

**COMMITTEE FOR INLAND FISHERIES AND AQUACULTURE
FOR AFRICA**

Report of the

**FOURTH AQUACULTURE NETWORK FOR AFRICA (ANAF) ANNUAL
MEETING**

Entebbe, Uganda, 4–6 December 2012



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PREPARATION OF THIS DOCUMENT

This document is the final report of the Fourth Aquaculture Network for Africa (ANAF) Annual Meeting held from 4 to 6 December 2012 in Entebbe, Uganda. It was prepared by the Aquaculture Branch of the FAO Fisheries and Aquaculture Department as a part of its efforts to support ANAF and within the framework of the New Partnership for Africa's Development (NEPAD) FAO Fish Programme (NFFP).

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The papers contained in this work have been reproduced as submitted by the participants.

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Report of the Fourth Aquaculture Network for Africa (ANAF) Annual Meeting. Entebbe, Uganda, 4–6 December 2012.

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ABSTRACT

The goals of the Fourth Annual Meeting of the Aquaculture Network for Africa (ANAF) were to: (i) discuss the steps for the establishment and management of National Aquaculture Advisory Group (NAAG) and National Aquaculture Farmer Associations (NAFA) in ANAF member countries; (ii) adopt a strategy to turn ANAF into a functional intergovernmental organization; (iii) consolidate the ANAF website; and (iv) discuss and endorse the ANAF work plan for 2013.

The meeting was attended by the ANAF National Focal Points (NFPs) from 9 member countries, 2 international consultants, 2 representatives from the New Partnership for Africa's Development (NEPAD), a representative from ACP FISH II (Eastern Africa), a consultant from the FAO Regional Office for Africa and an FAO Aquaculture Officer. It consisted of two presentations by the international consultants, presentations by the NFPs, half-a-day of discussions held among three established task forces and a final round table discussion for the preparation of the work plan and adoption of the report.

The first presentation focused on the findings of the consultant's report entitled "The role of aquaculture advisory groups and aquaculture farmer organizations: lessons learnt from Zambia and Uganda and guidelines for developing aquaculture farmer organizations". Based on the lessons learned, practical guidelines that ANAF countries could adopt to facilitate the development of aquaculture farmer organizations (AFOs) were drawn up. It was suggested that a regional technical cooperation programme could be developed to assess the status of AFOs in each ANAF country to provide recommendations on how governments might support them. The relevance of the lessons from Committee for Inland Fisheries and Aquaculture of Africa was highlighted, particularly the importance of obtaining the political commitment of member governments to ensure the viability of the intergovernmental organization (IGO). It is critical to communicate ANAF outcomes to ministerial authorities; the ongoing efforts at transforming ANAF into an IGO should be raised at FAO Regional Conferences and at the Conference of African Ministers of Fisheries and Aquaculture to obtain further guidance and involvement of the ministers in charge of fisheries and aquaculture.

The second presentation "Towards an aquaculture network for Africa (ANAF) inter governmental organization (IGO): small steps for the final leap", provided conceptual and operational guidelines for the ANAF member countries to make decisions on how to proceed with the transformation of the network into a functional IGO. It was also highlighted that NFPs should play a more active role at the national level to promote the outcomes of ANAF and to obtain more support from governments. It was further suggested that the involvement of the aquaculture private sector and the consolidation of the ANAF website should be considered as the two key priorities to convince governments as to the utility of the ANAF Network. The participants unanimously agreed on further actions to advance the transformation process.

Participants formed three task forces composed of the ANAF members to: (i) develop a shortlist of prospective host governments and a schedule of government contributions; (ii) draft a three-year work programme for ANAF; and (iii) discuss the drafting of the Agreement and other legal instruments for ANAF membership. The task forces elaborated their terms of references and agreed to prepare reports of their work. Collectively, the reports will describe the measures that ANAF member countries will take to turn ANAF into an IGO. The reports will be presented and finalized at the Fifth ANAF Annual Meeting, to be held in September in Dakar, Senegal.

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Abbreviations and acronyms

AAG	Aquaculture Advisory Group
ACP	African, Caribbean and Pacific
AFO	aquaculture farmer organization
ANA	Agence nationale d'aquaculture (Senegal)
ANAF	Aquaculture Network for Africa
AU	African Union
CAADP	Comprehensive African Agriculture Development Programme
CAMFA	Conference of African Ministers of Fisheries and Aquaculture
CASK	Commercial Aquaculture Society of Kenya
CIFAA	Committee for Inland Fisheries and Aquaculture of Africa
DAFF	Department of Agriculture, Forestry and Fisheries (South Africa)
EDF	European Development Fund
GDP	gross domestic product
GIS	geographic information system
IGO	intergovernmental organization
INAQUA	Instituto Nacional de Desenvolvimiento de Aquacultura
KEBS	Kenya Bureau of Standards
KWS	Kenya Wildlife Service
LVFO	Lake Victoria Fisheries Organization
NAAG	National Aquaculture Advisory Group
NAAZ	National Aquaculture Associations of Zambia
NACA	Network of Aquaculture Centres in Asia-Pacific
NAFA	National Aquaculture Farmer Association
NAIP	Compact National Aquaculture Investment Plan
NALO	National Aquaculture Legislation Overview
NAP	National Aquaculture Policy
NASF	National Aquaculture Strategic Framework (NASF)
NASO	National Aquaculture Sector Overview
NEMA	National Environment Management Authority (Kenya)
NEPAD	New Partnership for Africa's Development
NFP	National Focal Point
PPP	public-private partnership
SARNISSA	Sustainable Aquaculture Research Networks in sub-Saharan Africa
TOR	Terms of Reference
USDA	United States Department of Agriculture

INTRODUCTION

1. The Fourth Aquaculture Network for Africa (ANAF) Annual Meeting was held at the Central Inn Hotel in Entebbe, Uganda, from 4 to 6 December 2012. The meeting was attended by the ANAF National Focal Points (NFPs) of Ghana, Kenya, Mozambique, Nigeria, Senegal, South Africa, Uganda, the United Republic of Tanzania, and Zambia, two representatives from the New Partnership for Africa's Development (NEPAD), a representative from ACP FISH II (Eastern Africa), a consultant from the FAO Regional Office for Africa, two international consultants, and an FAO Aquaculture Officer. The list of participants is given in Appendix 1.

2. The purposes of the meeting were to: (i) describe the steps for the establishment and management of the National Aquaculture Advisory Groups (NAAGs) and the National Aquaculture Farmer Associations (NAFAs) in ANAF Member Countries; (ii) adopt a strategy and plan to turn ANAF into a functional intergovernmental organization (IGO); (iii) consolidate the ANAF website; and (iv) discuss and endorse the ANAF work plan for 2013.

Opening of the session

3. In his opening remarks, the FAO Representative in Uganda, Mr Alhaji Jallow, provided a brief background on the main events and achievements of ANAF, highlighting the support provided by FAO since the establishment of the network. The meeting was officially opened by the Honourable Minister of Fisheries, Ms Ruth Nankabirwa, who welcomed the participants and underlined the importance of the activities of ANAF for supporting the sustainable development of aquaculture in the region.

4. The Minister said that in the region, and particularly in Uganda, fish as a commodity had been marginalized in the past, but that the growing demand for fish, due to its high nutritive value, had raised its importance. She informed participants that Uganda had a national aquaculture development plan in place that was aligned with the national agriculture investment plan. She concluded by saying that fish had recently been included among the ten most important commodities in Uganda and that the government encouraged and supported the youth who wish to initiate aquaculture activities.

Adoption of the agenda

5. The agenda of the meeting was adopted with no amendment. Mr Kofi Abban, a delegate from Ghana was unanimously elected Chair of the meeting. The adopted agenda is given in Appendix 2.

Report of the intersessional activities since the previous ANAF Annual Meeting

6. Mr Valerio Crespi (FAO Aquaculture Officer) presented ANAF's achievements since the third ANAF Annual Meeting, held in Mombasa, Kenya, from 9 to 12 August 2011. These achievements can be summarized as follows. One technical meeting and training session on the ANAF website, particularly on data collection and dissemination tools, were organized in Jinja, Uganda, from 22 to 25 November 2011. The ANAF NFPs were trained on the ANAF website (data entry and retrieval), as well as on spatial tools used for aquaculture planning and management. At the end of the meeting, a work plan for 2012 was developed and endorsed by the participants.

Report on the "Role of National Aquaculture Advisory Group (NAAG) and National Aquaculture Farmer Organization (NAFO): some lessons learnt from Zambia and Uganda's experiences" and guidelines on establishment, management and capacity building of NAAGs and NAFAs in ANAF member countries

7. Ms Laila Kassam (international consultant) presented the findings of her consultancy report entitled "The role of aquaculture advisory groups and aquaculture farmer organizations: lessons learnt from Zambia and Uganda and guidelines for developing aquaculture farmer organizations". (Full report is enclosed in Appendix 3).

8. The first presentation looked at the role, activities, strengths, weaknesses and ways of reinforcing the Aquaculture Advisory Group (AAG) in Zambia. The role of the AAG is to advise the Minister of

Agriculture through the Department of Fisheries on strategies to develop the aquaculture sector by involving all players at the national and subnational levels. The AAG was found to have been effective in influencing the Government and had undertaken several environment-related activities. The key strengths identified were related to the AAG's varied and committed membership. The main weaknesses were the AAG's lack of legal status and financing. Suggestions for strengthening the AAG included: ensuring that it has a clear legal mandate from the Government; increasing financial support; strengthening the secretariat; and expanding the AAG's representation at the subnational level.

The experience of the aquaculture farmer organizations (AFOs) in Uganda was then presented, using the Walimi Fish Cooperative Society as a case study. The strengths and weaknesses of the cooperative were analysed followed by key lessons learned, including the need for: a strong and an accountable leadership; identifying and addressing common problems and providing demand-driven services; ensuring financial sustainability; strengthening technical and managerial capacity; maintaining slow but steady growth; being farmer initiated; and establishing external partnerships.

9. The importance of having both AAGs and AFOs was emphasized. The second presentation built on the lessons learned to provide simple and practical guidelines that ANAF countries can follow to facilitate the development of AFOs. A key point was the need to ensure certain minimum conditions, such as a favourable legal framework, for AFOs to operate successfully. It was also noted that AFOs that were farmer-initiated rather than established by government or external organizations were more likely to be successful. A set of guidelines to establish AFOs was presented. Finally, key areas were identified where the government could support AFOs to build their capacity in managing and implementing activities and to ensure the provision of an enabling environment. It was then suggested that an in-depth analysis of the situation to understand the status and capacity of existing AFOs along with the context in which they operate was necessary before deciding on specific measures to support AFOs.

Discussion on AAGs

10. The plenary discussion on AAGs related mainly to their legal status and composition. Questions arose on how AAGs should proceed if governments were not willing to give them legal status. It was suggested that AAGs could still go ahead and conduct activities even without formal legal status, such as Zambia's AAG had done, as long as it had formed and had the tacit support of the minister and the department of fisheries. It was noted that a strong national AFO would be helpful to lobby the Government for legal status for the AAG in such cases. It was asked whether an alternative to an AAG could be a semi-autonomous development agency such as the Dairy Development Agency in Uganda. This raised the issue of whether AAGs should be just advisory groups, whose recommendations could be easily ignored, or more autonomous institutions that could implement activities. While it was argued that governments were unlikely to make AAGs institutions that implemented activities in parallel to government, it was pointed out that there were many types of institutions related to fisheries, for example, the Beach Management Units in East Africa and the Fisheries Commission in Ghana, whose composition is written in law. The Fisheries Commission in Ghana is the equivalent of the Departments of Fisheries in various African countries. Its establishment, composition, structure and operation are described/stipulated by the Constitution of Ghana. It was also noted that the AAGs had different compositions in different countries. For example, in Ghana, the AAG is composed entirely of private-sector stakeholders. Some felt that AAGs should be legally institutionalized with rules for composition and operation. The question was also raised whether countries needed to have AAGs or if other types of institutional structures were needed. Participants agreed that these issues required further reflection and that, therefore, there was a need to look at the range of experiences of AAGs in the various ANAF countries in order to establish some regional guidelines on the best way to establish and manage AAGs, including their legal status and composition.

Discussion of AFOs

11. The participants broadly agreed with the AFO guidelines presented and it was noted that it was in the interest of government to support such organizations. Questions were related to where governments would obtain the resources to support AFOs. It was also pointed out that, often, governments themselves did not have the capacity in certain areas such as business management skills to build the capacity of AFOs in these areas. There is a need to have clear guidelines for governments in supporting AFOs. It was suggested that in order to help lower-level AFOs to develop, the government should help them link to

national farmers associations or unions that were already well established and could fund activities and lobby government on their behalf. It was agreed that it was preferable to work with existing AFOs, but that support should not only be given to those that were strong, but also to the weaker ones that might need more support. It was emphasized that there was no “one size fits all” strategy and that each country would require different interventions to support their AFOs. It was suggested that a regional technical cooperation programme could be developed for the assessment of the status of AFOs in each ANAF country to provide recommendations for ways that the government might support them.

Follow-up

Each ANAF NFP was asked to provide answers to the following questions for Ms Laila Kassam to review and incorporate into the consultancy report.

AAGs

1. What is the status of the AAG in each ANAF country?
2. Have these AAGs been driven by countries themselves or by FAO?
3. Do ANAF countries think they need AAGs?

AFOs

4. Which ANAF countries have AFOs?
5. Do Uganda’s experiences and the guidelines reflect your own experiences with AFOs?
6. How could the guidelines be improved?
7. How can we link AFOs and AAGs with ANAF?
8. What are the next steps?

Presentation of the Committee of Inland Fisheries and Aquaculture for Africa (CIFAA) review report and its implications for ANAF

12. Mr Sloans Chimatiro (NEPAD) presented the main findings and recommendations of the “Review of the Committee on Inland Fisheries and Aquaculture of Africa (CIFAA)” and its implications for ANAF. At its sixteenth session, CIFAA delegates had suggested that CIFAA’s role as a regional fishery body be re-examined and its performance improved. The request was a consequence of the increasingly poor attendance at CIFAA meetings to such a point where quorum was sometimes not reached. For several reasons, attendance at sessions has been sporadic, representation low and inconsistent, and characterized by a “high inactive members syndrome”. These have adversely affected the performance of the Committee. Therefore, the Committee created an ad hoc Working Group to make recommendations on the future role of CIFAA. FAO contracted two international experts on African aquaculture and fisheries to analyse the history and recent functioning of CIFAA. During the special meeting held on 26–27 March 2012 in Cape Town, South Africa, the findings and proposals of the report by the two experts on the future of CIFAA were discussed and reviewed. Representatives from 16 member countries of CIFAA attended the meeting.

13. Mr Sloans Chimatiro pointed out that, on the whole, the meeting had been useful in identifying the major constraints of CIFAA. In particular, factors that had negatively affected the performance of the Committee had been: the low and inconsistent participation and inadequate financial and technical resources; the insufficient collaboration between CIFAA and other regional and subregional bodies, stakeholders and the private sector in the continent; the absence of a strategic plan, mission/vision statement and medium-term plan on Inland Fisheries and Aquaculture; and the weaknesses in the institutional structure (statute and rules of procedure) of CIFAA.

14. Despite this weak performance, it was recognized that CIFAA had been useful in the development of inland fisheries and aquaculture in its member countries, and that it should not be abolished. The regional fishery body should be reformed to address its institutional deficiencies and weaknesses, increase its visibility and make it more relevant to the evolving scenario of Africa. More emphasis should be placed on defining the ownership of CIFAA, identifying sustainable financing sources, for example, through the adoption of a project-approach, provide CIFAA with a vision statement, strengthen its secretariat, reinforce

links between the secretariat and the members, and capitalize on linkages with, among others, the Conference of African Ministers of Fisheries and Aquaculture (CAMFA).

15. The relevance of the lessons from CIFAA was then highlighted, particularly the importance of obtaining the political commitment of member governments to ensure the viability of the IGO. It is critical to communicate the outcomes of ANAF to respective ministerial authorities; the ongoing efforts of transforming ANAF into an IGO should be raised at the future FAO Regional Conferences and at CAMFA to obtain further guidance and involvement of the ministers in charge of fisheries and aquaculture.

16. The ANAF NFPs recognized the importance of considering the above-mentioned lessons learned from CIFAA to avoid making the same mistakes and for strengthening the newly established ANAF-IGO.

Presentation of the discussion paper on the Aquaculture Network for Africa (ANAF) – Intergovernmental Organization (IGO) transformation process

17. The discussion paper entitled “Towards an Aquaculture Network for Africa (ANAF) Intergovernmental Organization (IGO): Small Steps for the Final Leap” was presented by Pedro Bueno (international consultant). The full report is given in Appendix 4.

18. The paper provided conceptual and operational guides for the ANAF member countries to make decisions on how to proceed with the transformation of the Network into a functional IGO recognized under the United Nations system. The review consists of three parts: the rationale and justifications for ANAF as an IGO; the building blocks that are necessary for the transformation of ANAF into an IGO; and the measures ANAF needs to take to attain IGO status.

19. The meeting discussed the issues associated with the plan to transform ANAF into an IGO. The first issue discussed was whether ANAF had to become an IGO and had the assets and capacities to become an IGO. The expressed opinions solicited from each ANAF country delegate indicated a broad and strong consensus that ANAF should be transformed into an IGO. A common response was that after almost six years of operation ANAF was ready to make the final step towards IGO status, which had been the original intent when it was established as a regional forum, so that it would be able to pursue more effectively its stated development goals.

20. The ANAF NFPs said the issues described in the discussion paper were clearly understood and agreed that the process would not be easy and quick, but had now to be initiated. They recognized that this was a similar process used when the Lake Victoria Fisheries Organization (LVFO) had been established and stressed the importance of showing the benefits to governments of establishing the ANAF IGO. It was also highlighted that a more active role should be played by the NFPs at the national level to promote the outcomes of ANAF and to obtain more support from the governments. It was then suggested that the involvement of the aquaculture private sector and the consolidation of the ANAF website should be considered as the two key priorities to convince the governments as to the utility of the ANAF Network. After discussions, participants unanimously agreed on further actions to be taken to proceed with the transformation process.

Measures to address

21. The NFPs identified the following measures to address: (i) identifying prospective host governments and developing a proposed schedule of mandatory contribution (or annual membership fee) of governments; (ii) developing a three-year ANAF work programme; and (iii) developing the ANAF Agreement and the other legal instruments, including rules of procedure, financial regulations, staff regulations and terms of employment.

Task forces

22. Three task forces composed of the ANAF members were formed to produce the above outputs: Task Force 1 will develop a shortlist of prospective host governments and a proposed schedule of government contributions; Task Force 2 will draft a three-year Work programme for ANAF; and Task

Force 3 will develop the ANAF Agreement and the other legal instruments with specific expert assistance from FAO's Aquaculture Service and Legal Department. FAO, CIFAA and NEPAD will provide technical advice in the study and development of the proposed measures.

The members who volunteered or were nominated to compose the three Task Forces are as follows:

Task force 1 – To identify prospective hosting governments and develop a proposed scheduled of government contributions

- Andrew Alio (Uganda), Emmanuel Aryee (Ghana), Mohammed Muazu (Nigeria), Diegane Ndong (Senegal), Beatrice Nyandat (Kenya), Youssouf Sanogo (Mali), and Belemane Semoli (South Africa).
- Chair: Emmanuel Aryee (Ghana).

Time frame: six months starting from January 2013; three months for mid-term report and three months for final report to be presented at the Fifth ANAF Annual Meeting (September 2013).

Task force 2 – Development of a three year ANAF Work Programme

- Ritha Maly (United Republic of Tanzania), Bondja Monique (Cameroon), Venantious Musonda (Zambia), Panduleni Elago (Namibia) and Isabel Omar (Mozambique).
- Chair: Venantious Musonda (Zambia).

Time frame: six months starting from January 2013; three months for mid-term report and three months for final report to be presented at the Fifth ANAF Annual Meeting (September 2013).

Task force 3 – Legal steps for ANAF to become an IGO

- FAO, NEPAD and ANAF member countries
- Chair: Patrice Talla (FAO Legal office)

Time frame: six months starting from January 2013; three months for mid-term report and three months for final report to be presented at the Fifth ANAF Annual Meeting (September 2013).

Task Forces 1 and 2 drafted their respective Terms of Reference (TORs). The draft TORs were presented in plenary for discussion and comments. The results are as follows:

Terms of reference of the three task forces

Task Force 1: To identify prospective host governments and develop a proposed schedule of government contributions

Outputs

1. A shortlist of three prospective host governments of ANAF headquarters.
2. A proposed schedule of government contributions (annual membership fee).

Rationale

The headquarters of ANAF is an essential facility. The Secretariat is one of three organic units of ANAF and performs the key functions of network coordinating and programme management. It also serves as the tangible public image of ANAF. Therefore, it is important that the Secretariat is properly provided with an office that befits the status of ANAF IGO. As with other regional organizations owned and operated by governments, the Secretariat is hosted by an ANAF member country.

Tasks for output 1: Prospective host governments

1. Develop a set of criteria for a suitable host country that includes, among others, working conditions, living conditions, facilities, convenience for travelling in and out, strategic location in the sub-Saharan Region and others.
2. Draft a list of proposed obligations of the host government.

3. Prepare a list of advantages/benefits to the host country of hosting the ANAF Secretariat.
4. Consult through their representatives in ANAF (NFPs) with all 12 member governments and assess their willingness and capacity to host the Secretariat headquarters.
5. Use the criteria in screening/assessing the suitability of prospective host governments.
6. Submit the shortlist of three governments with the description of their attributes in terms of hosting the Secretariat.

Tasks for output 2: Proposed schedule of government contributions

1. Develop a basis for setting the level of government contributions (annual mandatory).
 - Use indicators such as level of gross domestic product (GDP), contribution of fisheries and aquaculture to GDP, fish consumption level (per capita consumption), growth rate of fishery (use 2005 as base year).
2. Propose a floor and a ceiling level of contributions, taking into consideration the essential operational cost of the Secretariat.
3. Propose level and time frame of contribution for each government.
4. Propose a period for revision of level of contribution (such as every certain number of years), which shall be included as a provision in the ANAF Agreement.

The core fund of ANAF enables it to perform the essential coordinating, management and project development functions. The core fund is the combined mandatory contributions of members. The levels of contributions must be based on the principle of equity and the practicality of being sufficient to enable the Secretariat to perform effectively its duties and responsibilities.

Task Force 2: To draft the first regional work programme of ANAF

Outputs

1. Guidelines drafted for member States to follow when preparing national aquaculture work plans.
2. Medium (three years) and long-term (five years) activities related to ANAF objectives identified.
3. Commonalities and special issues identified from national work plans of member States.
4. ANAF work programme prepared within three to five years.

