculture Network Organisation for Africa. Membership will be open to the first ten or more member countries, which sign a Memorandum of Understanding (MOU) to establish the Committee. Initially the development of the MOU could be coordinated by the CIFA Secretariat. After the MOU is signed member countries would have to agree on a host country and a Secretariat. Funding of the Secretariat should come from country contributions and donor support.
 - (vi) Establishment of Aquaculture units (Secretariat) within the existing sub regional Organisations. The proposal is to sensitise member countries of CIFA who are also members of existing sub regional Organisations like COMESA, ECOWAS, UEMOA, SADC to request their Organisations to establish aquaculture network units (Secretariats). Funding for such units will be provided in the budget of the sub-regional organisations. The sub-regional aquaculture units will collaborate with CIFA and the single Intergovernmental Organisation once finally established.

- 1.13 The proposed Intergovernmental Aquaculture Organization for Africa (IGO) is for the whole of Africa and is to consist of a Secretariat and network centres to be selected from member countries of the IGO. The IGO Secretariat will act as a clearinghouse for information collection and exchange and coordinate the network centres' agreed priority activities. The detailed functions will be contained in the constitution establishing the IGO once adopted by member countries.

Annex II Survey Results

Element	Kenya	Sierra Leone	Madagascar	Guinea	Mauritius
1 <i>Contribution by Aquaculture (%)</i>	1	< 1	7	< 1	< 1
2 <i>Can this be increased</i>	yes	yes	yes	yes	yes
3 <i>Existing development framework</i>	Being done	yes	yes	yes	yes
4 <i>Is there national aquacultuer networking</i>	no	no	Bing done	yes	no
5 <i>Five top constraints</i>					
(i)	seed	funding	credit	professional organisations	cost
(ii)	feed	extension	research	seed	freshwater
(iii)	extension	logistics	extension	personnel	competition
(iv)	records	profit	species	species	markets
(v)	credit	knowledge	capacity	information	feed
6 <i>Three top activities</i>					
(i)	hatchery rehabilitation	community ponds	shrimp culture industrial tilapia farming	fish farming extension	cages
(ii)	capacity building	extension	shrimp culture	shrimp culture	public hatchery
(iii)	extension	oyster culture	Machrobrachium	***	restocking
7 <i>Support Regional Network for Aquaculture</i>	yes	yes	yes	yes	yes
8 <i>The Network joining aquacultrue institutions</i>	yes	yes	yes	yes	no
9 <i>The Network assisting collaborative research</i>	yes	yes	no	no	no
10 <i>Also assisting with technology transfer</i>	yes	yes	yes	no	no
11 <i>And providing information sharing</i>	yes	yes	yes	yes	yes
12 <i>Would you provide financial support</i>	yes	yes	??	probably	unsure
13 <i>Would you second personnel to the Network</i>	yes	yes	??	probably	yes
14 <i>What is seen as the greatest advantage of the Network</i>	Access to information and improved research	Technology transfer & research	Information	Information	Technology development

Annex III

Limbé Declaration

A consensus statement by delegates to the FAO/WorldFish Workshop on Small-scale Aquaculture, 23-26 March 2004, Limbe, Cameroon

Aquaculture development in sub-Saharan Africa is at a crossroads. Burgeoning population growth and declining natural sources of fish make it imperative that aquaculture make as substantial contribution to continental fish supply as possible. The region is the only one in the world where per capita fish consumption is declining and is projected to decline further. Reasons for this situation include: civil conflict, weak management structures, low levels of investment in rural economies, and lack of economic growth. At the same time, however, new opportunities exist that brighten the prospects for aquaculture development.

In many countries, policies of privatisation and decentralization provide incentives for increased investments in the sector from private and public sources as domestic markets, especially in urban areas, become more accessible and trade expands. At the global level, the ever-growing demand for fish has created opportunities for export-oriented aquaculture production. The challenge today is to make use of these opportunities for the sustainable development of aquaculture in the region. There is a need for a type of development that contributes to national food security and poverty reduction objectives and pays attention to the scope for expansion that the nature resource base allows.

Sub-Saharan Africa must, therefore, make a choice, either for “business as usual” and things continue as they are, and people live with the dire consequences, or it is “time to make hard choices”, institute relevant policies and strategies, bring aquaculture into the formal cash economy and stem the tide that is undermining aquaculture’s future. To this effect, many governments, cooperating partners as well as bilateral and multilateral development agencies are developing a new strategy for aquaculture development in sub-Saharan Africa.

The meeting recognized a number of constraints to the development of aquaculture, which include seed and feed production, as well as inefficient extension and outreach. The delegates to the workshop further acknowledge that:

- Support to a knowledge development and delivery structure to provide essential assistance for aquaculture from government and those providing external aide requires convincing demonstrations of impact on national development priorities such as poverty reduction, food security, nutrition, HIV/AIDS and sustainable environmental management;
- Institutional stability and durability will be achieved through structures that rely first and foremost on private sector investments as well as on output-orientated and accountable use of public revenue which aims at enhancing sustainable development of aquaculture; and
- Public/private partnerships between investors and knowledge delivery structures can facilitate sectoral growth by making available to farmers the highest quality technological, managerial and marketing information while public/civil society connections in such structures can help ensure the optimisation of public goods from the perspective of producers at all levels.

While appreciating the need to address the three major constraints identified (seed, feed, extension), the meeting called upon the governments and cooperating partners as well as research agencies to focus on the likely development impact of investment in these areas. In order to ensure optimum impact of the three development axes, there is a need to examine other areas, such as market development, access to capital and other policy issues that might be deemed relevant and equally important.

Furthermore, participants propose that SSA governments should seek to develop public/private partnerships within the growing number of aquaculture enterprises, by creating cost-effective financial and institutional arrangements that can compliment government and donor resources to deliver a limited number of critical research, advisory and technological services to high potential farmers.

Participants further pronounced that the approach to national aquaculture development, based upon the Cameroonian Strategic Framework for Aquaculture Development addresses the major constraints to expansion of the sub-sector in the region, facilitates the necessary public/private and public/civil society linkages as well as proposes mechanisms to maximize returns to the investment of both public and private sector resources.

While endorsing this approach as an appropriate tool to foster aquaculture development, participants noted that such strategic approaches can only achieve their expected goals when efforts make use of existing national strategies, master plans and investment plans for aquaculture development in order to harmonize, building synergies and eliminating redundancies. These efforts involve national partners and stakeholders, but also aquaculture producers, support services, local authorities and investors from the public and civil society sectors, cooperating partners (donors), international and multilateral organizations.

The meeting envisages that aquaculture in SSA will grow into an important pillar of development in many areas in the region. It will be able to provide high quality food for rural and urban consumers, generate employment and general commercial activities in otherwise impoverished local economies, and contribute to national wealth through increased revenue from markets and trade. In order to achieve this vision, the countries in the region need to work together to increase their knowledge base, exchange best practice experiences and speak with one voice in the global marketplace.