Rationale

The preparation of the ANAF regional work programme will take into account the member States' national priorities that are in conformity with the ANAF objectives so as to show the relevance or value addition of ANAF to national aquaculture development programmes.

The establishment of the ANAF Network is viewed as one of the most effective vehicles for coordinating aquaculture technical information exchange, technology transfer, training and collaborative research in agreed priority aquaculture areas among its members. ANAF will not simply be a conduit to members but a coordinating unit benefiting from economies of scale to address common existing and emerging issues.

The work programme will comprise two levels: the national work plans for 12 member countries, and the regional work programme of ANAF.

The purpose of devising the work programme is to establish a roadmap to meet the objectives of ANAF by member States so as to enhance harmonized collaboration in aquaculture development for sub-Saharan Africa.

Tasks to produce the outputs

1. Prepare guidelines for identifying lead national and regional institutions in regard to what has to be networked (the programme should bring up lead institutions).
2. Request all 12 ANAF member States to submit national aquaculture work plans showing medium-term (three years) and long-term (five years) activities. Define value addition to ANAF.
3. Identify commonalities and special issues and synthesize them in regard to the objectives of ANAF.
4. Consult member States for comments on the commonalities and special issues identified.
5. Update the synthesized report with the comments received from member States.
6. Prepare a draft regional aquaculture work programme for ANAF.

7. Circulate draft to members for final comments.
8. Present the regional work programme to ANAF members.
9. Discuss and finalize the work programme at the Fifth ANAF Annual Meeting (September 2013).

Task Force 3: To develop the ANAF Agreement and other legal instruments

FAO will provide the legal technical assistance for the development of the Agreement and other legal instruments. A relevant point in this regard is that the meeting adopted the proposed organizational structure developed by a CIFAA-commissioned study in 2008, subject to subsequent modifications as needed.

Outputs

1. The essential legal, administrative and technical documents to enable an IGO are produced.
2. A first draft of the ANAF agreement is prepared.

Rationale

The preparation of the ANAF Agreement represents the first legal step towards the official establishment of ANAF as an IGO. The Agreement should contain the main elements defining the scope and functions of the IGO including rights and obligations of ANAF member countries.

Tasks to produce the outputs

1. Analyse rules and procedures used by existing IGOs such as NACA in Asia-Pacific.
2. Identify essential legal, administrative and technical documents to be produced to enable an IGO.
3. Draft the ANAF Agreement, which should define the legal status of an IGO.
4. Guide the ANAF NFPs in the identification of necessary and desirable national documents needed to implement the ANAF-IGO transformation process.
5. Discuss and finalize the ANAF Agreement at the Fifth ANAF Annual Meeting (September 2013).

Time frame

The time frame for the work of the three established task forces was agreed as follows:

- The work period is six months from January to June 2013.
- The interim reports (mid-term reports) are drafted and circulated to all ANAF NFPs in the third month (March) for comments.
- The final draft to be finished in June.
- Finalization and endorsement during the Fifth ANAF Annual Meeting in September 2013.

Methodology

The meeting participants agreed to observe the following procedures:

- Consultations will be carried out through the ANAF NFPs and via e-mail correspondence.
- The comments on the three mid-term draft reports will also be done by e-mail correspondence.
- The task forces can co-opt members from other organizations to provide technical assistance.
- Specialist assistance will be provided by FAO, CIFAA and NEPAD. The specific assistance will be subsequently requested, but will include providing the needed advice, as well as technical comments on the interim reports and the drafts before the meeting to finalize the documents.
- A workshop to consolidate and finalize the outputs of the task forces has been provisionally scheduled for September 2013.

Status review of aquaculture development by country – presentation of updated FAO National Aquaculture Sector Overviews (NASOs), National Aquaculture Legislation Overviews (NALOs) and NASO maps for aquaculture inventory and monitoring by the ANAF NFPs

23. The ANAF NFPs attending the meeting presented brief country reports on issues of importance at the national level, progress made by members since the previous ANAF annual meeting and the status of preparation or updating of NASOs, NALOs and NASO maps.

24. The ANAF NFP from Senegal informed the meeting that the NASO of Senegal was under preparation and would be sent to FAO at the beginning of 2013. He also pointed out that all data for the ANAF online directories had been uploaded on the website. The NALO of Senegal had not been prepared because the new fisheries and aquaculture legislation, under preparation, had yet to be approved by the

parliament. He informed the meeting that a national aquaculture farmers association had recently been established by the farmers on their own initiative. As at the time of the meeting, there were two ongoing technical cooperation programmes on freshwater and brackish water aquaculture where different models had been developed to appreciate the profitability of tilapia fry hatcheries, tilapia juvenile nursing farms using the hapas system, and tilapia cages and earthen pond farms. These models were in a trial phase.

25. The Government, through the Ministry of Environment and Sustainable Development, was elaborating a biosecurity plan and guidelines of best aquaculture practices to be implemented at the national level. The ongoing study for the National Aquaculture Investment Plan, initiated by the Agency of National Aquaculture (ANA) within the framework of the Accelerated Growth Strategy (which depends on the Prime Minister), aimed at raising sufficient funds for aquaculture programmes through a donors' round table.

26. The ANAF NFP from Kenya mentioned that a National Aquaculture Policy (NAP) had been prepared and launched in June 2012. With the NAP 2012 in force, the next step was to develop aquaculture regulations. This would assist the regulatory body to know who the players were as well as ensure harmonization of all regulations that affect aquaculture development (e.g. National Environment Management Authority [NEMA], Water, and Kenya Wildlife Service [KWS]).

27. To address the challenge that farmers faced in accessing quality fish feeds, the government had provided 32 registered clusters with feed pelletizing machines to produce feeds in the rural areas (cottage industry). In addition to this, standards for fish feeds for different species had been developed in consultation with the Kenya Bureau of Standards (KEBS).

28. The government was encouraging farmers to form fish farmers associations not only for marketing purposes but also to strengthen their capacities to ensure sustainable management of their enterprises. In Kenya, there are several farmers associations that are legally registered, such as farmer groups, clusters, community-based organizations, aquaculture associations (district, regional, national), the Fish Farmers Company, and the Commercial Aquaculture Society of Kenya (CASK).

29. The ANAF NFP from the United Republic of Tanzania reported that for freshwater aquaculture there are about ten commercial fish farms engaged in tilapia culture with an average pond size of 600 m². Some of them produce and sell fingerlings to other farmers. The farms are in the Morogoro, Dar es Salaam, Mbeya and Kagera Regions. In addition, there are new centres for seed production at Mwamapuli and Nyemirembe. The expected fingerlings production for government hatcheries is 5 million for this financial year. Moreover, there are trials for cage culture of Nile tilapia (*Oreochromis niloticus*) in Shirati Bay in the Mara Region.

30. In marine aquaculture, most of activities are business-oriented. There are four concrete tanks at the centre for seed production at Mbegani in the coastal region. A building to hold the office and dry laboratory is under construction. The Fisheries Education and Training Agency has recently been established to promote fisheries and aquaculture. On the premises of the agency, there are 16 concrete tanks and 4 concrete ponds. One pond is for raising milkfish (*Chanos chanos*) broodstock. There is an ongoing research programme for culturing Wami tilapia (*Oreochromis urolepis*) at Pangani in the Tanga Region under the supervision of the Institute of Marine Science. With regard to shrimp aquaculture, annual production has increased from 250 tonnes to 300 tonnes for this year.

31. The ANAF NFP from South Africa reported that the NASO of South Africa had been prepared and submitted to FAO for revision. The document will be updated according to the inputs received. He told the meeting that South Africa was reviewing the current aquaculture legislation to ensure that both the marine and freshwater aquaculture sectors are managed and governed properly. The NALO of South Africa will be prepared once the new aquaculture legislation is in place. The Department of Agriculture, Forestry and Fisheries (DAFF) has completed a National Aquaculture Strategic Framework (NASF), which guides the development of aquaculture in the country.

32. He described the various forums and committees that have been put in place to involve and better communicate with aquaculture stakeholders, as follows:

- Aquaculture Intergovernmental Forum – a platform whereby all national departments that have a role in aquaculture management and development meet to plan and monitor implementation of the NASF.
- Provincial Aquaculture Intergovernmental Forum – a platform for the lead department (DAFF) to meet with provincial agriculture departments to discuss implementation programmes at local level.
- Aquaculture Value Chain Round Table – to foster collaborative industry–government action that helps to secure an enduring global advantage.
- Farmers associations – organizations comprising any voluntary grouping of economic (i.e. for profit) or non-economic (i.e. not for profit) actors that contribute directly or indirectly to the value chain of a specific aquaculture species extending from farm to final consumer.
- A number of advisory committees are in place to guide the implementation of the various programmes mentioned above.

33. The ANAF NFP from Zambia presented the main aquaculture activities at the national level. Investment in cage culture has increased in recent years; several large cage culture farms have been established in Lake Kariba, such as the private company Yalelo (8 000 tonnes of fish per year) and the Zimbabwean company Lake Harvest, which has extended its production activities to the Zambian side of the lake (30 000 tonnes of fish per year forecast for 2030). The national milling company is expanding its fish feed production capacity to respond better to the increasing demand for high-quality feed. The Government of Zambia is devoting more attention in terms of funds and institutional support for fisheries and aquaculture development. For example, several national training institutions have introduced aquaculture to train students; more research on improvement of indigenous species is taking place; business planning in aquaculture is being promoted; and a study is ongoing of ways to fund and strengthen the National Aquaculture Associations of Zambia (NAAZ).

34. The NASO and NALO of Zambia were prepared in 2003 and they should be now updated. The Government of Zambia is finalizing the new aquaculture regulations to improve the existing legislation. Aquaculture licensing procedures have recently been introduced for farmers producing more than 100 tonnes per year. Through its national extension agents, the Department of Fisheries undertakes the regular collection of structured aquaculture information for uploading into the ANAF directories.

35. The alternate ANAF NFP from Mozambique informed the meeting that the NALO of Mozambique had been prepared in 2012 with the assistance of the FAO Legal Office and that it was available on the Internet. With regard to the NASO map, the team from the Instituto Nacional de Desenvolvimento da Aquicultura (INAQUA) has collected information at the single fish-farm level and it is currently producing a report on this activity. In order to increase national aquaculture production, INAQUA is promoting the construction of 1 000 ponds in each of the 10 existing provinces. The Government of Mozambique has provided funds for the construction of the Aquaculture Development Centre in Chókwè. The centre is planned to become the national aquaculture centre for technology transfer.

36. The ANAF NFP from Ghana presented the main aquaculture activities during the past year. The Ghana Aquaculture Development Plan has been completed and is being published. The NASO map, showing locations of cages and ponds in the country, has been completed and is under validation. As part of establishing an aquaculture spatial unit in the Fisheries Commission of Ghana, 15 staff members from across the country participated in a two-week training course on geographic information systems (GIS) and its application to fisheries and aquaculture spatial planning. The GIS Analyser software has been purchased to equip the unit. A five-day training course for 13 private hatchery operators was conducted at the Aquaculture Research and Development Centre at Akosombo. A US\$53.8 million West African Fisheries Project financed by the World Bank has just taken off in Ghana. Aquaculture development is among the five components of the project. A sum of US\$8 million has been earmarked for the aquaculture component; US\$ 5 million of the amount will be used to support the development of small-scale aquaculture farmers into commercial farmers. Other activities under this component include: (i) identification of priority aquaculture areas with the provision of basic infrastructures such as access to the roads, electricity, etc.; (ii) undertaking of strategic environmental assessments in aquaculture priority areas; (iii) technical support to the Ghana Aquaculture Association, including needs assessment and institutional and administrative arrangements; and (iv) development and administration of aquaculture funds.

37. The ANAF NFP from Uganda said that aquaculture was growing rapidly in the country owing to the deep involvement both from the government and private sector and the continuing decline in fish catches from natural waters. The Government of Uganda is supporting aquaculture development through a series of initiatives, which include the preparation of the National Aquaculture Strategy and Development Plan with assistance from FAO Uganda. The Ministry of Fisheries is developing an Aquaculture Park Policy, which will include guidelines for the establishment of aquaculture parks for the promotion of the value chain approach in fish production. Through financial support from the African Development Bank, 4 regional fish fry centres and 20 private hatcheries are being rehabilitated in order to produce high-quality seed for local fish farmers. The fish feed processing company (Ugachick) considered the main supplier of fish feed for Ugandan fish farmers does not fully satisfy the national demand, and, therefore, some fish feed is imported from Mauritius.

38. The Government of Uganda, through the Ministry of Fisheries, has planned the following interventions to support the aquaculture sector:

- Identification and mapping of all potential and suitable sites for aquaculture development.
- Establishment of aquaculture parks in all high-potential areas for aquaculture as a rural aquaculture development strategy.
- Development of cage culture in lakes, communal water reservoirs and seasonal waterbodies to exploit the enormous water potential for fish production.
- Diversification of fish culture systems through capital incentives to intensive fish farming systems, including tank based culture, recirculation aquaculture systems, onshore systems and others.
- Increased public-private partnership (PPP) for fish feeds/seeds industry and aquaculture inputs supply development.
- Support to progressive small- to commercial-scale fish farms models.

39. The ANAF NFP from Nigeria presented the aquaculture programmes currently implemented in his country. The Ministry of Fisheries is completing a baseline fish farms survey for aquaculture data collection on a national scale. He mentioned that, under the Fish Farm Estate Development Programme, the Federal Government had provided a grant of NGN15 million (about US\$93.75 million) to 62 fish farmers to upgrade their facilities for increasing national fish production.

40. He informed the meeting that a total of 28 federally owned fish farms and hatcheries would be leased out to private fish farmers, corporate bodies and farmer groups through memoranda of understanding under PPP arrangements. A total of 24 fish cage culture demonstration centres were recently established by the government, in various parts of the country, to demonstrate the economic viability of fish cage culture to interested fish farmers for possible adoption and replication. The Federal Government has also established two new fish marketing centres to assist farmers in marketing their products and two new fish feed production centres in two suitable locations, to assist farmers in obtaining easier access to high-quality feed at a reasonable cost. The centres will be rented to farmer cooperative groups through a memorandum of understanding and under a PPP arrangement. The government is finalizing the national certification programme for fish farms, hatcheries and feed mills; the programme is in line with the FAO guidelines on aquaculture certification.

41. The FAO Technical Cooperation Programme on the Sustainable Aquaculture Farming Systems for Nigeria is ongoing, and FAO has approved a one-year extension. Meanwhile a five-year National Aquaculture Development Plan has been developed and approved by the Federal Government of Nigeria for immediate implementation. The NFP from Nigeria informed the meeting that domestic fish production had increased to 221 128 tonnes in Nigeria in 2011, thanks to the development of aquaculture.

ACP Fish II programme “Strengthening Fisheries Management in ACP Countries” activities/interventions in the Eastern Africa Region and possible support to ANAF

42. The ACP Fish II Regional Manager for Eastern Africa, Mr Koane Mindjimba, presented the programme, including its main features, objectives, components, institutional set-up, and management approach. He explained the avenues through which the programme could support ANAF. ACP Fish II is a four-and-a-half-year programme funded under the ninth European Development Fund (EDF) aiming at strengthening fisheries management in African, Caribbean and Pacific (ACP) countries. The programme

consists of five components, with the possible support to ANAF falling under the fifth component (increased knowledge sharing on management and trade). It is being managed under EDF rules and procedures in a decentralized manner through a Coordination Unit in Brussels and six Regional Facilitation Units, including four in Africa (Western Africa, Central Africa, Eastern Africa, and Southern Africa), one in the Caribbean, and one in the Pacific, covering 79 ACP countries. Programme interventions are carried out by mobilizing technical specialists and experts through service contracts following either competitive single tender or competitive negotiated procedures depending on the cost of the assignments. The purpose of the participation of the regional manager in this meeting was, therefore, not only to present the programme, but also to better understand ANAF's needs (ACP Fish II being a demand-driven programme), and, hence, define the type of support the programme could provide accordingly in view of alternative support the network is receiving from other donors such as FAO and NEPAD (thereby, building synergies and avoiding any duplication).

43. It was agreed that ANAF, with assistance from FAO, would develop the project proposals required by the ACP to provide the necessary assistance for developing and finalizing the outputs; with concept note proposals to be elaborated and submitted to ACP Fish II before 25 December 2012.

Background on post-Compact National Aquaculture Investment Plans (NAIPs) and the status of NAIP countries that have adopted the Comprehensive African Agriculture Development Programme (CAADP) process

44. Mr Sloans Chimatiro (NEPAD) presented the Comprehensive African Agriculture Development Programme (CAADP) process and its implication for African countries. He mentioned that the CAADP framework was considered the key driver for enhancing agricultural development and sustained economic growth in Africa, thereby, contributing to the eradication of poverty from the continent. To ensure that fish is reflected and accounted for in the national agricultural investment plans, it is critical that fish stakeholders engage in the CAADP process at the country level. The CAADP Country Implementation Process provides the crucial platform for this. He reminded the meeting of NEPAD's integration into the African Union (AU) structures as an agency. He added that through CAMFA, Africa's capacity to respond to improved fisheries and aquaculture reforms for increased regional integration, wealth creation and economic growth of the two sectors was being supported. During the CAMFA meeting, the potential of the fisheries and aquaculture sectors was recognized in achieving a 6 percent annual growth of the wider agriculture sector and the commitment by the member countries to allocate 10 percent of their national budget to agriculture, increasing the proportion allocated to fisheries and aquaculture. He listed the countries that have already identified fisheries as the key driver of the 6 percent CAADP growth target (Cape Verde, Ghana, Liberia and Sierra Leone).

45. At the end of his presentation, Mr Chimatiro provided some recommendations on strengthening the role of ANAF as a regional African network. In particular, ANAF NFPs should join the CAADP Country Process to ensure that aquaculture is reflected in national development plans; the ANAF network should build partnership with the Afri-FishNet (CAADP fisheries and aquaculture experts pool) to create a critical mass to influence the CAADP process; ANAF should provide the technical evidence on the contribution of aquaculture to the 6 percent annual growth target; and the private sector should be involved to help to leverage funding for post-Compact NAIPs.

46. The presentation was well received and the ANAF NFPs agreed to establish direct links to the NEPAD–CAADP portal on the ANAF website, and to post some more detailed information material on the CAADP process on the ANAF website to promote and stimulate member countries to include it in their NAIPs.

ANAF website: performance assessment and future development: *for discussion and recommendations*

47. Bright Onapito (Information Technology Consultant) presented the status of the ANAF website, highlighting the fact that although the website had been designed to apply the most up-to-date information technology and conceived to be as user friendly as possible, the system had yet to be adequately managed

and fully utilized in the region as an information sharing tool. ANAF members should ensure greater commitment in data collection, submission and information sharing for the collective benefit of the region and for the sustainable and competitive development of the aquaculture sector.

48. The NFPs presented the status of aquaculture data collection in their respective countries, indicating that data submission to the ANAF was carried out on a regular basis without any particular problem and through the assistance of the ANAF User Manual and the online data entry modules. However, it was noted that additional efforts should be made by all NFPs and the ANAF Regional Centre to revise aquaculture production statistics in order to ensure consistency with FAO aquaculture statistics. Poor communication, limited data entry and validation continue to be important issues affecting the performance of the system.

49. The meeting agreed to set a new deadline for the official launching of the ANAF information system in order for the NFPs to have more time for data entry and validation.

Programme of work for 2013

50. The NFPs discussed the ANAF work programme for the next intersessional period, taking into account the recommendations made during the meeting discussions. The ANAF work plan for 2013 is presented in the table below.

Activity	Responsibility	Time frame	Outputs
To identify prospective hosting governments and develop a proposed schedule of government contributions	Task force 1	June 2013	Comprehensive final report prepared and presented at the 5th ANAF annual meeting
Development of a three/five-year ANAF work programme	Task force 2	June 2013	Comprehensive final report prepared and presented at the 5th ANAF annual meeting
Development of the ANAF Agreement and other legal instruments needed by ANAF to become an IGO	Task force 3	June 2013	Comprehensive final report and first draft of the ANAF Agreement prepared
To elaborate regional guidelines for AFO based on national experiences on best practices (<i>funding permitting</i>)	FAO, NEPAD through an international consultant	September 2013	Regional guidelines for aquaculture farmer organizations (AFOs)
Complete the data entry in the ANAF website directories	National Focal Points	End of March 2013	Minimum set of records for each directory ensured
National Focal Points to verify the correctness of national data uploaded	National Focal Points in collaboration with ANAF Regional Centre	End of March 2013	Ensure the correctness of data stored in the directories of the ANAF website
Official launching of the ANAF website and promotion at the national, regional and international level	National Focal Points in collaboration with the ANAF Regional Centre and FAO	End of March 2013	The ANAF website running and promoted at the global, regional and national level
Preparation of the National Aquaculture Sector Overview (NASO) fact sheets for missing countries and updating the existing NASO	National Focal Points in collaboration with FAO	End of March 2013	Publish NASOs for all ANAF member countries on the FAO and ANAF web pages
Complete the NASO map submission form in MS-Excel; preparation of maps; printing and distribution of bilingual user manual	National Focal Points in collaboration with FAO	June 2013	Publication of NASO maps for all ANAF countries on the ANAF website and NASO maps website
Investigate first step of integration between ANAF and Sustainable Aquaculture Research Networks in sub-Saharan Africa (SARNISSA) (<i>not implemented since the previous ANAF meeting</i>)	SARNISSA IT Officer, ANAF IT Officer, FAO	End of March 2013	NEPAD and ANAF Regional Centre
Preparation of National Aquaculture Legislation Overview (NALO) for all ANAF member countries	National Focal Points FAO (FIRA–Legal Office)	June 2013	Publish NALOs for all ANAF member countries on the FAO and ANAF websites
Establish a new directory in ANAF on	National Focal Points	End of March	Dedicated pages for producer

Activity	Responsibility	Time frame	Outputs
aquaculture producer associations (<i>not implemented since the previous ANAF meeting</i>)	ANAF Regional Centre	2013	associations
Submission of one aquaculture success story per country using a standard template (<i>not implemented since the previous ANAF meeting</i>)	FAO, National Focal Points	End of March 2013	Aquaculture success stories advertised on the ANAF website
Follow-up with the United States Department of Agriculture (USDA) regarding setting realistic benchmark for African aquaculture programme	Ghana, Uganda, Nigeria, Kenya and ANAF Regional Centre	End of February 2013	Produce a comprehensive final report
Establish collaboration between ANAF and ACP Fish II	National Focal Points, FAO	End of December 2013	Organize the 5th ANAF Annual Meeting and provide funds for three international consultants
ANAF National Focal Points to integrate aquaculture in the national CAADP process	National Focal Points, FAO, NEPAD	June 2013	Progress report prepared and presented during the 5th ANAF Annual Meeting
One-day training session on collection of aquaculture statistics to be organized during next ANAF Annual Meeting	FAO, National Focal Points	September 2013	Training session delivered during the 5th ANAF Annual Meeting; NFPs trained

Date and place of the next ANAF Annual Meeting

51. Participants decided to hold the Fifth ANAF Annual Meeting in September 2013. The ANAF NFP from Senegal offered to host the next ANAF Annual Meeting in his country. The venue and date will be decided in due course.

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Provisional agenda and timetable

Tuesday, 4 December 2012

Morning: 08:30 hours

1. Opening of the Session
2. Adoption of the Agenda and arrangements for the Session
3. Report of the intersessional activities since the last ANAF annual meeting
4. Report of the “Role of National Aquaculture Advisory Group (NAAG) and National Aquaculture Farmer Associations (NAFA): some lessons learnt from Zambia and Uganda’s experiences”
5. Guidelines on establishment, management and capacity building of NAAGs and NAFAs in ANAF Member Countries: *for discussion and recommendations*

Afternoon: 14:00 hours

6. Presentation of the Committee of Inland Fisheries and Aquaculture for Africa (CIFAA) review report and its implications on ANAF
7. Presentation of the discussion paper on the Aquaculture Network for Africa (ANAF) – Intergovernmental Organization (IGO) transformation process: *for discussion and recommendations*
8. Procedures/guidelines for joining ANAF: *for discussion and recommendations*
9. Rules and procedures for ANAF running as an IGO

Wednesday, 5 December 2012

Morning: 09:00 hours

10. Status review of aquaculture development by country – Presentation of updated FAO National Aquaculture Sector Overviews (NASO), National Aquaculture Legislation Overview (NALO) and NASO maps for aquaculture inventory and monitoring by the ANAF National Focal Points
11. ACP Fish II programme “Strengthening Fisheries Management in ACP Countries” activities/interventions in the Eastern Africa Region and possible support to ANAF
12. Background on post-Compact National Aquaculture Investment Plan (NAIPs) and the status of NAIPs countries which have adopted the Comprehensive African Agriculture Development Programme CAADP process
13. ANAF website: performance assessment and future development: *for discussion and recommendations*

Afternoon: 14:00 hours

14. Current status and action needed for the future of ANAF
15. Programme of work and budget for 2013
16. Any other matters
17. Date and place of the next ANAF annual meeting

Thursday, 6 December 2012

Morning: Free

Afternoon: 14:00 hours

18. Adoption of the report

THE ROLE OF AQUACULTURE ADVISORY GROUPS AND AQUACULTURE FARMER ORGANIZATIONS:

**LESSONS LEARNT FROM ZAMBIA AND UGANDA AND
GUIDELINES FOR DEVELOPING
AQUACULTURE FARMER ORGANIZATIONS¹**

Prepared by
LAILA KASSAM

¹ I wish to acknowledge the assistance of Valerio Crespi, Joseph Mutale, Martin Chilala, Andrew Alio, Simon Owani Olok and Ben Kiddu in facilitating this assignment and the preparation of this report. My sincere thanks to all the fish farmers and key informants who provided me with first hand information in the field. Thanks also to the participants of the 4th Annual Aquaculture Network for Africa meeting in Entebbe, Uganda, from 4th-6th December 2012, for their valuable feedback on the draft report.

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Abbreviations and acronyms

AAG	Aquaculture Advisory Group
ACE	Area Cooperative Enterprise
AFO	Aquaculture Farmer Organization
AGM	Annual General Meeting
ANAF	Aquaculture Network for Africa
AquaFish CRSP	AquaFish Collaborative Research Program
BMPs	Best Management Practices
CBO	Community Based Organization
DFO	District Fisheries Officer
DFR	Department of Fisheries Resources
DoF	Department of Fisheries
DRC	Democratic Republic of Congo
EC	Executive Committee
EIA	Environmental Impact Assessment
EPB	Environmental Project Brief
FO	Farmer Organization
IEF	Interim Environment Fund
LEAD	Livelihoods and Enterprises for Agricultural Development
MAAIF	Ministry of Agriculture and Animal Industries and Fisheries
MAL	Ministry of Agriculture and Livestock
MAPA	Market Assessment and Profitability Analysis
MDFFA	Masaka District Fish Farmers' Association
NAADS	National Agriculture Advisory Service
NAAZ	National Aquaculture Association of Zambia
NAqS	National Aquaculture Strategy
NAS	National Aquaculture Strategy
NADP	National Aquaculture Development Plan
NEPAD	The New Partnership for Africa's Development
NFFP	NEPAD-FAO Fish Programme
NPCA	NEPAD's Planning and Coordination Agency
PPP	Public Private Partnership
RPO	Rural Producer Organization
SACCO	Saving and Credit Cooperative Society
SC	Subcommittee
SEA	Strategic Environmental Assessment
SYEA	Ssisa Youth Empowerment Association
UCA	Uganda Co-operative Alliance
UFFA	Uganda Fish Farmers Association
UFFCU	Uganda Fish Farmers' Cooperative Union
WAFICOS	Walimi Fish Cooperative Society
WAFIOSACCO	Walimi Fish Saving and Credit Cooperative Society
ZATAC	Zambia Agribusiness Technical Assistance Centre
ZEMA	Zambia Environmental Management Authority
WWF	World Wide Fund for Nature

1: Introduction

Within the framework of the NEPAD-FAO Fish Programme (NFFP), FAO and NEPAD's Planning and Coordination Agency (NPCA) are supporting sub-Saharan African (SSA) countries in sustainable aquaculture development. One of the means used is to help Aquaculture Network for Africa (ANAF) member countries to strengthen farmers' capacity to establish and manage their farms through increased access to information, inputs and output markets. One way of achieving this is to support member countries facilitate the establishment of Aquaculture Advisory Groups (AAGs) and Aquaculture Farmer Organizations (AFOs) such as cooperatives and associations. In a few countries such as Zambia, AAGs have been established². In others, such as Uganda, various types of AFOs already exist³. However, the status, performance and outcomes of these organizations are poorly documented. This paper contributes to filling this gap⁴.

The paper starts by discussing the AAG in Zambia and goes on to explore a range of AFOs that have developed in Uganda, using the Walimi Fish Cooperative Society (WAFICOS) as a case study. The role, structure, activities, outcomes, strengths and weaknesses of the AAG in Zambia and AFOs in Uganda are assessed, ways to strengthen the AAG are suggested and lessons learned from the experiences of AFOs in Uganda and Zambia are outlined. The lessons learned are used to provide a foundation for developing simple guidelines for ANAF member countries to facilitate the establishment, management and capacity building of AFOs.

2: The Aquaculture Advisory Group of Zambia

2.1: Background

While capture fish production accounts for 90 percent of fish consumption in Zambia, the balance comes from aquaculture and imports. Total aquaculture production in Zambia was estimated at 6,189 tonnes in 2008 and in 2007, Zambia imported 4,000 tonnes of fish (Department of Fisheries, 2010). Per capita fish consumption has reduced from 17 kg in 1974 to 6.2 kg in 2008. While aquaculture has the potential to reverse this trend, at present it is not achieving this potential as the aquaculture sector in Zambia is dominated by numerous subsistence pond farmers. It is estimated that there are over 12,000 of these non-commercial farmers in all parts of Zambia, whose production is characterised by small ponds and low-input low-output systems producing less than 1,600kg/ha/annum, harvested mainly for household use and relying largely on naturally available food and use of compost and manure for pond fertilisation (Department of Fisheries, 2010). Recent investments in commercial aquaculture, fish hatcheries, cages and ponds have improved productivity of aquaculture however not enough to change declining fish consumption. Cage culture on Lake Kariba holds great potential for the development of the aquaculture sector and to replace imports, however environmental considerations remain a challenge to the development of cage culture in Zambia.

In an effort to revitalise the aquaculture sector the National Aquaculture Strategy (NAqS) of Zambia was prepared by the Department of Fisheries (DoF) of the Ministry of Agriculture and Livestock (MAL) through consultations with public and private stakeholders, with funding and technical support from FAO, and launched in 2006. The strategy outlines ways of addressing important constraints to aquaculture development such as input supply and access to extension and markets with the overall objective of increasing income generation and alleviating poverty through aquaculture development and increasing foreign exchange through farmed fish exports (Department of Fisheries, 2004). The strategy focuses on small and medium scale aqua-businesses as drivers of growth of the sub-sector and recognises the importance of public private partnership (PPP). It outlines the roles of various stakeholders, explicitly calling for measures to promote the leadership role of industry and strengthening public sector facilitation of farmers and public, private, academic and civil society institutions. The Fisheries Act No. 22 of 2011 also reflects the importance placed on PPPs, and provides for the establishment of a permanent, multi-stakeholder committee to advise the government, known as the AAG.

² The status of AAGs in ANAF member countries is summarized in Annex 3.

³ The status of AFOs in ANAF member countries is summarized in Annex 4.

⁴ This paper is the outcome of fieldwork conducted in Zambia and Uganda between 8th and 19th October 2012. Key informant interviews were conducted with relevant stakeholders of the various aquaculture organizations (the AAG in Zambia and the various AFOs in Uganda and Zambia), listed in Annexes 1 and 2.

2.2: Role, mandate, composition and structure of the Aquaculture Advisory Group

The AAG was established by the DoF in April 2009. Its overall objective is to advise the Minister of Agriculture through the DoF in guiding efforts to develop the aquaculture sector by involving all players at national and sub-national levels. The AAG provides multi-stakeholder supervision and oversight for implementation of aquaculture development projects and programmes as required including the NAqS.

The specific tasks of the AAG, according to its Terms of Reference, are as follows:

1. Constitute a multi-stakeholder forum to provide oversight of the operationalisation of the NAqS and preparation and implementation of the NAqS action plan (National Aquaculture Development Plan) and the technical cooperation programmes and agreements
2. Receive and study periodic reports of the NAqS implementation process and make recommendations to partners
3. Provide interface for coordination between public, private and third sector inputs in the implementation of the NAqS
4. Afford a forum for multi-stakeholder monitoring and evaluation of the NAqS implementation plan
5. Encourage creation of locally based advisory boards to provide multi-stakeholder inputs to drive local aquaculture needs, address local challenges and provide a framework for national communication of local initiatives
6. Approve selected High Potential Zones (HPZ) for operation of commercial and non-commercial aquaculture
7. Recommend appropriate farming technologies for demonstration at approved HPZ demonstration sites
8. Review input availability, seed, feed, credit and markets for selected HPZ and demonstration sites and recommend measures to foster an enabling environment for aquaculture development
9. Promote awareness of development of industry and facilitate awareness raising meetings for commercial fish farmers and other stakeholders on aquaculture strategy
10. Approve the implementation plan for submission to the DoF
11. Provide oversight for mainstreaming of gender in aquaculture.

The AAG members were selected by FAO and DoF and a mandate was given by the Permanent Secretary of MAL. The AAG comprises of an elected Chair and Vice Chair, a secretariat residing with DoF, and 12 members representing a wide range of aquaculture stakeholders from the public, private and civil society sectors. While the AAG is a permanent committee, the members are appointed for a period of 5 years, however since its inception the original membership has changed and expanded and the current membership and resource institutions are as follows:

Members⁵

- | | |
|---|--------------------------------|
| 1. National Aquaculture Association of Zambia | Farmer organization |
| 2. KLM Ltd (Chair) | Chilanga Hatchery |
| 3. Kalimba Farm Ltd (Vice Chair) | Commercial Fish farm |
| 4. Lusaka Aquaculture Cooperative | Aquaculture Cooperative |
| 5. Zambia Agribusiness Technical Assistance Centre | Non-bank Financial Institution |
| 6. Zambia Environmental Management Authority (ZEMA) | Environmental regulator |
| 7. US Peace Corps | Extension Programme |
| 7. National Milling Ltd | Aquaculture feed producer |
| 8. Tiger Feeds Ltd | Aquaculture feed producer |
| 9. Savannah Streams | Hatchery |
| 10. Mr. Simutenda | Commercial Fish farmer |
| 11. Mrs. Gladys Pieterse | Potential cage culture farmer |
| 12. World Wide Fund for Nature (WWF) | NGO, nature conservation |
| 13. UN FAO (Observer) | Technical Cooperation Agency |
| 14. Department of Fisheries (Secretariat) | Livestock and Fisheries |

⁵ At present the most active AAG members are Kalimba Farm Ltd, Peace Corps, National Milling, WWF, the potential cage farmer, the Lusaka Aquaculture Cooperative, Zambia Agribusiness Technical Assistance Centre (ZATAC), DoF, and ZEMA.

The following are the resource institutions that AAG calls upon as and when needed:

Resource Institutions

1. Ministry of Lands – Estates Department
2. Water Board
3. National Institute for Industrial and Scientific Research
4. Ministry of Local Government
5. Financial institutions, Zambia National Commercial Bank, National Savings Bank, Indo Zambia Bank, Finance bank
6. University of Zambia TDAU and School of Agriculture
7. Citizens' Economic Empowerment Commission

The AAG has also formed three technical subcommittees (SC) as follows:

1. **Environment SC** chaired by ZEMA, focusing on legislation, research and development, technology and infrastructure with the objective of ensuring aquaculture is undertaken in a sustainable manner and that legislation relating to Aquaculture is harmonized
2. **Markets SC** chaired by Tiger Feeds, focusing on inputs, logistics and certification with the objective of ensuring that market information and inputs should be readily available to producers and consumers
3. **Services and finance SC** chaired by ZATAC, focusing on extension, outreach/education, networking, monitoring and evaluation, credit and capital, and information with the objective of promoting investment in aquaculture by ensuring access to information, capital, and credit.

At present the Environment SC is the only one functioning due to the many environmental issues requiring attention, and has had three meetings so far in 2012.

2.3: Activities and outputs of the Aquaculture Advisory Group

2.3.1: Development of the National Aquaculture Development Plan

The first main activity of the AAG was to provide oversight and coordinate the activities to prepare the National Aquaculture Development Plan (NADP), and support the DoF in drafting the document. The NADP, which identifies the ways and means to implement the principles of the NAqS, was elaborated by the AAG and drafted by a consultant in 2009. It is still in draft form however requiring revision along with the NAqS to incorporate the lessons learned from the pilot phase which is discussed below. The AAG is responsible for the overall implementation and periodic review of both the NAqS and NADP.

2.3.2. Review, implementation and oversight of 'Support to Zambian Aqua-Farmers' project

The AAG supported the DoF in drafting its 'Support to Zambian Aqua-Farmers' project which was also given technical assistance from FAO. The project aimed to test the NADP by piloting its recommendations in three 'clusters' or pilot sites. The AAG was responsible for overseeing the implementation of the project by the DoF which ran from October 2009 to September 2011. Most of the activities of the AAG to date have been related to the provision of oversight and guidance for the implementation of this project. As the project was supported by FAO, they also provided resources for the AAG's meetings therefore the regularity of meetings during this period was high (at least quarterly), however since the project ended and funding for AAG meetings is now the responsibility of the DoF, meetings have been less regular and so far in 2012 the full AAG has only met once.

2.3.3. Environment related activities

The AAG has focused heavily on environmental issues through the work of the environment SC. Environmental considerations such as requirements for fish farmers to conduct Environmental Impact Assessments (EIAs) are an important constraint to aquaculture development, especially cage culture in Lake Kariba, and thus a key area of focus of the AAG. The environment related activities and outputs of the AAG are outlined below.

2.3.4. Aquaculture Environment Support Project Proposal

The AAG's Environment SC, together with the 'Support to Zambian Aqua-Farmers' project consultant, successfully completed the 'Aquaculture Environment Support Project Proposal' document, a sister project to the 'Support to Zambian Aqua-Farmers' project. The proposal was submitted by the Director of

Fisheries to the Ministry of Tourism, Environment and Natural Resources through the Permanent Secretary (Ministry of Livestock and Fisheries Development). The proposal was then submitted for funding to the Interim Environment Fund (IEF) of DANIDA's Environment and Natural Resource Management and Mainstreaming Programme. Currently the Environment SC is in the process of revising the proposal in response to a number of concerns of the IEF in order for it to be resubmitted for further consideration.

2.3.5. Development of draft guidelines for Best Management Practices in aquaculture.

The AAG has drafted Best Management Practices (BMPs) for the aquaculture sector. BMPs are described by the draft fisheries regulations of 2007 as 'a code of conduct in implementing aquaculture production to ensure commercial viability, environmentally sound and product sustainability and safety assurance to the consumers of Aquaculture products'. They are self-regulating management codes and as negative environmental impacts directly affect farmers' own outputs, through BMPs farmers are encouraged to produce responsibly and internalise their environmental externalities.

2.3.6. Development of a Strategic Environmental Assessment

Under the current Environmental Impact Assessment Regulations (SI28) of 1997, fish farmers producing 100 tonnes of fish or more per annum have to conduct full EIAs. Those producing less than that are required to conduct a smaller scale EIA called an Environmental Project Brief (EPB). Both EIAs and EPBs are prohibitively costly for small scale farmers and represent an important constraint to aquaculture development in Zambia. The AAG has been working to remove the requirement of EPBs for small scale farmers.

The NADP highlights the strategic imperative for clustering new aquaculture activities to most suitable areas and plans to identify at least five sites for investments. Strategic Environmental Assessments (SEAs) of these priority aquaculture development zones done on behalf of small scale producers could be used to facilitate project level EIA by ruling out the need for individual EIAs and EPBs. Thus the AAG's Environment SC prepared a SEA for one of these five sites, part of Lake Kariba, which has been earmarked for small and medium scale cage culture development. The AAG and the former Director of ZEMA, a member of the AAG, had agreed that once the SEA had been conducted, guidelines would be developed and there would be an understanding between ZEMA and DoF that small scale fish farmers could proceed based on conditions developed between ZEMA and DoF and payment of EIA fees would be paid in agreed phases. However, before any official documentation was signed and the AAG could implement this agreement, there was a leadership change at ZEMA and the new Director has reverted to the original position that all potential fish farmers need individual EIAs or EPBs. The AAG is yet to consolidate its submission on the SEA as a basis for meeting the new ZEMA management.

2.3.7. Guidelines on the importation and management of alien species

The Environment SC has also prepared a proposal to obtain technical support for the DoF to develop guidelines on the importation and management of alien species.

2.4. Strengths of the Aquaculture Advisory Group

The AAG is a pioneering attempt at establishing a functional and sustainable PPP to develop Zambia's aquaculture sector. In many respects it has been successful in doing this due to a number of strengths outlined below.

2.4.1. Varied and committed membership

The membership of the AAG is varied and representative of the main players in the aquaculture sector at the national level. Non-commercial and commercial pond farmers, potential cage farmers, government agencies and regulators, NGOs, financial institutions and service and input suppliers are all represented. The AAG has been successful in bringing together these different stakeholders and increasing understanding between them. Overall the personal commitment and motivation of members is strong and even though the AAG is now in its third year, most members are still keen to participate. They take the AAG seriously and believe in the important role it has to play in helping industry to take the lead in driving the sector forward.

2.4.2. Strong networking between stakeholders

Due to its strong and varied membership base, the AAG is playing an important role in facilitating networking and information exchange between public, private and civil society stakeholders in the aquaculture sector which has not been done before. All AAG members interviewed noted that the AAG meetings have substantially increased understanding between stakeholders and AAG members have become colleagues with a shared vision and an understanding that problems need to be solved together. For example through the AAG financial institutions have been able to explain the challenges they face in lending to fish farmers while also better understanding the challenges of fish farmers. Through the AAG farmers have been able to give feedback to input suppliers for example farmers were able to advise feed producers that the size of their feed pellets was too big for their fish which was taken on board and one of the feed suppliers agreed to import new equipment to manufacture smaller pellets, something that is unlikely to have happened if farmers were to approach feed manufacturers individually, outside the forum of the AAG. Similarly many AAG members interviewed commented that environmental regulators are more understanding and approachable as a result of the AAG meetings. Another example of the benefits of the networking and sense of collegiality between stakeholders enabled by the AAG is seen in the way that ZATAC, an AAG member, agreed to develop business plans for farmers on a voluntary basis when they would normally charge for such a service, just because it was a member of the AAG. The AAG approached ZATAC to develop business plans for farmers in two clusters, cage culture farmers in Siavonga and pond farmers in Copperbelt, as the consultant responsible for developing these plans as part of the ‘Support to Zambia’s Aqua-farmers’ project had not delivered and there was no more funding. As a result ZATAC developed 26 business plans for fish farmers in Siavonga and 22 business plans in Copperbelt.

The AAG has also been successful at bringing non-members on board and getting the right experts to attend AAG meeting to discuss with them and share ideas. The AAG has been particularly good at getting private sector participation unlike other MAL committees which are mainly made up of government representatives. Thus strong private sector participation is in keeping with the principle of the NAqS that industry should be the driver of the sector. The strong and committed membership along with the networking it has enabled amongst stakeholders has also kept the aquaculture sector visible in Zambia.

2.4.3. Ability to influence government

The government has taken the AAG and its recommendations seriously. So far a number of AAG recommendations have been adopted by government for example the exemption of small scale farmers from paying aquaculture license fees and budget provisions for revision of the NAqS and NADP. All AAG members interviewed, including the DoF, felt that the AAG has been effective in advising government and has helped the government to improve its understanding of the aquaculture sector from the ground up.

2.5. Weaknesses of the Aquaculture Advisory Group

Despite the strengths of the AAG, there are some clear weaknesses which are hampering its ability to carry out its advisory and oversight responsibilities effectively.

2.5.1. Lack of formal mandate from government

While a multi-stakeholder advisory committee is mentioned in the Fisheries Act No. 22 of 2011, there are no regulations accompanying this act. Therefore there is no guidance on how the AAG should function and the AAG has no clear legal status or well defined structure or rules of operation. These need to be defined through Fisheries Regulations approved by Parliament and/or through a clear mandate from Cabinet through a Statutory Instrument. Even though the Permanent Secretary of MAL has endorsed the members of the AAG, without a clear and full mandate and legal status from government the AAG does not have the necessary authority to carry out its duties effectively. For example if the AAG had a clear legal status the finance subcommittee could source for funds to support the running of the AAG without any problems (see below).

2.5.2. Lack of funding

While AAG membership is voluntary, members need to be reimbursed transport expenses and ideally receive a work or lunch allowance. Originally the AAG was funded through the ‘Support to Zambia Aqua-farmers’ project supported by FAO. Since the project ended the AAG is reliant on DoF funds to pay members transportation fees. DoF funds have been unreliable so meetings have ceased to take place regularly, seriously compromising the effectiveness of the AAG. It is unclear how the AAG would be able

to raise its own funds without a clear legal status or mandate from government. Without a reliable source of funds the AAG is unsustainable and will not be effective.

2.5.3. Reduced effectiveness due to weaknesses in information dissemination, speed of action and coordination

Most AAG members interviewed highlighted the slow speed of AAG functioning and action due to a variety of reasons. Firstly, as already mentioned, the unreliable funding situation has meant that meetings are no longer taking place regularly. Secondly, the secretariat is currently held by the DoF, however a number of different DoF staff members are taking on this role which contributes to a lack of continuity and slow follow up from meetings. Many AAG members interviewed noted that the minutes are often late, of poor quality and not detailed enough and this was attributed partly to the fact that the secretariat is constantly changing along with a lack of capacity and coordination. The effect of poor quality minutes is that AAG decisions are then not implemented or taken forward as they are not recorded properly. For example, the last AAG meeting on the status of the National Aquaculture Association of Zambia (NAAZ) where decisions were taken but not adequately recorded, meant there has been no progress on this matter. Similarly the headway made with ZEMA on EIA issues noted above were also not adequately recorded which may have contributed to the fact that recent ZEMA legislation did not incorporate the understanding between the AAG and ZEMA and the fact that the new Director of ZEMA is not on board with the AAG's position on EPBs and EIAs for small scale farmers. AAG members interviewed felt there was a possibility that if action could have been taken on the EIA issue in a timely manner, the agreement with ZEMA could have been formalised before the new Director was appointed. Finally as the Secretariat is within government, the pace at which the AAG functions is reduced to the speed of government even when issues need urgent attention and the DoF is unable to coordinate meetings as quickly as the AAG requires. Due to this slow speed outstanding issues are not being resolved for example, the 'Support to Zambian Aquafarmers' project identified and formed a number of clusters and HPZs for aquaculture but since the project has ended nothing more has been done on them. Most AAG members interviewed felt the AAG should be driven by members themselves whereas at present meetings are decided by DoF due to their role as secretariat and also as they provide the funding. Further as the AAG is a government appointed committee with the overall objective of advising government, it is government through the DoF that ultimately calls the meetings as and when they feel the need to be advised. However, the functioning of the AAG and the calling of the meetings should be driven by the AAG members themselves.

2.5.4. Lack of leadership

Part of the reason the AAG meetings are being driven more by DoF than the AAG could be due to the lapses in legal provision for the AAG with no clear guidelines on its structure, functions and governance. It could also be due to the lack of leadership of the AAG as the Chairman stopped attending AAG meetings in 2011. The Vice Chair has been the acting Chair since then however a new Chair needs to be elected to strengthen the leadership of the AAG.

2.5.5. Lack of clear role

Some AAG members are unclear about the role of the AAG. Many of those interviewed felt the AAG was too focused on implementing the 'Support to Zambian Aqua-farmers' project and now need to work on a long term plan. Also it seems the AAG is playing a kind of farmer advocacy role due to the lack of a functional National Aquaculture Farmer Association (NAFA). However the role of the AAG is to objectively advise government from the perspective of all stakeholders in the private, public and civil society sectors and not to act only as a voice for farmers. The separation of roles between NAAGs and NAFAs is explored in more detail below.

2.5.6. Lack of attention to the important constraints

Some important constraints in the aquaculture sector such as access to good quality fingerlings and feed have not been adequately addressed by the AAG. For example hatcheries only recently became part of the AAG. While there is a SC on services which deals with inputs, extension and information, it is weak and has had irregular meetings due to limited funding. Only the Environment SC is currently active however, all the SCs are important and need to become active in order to address all the constraints in the sector.

2.6. Ways to strengthen the Aquaculture Advisory Group

Based on the strengths and weaknesses identified above, a number of ways in which the AAG could be strengthened are identified below.

2.6.1. Clear legal mandate and status from government

The AAG needs a clear mandate and legal status backed by government. This would require the AAG to be appointed by the Minister by Statutory Instrument, and not just given approval by the Permanent Secretary of MAL as is the case at present. The appointment by the Minister would give the AAG an official mandate and the regulations accompanying the Fisheries Act would enforce this mandate. The actual judicial status of the AAG could be similar to the Fisheries Management Committees in the Fisheries Act No. 22 of 2011. The regulations relating to the AAG have already been well outlined in the Draft Fisheries (and Aquaculture) Regulations 2007 however they need to be finalised before being submitted for enactment.

2.6.2. Financial support

One of the main reasons the AAG is not meeting regularly is due to lack of resources to pay for the meetings. While the DoF is supposed to have a budget for the AAG, funding from the government is unreliable and it may be preferable for the AAG to source for additional funds through donor support or other private means to supplement government funding. This would enable them not only to meet but also to hire consultants for technical support as and when needed. Independent funding would give the AAG some autonomy, enabling it to move forward at its own pace and not that of government. The Fisheries Act No. 22 of 2011 provides for an Aquaculture Development Fund for strengthening fisheries co management and investment in aquaculture. It is not yet clear if it will support the AAG however unless it is stated in the regulations.

2.6.3. Strengthen the secretariat and increase regularity of meetings

At present the DoF is the secretariat of the AAG however this is hindering the functioning of the committee and regularity of meetings. Many AAG members interviewed including the Deputy Director of Aquaculture (Research) felt that the secretariat should not be within government as it is slowing down the functioning of the AAG due to the level of bureaucracy involved with calling meetings. Also as the objective of the AAG is to advise government, the government should perhaps not be playing such a central role, thus a new secretariat should be appointed. The secretariat should be held by an AAG member that is not part of government, who has the capacity to accurately record minutes of meetings in a timely manner and is able to coordinate members and arrange meetings efficiently. Further, the secretariat may benefit from an office from where coordination of AAG activities can take place. This office could be managed by a secretary and support staff therefore funding will be required for office space, equipment, initial logistics etc. for the first year or so until it is established.

2.6.4. New leadership

The AAG needs to reorganise and elect new office bearers as soon as possible to strengthen the leadership of the AAG.

2.6.5. Strengthen subcommittees

The AAG needs to provide guidance and support to all three SCs in order that all the constraints facing the aquaculture sector can be addressed, and not just those related to the environment. Each SC could begin by preparing an outline or brief of their subject, outlining the priority approaches, actions and activities in their areas. An important priority for the markets and services SC is the issue of networking. While a database of primary and secondary stakeholders was being developed in the past, this needs to be finalised. The national aquaculture network should then be linked to ANAF to facilitate increased information exchange and networking both nationally and among ANAF member countries.

2.6.6. Increase representation at the sub-national level

At present the AAG is not truly representative as even though membership is open to all stakeholders, it is restricted to those who can travel to Lusaka regularly. The AAG needs to have cluster or district level representation which is linked to the main AAG. This would not only make the AAG more representative but would also allow the AAG to address district/cluster/provincial level issues (such as those related to cage farming in Lake Kariba discussed below). The AAG could start by developing advisory committees in priority areas such as Siavonga and Copperbelt. These AAG committees would be made up of local

stakeholders including cluster level AFOs which have been formed by fish farmers themselves e.g. the Copperbelt Fish Farmers Cooperative Society and the Siavonga Cage Farmers Association. These AFOs could also eventually join together to form a National Aquaculture Farmer Association.

2.6.7. DoF to involve AAG in decision making for granting fish farming licences

One important constraint that could be better addressed with the support of district level advisory committees is the issue of zoning. The SEA discussed above identified HPZs for SME cage farmers on Lake Kariba. However two large scale cage farms (Lake Harvest and Yalelo) have since been able to establish their cage farms in these zones. This means that they have not only been given approval by ZEMA, they have also been given licenses by DoF even though these zones were demarcated by the AAG for SME development. One reason this particular zone was ear marked for SMEs is due to its accessibility. SMEs cannot establish farms further down the lake as they do not have the resources to build access roads or put in electricity unlike large scale farmers. Thus even though AAG, ZEMA and DoF developed the SEA together, these decisions were not implemented. It could be a question of the information not being effectively disseminated to those in ZEMA and DoF in charge of making these decisions. Ultimately however even though all the relevant players agreed to the SEA, it is not binding. One way to overcome such problems would be to include the AAG in the DoF team that evaluates large scale commercial developments and grants licenses to potential fish farmers. Also if the AAG was represented at the district level, it would be better placed to advise the district council which is in charge of local development planning. This confusion is also due to the lack of legal guidance on zoning and management of cage culture. The DoF and councils or local authorities need capacity building on zoning. The AAG should thus advise government on licensing and site allocation.

2.6.8. Increase effectiveness in influencing environmental policy

As noted above, despite all the AAGs work on environmental issues, ultimately it has not been effective in influencing environment policy. To increase its effectiveness in this area the AAG needs to actively engage environmental regulators and the Ministries involved in environmental issues in their activities, including the new Director of ZEMA.

2.6.9. Facilitate the establishment of a National Fish Farmers' Association

An important way to strengthen the AAG would be to have a well functioning national fish farmers' association as a member of the AAG. Currently the National Aquaculture Association of Zambia (NAAZ) is technically a member of the AAG, however it is not active. If a strong association existed it could lobby government on behalf of farmers allowing the AAG to focus exclusively on its objective to advise government and provide oversight for national aquaculture programmes. The AAG could then rely on the association to be the voice of the farmers and not take on that role itself. The AAG cannot be an advocacy organization for farmers in the way a legally registered, independent, association can. The AAG is comprised of representatives of all stakeholders in the industry thus farmers' interests would be diluted. Also the AAG is embedded in the government and is not an autonomous, private sector organization thus cannot be effective at lobbying on behalf of fish farmers and can only really advise government rather than make demands. Further the AAG is not representative of all farmers in the country in the way a national association could be. An association would have a much stronger voice especially if it is affiliated with the National Farmers Union which has a lot of power to influence government. Thus to ensure that the AAG's advice is heard and acted upon, a national fish farmers' association, representing all fish farmers, is needed to lobby government and is key to increasing the overall impact of the AAG.

While the NAAZ was registered in 2005 with 14 members, due to a number of management and financial problems, it never got off the ground and is no longer active. The association was formed as a by product of the NAQs consultation process. During a stakeholder consultation workshop it was noted that the NAQs called for a national association so a number of those present, many of whom were not fish farmers but were interested in becoming fish farmers, decided to form the NAAZ primarily as a way to access donor and government assistance. The NAAZ was then given financial support from FAO to recruit new members from a number of regions but when the funding ended, so too did the association's activities. Some of the interim Executive Committee (EC) and association members lacked commitment so the association was unable to hold an AGM to develop its objectives or elect an EC due to the lack of a quorum. There were also issues relating to perception of financial misconduct of the interim Chairman who obtained assistance from ZATAC to build and run the Chilanga Hatchery on land leased from the government. While the agreement was between ZATAC and LKM Ltd., the Chairman's own private

company, separate from the NAAZ, some members perceived the Chairman to be using his position in the NAAZ for his own personal gain which ultimately reduced the trust of members in the leadership. The AAG is in the process of investigating the outstanding issues related to the NAAZ including its current legal and financial status with a view to deciding whether to revitalise the NAAZ or to establish a new national association. Some of the NAAZ EC are also interested in revitalising the NAAZ and have been in consultations with the AAG and the DoF. However due to the urgent need for a functional and strong association it would be preferable to establish a new national association as soon as possible while the outstanding issues related to NAAZ are resolved.

2.7. Summary

Table 1 summarises the strengths, weaknesses and ways of strengthening the AAG identified in the sections above.

Table 1. Summary of the strengths, weaknesses and ways of strengthening the Aquaculture Advisory Group

Strengths	<ul style="list-style-type: none"> - Varied and committed membership - Strong networking between stakeholders - Ability to influence government
Weaknesses	<ul style="list-style-type: none"> - Lack of formal mandate from government - Lack of funding - Reduced effectiveness due to weaknesses in information dissemination, speed of action and coordination - Lack of leadership - Lack of clear role - Lack of attention to the important constraints
Ways of strengthening the AAG	<ul style="list-style-type: none"> - Establish a clear legal mandate and status from government - Increase financial support - Strengthen the secretariat and increase regularity of meetings - Election of new leadership - Strengthen the subcommittees - Increase representation at the sub-national level - DoF should involve AAG in decision making for granting fish farming licenses - Increase effectiveness in influencing environmental policy by actively engaging key players - Facilitate the establishment of a National Fish Farmers' Association

3. Aquaculture Farmer Organizations: experiences from Uganda and Zambia

3.1. Introduction

The previous section discussed the role, activities, strengths and weaknesses of the AAG in Zambia. As a government appointed, multi-stakeholder advisory committee, an AAG cannot be viewed as an AFO nor can it take on the role of an AFO. A Farmer Organization (FO) is defined by Kassam, Subasinghe and Phillips (2011) as:

A formal voluntary membership organization created for the economic benefit of farmers (and/or other groups) to provide them with services that support their farming activities such as: bargaining with customers; collecting market information; accessing inputs, services and credit; providing technical assistance; and processing and marketing farm products. Formal membership criteria could include payment of membership fees or a percentage of farmers' production. Informal membership criteria could be based on ethnicity or gender.

FOs cover a wide spectrum of organizations varying in size, service provision and level of operation. FOs can operate at the local level e.g. informal farmer self-help groups or Community Based Organizations (CBOs), at a meso level e.g. local associations or federations of farmers clubs, or local level cooperatives owned and controlled by their members, or at a higher level e.g. regional or national federations, associations or unions. The strengths and weaknesses of different types of FOs vary. Larger FOs can benefit from economies of scale, but can also have high transaction costs related to organising large numbers of people. Local level FOs are better able to resolve local issues such as access to common property resources, primary markets, and technical or economic services while national-level FOs are better at advocating for policy change. Thus, function and level of organization are often related (Rondot and Collion, 1999).

The following sections focus on AFOs in Uganda, to understand the role, structure and activities of AFOs, their strengths and weaknesses, and some lessons learned from their experiences. The largest and most active AFO in Uganda, WAFICOS, is used as a case study followed by an overview of other types of AFOs in Uganda. Lessons learned from the experiences of these AFOs are then presented. Based on these experiences and lessons learned along with findings from the wider literature, simple guidelines for facilitating the establishment, management and capacity building of AFOs are then developed in Section 4.

3.2. The Walimi Fish Cooperative Society

3.2.1. Background

According to the Draft National Aquaculture Development Plan (NADP), Uganda produces up to 15 000 tonnes of fish from aquaculture (including production from stocked community water reservoirs and minor lakes). The Department of Fisheries Resources (DFR) estimated there were 35 000 ponds in 2005 mainly for subsistence farming, with production ranging between 1 500 kg/ha/annum for subsistence farmers to 15 000kg/ha/annum for emerging commercial fish farmers. A recent expansion in aquaculture due to increased fish prices and stagnating capture fisheries has led to 20–30 percent of subsistence farms developing into profitable small-scale farms. It is estimated there are 2 000 such farms covering nearly 5 000 ponds, with an average pond size of 1 500 m² per pond. There are very few commercial aquaculture enterprises in Uganda. It is estimated that there are 500 medium sized commercial pond farms with pond area between 5 000 and 50 000 m² (MAAIF, 2011). Cage farming in Lake Victoria has begun to develop recently and the largest commercial fish farm in Uganda, Source of the Nile (SON) cage farm, is projected to produce 500 tonnes this year.

The challenges faced by the aquaculture sector in Uganda are similar to those faced by many SSA countries. The National Aquaculture Strategy (NAS) and draft NADP outline a number of priority areas of intervention, with development of suitable aquaculture production systems and increased access to inputs such as feed, seed and capital, ranked the highest. Development of producer organizations and improvement of marketing, processing and transportation infrastructure is also identified as a priority area. Fish farmers in Uganda have already developed a range of AFOs at different levels to addressing some of these constraints and WAFICOS is the most active and well known of these.

3.2.2. Establishment, composition and development of WAFICOS

WAFICOS is a fish farmers' cooperative established in 2004 and legally registered under the Uganda Co-operative Alliance (UCA) under the Cooperative Societies Act of 1991. WAFICOS was started independently by a group of fingerling producers, fish farmers and fish processors who came together in an attempt to access services and inputs for fish farming, overcome marketing constraints and lobby government for assistance. WAFICOS originally had 34 registered members and remained this size up to 2008. During this time WAFICOS supported itself through members' contributions with no outside financial assistance. Members were however able to access training by the USAID FISH project in subjects such as pond construction, feeding, harvesting, sampling, handling and pond management.

In 2008 WAFICOS received approximately 12 000USD from the USAID FISH project over the course of 6 months to cost share with WAFICOS to buy equipment for members to hire at a subsidised rate (50 percent of the rate for non members) and to contribute towards paying staff salaries and running and maintaining the office. At the end of the project, the equipment being used by the project was distributed to individual farmers, the government aquaculture research station at Kajansi and to WAFICOS. The acquisition of this equipment and the resulting increase in services offered by WAFICOS (discussed more below) led to a

sudden increase in membership from 34 to 216 in 2009. Currently there are over 570 registered members from all regions of Uganda but mainly concentrated around Kampala and the Central Region. 95 percent of members are fish farmers, with the remainder including fish seed producers, private service providers, fish traders, processors, researchers and feed producers. Youth, women and small scale fish farmers are well represented (10 percent of members are under 30 years of age, 40 percent are women and 40 percent of members are small scale farmers producing less than 0.5 tonnes per year, 35 percent produce between 0.5 and 2 tonnes per year and 25 percent produce over 2 tonnes per year).

3.2.3. WAFICOS structure

WAFICOS is run by an EC that meets quarterly and whose policies are implemented by paid support staff. The EC is headed by a chairperson (currently a woman) supported by a Vice Chair, a Treasurer, a Secretary and five other members. EC members must be shareholders who have been members for more than two years and are elected every two years at the Annual General Meeting (AGM). The support staff manages the day to day activities of the cooperative. WAFICOS employed its first staff member, an administrator, in 2008 and since then the staff has grown to include a technical coordinator, an aquaculture field officer, an accountant and an accounts clerk along with technical personnel that is hired when there is high demand for services. The staff is fairly autonomous and led by the technical coordinator and is based at WAFICOS's head office in Kampala which is housed under the offices of the Ministry of Agriculture and Animal Industries and Fisheries (MAAIF).

WAFICOS charges members a joining fee of 380 000UGX (143USD⁶) per person which gives them lifetime membership. 50 000UGX is paid as an entrance fee, 30 000UGX is an annual subscription and 300 000UGX goes towards buying shares in the cooperative. WAFICOS can work out a schedule of payments for poorer farmers who cannot make the one off payment or they can deduct money over time from their sales of fish marketed through the cooperative. Members also pay an annual fee of 30 000UGX (11USD). The income from these fees along with income from other services provide by WAFICOS, is used to pay for the running of the office and staff salaries.

3.2.4. WAFICOS activities and service provision

As a cooperative society, WAFICOS is a business whose main objective is profit maximisation. It aims to do this primarily through assisting members to increase their production and income generation from aquaculture activities through provision of a number of services, many at a subsidised rate, which are also available to non-members at full cost. The services provided by WAFICOS include: technical advice; input supply; equipment rental for pond construction, fish harvesting and transport; market development, coordination and collective marketing; information dissemination; and value addition of farmed fish products (Walakira, *et al.*, 2011). WAFICOS also organises an annual symposium for members and non members and has a number of future plans including the establishment of a Savings and Credit Cooperative Society (SACCO). These services and activities are discussed in turn below.

Technical support

WAFICOS's technical coordinator offers technical support to members either via the phone, through farm visits or through farmers visiting the office. Aside from giving production advice the technical coordinator develops business plans (charging 300 000UGX for members, double for non members), undertakes sampling for farmers (charging 30 000UGX for members, double for non members) and supervises pond construction for a fee. The technical services provided by WAFICOS meet an important need for fish farmers especially since the privatisation of government extension services through the introduction of the National Agriculture Advisory Service (NAADS). The extension services and enterprise selection model of NAADS is focused mainly on those sectors which involve larger numbers of farmers such as maize, and not on fish farming.

Input supply

An important constraint for aquaculture development in Uganda is the high price of commercial feed, which is produced by only one local feed mill called Ugachick. To alleviate this problem WAFICOS buys feed from Ugachick in bulk and sells to members at cost price (and sells to non-members at higher prices). Currently WAFICOS sells over 5 tonnes of feed per week. WAFICOS also facilitates the sale of fingerlings to members by linking them with fingerling suppliers.

⁶ 1 USD = 2,656.40 UGX (26.11.12)

Equipment rental

The equipment WAFICOS acquired through the USAID FISH project includes nets for harvesting and sampling, transport tanks with oxygen cylinders to transport live fish and fingerlings, a hard body pickup truck for members to harvest and market their fish, and water quality testing kits. This equipment is in high demand and is hired out to members at a subsidised rate and to non members at a higher rate, generating a sustainable source of income for the cooperative and also providing important services for fish farmers.

Market development and collective marketing

Limited market development and coordination in the aquaculture value chain is a major constraint in Uganda. Fish farmers are dispersed in rural areas, many produce small quantities at long intervals and there is a lack of transport and marketing infrastructure. The acquisition of the pickup truck enabled WAFICOS to overcome these problems for a time. When farmers were ready to harvest they would call WAFICOS who would sample their fish to see the quantity of fish that was ready for harvest. WAFICOS would then coordinate farmers to harvest on a particular day and transport their live fish in the truck (hired by the farmers) from the farms to the WAFICOS office where they would sell the live fish or distribute the fish to other markets such as fish processing plants.

Unfortunately however in 2009 the truck was involved in an accident which killed the driver and wrote off the vehicle and since then WAFICOS has not had enough funds to buy a new one. As a result, WAFICOS now lines up a number of farmers and sends a trader, often from the Democratic Republic of Congo (DRC), Rwanda, Kenya or within Uganda, to go with their own transport to the farms to collect the live fish. In this way WAFICOS is still able to facilitate collective marketing but mainly acts as a broker between farmers and traders and processors. The advantage of selling through WAFICOS is the increased bargaining power of farmers to fetch a good price for their fish which is higher than they would be able to if they were to act individually. For every kg of tilapia farmers (both members and non members) sell through WAFICOS, 500UGX goes to the cooperative. Currently the price of 1kg of tilapia is 6 000UGX meaning this fee is less than 10 percent and still allows them to make a profit.

There is no data on fish sales between 2004 and 2008 however in 2009 35 tonnes of fish were sold through WAFICOS dropping to 20 tonnes in 2010 due to the loss of the vehicle. In 2011 fish sales jumped to 150 tonnes as WAFICOS was able to link farmers up with regional traders. In 2012 fish demand and sales have increased further as membership has continued to increase and WAFICOS has been able to link farmers up with more of regional buyers. Also WAFICOS's administrator has started a private venture to process catfish into fish sausages which are extremely popular. She processes 500kg of catfish per week contributing to the projected total fish sales of over 200 tonnes for 2012.

Information dissemination

WAFICOS disseminates market information to members, such as prices and which markets have demand for fish, using text messaging and has also started to use the internet to reach farmers. Fish farmers who have fish ready to harvest can then either sell their fish directly to these markets or through WAFICOS.

Market assessment

WAFICOS is currently implementing a 2 year project called Market Assessment and Profitability Analysis (MAPA) with Foreign Agriculture Services and Alabama A&M University. The project has provided farmers with pond management and fish feed record books so data can be collected on farmers' production, production costs and on the marketing of farmed fish. The overall aim of the project is to help address issues in the marketing of farmed table fish through: i) strengthening functional linkages between the production chain and markets; ii) assessing the risks along the 'production-to-market' value chain for farmed fish and iii) developing agricultural financing guidelines for small-holder fish farmers/farmed fish value chain actors.

Value addition of farmed fish products

While tilapia has high demand in Uganda, catfish is more difficult to market as people are not used to eating it. WAFICOS has been marketing catfish smoked, live, and as fillets for fish processors. However now that fish sausages are proving popular, demand for catfish has increased. The WAFICOS administrator buys catfish from WAFICOS every week and sells the sausages to supermarkets and also exports to Kenya and Rwanda. She sells 4 pieces (200g) for 2USD whereas a whole catfish would sell for 2USD/kg thus increasing value by 5 times.

Symposium

WAFICOS holds an annual Fish Farmers' Symposium in January. The first two symposia in 2007 and 2008 were held by the USAID FISH project as a forum where project farmers could report their results. When the project ended in 2009 it passed on the Symposium to WAFICOS. The Symposium is now a 3 day event where aquaculture stakeholders including farmers, input suppliers, traders, processors, researchers, donors both nationally and internationally, come together to exchange information and share experiences through presentation of papers by farmers, academics and researchers, field trips and a Trade Fair where private sector suppliers of inputs and services can exhibit their products. The symposium is an important networking opportunity for all stakeholders and many fish farmers have made contacts with traders through the symposium which have resulted in new market relationships. The 6th symposium in 2012 was attended by 206 participants with increased attendance from the region i.e. participants from Kenya and Tanzania, than in previous years.

WAFICOS sponsors the event and charges entry but also obtains funds from donors such as FAO, WFP, DANIDA, the USAID Livelihoods and Enterprises for Agricultural Development (LEAD) project and the USAID funded AquaFish CRSP (Collaborative Research Program). FAO and AquaFish CRSP have been the regular sponsors⁷. Profit from the symposium provides an important source of income for WAFICOS.

Lobbying

So far WAFICOS has not been concerned with lobbying government to change policy however it was very involved in the development of the NAS and draft NADP during the stakeholder consultations and strategy workshops. WAFICOS is a member of the UCA, an umbrella organization for cooperatives in Uganda, which lobbies on behalf of its members. However to date the UCA has not undertaken any lobbying on behalf of WAFICOS. There is a need for fish farmers to have a strong association or AFO to lobby on their behalf. Government support to the agriculture sector is much stronger than for the aquaculture sector for example agricultural inputs are subsidised while aquaculture inputs are not.

Other activities

WAFICOS pays its staff and manages its activities through its various income generating activities however so far it has been unable to make any profits or pay dividends to shareholders. When it is finally able to make some profits WAFICOS hopes to start its credit and saving wing which it registered as the Walimi Fish Saving and Cooperative Society (WAFISACCO), enabling members to borrow money at very low interest rates and boost their fish farming businesses.

3.3. Strengths

3.3.1. Common problems addressed

WAFICOS comprises farmers and other aquaculture stakeholders with different needs, skills, levels of operation and capacity. However they face a similar set of problems related to the development of their fish farms and aquaculture related businesses. The major constraints they face are supply of and access to good quality seed and reasonably priced feed, marketing and transportation of produce and need for technical assistance. All of these core problems are addressed by WAFICOS through the activities outlined above. While not all of these problems have been successfully addressed by WAFICOS, especially as many issues related to seed and feed production are currently out of its control, WAFICOS has made good progress in many of these areas especially in finding marketing solutions for farmers and providing technical assistance in the absence of adequate government provision of extension services. The clear benefit to members derived from WAFICOS's service provision is reflected in the fact that membership has continued to grow over the years.

3.3.2. Innovative solutions

Some of the problems that WAFICOS is addressing are not straightforward to solve especially on a limited budget, however the cooperative has managed to come up with some innovative solutions. For example, in 2009 as a result of a proposal by the technical coordinator and efforts of the Chairman and EC at the time, WAFICOS received assistance from the USAID FISH project in the form of equipment (such as aerators, the vehicle, transport tanks and oxygen cylinders mentioned above) to aid in fish marketing and obtain the specialised equipment needed to sell live fish which fetches a much higher price on the market. Another

⁷ For more information see <http://aquafishcrsp.oregonstate.edu/successstory.php?SS=6>

example of innovative solutions is WAFICOS's use of mobile phones to disseminate information to members. These innovations have increased benefits to members and strengthened the cooperative.

3.3.3. Committed staff

These innovative solutions have come about partly as a result of a dynamic and committed support staff. Even though staff members are not well paid, they believe in the importance of WAFICOS in helping its members and are thus committed to its success. This is extremely important as it is the small support staff that is responsible for managing and implementing the activities of WAFICOS and thus key to its success.

3.3.4. Strong leadership

The leadership of WAFICOS has also been strong and motivated over the years. The ex-chairman, a fingerling producer, sat for two terms from 2008–2010 and 2010–2012. He was one of the original founding members of WAFICOS and is extremely committed and active which is why he was re-elected. The current Chair, a female professor at Makerere University, is also a small scale fish farmer and thus representative of many WAFICOS members. The EC is also comprised of committed and motivated individuals involved in the aquaculture sector. As fish producers and aquaculture stakeholders, these leaders have understood the constraints facing the sector and have been well placed to lead the cooperative forward.

3.3.5. Collaboration with partners

A key strength of WAFICOS is the development of important collaborations with donor organizations and projects. The USAID FISH project trained WAFICOS members and enabled WAFICOS to acquire equipment to provide services to members leading to an increase in membership after 2008. While the USAID FISH project has now finished, WAFICOS has still kept in touch with some of the key staff who have continued to guide and advise them. The collaboration with the project also allowed WAFICOS to develop an ongoing relationship with Auburn University and the Aqua Fish CRSP project which has given financial and organizational support for the symposia and WAFICOS is implementing the MAPA project with support from Auburn University. Aqua CRSP and Auburn University have also supported WAFICOS through training its coordinator under the Masters' Trainer Program and awarded him a Certificate of Aquaculture Professionals. Under the same program 40 fish farm managers and farmers were trained in best fish farm management practices. WAFICOS has also developed relationships and/or received financial support from donors such as FAO, DANIDA, the USAID LEAD project and is working with Alabama University for their record keeping project. All of these external relationships have strengthened WAFICOS, allowing it to continue with its activities and have contributed to its sustainability and success.

3.3.6. Annual Fish Farmers' Symposium

The Annual Fish Farmers' Symposium has put WAFICOS and aquaculture in Uganda on the map and has given it a high profile both nationally and internationally. The networking opportunities that arise from the symposia have been important in developing coordination along the value chain and for information and technology dissemination. Examples of the impact of the symposium in developing relationships between stakeholders include two WAFICOS members being able to access loans from centenary bank, the largest local bank, through developing contacts during the symposium. Also SON and other fish farms have been able to make contacts with traders and processors at the symposium and developed continuing working relationships with them. The importance placed on sharing of experiences between farmers and also researchers and academics along with the Trade Fair has led to increased adoption of innovative technologies and BMPs and thus improved the productivity and profitability of fish farmers.

3.4. Weaknesses

3.4.1. Limited financial resources

While WAFICOS is currently financially sustainable and can pay its staff and implement its activities through generating its own income, it has been unable to make a profit. Revenue reduced considerably after the loss of the vehicle. While hiring out equipment provides a source of sustainable revenue, WAFICOS needs to increase its resources through acquiring more equipment to hire out, developing new income generating activities and sourcing donor funds, all of which would help the cooperative to improve its operations and address some of the weaknesses identified below. WAFICOS needs resources to be able to pay its support staff competitive salaries so they can attract and retain high quality staff. WAFICOS also needs to increase resources to expand its range of services and to establish regional offices to improve the

access of members to these services, discussed below. WAFICOS is reliant on its staff to bring in funding however their capacity to do this is currently limited.

3.4.2. Staff is spread too thin

WAFICOS currently has insufficient capacity to attend to the needs of all its members. For example the equipment is not enough for all members to hire out as and when they need to as it is in great demand and has to cover members located in different regions. Technical assistance and farm visits are also not enough to cater to all members considering there is only one technical coordinator and one technical officer for 570 members spread all over the country. It could be that WAFICOS grew too suddenly when it acquired the equipment from the USAID FISH project however the reason it grew so fast is because farmers did not have many other options. Before WAFICOS was established, all services and inputs were sourced from one government aquaculture station at Kajansi which was not adequate to meet farmers' needs. There was a general feeling amongst farmers and other key informants interviewed that government institutions do not provide high quality services hence the popularity of WAFICOS as it is filling many of the gaps that government has failed to fill. WAFICOS's staff acknowledges that they are spread too thin and see a possible solution through opening branches in the regions which could be coordinated by the head office in Kampala. This could potentially improve the efficiency and effectiveness of their services to members, increasing the connection between members and the cooperative and its services however WAFICOS is constrained by lack of resources.

It is often the case that as FOs grow they become harder to manage with many studies suggesting the optimal size to be between 15 and 30 members (Penrose-Buckley, 2007). However, this may not be large enough to create the economies of scale needed to decrease production and marketing costs. To achieve a balance smaller FOs often join together to create multilevel structures with different levels taking on appropriate roles, for example individual FOs or groups concentrating on services such as input supply, technical assistance and collective marketing and the higher level focusing on lobbying government. Rather than growing gradually and being built from the bottom up, WAFICOS has grown big very fast and has maintained itself as one large organization rather than a smaller number of groups which then joined together. It is now looking to decentralise, thus going in the opposite direction to the norm of multilevel structures which require building from the bottom up, and due to its current structure and size, it will need to do this from the top down. While multilevel structures have many advantages they can also be challenging to manage, requiring a high level of resources and capacity. Just as expansion in the scale and scope of collective activities and capacity to do this needs to develop gradually for smaller FOs wishing to join together, WAFICOS is going to have to manage this process of decentralisation very carefully to ensure the new structure has a solid foundation based on the continuing commitment, trust and motivation of members once they have been reorganised into regional or smaller groups (Kassam, Subasinghe and Phillips, 2011).

3.4.3 Limited support from government

While WAFICOS has been successful in collaborating with other organizations it has not received much support from the government (other than support with office space) despite requesting for assistance and for a government staff member to be attached to the cooperative. While there is a good working relationship between the two, the government should ideally play some role in supporting and strengthening WAFICOS and other AFOs through building the capacity of FO management, staff and members through training related to their specific needs, whether it be in cooperative management and business development for managers and staff or in aquaculture production for staff and members. The capacity building required for AFOs to function effectively and the role of the state will be discussed in more detail in the guidelines presented in Section 4.

3.4.4. Limited staff capacity to run the cooperative as a business

While WAFICOS's staff is committed and motivated, they lack experience in business management. Their capacity to run the cooperative as a successful business, including basic skills related to finances and record keeping, along with sourcing funds, needs to be developed. By increasing its capacity in these areas the cooperative will be able to improve and grow as a viable business. Another advantage of building capacity in this area is that donors and other organizations are increasingly looking to channel funds and implement development projects through functional FOs rather than government, to improve their targeting and increase impact, however they require strong and competent FOs to partner with. One reason the USAID FISH project is thought to have had a positive impact on aquaculture in Uganda is because it worked

directly with farmers and AFOs. This way of working could prove successful but require donors to have confidence in the capacity of AFOs to be viable partners and implementers of development projects.

3.4.5. Distance between management and members

Some of the WAFICOS members interviewed felt that the cooperative is not responsive enough to members' views and it is the staff rather than the EC that is driving the organization. The perception of unresponsive management and the weak role of members could be related to the fact that WAFICOS is a large organization and does not have the resources, staff or capacity to meet the needs of all members in all parts of the country as discussed above. By decentralising management and operations to regional offices it is likely that the responsiveness of staff and the EC to members will increase. Members will find it easier to express their views and feel connected to those running the organization and that their voice is being heard. The consequence of farmers not feeling that WAFICOS takes their views into consideration is a decrease in trust of cooperative management and leadership. Trust is critical to the sustainability of FOs. WAFICOS will find it difficult to grow and strengthen and institute new activities such as a SACCO where members would be required to pool their resources together, unless members feel a sense of ownership and trust in the organization and those running it.

3.4.6. Marketing

While WAFICOS has made some progress in marketing members produce and connecting farmers to traders, some members interviewed do not feel their expectations on joining WAFICOS of helping to solve their marketing problems have been met. While members can often have unrealistic expectations of FOs to alleviate their problems, marketing of produce remains a major constraint facing fish farmers and there are still many challenges for WAFICOS to address. These challenges are related to low productivity of farmers resulting in irregular and unsustainable supply of farmed fish, farmers' lack of market information, transport and other costs of scattered rural farmers associated with accessing output markets and entry in to premium or niche markets (Walakira, *et al.*, 2011).

3.5. Other Aquaculture Farmer Organizations in Uganda

3.5.1. National AFOs

Other than WAFICOS there are many different types of AFOs in Uganda functioning at different levels that have formed over the years. The Uganda Fish Farmers' Cooperative Union (UFFCU), a member of UCA, was registered in 2009 and started operating fully in 2012 when the Union's board members recruited a manager through a donor funded UCA project called Maximising Co-operators Benefits. The Cooperative movement in Uganda is composed of UCA as the apex body, tertiary and secondary unions and primary societies formed by individual members called Rural Producer Organizations (RPOs). The RPOs join together to form Area Cooperative Enterprises (ACEs) which then subscribe to the Union. While the Union has only just started, it has organised fish farmers across the country into 50 RPOs which have joined to form 10 ACEs covering approximately 1 300 members.

One of the first AFOs in Uganda was the Uganda Fish Farmers Association (UFFA) registered in 2003 with approximately 20 members, which has now decreased to 10 and is currently not very active. It was established by the more well off pioneer fish farmers in Uganda with a view to getting assistance from government and donors. Initially the Chairman was actively talking to donors to get assistance and for a time the association worked with the USAID FISH project and Auburn University however once those collaborations ended membership decreased. Some members were undertaking aquaculture as a hobby rather than as their primary business so they also lost interest. Now the association meets once or twice a year mainly for members to exchange information and experiences, some of whom are hoping to revitalise the association and make it a truly national one.

3.5.2. Sub-national AFOs

There are a large number of district and parish level AFOs registered as CBOs throughout the country. For example in Masaka District, one commercial fish farmer and seed producer (also a member of UFFA and WAFICOS) established the Masaka District Fish Farmers' Association (MDFFA) in 2004 with the help of the District Fisheries Officer (DFO). The association started when as part of a government restocking project the commercial farmer and DFO worked together to identify beneficiaries. Out of the approximately 500 fish farmers identified in the district, only 22 were considered serious farmers and it was these 22 that formed the association. However as the association grew, members found it too far to

come for meetings so the association formed nine sub-district level associations, presently covering 100 members in total. The association is registered as a CBO at the district level⁸ and lobbies local government, through which they were given nets for harvesting, and also arranges for trainings. Members can exchange information, pool resources for bulk purchase of feed, obtain seed on credit from the Chairman and provide each other with technical support. Due to lack of time it was not possible to interview any members of the association, only the ex Chairman who was the founder, so it was not possible to verify the impact of the association on the ground. However from the limited information collected it seems the association is very active and has increased its membership partly due to its strong leadership that can provide direct benefits to members through the provision of fingerlings on credit. The founder stepped down as Chairman in 2009 however the association is still going strong. The association has also benefited from the support of the DFO who helped to establish it. However, like many farmers interviewed along with the Fisheries Director, the ex Chairman also noted that this is more an exception than a rule as most AFOs that have been established by government have been unsuccessful and generally government has been unsupportive of AFOs.

Another example of a lower level AFO is the Ssisa Youth Empowerment Association (SYEA) which is registered as a CBO at the district level and operates at the parish level. The association was established in 2004 by a commercial fish farmer who was selling his fish to a processor in Mwansa and could not meet the demand. He decided to mobilise fish farmers in the parish, especially the youth, and registered as a CBO with 22 members. The association has a constitution, and an EC which is elected every three years at the AGM comprised of a Chair, a Secretary, a Treasurer and a Publicity Secretary and meets every three months. Members pay a joining fee of 200 000 UGX (just under 80USD) which includes shares in the association along with an annual fee of 100 000 UGX (just under 40USD). This funds the association's activities such as organization of trainings by private organizations, the National Aquaculture Research Organisation (NARO) and donor projects e.g. the USAID FISH project, which have trained members in pond construction, feeding, water quality etc. The association also collectively markets members' fish (with harvesting, weighing and marketing undertaken by the association and coordinated by the founder and Chairman) and sell to buyers from Rwanda, DRC and to local traders. In 2011 the association marketed 60 tonnes and are projected to sell 35 tonnes in 2012, with over half from the Chairman's farm. Most of the members are considered small to medium scale farmers producing 4 tonnes per year while 2 members are small scale farmers producing just less than 1 tonne per year. The association also undertakes pond construction for other fish farmers which is their main income source. The association also hires out equipment such as water quality testing kits, water pump, sound system, sun oven for drying fish (donated to them by the UNDP Nile Basin project) and a generator. The association has been making a profit but has reinvested most of it back in to the association, but currently pays its members an average of 3 percent as dividends on their shares. The association is functioning more as a business than an association or CBO so they plan to register as a cooperative in the near future.

Due to time constraints it was not possible to interview any members of the association to assess the impact on members however the association seems to be active and has strong and committed leadership which can offer members direct benefits through provision of an output market along with technical knowledge and experience. The Chairman also attributes the association's success to the high level of trust between members due in part to the transparency and thus accountability of the EC and the small number of members. The constitution also stipulates that only a maximum of 50 members are allowed in order to maintain trust. The association has also grown and strengthened its capacity slowly over the years and is not rushing to expand prematurely to district level until it is sure it is strong enough at the sub district level.

3.6. Lessons learned

The experiences of AFOs discussed above yield some important lessons, many of which can be related to factors associated with successful FOs identified in much of the FO literature. These lessons are outlined here and then built upon in the next section which presents some simple guidelines for ANAF member countries wishing to support and facilitate the establishment, management and capacity building of AFOs.

⁸ There is no provision for registering as an association at the district level and at national level most associations register as limited liability companies rather than NGOs as the process is less cumbersome.

3.6.1. Strong and accountable leadership

AFOs should have strong, capable and accountable leadership which is responsive to members' needs. Leadership should be representative of the AFO's membership with significant capacity in terms of business and governance skills. For example the NAAZ became inactive partly as a result of uncommitted leadership compounded by limited accountability to members and a resulting lack of trust. The successful AFOs in Uganda discussed above such as WAFICOS, MDFFA and SYEA all have strong and committed leadership. The latter two especially seem to be driven primarily by these strong leaders. Not only does good leadership drive an organization forward, a strong and accountable governance system engenders trust of the leadership and the AFO. The SYEA Chairman attributes its success partly to members' trust in each other and in the EC which is accountable to members and whose activities are transparent, mainly due to its small size.

3.6.2. Addressing common problems by providing demand driven services to members

While members of AFOs may be different in terms of socio-economic status, level of operation, needs and interests, the most basic requirement to function properly is for members to have a common objective or set of problems that can be addressed by the AFO. This will help to maintain members' cohesion, focus and commitment. These common problems need to be addressed through AFO services which deliver clear and sustainable benefits which are valued by members. AFOs will stop functioning and members will lose interest if there is no common objective and if service provision to members is not demand driven. For example, both the NAAZ and the UFFA stopped functioning partly due to a lack of commitment from members which can be explained by differing objectives and because ultimately these AFOs were not able to provide members with clear benefits once collaboration with donors ended.

3.6.3. Financial sustainability

AFOs must be financially sustainable or they cannot function. They need the financial capacity to support their own activities and not be dependent on external assistance such as donor support otherwise they will collapse once this support is withdrawn. All the successful AFOs discussed above have found ways to generate income based on members fees but supplemented with income generating activities, for example both WAFICOS and SYEA hire out equipment and charge a commission on fish sold through the organizations. They also supplement their income through donor support but are not dependent on this to maintain their activities. Developing financial capacity is extremely important as without this an FO cannot provide services to members. While AFOs like WAFICOS are financially viable, limited finances remain a significant challenge to growth.

3.6.4. Technical and managerial capacity

Staff and members of AFOs require the technical and managerial capacity to undertake joint activities and this capacity is an important factor of success. Stringfellow, *et al.* (1997) note that the type of activity, for example, coordinating market activities or operating jointly owned assets, will determine the management demands of the FO. Their research indicates that successful FOs are more likely to be involved in the former, as the skills and experience required for this are often less complex than those required to operate jointly owned assets such as equipment. One of WAFICOS's main activities is hiring out of equipment and one of their weaknesses identified above was limited staff capacity to manage the cooperative as a business. This highlights the point that more complex activities require higher levels of technical and managerial capacity to undertake them effectively and is an area where AFOs need support in.

3.6.5. Slow growth, strong foundations

Many successful FOs have grown slowly and steadily ensuring they have strong foundations on which to build and are able maintain a certain level of services to members as they grow. Related to growth is the size of the FO which should match the organizational capacity of its members and should be appropriate for the type and scale of activities undertaken. WAFICOS grew exponentially in 2009 as a result of acquiring equipment from the USAID FISH project and has continued to grow rapidly. It is now becoming a challenge for staff to manage such a large organization and for members who are not receiving the same level of services they were before. The SYEA on the other had has maintained its membership at 22 for the past 8 years and has focused on strengthening its ability to undertake its activities effectively before it decides to grow its membership base and increase its activities. As a result it has been able to make a profit and pay dividends to members while still reinvesting resources into the association.

3.6.7. AFOs should be farmer initiated and primary objective should not be to access financial assistance

Many of those interviewed noted that AFOs that had been initiated by government have been unsuccessful whereas those that were established as a result of fish farmers' own initiative, driven by a common purpose that was not primarily to receive outside assistance, were more likely to succeed. The successful AFOs discussed above were initiated by fish farmers, not by external organizations, and while they all aim to access assistance through the AFO, this is not their primary objective. The NAAZ was established by a mixture of fish farmers and interested fish farmers and was not entirely self initiated as it was a product of the NAqS development process which was facilitated by FAO and the Zambian Government. A main motivating factor of forming NAAZ was to access assistance, which it was able to do from FAO in the form of two grants. Once the assistance ceased, NAAZ became inactive. There are other reasons for NAAZ's failure however it is an important lesson that free or subsidised resources tend to attract people looking for handouts rather than those committed to genuine farmer cooperation. Such assistance can create an incentive for people to join together simply to access funds when they may not have done so otherwise. Like the case of the NAAZ it can also create dependency on external resources, causing AFOs to stop their activities once the funding ceases.

3.6.8. External partnerships with donors, NGOs and government

While governments and other external organizations may find it difficult to establish successful and sustainable AFOs from scratch, they can play an important and catalytic role in supporting and partnering with existing AFOs especially in the initial stages, for example the early collaboration between the USAID FISH project and WAFICOS. Partners can support AFOs through training and capacity building, facilitating links with the private sector and government can create a favourable enabling environment including a legal framework to help AFOs to operate successfully. There can also be costs to partnering with external organizations, especially when they are too interfering and try to influence FOs in their structure or their choice of activities to further their own agendas, which may impede the capacity of the FO to be autonomous, self sustaining units (Crowley, *et al.*, 2005). Many of the farmers and AFOs interviewed in Uganda were suspicious and distrustful of government. Several AFO members suggested that the government does not want AFOs to develop as strong AFOs could reduce their power. Many also held the opinion that government agents often have their own agenda and are more interested in finding ways to benefit from donor and other projects than helping farmers. Distrust of government by farmers and FOs is not new and is influenced in part by a history of cooperatives being used as tools for state planning and having little autonomy. However it is important for both AFOs and government to build trust and develop mutually beneficial partnerships. Government can benefit from partnering with AFOs to help implement policies and make government efforts, for example in delivering extension services and dissemination of research outputs, and the use of scarce resources more cost effective. The role of support organizations will be explored further in the guidelines in the following section.

3.6.9. The need for AAGs, NAFAs and AFOs

The achievements of the AAG in Zambia indicate the need for a functional AAG in SSA countries in the process of developing their aquaculture sectors. However to support and complement the role of the AAGs in each country, there is also a need for a National Aquaculture Farmers Association (NAFA) or a type of AFO with a national remit which represents all fish farmers, to be members of the AAGs. These NAFAs or national AFOs are needed to lobby government to undertake the AAG's recommendations, provide a voice for fish farmers and further their interests in a way that AAGs, which are not truly autonomous or independent of government, cannot do. However it is not the role of government or other external organizations to establish these NAFAs. Just like the AFOs discussed above, they need to be self initiated. Also it is important to note that these types of national associations focused on advocacy do not usually drive the development of industries when they are just starting, however once there is a certain level of development in a sector they are more likely to form and can then drive the sector further forward. Thus it is important not to push artificially for NAFAs, or to create them in a top down manner, until the sector is ready and there are well functioning lower level AFOs which join to form a NAFA and ensure it is truly representative and has strong foundations. While there are many AFOs in Zambia and especially in Uganda which have local significance they are not linked to government or to a national representative organization, and are quite fragmented. In Uganda the UFFU is now trying to build up the union in a structured way through development of lower level RPOs and ACEs. These are the types of organizations that will eventually be a national voice for farmers but it takes time and needs to be grounded in strong AFOs at the lower levels.

4. Guidelines for facilitating the establishment, management and capacity building of Aquaculture Farmer Organizations

4.1. Introduction

This section builds on the lessons learned from the experiences of AFOs in Uganda and the wider literature to outline some simple guidelines for ANAF member countries seeking to facilitate the establishment, management and capacity building of AFOs as a way to develop their aquaculture sectors. Some initial considerations are presented first, noting that promoting AFOs may not be the best strategy if certain other minimum conditions are not in place. The role of the state is then discussed, highlighting the importance of taking a facilitative rather than interventionist approach. Steps to working with existing AFOs and establishing new ones are then outlined, with the former being the preferred strategy. This is followed by a summary of the key areas where AFOs may require capacity building (in AFO management and in undertaking specific AFO activities), and ways in which capacity can be built in these areas are suggested. Government's key role in creating an enabling environment in which AFOs can function successfully is also discussed. The section concludes by highlighting the key points of the paper.

4.2. Some initial considerations

It is important to note that development of AFOs cannot address all the challenges faced by fish farmers in SSA. Despite its potential to overcome many of these challenges, collective action is not a universal solution for a number of reasons. As has been shown in Section 3 above and in the wider literature, FOs are not easy to establish and manage successfully. Amongst other things, farmers need to have the willingness and commitment to cooperate, FOs need to find ways to become financially sustainable and to deliver benefits effectively and efficiently to members. All of these require a lot of time and effort on the part of members along with a minimum level of technical, managerial and business capacity. At the same time AFOs cannot fill all the gaps in aquaculture value chains that exist in SSA countries. While they can make service delivery to farmers more efficient for public and private sector service providers and can increase coordination along the chain, they cannot be expected to overcome more fundamental constraints to sector development, be they policies biased against aquaculture farmers, value chains driven by international buyers, or poor public services, especially when they have to deal with weak or missing rural markets. It is important to bear in mind that supporting AFOs may not be the most effective way of helping fish farmers when there are other more fundamental issues that need to be resolved before support to AFOs can even be effective for example legal constraints related to unsuitable legal frameworks for AFOs to operate successfully or policies which put AFOs on an unlevel playing field with other businesses.

4.3. The role of the state

Kindness and Gordon (2001) argue that the role of outside agencies such as government should be a facilitative and not an interventionist one. To be successful FOs must be autonomous organizations, independent of government or other agencies. Governments should not get involved in decision making or encourage them to grow too fast or to undertake too many activities before they are ready, which can undermine their viability as shown by experience in the agriculture sector (Kassam, Subasinghe and Phillips, 2011). Rather government and other external organizations can more effectively contribute to the success of FOs by partnering or accompanying them, and cooperating with them at an operational level.

Before giving direct support to FOs, governments have a central role to play in improving their institutional and wider enabling environment, which can have a significant effect on the success of FOs. Governments are responsible for providing FOs with a responsive and favourable policy environment that encourages growth and does not distort trade or the competitiveness of fish farmers. If government policies do not encourage growth, supporting AFOs that focus on marketing interventions and do not address the underlying need for policy reform, is unlikely to be effective.

Governments are also responsible for providing a straightforward registration process and an appropriate legal framework that allows FOs to register easily and to be able to choose a legal structure that is suitable for their size, intended activities and objectives, also offering competitive advantages such as lower tax rates and ensuring that they can compete fairly with other businesses (Penrose-Buckley, 2007). The state is also responsible for making investments in public services such as market, communication and transport

infrastructure which are essential for the success of FOs. While it is important for AFOs to have a good relationship with and be supported by government, whether it be indirect support through creating an enabling environment or through more direct support such as capacity building, governments must not use AFOs as tools for service delivery to rural areas but see them as independent market oriented organizations representing farmers' needs (Kassam, Subasinghe and Phillips, 2011). As such governments should facilitate the inclusion and participation of AFOs in aquaculture development programmes and in the development and formulation of aquaculture sector programmes and policies (Kassam, Subasinghe and Phillips, 2011).

4.4. Preliminary stages

The following sections present simple guidelines for ANAF member countries on how to support AFO development, both directly and indirectly. In the preliminary stages, ANAF member countries will need to assess whether certain minimum conditions are present in order to decide whether to provide direct support to existing AFOs, establish new ones or work on developing some of these minimum conditions before working directly with AFOs. Penrose Buckley (2007) identifies certain external minimum conditions needed for FOs to operate successfully. When these conditions are not present, more support and time would be required for FOs to become strong, independent organizations. These minimum conditions include a supportive legal framework as discussed above and a minimum level of security, economic stability, and political independence to operate without interference. AFOs also require a minimum level of market development so the cost of accessing markets is not prohibitively high and does not first require government investment in infrastructure. Markets also need to have some kind of competitive structure that is not biased against small scale fish farmers.

Once it is ascertained that these minimum conditions are in place, ANAF member countries will then need to get an understanding of what AFOs already exist and what their objectives, activities, and capacities are. They will need to assess whether existing AFOs have certain minimum requirements without which it will be difficult to work with them effectively. AFO members need to be able to produce a reliable surplus to be able to benefit from AFOs and if they cannot, it may be preferable for government to address the issues which are constraining farmers from doing so before supporting AFOs and encouraging farmers to join them. Existing AFOs also need to be assessed to see if they are based on producers' initiatives or have been established by external agencies or by private interests such as large scale farmers without the commitment of members. AFO members also need to have a minimum level of trust and cohesion between themselves and with their leaders. AFOs also require a minimum level of business and management capacity, necessary for running a successful FO and without which building members' capacity in these areas will be very challenging (Penrose-Buckley, 2007).

There is no universal set of interventions for supporting AFOs. Interventions must be appropriate for the specific context, circumstances and needs of each AFO. ANAF member countries must take the time to listen to AFO members' needs and requirements, assess their capacities and motivation, and analyse the market and institutional environments before developing a specific support programme in partnership with the AFO and its members. Thus before starting to work directly with AFOs, ANAF member countries should carefully assess producers, existing AFOs, markets and the market environment in order to plan how best to support AFOs. It is also important at this stage for ANAF member countries to assess their own capacity for supporting AFOs. Government agencies may need to acquire new skills in areas such as social mobilisation, business development etc. and should seek support from other agencies that have the competencies they lack. From this overall assessment ANAF countries will be able to decide whether to focus first on alternative activities to create the necessary conditions for successful AFO development (e.g. supportive legal framework), whether to invest in complementary activities, alongside supporting AFOs (e.g. improving the ability of fish farmers to produce reliable surpluses), or whether to defer AFO support activities until such a time external conditions support their chances to become economically viable (Penrose-Buckley, 2007).

4.5. Establishment of new Aquaculture Farmer Organizations

When possible, ANAF member countries should aim to support existing AFOs and not form new ones unless there are no other options. However if on the basis of a preliminary assessment it has been decided that forming new AFOs is the preferred way forward, steps should be taken to ensure the AFOs are built on

strong foundations and are member driven thus minimising the chances of failure. These steps build on the lessons learned from the previous section along with experience from the wider agriculture FO literature are outlined below⁹:

- **Formation:** If fish farmers have not expressed the desire to form an AFO, ANAF member countries will need to facilitate a process that results in farmers proposing to work together e.g. through a group training where farmers are brought together, can interact and can be encouraged to see the benefits of forming a group. Once fish farmers have shown an inclination to form a group they can be brought back together and have the potential roles, structures, objectives and activities of AFOs explained to them. If possible ANAF member countries should involve other local organizations in this process as they may have a better understanding of the local context the fish farmers face, but also can reduce dependency on one organization.
- **Membership:** Once the fish farmers have decided to work together and form an AFO they need to establish membership criteria. This should be decided by the fish farmers and not by ANAF member countries. However there could be some discreet oversight of the process as it is important to ensure that membership selection is fair and not driven by elite interests to the exclusion of other less well off farmers. It is preferable if the group is small (between 15 and 30 members).
- **Definition of objectives and business strategy:** Once membership has been decided the new AFO will need to define its objectives and business strategy based on an assessment of market opportunities. ANAF member countries should support the AFO to develop a market oriented and financially sustainable approach. The AFO will also need to define their structure which can be informal at this stage, and agree on how income from their activities will be shared amongst members (e.g. if they are a cooperative will it be based on shares owned, on how much each member uses the AFO's services etc.).
- **Pilot activities:** The new AFO will then need to get some experience in working together and test its business plan so could pilot some basic activities. ANAF member countries should support them in this and facilitate the process however it can, but should not influence decisions too much so as to allow the AFO to learn from its mistakes.
- **Expansion:** Once these initial activities have been piloted and modified in light of lessons learned, the AFO can start to mobilise resources and expand its activities. It can decide on appropriate membership fees (as before the pilot phase it may be difficult to expect members to invest their resources). It may also depend on ANAF member countries or other external organizations for some resources to scale up its activities. It would be preferable to offer a loan rather than a grant and if the AFO is to receive a grant it should only be once it has established itself and not at the very start to ensure member ownership and responsibility so their commitment is based on cooperation and not on receiving assistance as discussed above. The AFO can then expand its activities and membership slowly. It can also decide on a simple governance and decision making structure, voting in a permanent EC that can facilitate the process of drafting a constitution, government registration etc. if that is what the members decide they want.
- **Exit strategy:** To enable AFOs to become independent and financially sustainable, all support activities need to be planned with a clear exit strategy that is agreed and understood by all parties.

Table 2. Summary of steps to form an AFO

Steps	Key issues
Formation	Motivation of fish farmers, support and facilitation by government
Membership	Fish farmers to establish membership criteria, small group size (15 - 30 members)
Definition of objectives and business strategy	Market oriented financially sustainable approach, informal structure, decide on income sharing
Pilot activities	Gain experience, work together, test and modify business plan, facilitation by government
Expansion	Mobilize resources, slowly expand activities, collect membership fees, financial support from government (loan not grant), establish governance structure, elect EC, draft constitution, registration, facilitation by government
Exit strategy	Clear exit strategy for government support agreed and understood by all parties

⁹ These steps and the following guidelines build on the lessons learned in Section 3 and draw on Penrose-Buckley (2007) and Kassam, Subasinghe and Phillips, (2011).

4.6. Capacity Building of Aquaculture Farmer Organizations

One of the main roles of ANAF member countries in facilitating the development of AFOs lies in building the capacity of AFOs to implement their own strategies which is vital for their sustainability and success. The areas in which AFO capacity can be supported should be decided upon in collaboration with the AFO in question and its members. The following sections outline some key focus areas and actions that ANAF member countries can take to build the capacity of AFOs, depending on the specific requirements and context of each individual AFO.

4.6.1. Building capacity in AFO management

Governance and leadership

- Support FOs to identify the most suitable rules and legal structure for their needs.
- Build the capacity of members to understand these rules and motivate them to participate in decision-making.
- Empower members to exercise ownership and control of AFOs and keep their leaders accountable through developing their skills in critical areas, including numeracy, literacy and business and marketing skills.
- Improve leadership capacity through development of management skills and business understanding of AFO leaders.

AFO structure

- Help AFOs access legal advice to identify the most suitable legal structure.
- Lobby for an improved legal framework and registration process.
- Support member driven and financially sustainable AFO growth which meets the AFO's business needs.

Business management

- Build capacity in business planning to analyse business and market systems and develop realistic and sustainable business strategies.
- Support AFOs develop effective business management systems to ensure they understand their costs and can meet financial obligations to members and service providers.
- While AFOs should try to raise capital from members' contributions to increase their ownership and commitment, support may be needed for poorer producers to ensure that they are not excluded by these contribution requirements.
- Support FOs to access funding but do not directly finance FOs in ways that weaken their long-term sustainability.

4.6.2. Building AFO capacity to implement activities

Improved production

- Support AFOs to increase their output through, for example, increasing membership, raising members' productivity or buying produce from non-members.
- Support AFOs to develop efficient and effective logistical systems to help them coordinate members' production.
- Support AFOs to meet the costs of improving product quality related to extension services, quality management systems and certification.

Access to technology, research and development

- Improve linkages and coordination between AFOs, agricultural research agencies and extension services through regular consultations among key stakeholders.
- AFOs should participate in planning meetings and, where possible, serve on the boards of research agencies to have a greater say in the research agenda and to ensure that trials are designed to address the needs of fish farmers.
- Ensure government research and extension institutions proactively involve AFOs¹⁰.

¹⁰ AFOs made up of low-resource farmers may not have the capacity to engage meaningfully with these institutions however.

- Ensure technology transfer and dissemination to AFOs is undertaken in a participatory way to maximise farmer learning and innovation and increase the chances of adoption.

Effective market research

- Support AFOs to develop marketing strategies that reflect members' priorities and that build on the AFO's competitive advantage and capacity.
- Complementary development activities may be needed so that poorer producers, women and other marginalized groups have the opportunities and capacity to participate in AFOs.

Access to market services

- Support AFOs to assess the market services they need and what services are available.
- Facilitate AFO access to market services through providing services directly, managing AFOs' access to services, coordinating AFOs' independent linkages to service providers or developing the capacity of service providers.
- Develop the capacity of AFOs to access, pay for and negotiate contracts with service providers in the long term.

Market coordination and chain development

- Support economic coordination among actors along the market chain by introducing AFOs to buyers, input suppliers and service providers, increasing trust and confidence between different actors and facilitating negotiation between them.
- Act as trade partners, broker sales on behalf of AFOs, advise on or coordinate trade linkages between AFOs and other market chain actors.
- Ensure this facilitation does not weaken ownership and helps the AFO develop independent capacity to negotiate contracts.
- Start by strengthening existing private-sector marketing channels and linkages rather than developing entirely new ones.

Advocacy

- Advocacy is an advanced activity as AFOs need a high level of capacity and resources to lobby government beyond the local level.
- AFOs face some key challenges in becoming effective advocacy organizations including scale (as influence depends partly on the size of the organizations), resources to access information networks and develop policy positions, and support from members to use profits to lobby government rather than to pay members' dividends.
- While ANAF member countries will not be able to directly lobby government and ministers on behalf of AFOs like other external organizations might be able to do, or provide them with funding for this activity, they can ensure that they keep lines of communication open with AFOs so their needs and challenges are understood and they can promote change from within their government ministries.
- ANAF member countries can help AFOs to link with other AFOs to form higher level structures (e.g. at regional or national level) which can then take on the role of lobbying government. They can also help AFOs link with external organizations such as NGOs and other stakeholders in the aquaculture sector to either set up their own advocacy networks and/or link them to national and international policy and advocacy networks. They can also help AFOs to link to National agriculture FOs such as National Farmers Unions or Associations which are well established and can lobby government on their behalf.

4.7. Providing indirect support to Aquaculture Farmer Organizations

Enabling environment

- Adopt macroeconomic policies, particularly monetary and fiscal policies that do not distort economic activities.
- Improve governance and reforms to attract investment and trade opportunities.
- Develop policy that is more favourable to the aquaculture sector based on the requirements and realities of fish farmers.
- Develop policies and incentives that encourage private investment in aquaculture production and services.

- Facilitate access to financial and insurance services in rural aquaculture farming areas (Phillips, *et al.*, 2007).

Appropriate legal and regulatory framework for AFOs

- Ensure AFOs have the support and recognition of the State, are not discriminated against or excluded and are seen as fully autonomous, private, business oriented organizations which can contribute positively to rural and national development.
- Ensure AFOs are not constrained by complicated administrative and bureaucratic procedures by simplifying administrative procedures and allowing easy, affordable and rapid registration and decentralizing administrative and legal procedures to regional or local levels.

Provision of public goods and services

- Develop adequate communication, transport and marketing infrastructure to enable fish farmers and AFOs to engage in marketing activities.
- Provide technical and marketing services that are oriented towards aquaculture producers, as well as the traders and businesses associated with the sector.
- Provide information services that cater to the needs of rural fish farmers (Phillips *et al.*, 2007).

5. Conclusion

This paper has reviewed the experiences of different types of aquaculture organizations which have contributed to the development of the aquaculture sectors in Zambia and Uganda through involvement of private and civil society stakeholders, be they fish farmers or other actors, in different ways. The paper started by exploring the role and activities of the AAG in Zambia, showing it to be a pioneering attempt to establish a practical and sustainable PPP to develop the aquaculture sector, and suggested ways to strengthen it to increase its efficacy. The experience of the AAG in Zambia and the identification of its strengths and weaknesses can be helpful for other ANAF member countries wishing to establish similar types of PPPs to provide advice and guidance for their governments to develop their aquaculture sectors. The paper then explored a range of AFOs that have developed in Uganda, using WAFICOS as a case study. The strengths and weaknesses of WAFICOS were assessed and lessons learned from the AFOs reviewed were distilled. While AAGs and AFOs were found to have separate but complementary roles, the importance of both was highlighted as a means of strengthening each other. The lessons learned then provided a basis for the development of some simple guidelines for ANAF member countries on ways to facilitate the establishment, management and capacity building of AFOs.

This paper has shown the potential that both AAGs and AFOs have for developing the aquaculture sectors in SSA. AAGs can provide meaningful and relevant advice to governments and if they are taken seriously can have an important and beneficial impact on the way aquaculture sectors are developed by ensuring all stakeholders are represented and have an input. This paper has also shown that participation in well organised and managed AFOs has the potential to enable many fish farmers to overcome the challenges they currently face in accessing inputs, information and output markets, and effectively participate in modern market chains. However it is also the case that not all fish farmers will be able to benefit from AFOs, especially poorer farmers in more remote rural areas who may not be able to pay membership fees or produce a reliable surplus allowing them to benefit from joining an AFO and they will require complementary activities from government and other support organizations. It has also been emphasised that while AFOs hold great potential, developing successful and financially sustainable AFOs is no easy task and requires amongst other things an enabling environment as well as farmer commitment and trust, strong leadership and the need for slow and steady growth.

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Annex 1. People and organizations interviewed in Zambia¹¹

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¹¹ Interviews were conducted between 8th and 12th October 2012 by Laila Kassam accompanied by Mr. Joseph Mutale.

Annex 2. People and organizations interviewed in Uganda¹²

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¹² Interviews were conducted between 15th – 19th October 2012 by Laila Kassam accompanied by Mr. Simon Owani Olok (15th and 16th October), Mr. Andrew Alio and Mr. Paul Ssebinyansi (17th October) and Ms. Maria Lwevuse (Department of Fisheries Resources) (18th October).

Annex 3. Status of Aquaculture Advisory Groups in ANAF member countries¹³

ANAF country	Status of AAG
Ghana	<p>The AAG was formed as part of the Terms of Reference of a FAO Technical Cooperation Programme (TCP) to support the Fisheries Commission to develop a National Aquaculture Development Plan (NADP). It is composed purely of private sector actors in the aquaculture value chain. It was not the main body that was consulted to draw up the plan however. The AAG has been given two places on the Steering Committee of the West African Fisheries Programme, a 5-year project financed by the World Bank of which aquaculture is a major component. It has not been active for some time as they have not been integrated into the structure of the Fisheries Commission so its activities are on an <i>ad hoc</i> basis, as and when the Commission needs it.</p>
Kenya	<p>FAO assisted Kenya develop the National Aquaculture Strategy and Development Plan (NASDP). During the process and from sharing experiences from other countries that had already developed their strategies e.g. Zambia, discussions took place on whether we needed to have an advisory group. It was agreed that the only way to ensure effective private sector participation in the development of the sector was to give them a platform on which they could inform/advice the government. In the NASDP, the establishment of an Aquaculture Advisory and Research Board (AARB) is stipulated. During presentation of the draft National Aquaculture Policy to policy makers, it was suggested the name should be changed from a Board to either a Group or Committee. The process of establishing an AAG has not yet started. It is hoped that with assistance from FAO Sub Regional Office in Addis Ababa, consultative meetings will be held to start the process of identifying key members.</p>
Nigeria	<p>No AAG at present however plans are underway to upgrade the current National Aquaculture Steering Committee to the status of AAG.</p>
South Africa	<p>In South Africa there are various committees established to advise the government on aquaculture development. The umbrella committee is the Aquaculture Value Chain Table. Its purpose is to:</p> <ul style="list-style-type: none"> - foster collaborative industry-government action that helps to secure an enduring global advantage without limiting the round table to issues and developments that are external to South Africa. - consider domestic sectoral development activities as they directly impact on South Africa's global competitiveness and its reputation as a food supplier. <p>There is also the Aquaculture Research Advisory Committee which advises the Department on the implementation of the Aquaculture Research and Technology Development Programme for South Africa. The Committee also monitors the implementation of this Programme. There are plans to set up an Animal Health Advisory Committee as well.</p>
Senegal	<p>The AAG is called the Aquaculture Consultative Commission (ACC) institutionalized in law and created by act. It is composed of:</p> <ul style="list-style-type: none"> • a representative of Ministry in charge of aquaculture • a representative of Ministry in charge of fisheries • a representative of Ministry in charge of province administration • a representative of Ministry in charge of Land • a representative of Ministry in charge of Environment • a representative of Ministry in charge of Hydraulic • a representative of Ministry in charge of health • a representative of merchant marine department • a representative of farmers association • a representative of aquaculture research institutions

¹³ Information gathered from participants at the 4th Annual ANAF meeting in Entebbe, Uganda, 4th-6th December 2012.

	<p>The names of representative nominated are sent at the beginning of every year to Ministry in charge of aquaculture on request.</p> <p>The secretary of the Aquaculture Consultative Commission is an officer from Agency of National Aquaculture. The Aquaculture Consultative Commission deliberate and advise the government on request on any subject related to aquaculture.</p>
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Annex 4. Status of Aquaculture Farmer Organizations in ANAF member countries¹⁴

ANAF country	Status of AFOs
Ghana	AFOs exist at district, regional and national levels. Almost all the AFOs are loosely organised and even those that established a formal governance system are not well run and their activities have declined over time.
Kenya	Several types of AFOs exist as follows: Aquaculture Association of Kenya – trying to cover the whole country Regional Farmer Associations – e.g. Western Kenya Fish Farmers Association, Meru Fish Farmers Association Fish Farmers Cooperatives Fish Farmer Community Based Organizations Commercial Aquaculture Farmers Society which started in 2012
Nigeria	Five registered AFOs as follows: <ul style="list-style-type: none"> ▪ Catfish Farmers Association of Nigeria (CAFAN) ▪ Association of Fish Farmers and Aquaculturists of Nigeria (AFFAN) ▪ Fisheries Society of Nigeria (FISON) ▪ National Association of Fishermen and Sea Food Dealers (NUFAS) ▪ Ornamental Fish Exporters Association of Nigeria (OFEAN)
South Africa	Several Fish Farmers Associations or Commodity Associations (CAs) exist. CAs are organizations comprising any voluntary grouping of economic (i.e. for profit) or non-economic (i.e. not for profit) actors who contribute directly or indirectly to the value-chain of a specific fish farming commodity extending from farm to final user/consumer. Membership is drawn from individual farmers/their associations, from buyers, processors, distributors, exporters, importers, & suppliers of support services. The Department of Fisheries realises the importance of CA and has committed itself to facilitate and support the formation of fully representative CA, especially among smallholder farmers. In South Africa most CA are formed to promote specific products, solve industry problems, plan production, regulate marketing, and promote food safety and traceability. The roles of the CAs include: <ul style="list-style-type: none"> ▪ Advocacy- for industry to be organised and represent members in policy discussions with government after formulating common positions ▪ Networking opportunities both amongst members and other participants (e.g. input suppliers, government agencies, bankers, insurers, etc) ▪ Product promotion and quality development of products- implement product quality and safety programmes ▪ Research- CAs coordinate, facilitate, fund and manage the sector research (e.g. on technology development and transfer, market development, etc) ▪ Training and development- conduct or fund training &/ development courses of members (e.g. on improved technologies/markets) ▪ Market and other information- CAs provide information on markets and statistical information to its members.
Senegal	A National Aquaculture Farmers Association has recently been formed.
Tanzania	A few AFOs have been established, mainly in mariculture.
Uganda	Many AFOs exist at the local level (CBOs and associations) and a few higher level AFOs such as WAFICOS and the National Fish Farmers Union (see Uganda case study).

¹⁴ Information gathered from participants at the 4th Annual ANAF meeting in Entebbe, Uganda, 4th-6th December 2012.



**Towards an Aquaculture Network for Africa (ANAF) Inter
Governmental Organization (IGO):**

**Small Steps for the Final
Leap**

Prepared by
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Discussion paper

Fourth Annual Meeting of the Aquaculture Network for Africa
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Abstract

A broad consensus exists within ANAF and among its supporters that it should become an Intergovernmental Organization (IGO). This has been reiterated in various meetings of ANAF and CIFAA. ANAF requested FAO to provide assistance to the process of transformation from its current status to that of an IGO. This paper is meant to provide conceptual and operational guides for the Working Group of ANAF to make decisions on how to proceed with the transformation of the Network into a functional intergovernmental organization that is recognized under the United Nations system. The review consists of three parts: the rationale and justifications for an ANAF as an IGO, the building blocks that are necessary for the transformation of ANAF into an IGO, and - the core of the paper - the measures ANAF needs to take to attain IGO status.

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Acronyms

ANAF	Aquaculture Network of Africa
AU	African Union
CAADP	Comprehensive Africa Agriculture Development Programme
CAPA	Commercial Aquaculture Producers of Africa
CIFAA	Committee for Inland Fisheries and Aquaculture of Africa
IGO	Intergovernmental Organization
INFOSA	Marketing and Information Services for the Fishery Industry in South Africa
NACA	Network of Aquaculture Centres in Asia-Pacific
NACEE	Network of Aquaculture Centres in Central-Eastern Europe
NEPAD	New Partnership for Africa's Development
RAA	Red de Acuicultura de America (Aquaculture Network of the Americas)
RAIS ANAF	Regional Aquaculture Information System of ANAF
RAIS RECOFI	Regional Aquaculture Information System of the Regional Commission on Fisheries (of North Africa and the Near East)
SARNISSA	Sustainable Aquaculture Research Networks for sub-Saharan Africa
SPADA	Special Programme for Aquaculture Development in Africa
SSA	sub-Saharan Africa
TCDC	Technical Cooperation among Development Countries
TCSF	Integrated Food Security Support Service of the Technical Cooperation Department (TCD) of FAO
UNEP	United Nations Environment Programme
WB	The World Bank
WWF	World Wide Fund

Summary

The economic development context of the Aquaculture Network for Africa (ANAF) has in recent years considerably improved to become a more conducive ground for ANAF's own development. Aquaculture growth has accelerated modestly largely driven by the commercialization of aquaculture, which is comparable to Asia's experience. This suggests a mission geared to strengthening the regional and national capacities for sector governance that: (i) encourages public (i.e. government and donor agency) investments in aquaculture development; (ii) gives confidence to the private sector to invest in aquaculture enterprises, and (iii) ensures efficiency in the provision of public and market-based technical support to investors and producers.

Does ANAF have to transform into an IGO for this mission? This appears a moot question as this has been endorsed in successive meetings of the Committee for Inland Fisheries and Aquaculture in Africa (CIFAA)¹. Nonetheless, it might be useful to look at empirical evidences to support the decision such as experiences from Asia, in particular those of the Network of Aquaculture Centres in Asia Pacific (NACA), which ANAF founders and supporters have looked to as a model. NACA has shown that technical cooperation among developing countries or TCDC can be made to work effectively by a sustained support and commitment of government members that is underpinned by their sense of ownership of the network organization, its programme of work and their desire to be self-reliant through cooperation. Governments' investing into their own regional organization and developing a work programme based on their common problems assure assistance agencies and donors that their assistance would be helping resolve priority issues, create wider impact and be applied efficiently.

An IGO ANAF would perform more effectively its institutional roles. It is now assisting FAO's Special Programme for Aquaculture Development in Africa (SPADA), which follows closely the Action Plan for the Development of African Fisheries and Aquaculture of NEPAD (New Partnership for Africa's Development). The plan is for ANAF, at the end of SPADA process, to serve as a stand-alone regional institution providing technical support to the African aquaculture subsector. It will assume SPADA's activities and continue to support aquaculture development in the continent, as an autonomous and self-reliant intergovernmental organization.

What assets does ANAF have to successfully become and remain an IGO? Expertise and experience are the two essential assets of ANAF. The other is its having become a regional forum for dialogue among member governments and the national experts. The aquaculture research centres and institutional focal points, and the academic institutions are important assets of each country that it can bring to a regional cooperation organization. FAO's reviews in 2005 (Hecht, et.al., 2006) and 2010 (Satia, 2011) suggest the presence of a good stock of knowledge and experiences in policy and technology development, transfer and utilization among ANAF countries. The countries with significant aquaculture production in sub-Saharan Africa (SSA) include Nigeria, Uganda, Madagascar, Zambia, Ghana, Kenya and Tanzania. There are several reasons why aquaculture has had remarkable growth in these and other countries in the past decade. They include the adoption of good governance, emphasis on capacity building to create the critical mass in strategic and targeted subject matter, promotion of public and private sector partnerships, emphasis on research and outreach and the provision of credit. The major catalyst to growth that has been experienced is the promotion of private sector-led aquaculture development, manifested in these lead countries by: investment in sound management, establishment of efficient commercial fish hatcheries, judicious choice of limited species, development and use of aquafeed, development and use of new production systems and the emergence of strong and dynamic producers associations and service providers. Political traction and

¹ FAO/CIFAA.2010. Report of the Ad Hoc Working Group on Establishing a "NACA-like" Network in Africa. Sixteenth Session of CIFAA. 16-18 November 2010, Maputo, Mozambique.

support are significant building blocks for transformation. Among these are the political awareness and support to it as a development concept and agent that stems from the African Union and NEPAD, its location and operation within the Committee for Inland Fisheries and Aquaculture of Africa (CIFA), and its technical role in SPADA. One important asset that it has built is its regional aquaculture information system. The numerous institutions that are part of the ANAF network (national centres and national focal points, their physical and human resources, the social capital embodied in the relationships and linkages it has developed with other institutions, those within the national systems such as farmers' associations, the ANAF Working Group itself, and the Regional Aquaculture Information System (see www.anafaquaculture.org), the commercial, economic and scientific, as well as, cultural relations existing between the countries all comprise a regional stock of valuable assets. As to the human capital of ANAF, there is an increasing number of trained manpower in aquaculture and supporting areas such as information technology, and related areas and disciplines such as veterinary science, health management, business management, and engineering. Financial capital, however, is probably the least endowed of the tangible and intangible capitals of ANAF.

What more does it need to make the final leap towards an IGO status? Selling ideas or the ideas embodied in ANAF is needed. There is need to persuade people to convert ideas to action. There are important stakeholders to persuade that include the government's finance and foreign affairs ministries. IGO membership requires the government to commit to recurring payments, which is a cost that government would expect a return; ANAF should present demonstrable evidences that networking through an IGO provides an attractive payoff to governments. The analysis of available data to show the socio-economic impact of aquaculture, as suggested by one member country, is a worthy project. A member country has to sign up to a cooperation agreement. While ANAF is a technical organization, the foreign ministry would tend to see it as a geopolitical entity. The current status of ANAF has established it as a recognized regional activity. Becoming an IGO would institutionalize that into a legal organization with diplomatic status in the host country and diplomatic implications in all the other members. There are issues that the foreign ministries but especially that of the host country would want clarified. Beyond the diplomatic and legal issues is the benefit to the region as a whole and to the country in taking an active role in a regional development organization. An argument in principle would be the advantage of regional cooperation. An argument that has proof from other regions and likely from other sectors is the fact that pooling together limited national resources turns them into a significant regional stock of technological asset which increases their collective impact and benefit; the Organization can also be a platform for collective voice in regional and international dialogues; and an IGO that is owned and funded by member governments usually provides a stronger leverage for external assistance.

The third group of stakeholders to persuade would be the private sector comprising industry (input and service providers and output buyers), investors, and producers. ANAF should have to present its programme to them as one that assures that investment climate is favourable, investments are secure, and producers would have access to efficient support services. This goes beyond the assurance of higher yields and profitability to the better governance of the sector. This in fact is one of its tasks under the SPADA programme.

In brief, ANAF needs to line up persuasive arguments that government investment would bring a favourable cost-benefit ratio, regional participation brings collective benefits that are multiplied and enlarged by acting together, convince the private sector that aquaculture is a profitable investment area, and assure donors that their assistance are applied efficiently to priority problems and have a wide spread of beneficiaries and therefore a bigger impact. One strategy that might be explored is to find a champion in the region and within each country who can effectively pitch ANAF's selling points.

How does it get there? This is the core of this discussion paper. The steps toward the attainment of a full-fledged functional IGO status can be divided into four stages whose activities overlap, namely, strategic, legal, organizational and technical. The first has been essentially summarized above. An additional element is the consultative process to bring the primary stakeholders in the decision making to obtain a collective decision and give a sense of ownership – and assure support - of the eventual outcome of the decision.

It is the legal steps that will take time and much effort. Transformation requires that the legal and administrative instruments are formulated and adopted, the governing and coordinating bodies constituted, the network structure and mechanism are designed and made functional, and a work programme is developed and adopted. These are the essential attributes of an IGO. ANAF has now some of these attributes, as well as, the mechanisms that could be upgraded to the essential attributes. A comparison of the equivalent attributes of ANAF and the mature NACA Organization suggests the specific actions required, in effect “upgrades”, for ANAF to transform into an IGO, like NACA.

The Agreement or charter is the basic legal document. An important consideration in its crafting is the organizational structure and geographic scope of ANAF. A structure that is comparable to NACA’s has been proposed but the earlier ambition to have a Pan African network organization has been scaled down to one that will cover the sub-Saharan belt. The other legal instrument is an agreement with the host government, which itself has to be identified. The hosting agreement establishes ANAF’s diplomatic status in the host country, defines the responsibilities and liabilities of the ANAF headquarters and the obligations of the host government. The others are the administrative or management instruments, which include the rules of procedure of the organization, employment conditions, staff rules, and financial rules and regulations. The agreement, hosting agreement and these administrative instruments need to be developed by working groups of national and regional experts preferably with the expert advice of FAO.

Probably the most difficult instrument to develop and negotiate is the Schedule of Government Contributions, the yearly mandatory fee. It should be developed by a task force and through a careful process of consultations because of two things: the core fund, which is the total of the membership fees, has to be commensurate to the requirements of the Work Programme and the level of contribution of governments has to be seen as equitable.

The transformation process can be facilitated with assistance from CIFAA and FAO. It will not be a smooth and short path and pitfalls could lie along the way, among which are an incomplete understanding of the ideals of ANAF and a tendency for the narrow and self-serving to trump the broader and common interests of the region, the countries and their people. But the rewards from a successful IGO will likely justify many times over the investments in its transformation and sustenance.

PART I RATIONALE FOR AN ANAF IGO²

1. The Development Context of ANAF

Africa's economy is growing fast; by 2012 eight of the 20 fastest growing economies will be African and in 2013, the gross domestic product (GDP) of sub-Saharan Africa (excluding South Africa) is expected to grow by around ten percent. Africa's growth story had always revolved around commodities, but the growth drivers have become more diverse and now include the peace dividend indicated by fewer conflicts, urbanization, improved governance, trade, information technology (especially mobile phone ownership), and infrastructure investments³. In effect ANAF is at the cusp of a regional economic development surge (see Annex 1 for the forecast GDPs of 13 SSA economies).

Amidst this promise, sub-Saharan Africa aquaculture, which supplies around three percent of fish production, has been growing slow, as in most parts of Africa. Per capita fish consumption in sub-Saharan Africa is the lowest in all regions and, according to the World Fish Centre (2005), is the only part of the world where consumption was declining. The reason for this decline had been the levelling off in capture fish production and the growing population. The degradation of aquatic environments through human activity and the potential impact of climate change on marine and freshwater ecosystems are some of the factors hindering aquaculture production from achieving its potential. There are many more constraints, which range in nature from biological to technical, economic and environmental.

Box 1: Constraints to aquaculture development in Africa

A diagnosis of constraints to aquaculture development in the region identified these factors (NEPAD - www.nepad.org):

- An expectation that available water and land resources could by themselves lead to natural exploitable potential and create a new option for rural people.
- Little exploration of the social, institutional contexts in which people might engage in aquaculture, or of issues such as resource access, equity, and policy support.
- Limited understanding of markets, market margins and real returns to producers.
- A historical emphasis on public-sector support, usually linked with the development of aquaculture extension capability in line agencies (e.g. Fisheries Departments).
- An emphasis on small-scale integrated aquaculture, in which freshwater fish farming in ponds is linked with a range of primarily family-supported mixed farming activities.
- The use of state or parastatal agents for broodstock development and hatchery supply, with very variable and often disappointing results.
- Poor strategic approaches to pooling knowledge in developing seed supply, fertility and feed inputs, environmental, aquatic health and food safety issues.
- Limited knowledge of risk issues or management responses to these.

Other than these are the institutional weaknesses. In some countries, there is a lack of coordination between the multiple agencies that share regulatory responsibility. There are legislations that may not be in harmony with present and future status of the industry, and there is unclear or conflicting priorities within the policy making and regulatory spheres. There is a need for improved governance and management systems, collaboration between different stakeholders and targeted investments in infrastructure and marketing to accelerate the growth of aquaculture. These needs align with the thinking behind NEPAD's Comprehensive Africa Agriculture Development Programme (CAADP) action plan for fisheries and aquaculture that

² Sources for this section include: (1) NEPAD Planning and Coordinating Agency <http://www.nepad.org/foodsecurity/fisheries/aquaculture>; (2) FAO Regional Review of Aquaculture Development in Sub Saharan Africa-2005, and (3) FAO Regional Review on Status and Trends in Aquaculture in sub-Saharan Africa – 2010.

³ Economist Intelligence Unit, "Africa Cities Rising." Sep 18, 2012.

http://www.eiu.com/Handlers/WhitepaperHandler.ashx?fi=Africa_Cities_Rising_presentation_Oct2012.pdf&mode=wp&campaignid=af ricacities2012

promotes a pragmatic approach to developing the fishery sector. The action plan involves public, private and NGO sector interests, with good resource management and sound investment as key purposes.

That said, recent performance gives reasons for optimism in the prospects and higher confidence in the capabilities of the sector. A review in 2005 projected that aquaculture production in sub-Saharan Africa by 2013 will be between 208 600 and 380 400 tonnes per annum (Hecht, et.al., 2006). It appears to be on track: between 1998 and 2008 there was a fivefold increase in production from 42 600 to 238 900 metric tonnes or an average percent rate of increase of almost 19 percent over the ten-year period (Satia, 2011).

These FAO reviews of 2005 and 2010 point to a common driver of growth: commercialization of aquaculture development. The 2005 review referred to a marked emergence of commercial aquaculture in the previous five years that appeared to be related to increasing fish price. It estimated that the commercial sector contributed approximately 65 percent to the total fresh and brackish water fish production, while nearly 100 percent of mariculture production was from the commercial sector. The 2010 review picks up from this: The significant growth in production “was due to the emergence and intensification of private sector-led small- and medium-size enterprises and the expansion of large commercial ventures, stimulated in some cases by growing public support and the inflow of foreign capital and expertise”.

A greater recognition of the role of markets, and a rise in demand for aquaculture product, particularly around major urban centres, and for export purposes, have brightened the prospects for aquaculture. Most growth has occurred as small- and larger-scale private sector enterprises developed and as skills and market linkages became established. The importance of location with respect to market centres has been confirmed. There are also important trade implications at regional and international levels, which carry the question of competitiveness in the international market. As to scale, there remains some debate as to whether aquaculture will be a viable micro-scale activity. The desirability of a diversified sector with a range of species, culture systems, scale and purposes is nonetheless widely recognized and the role of small scale but profit driven aquaculture has been amply demonstrated for livelihood support and food security for the resource-poor, landless, and the fishing communities.

2. Why Should ANAF become an IGO?

“Governments can no longer rely on donor funds to support aquaculture and their own budgets have few reserves to provide for capacity building and infrastructure development.” NEPAD. <http://www.nepad.org/foodsecurity/fisheries/aquaculture>.

“International awareness and interest in aquaculture spawned by the New Partnership for Africa’s Development (NEPAD) Fish for All Summit in 2005 and implementation of FAO’s Special Programme for Aquaculture Development in Africa (SPADA), contributed the recent rapid growth in aquaculture in Africa.” (Satia, 2011).

In a negative way, the first statement states the core reason for an intergovernmental network organization. The second suggests an important role for ANAF, as an IGO dedicated to aquaculture development, in sustaining the interest and providing persuasive argument for more investments in aquaculture. These are broad justifications for ANAF to transform from into an IGO. What is gained from ANAF becoming an IGO?

From an institutional point of view, the result of transformation is a functional intergovernmental network organization that is autonomous and self-reliant. It will be owned and operated by member states and its programme of work developed by governments of sovereign states, reflecting the common problems and priorities of the member countries. With this comes other expectations of benefits. These are outlined in this table:

Table 1. Expectations from and benefits of transformation

Expectations	Expected Benefits
1. Ownership of governments and its constituent stakeholders	<ul style="list-style-type: none"> • Stronger legal footing. • More inclusive of national stakeholders: government, academia, civil society, industry, and farmer groups. • A higher profile, more prominence of aquaculture in national development plans.
2. Stronger political traction	<ul style="list-style-type: none"> • Stronger leverage with regional and international agencies in developing collaborative activities.
3. Autonomy and self reliance	<ul style="list-style-type: none"> • Greater flexibility in development planning. • Stronger leverage with assistance agencies. • Assurance to partners of governments' commitment to the IGO.
4. Technical and economic cooperation in practice	<ul style="list-style-type: none"> • More cost-effective use of resources. • Cheaper acquisition and more efficient application of technology and expertise. • R&D efforts not duplicated; R&D results build on each other.

On a broader developmental perspective, the Kyoto Strategy of 1976 cited the great variety of culture species and farming systems and the complex regional development issues that aquaculture then faced, and still faces, as factors that favoured a network organization of existing national centres over a single international Research & Development (R& D) centre. Such a network can address the different problems cost-effectively with a coordinated and structured regional work programme. The impacts of a government-owned programme and network mechanism are summarized as follows:

- Sharing resources and responsibilities among institutions (and countries) through networking is the only practical and cost-effective means available for solving the diverse problems faced by aquaculture due to the diversity of species, farming systems and environments, and varying levels of development among countries.
- Cooperation becomes more compelling in the face of limited resources of governments and the not unlimited funding from donors; it makes the best use of internal resources and external support.
- Cooperation in areas of mutual interests – through specific projects – effectively musters resources, expertise and institutional support for regional projects, promoting synergy, avoiding duplication of activities, and expanding the range of beneficiaries.
- From the capacity building perspective, training of national personnel and upgrading of facilities create a multiplier effect for various assistance programmes. The improvements on regional and national capacities, which include trained people, more efficient operating and management systems, and upgraded facilities, make it easier for assistance programmes to be effectively implemented. The multiplier effects include wider dissemination of results, assurance of follow-up activities within governments, thus, ensuring continuity of project-initiated activities.

2.1 Broad role of ANAF under the NEPAD Framework

On a wider scale, ANAF will foster sustainable aquaculture development in the region as a means to fight poverty, ensure food security, provide employment and ensure rural development. It is now assisting Special Programme for Aquaculture Development in Africa (SPADA), which follows closely the NEPAD Action Plan for the Development of African Fisheries and Aquaculture. Through networks, regional and national programmes, the ten-year SPADA programme is providing technical support to mobilize investment in thousands of private sector aqua-businesses across Africa for increased production, employment and improved food security. SPADA's goal is to increase total African aquaculture production by at least 200 percent in ten years. A critical element to assist SPADA in accomplishing its objectives is the Aquaculture Network for Africa (ANAF), launched in 2006 with nine, now twelve, participating countries. Expansion of the network to other countries is ongoing, promoting institutional strengthening while ensuring proper governance for aquaculture development.

The plan is for ANAF, at the end of the SPADA process, to serve as a stand-alone regional institution providing technical support to the African aquaculture subsector (as NACA does in the Asia Pacific). ANAF will ultimately assume SPADA's activities and continue to support aquaculture development in the continent through a well-established intergovernmental organization.

2.2 How will ANAF meet its role and objectives?

The basic objective of the Aquaculture Network for Africa is to **increase aquaculture production in Africa through improved communications and technical assistance**. It will foster sustainable aquaculture development in the region as a means to fight poverty, ensure food security, provide employment and ensure rural development. As a network that operates through technical cooperation, it can maximize and optimize the utilization of scarce and strained resources. It will:

- Coordinate and facilitate scientific and technical information exchange in aquaculture.
- Facilitate and coordinate regional and subregional, farmer-driven research
- Facilitate training of fish farmers and extension workers
- Facilitate technology transfer between countries.

Essentially ANAF shall achieve its objective and pursue its responsibilities through the transfer of technology from outside the region and from other areas and disciplines (such as crops and livestock, engineering and biotechnology), transfer of technology developed and tested within the network, building of capabilities for researchers, technicians and farmers, and managing all of these. What are the issues and how may these be addressed?

2.3 Some lessons in aquaculture technology transfer and capacity building

Technology transfer is the "transfer of systematic knowledge for the manufacture of a product, the application of a process, or the rendering of a service." The definition differentiates "transfer" from "diffusion". The latter is the non-commercial, often deliberate, dissemination of technology and skills or the ability of the technology-receiving system i.e. a country to learn from the acquired technology to develop its own capabilities. Diffusion enables one to derive maximum benefits from technology that has been transferred or accessed⁴. This definition requires or results in the *building of the recipient's capacity to use the technology*, as well as, to improve on the technology.

The critical issues around technology transfer are the lack of capacity of recipients and the inequality of capacities among recipients -- i.e. between countries, pockets of economic areas within a country (coastal versus highlands), as well as, socio-economic groups (large agribusiness vs. small-scale farmers, rich vs. poor farmers, those with production resources and those without) -- to access and apply the technology. There have been many agencies, institutions, societies, and organizations providing assistance and/or implementing various technology transfer (TT) and capacity building (CB) projects aimed at different areas and levels of competence.

Experiences in agriculture and in Asian aquaculture have shown that technical cooperation can: (i) facilitate the flow of technology among countries; (ii) diffuse technology rapidly and economically among them; and (iii) provide the essential capacity building for those that are less able to acquire or absorb technology. Pooling and sharing of national resources increase the regional capacity -- and, therefore, the individual national capacities -- to absorb and utilize technology. Technical cooperation among countries made the transfer and dissemination of technology equitable; every country had access to the technology and enjoyed the combined resources that enabled it to utilize the technology.

These are the key players in regional technology transfer and capacity building:

⁴ V. Konde. 2006. "Africa in the global flows of technology: an overview". African Technology Development Forum (ATDF) Journal Volume 3, Issue 1. March 2006. www.atdforum.org.

International Agricultural Research systems. The roles of the international centres of the Consultative Group on International Agricultural Research (CGIAR), whose mandates are “upstream” research and capacity building for high-level technical expertise, and that of the regional centres of excellence, which adapt these results of basic research for eventual regional diffusion through the national agricultural systems, are complementary. Their resources and results can be harnessed more effectively through *a regionally coordinated programme.*

National Research & Development systems. A regional strategy on aquaculture development agreed by governments and reflecting their common priorities guides and gives focus to various initiatives when they are brought down to the national and local levels and adapted, refined and diffused through the national R&D system. The initiatives are also better sustained when governments have ownership of them; it ensures their uptake into national policies and programmes. In addition, bilateral assistance to individual countries can benefit from being harmonized by a regional strategy and receiving inputs of expertise and experiences from other participants (or members of the regional community), and having the results of such assistance shared more widely in the region.

Farmer groups, industry and non-governmental organizations. In Asian aquaculture, the capacity built for research found practical and sustained application in the applied research and farming systems research and extension programmes and their uptake in specific activities run by government, civil society organizations, industry and farmers organizations. While the generally weak or strained extension services hampered a more effective diffusion of technology, NGOs and farmer associations used this opportunity to develop complementary or alternative approaches. The subsequent industry-focused and farmer-oriented R & D programmes such as farming systems research and extension, the partnerships formed between public and private sector, and the voluntary management schemes adopted by farmers associations (that included adoption of Codes of Practices and Better Management Practices) raised the effectiveness, as well as lowered the cost to government of technology transfer and utilization and the management of the sector. Feedback from NGOs and farmers groups to R&D and policy increased the relevance of research and policy.

Non-governmental organizations (NGOs). The perceived shortcomings in governments’ efforts to address poor and small farmers’ concerns had provided opportunities for civil society organizations to take a more active role in rural development programmes with their participatory and process-oriented approaches. Their advocacies highlighted social issues while their operations demonstrated that a holistic approach to rural development -- supported by social organization and operationalized through such approaches as farmer classes and farmer-to-farmer study visits -- provided useful models for rural development strategies. NGO-government alliances tend to serve rural development objectives better without compromising each other’s ideologies and principles.

Commercial sector. Sub-Saharan Africa’s aquaculture development is exhibiting what Southeast Asia had experienced. The private sector drove the early development of commercial aquaculture and continues to do so. The Asia-Pacific, but especially Southeast Asia’s private sector had played a prominent role in acquiring technologies and transferring species and their culture technology into the region, spearheading culture trials of new species, and driving production technology development oriented towards commercial-scale aquaculture. The chicken-and-egg conundrum of “not having a market for products and services that stifle attempts to promote aquaculture and not being able to promote aquaculture because there is no market,” was resolved early in the history of Asian aquaculture with development of local markets, helped a lot by the traditional preference for fish and a high population density in the region. Subsequently, private-public sector partnerships enhanced the process and impacts of TT and CB programmes.

Public private partnerships (PPPs) and voluntary management mechanisms. Market access and trade issues have made public-private sector alliances even more compelling. The market, but particularly trade, is driving the sector to be more competitive and environmentally friendly. This has led to the development and implementation of a mix of regulatory and voluntary management mechanisms jointly developed by government, industry and farmer groups. The voluntary mechanisms have resulted in increasingly widespread adoption of better management practices that address quality, safety, environmental and social as well as ethical issues. This has hastened the transfer and diffusion of technologies and building of capacities (for policy, regulatory, extension, training, and farm management, as well as, in processing and marketing) to address market access and trade issues.

Foreign Investors. Foreign direct investments are an important vehicle for technology transfer and diffusion. FDIs contributed to the introduction of new technology and farming techniques that enabled much higher yields per unit area (in shrimp farming in Southeast Asia). But, they also abetted unsustainable farming behaviour in the industry, which was subsequently controlled with appropriate environmental regulations and better sector management.

Information Providers and Brokers. The new Information Technology, the Web, and easier, faster person-to-person communications with the mobile phone have facilitated information flows. IT has facilitated networking and increased the effectiveness of managing networks. More importantly, and because of the plethora of information now available, it has increased the necessity for a credible and reliable “information broker” – essentially a mechanism for quality control, screening, compilation and assessment, and purposive dissemination of information. ANAF could play the role of a trustworthy and credible broker in the SSA region, and it is doing so with its Information System - the Regional Aquaculture Information System (the ANAF website). RAIS ANAF and the Sustainable Aquaculture Research Networks for sub-Saharan Africa (SARNISSA), as complementary regional information systems, can be a potent force for technology and knowledge transfer and utilization in the region.

Builders of Human Capital. Underpinning the success of aquaculture development in Asia-Pacific has been the vast and continuing development of its human resources at all levels. This has been made possible basically by a universal system of education and, for the agricultural sciences and technology, the presence of local, national and regional learning institutions with well-developed curricula and capacities, and complemented by exchange arrangements that include twinning with developed country institutions, fellowships, and collaborative researches. The notable feature of the in-country, intra-regional and overseas fellowship programmes in Asia-Pacific is that most of the graduates stay or return to their countries. This highlights the importance of not merely compelling graduates to return but the need to create opportunities and challenges that attract them to work in their own countries.

An IGO. Finally, the presence of an institutionalized regional mechanism to which governments commit resources and agree to jointly operate provides a concrete and practical expression of political commitment and will, a symbol of goodwill, and a vehicle for cooperation.

3. Models of regional cooperation in fisheries

A review conducted by CIFAA described several types of regional organizations that ANAF could pattern itself after.⁵ These included NACA, NACEE or the Network of Aquaculture Centres in Central-Eastern Europe, the Aquaculture Network of the Americas (RAA), and RAIS, the Regional Aquaculture Information System of the Regional Commission For Fisheries in the Gulf Region. The three regional

⁵ Nugent C.G. 2008. ANAF: Review of Institutional Options for a Regional Network(draft). CIFAA. Feb 2008. 24.p

aquaculture networks (NACA, NACEE and RAIS) were thought to provide convenient examples of the three candidate' framework types, which include an IGO such as NACA, an association of technical institutions, such as research centres, exemplified by NACEE, and an additional activity of an existing institution in which there is no need to develop a new membership, the members of the initiating institution being already in place, such as RAIS of the Regional Commission for Fisheries (RECOFI).

The preference at that time was an IGO. At the WG Meeting and Planning Workshop in Jinja, Uganda in August 2008, the decision was made for ANAF to operate in the interim under the Commission on Inland Fisheries and Aquaculture in Africa and perform the networking functions for CIFAA. In that meeting it also developed a framework for institutional development and regional aquaculture development through a logical framework analysis exercise. The vision was for ANAF to take on the networking responsibilities for the Special Programme for Aquaculture Development in Africa (SPADA), during which period it will prepare to evolve into an autonomous intergovernmental network organization. At the termination of SPADA, ANAF shall have become a full-fledged network organization acquiring a stronger capability from its experience in implementing SPADA activities.⁶

A regional network organization can go through an interim phase before it evolves into an autonomous IGO, for example:

- 1) As a regional network of centres and institutions over a certain period before it transforms into an IGO. This was considered in 2008 by the Network of Aquaculture Centres in Central-Eastern Europe two years after its founding, but eventually opted for the status quo i.e. a network of institutions with voluntary membership.
- 2) As a regional intergovernmental network embedded into a larger regional body while it evolves into an IGO. This was the option chosen by the ANAF, which allowed it to operate under the Commission on Inland Fisheries and Aquaculture in Africa (CIFAA)⁷.
- 3) As a regional project funded by a donor or a consortium of donors, with the ultimate objective of attaining an autonomous status as IGO, as in the case of NACA. From 1980 to 1989 it was an FAO/UNDP regional project (Title: A Project to establish the Network of Aquaculture Centres in Asia-Pacific).

PART II THE BUILDING BLOCKS OF THE ANAF IGO

4. What does it need to be an IGO?

4.1 Success factors.

A list of “key success factors in networking” was produced by a brainstorming session during the 2008 Working Group meeting of the Aquaculture Network for Africa (ANAF)⁸. This list is cited unabridged, as an example rather than a definitive answer. Mostly, they are self-explanatory.

<ul style="list-style-type: none"> • Clear purpose • Clear responsibilities • Commitment of members • Added value to members 	<ul style="list-style-type: none"> • High degree of transferability of knowledge • Economies of scale • Good communications network
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⁶ Draft report of the Third Meeting of the CIFAA Working Group on Aquaculture Networking, Hotel Paradise, Jinja, Uganda, 25 to 28 August 2008.

⁷ ANAF 2008. op. cit.

⁸ From the brainstorm session on the question “What makes a network work?” at the workshop to discuss ways forward for the Aquaculture Network for Africa (ANAFANAF) held in Jinja, Uganda on 26–28 August 2008.

<ul style="list-style-type: none"> • Sharing ideas to solve common problems • Using others experience • Pooling resources 	<ul style="list-style-type: none"> • Effective communication • Effective facilitation • Sustainability
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4.2 The essentials of cooperation

Entities cooperate to do things more effectively together, but that is the purpose of cooperation, not the reason. The fundamental reasons are that they have common interests and needs that can be met by cooperation, common problems that cooperation can solve more efficiently and economically, and they have strengths and distinctive competencies that can be exchanged and applied to address the weaknesses and improve each other's competence.

4.3 The enablers of cooperation

Political will and goodwill among participants and their constituent stakeholders would be the most effective enablers of cooperation. But there is still need to place cooperative activities in a formal setting so that relations and processes are institutionalized. ANAF would have its own institutional procedures that conform with those of a regional technical organization owned and operated by sovereign states. This makes it necessary to respect, but not become tangled up in the institutional procedures of its various members. The other key enablers are the sources of technical assistance and funding support for cooperative activities. Relations with these other institutions will need to be forged so that cooperation is facilitated rather than entangled in each others' institutional bureaucracies.

4.4 The building blocks of cooperation

There are two fundamental building blocks of cooperation:

- **Expertise:** The manpower for research, information, and technical advice for production are important for a regional cooperation scheme. The aquaculture research centres and institutional focal points, and the academic institutions are important assets of each country that may be brought to the cooperation table. Aquaculture science has benefited from other disciplines so that it is also necessary to include the allied centres and institutions such as health management, nutrition, environmental science, and biotechnology.
- **Experiences:** FAO's 2005 review (Hecht, et al 2006) suggests the presence of a good stock of knowledge and experiences in policy and technology development, transfer and utilization among ANAF countries. As Satia reported and analysed, the top aquaculture producers in SSA include Nigeria, Uganda, Madagascar, Zambia and Ghana. Collectively, there are several reasons why aquaculture has had spectacular growth in these and other countries in the past decade. They include the adoption of good governance, emphasis on capacity building to create the critical mass in strategic and targeted subject matter, promotion of public and private sector partnerships, emphasis on research and outreach and the provision of credit.

The review stressed that the major catalyst to growth that has been experienced is the promotion of private sector-led aquaculture development, manifested in these lead countries by investment in sound management, establishment of efficient commercial fish hatcheries, judicious choice of limited species, development and use of aquafeeds, development and use of new production systems and the emergence of strong and dynamic producers associations and service providers (Satia, 2010).

4.5 The modes of cooperation

There are various ways to cooperate among governments or sectors of governments. Five of the more common modes are described below:

- TCDC/ South-South Cooperation – essentially a tripartite arrangement with one country as the cooperator (donor of expertise), the other as the host (recipient) and an international organization (i.e. FAO's TCDC/TCSF) as the facilitator and contributing some operational funds to implement the technical cooperation.
- Joint ventures: usually between groups or firms in the private sector either on their own accord or through the framework of economic cooperation between governments.
- Consortium: usually among institutions, with an agreed work programme as the bind among them. Participants have no contractual obligations in respect with the agreed work programme, except when they jointly or severally enter into an agreement to operate a project under the work programme. Example is the Consortium on Shrimp Culture and the Environment among FAO, NACA, World Wildlife Fund (WWF), World Bank and the United Nations Environment Programme (UNEP).
- Partnerships: usually a collaborative arrangement between one or more organizations by working together in a project.
- Information and technology exchanges through the routine and specially organized processes of the network organization, such as regular meetings, special meetings, thematic conferences and technical workshops, training and study tours, people-to-people interactions, and through the information system.

5. What does ANAF possess as foundation for an IGO status?

After almost six years of operation, ANAF has built up these platforms for becoming a IGO:

- 5.1 Political traction and strategic institutional location. The assets of ANAF are significant building blocks for its transformation. Among these are the political awareness and support to it as a development concept and agent that stems from the African Union and NEPAD, its location and operation within CIFAA, and its technical role in SPADA.
- 5.2 Track record. Surely in six years of operation ANAF can cite a number of noteworthy accomplishments. RAIS and the facilitation of information exchange and flow is one. In some member countries, particularly, Ghana, a national network of the major stakeholders has been established, anchored and coordinated by the government fisheries service, to facilitate in-country transfer and adoption of technology, serve as a common forum for addressing national issues, and as the national focal system for the regional network i.e. ANAF. This is an innovation that is worth promoting in all other member countries.
- 5.3 An institutional ecosystem. ANAF is now and would become an even more significant player in the region's institutional ecosystem that includes CIFAA, FAO, SPADA, programme for aquaculture and fisheries (PAF) of CAADP (comprehensive AFRICA agriculture development programme) , SARNISSA sustainable aquaculture research networks for sub-Saharan Africa, World Fish Centre and others.
- 5.4 Physical, social, human and financial capitals. These include the institutions that are part of the ANAF network (national centres and focal points, their physical and human resources, the social capital embodied in the relationships and linkages it has developed with other institutions, those within the national systems such as farmers' associations, the Aquaculture Working Group itself, and the Regional Aquaculture Information System. Commercial, economic and scientific as well as cultural relations existing between the countries are valuable assets. The human capital of ANAF would be the

source of its strength. There is an increasing number of trained manpower in aquaculture and supporting areas such as information technology, and related areas and disciplines such as veterinary science, health management, business management, soil and water management, and engineering. Financial capital is probably the least endowed of the tangible and intangible institutional capitals of ANAF.

PART III THE STEPS TOWARD AN IGO STATUS

6. What more does ANAF need to become an IGO?

It sounds crude to say that a significant task towards attainment of IGO status is selling. But pragmatically, selling is what it takes to persuade people to convert ideas to action. Ideas that are not sold essentially remain a nice shopping list. The track record of ANAF may have set the groundwork for a campaign that does not require a lot of hard-sell. Still, there are stakeholders to persuade with convincing argument, and the principal one is the government, particularly the government's finance ministry. IGO membership requires the government to commit recurring payments – a cost that should give the government a return; the greater the benefit over the cost, the more attractive the investment. At this point then, ANAF should begin putting together the demonstrable evidences that networking through an IGO provides an attractive payoff to governments. There may not be a lot of hard evidence yet. But the few that can be cited should be assembled and analyzed. The analysis of data already collected and stored in the ANAF database to show regional production and the socio-economic impact of aquaculture, as suggested by Cameroon, is a worthy project⁹. The results of ANAF annual meetings can also be included. The increases in production cited by the FAO reviews may not be directly attributable to ANAF, but it could certainly be sustained and raised further with an IGO.

An example might be drawn from Asia. The short-term strategy NACA adopted was to demonstrate improved technology and promote them for adoption by the private sector to quickly generate increases in production. The demonstrable increase in farm yields and national outputs served the purpose of persuading the policy makers to allocate more funds for R&D in this promising sector (something policy makers tend to be reluctant to do as a research project takes a long time to finish and still more time for its impacts to be seen by the public). The strategy also bought time for the researchers to come up with better production technology and locally suitable species and farming systems. The results became useful evidence for the technical agency (i.e. the fishery department) to argue its case for more investments in aquaculture with the national legislature and treasury. It may also be pointed out that there can be significant savings in money and time from borrowing improved technology and adapting them for national application.

Adaptation of technology requires trained technical, extension and production manpower. In Asia, this was achieved with focused training for farming systems researchers, extension technicians and farmers. NACA sought external assistance to fund training, study tours and exchange of experts. The justification was not for trained manpower, for that is the means, but for increased yields and, therefore, higher productivity and income. Being able to attract external support can itself be a good argument for government investment. It can be presented in terms of the money invested by government being able to generate a multiplier effect. (An analysis made by NACA in 2005 showed that between 1999 and 2005, every dollar the governments paid as their contribution to the NACA core fund generated an average of 2.38 dollars, excluding the US\$34 million four-year tsunami rehabilitation programme for fisheries in Aceh Indonesia that NACA managed).

⁹ FAO/CIFAA.2012. Report of the Technical Meeting and Training on the Aquaculture Network for Africa) website: Data Collection and Dissemination Tools. Jinja, Uganda, 22-25 November 2011. 68p.

Another agency to persuade is the foreign affairs because the government has to enter into a regional agreement. While ANAF is a technical organization, the foreign affairs ministry would tend to see it as a geopolitical entity. The current status of ANAF has established it as a recognized regional activity. Becoming an IGO would institutionalize that into a legal organization with diplomatic status in the host country and diplomatic implications in the other member countries. There are issues that the a foreign affairs ministry, especially of the host country, would like to clarify, which include the status of expatriate staff in the Secretariat, taxes on salary, taxes on importations and visa privileges. These issues are addressed in the hosting agreement and in the agreement itself under the article on Legal Status, Privileges and Immunities. Beyond these legal issues is the benefit to the region as a whole and to the country in taking an active role in a regional development organization. An argument in principle would be the many regional advantages of cooperation. An argument that has proof from other regions and from other sectors is the fact that pooling together the limited national resources turns them into a significant regional stock of technological asset which increases their collective impact and benefit; the organization can be a platform for collective voice in regional and international dialogues; and an IGO that is owned and funded by member governments usually provides a stronger leverage for attracting external assistance: it provides assurance to assistance agencies and donor organizations that their aid is effectively applied to priority problems.

This table might be a useful reference in developing an argument addressed to the foreign ministry.

Table 2. Operating Principles of an Intergovernmental Network Organization

1) It operates on the principle of technical cooperation among its members.
2) It adheres to the democratic principle of one-member one-vote and on consensus to arrive at decisions.
3) It observes the principle of equitability in assessing contributions and requesting further contributions to its operations in terms of resources other than financial.
4) Its programme of work reflects the common priorities and needs of members but respects the unique problems and needs of individual members.
5) Its objectives are clearly identified and understood and the responsibilities and obligations of members are clearly understood.
6) It operates with the flexibility to address emerging issues and respond to urgent issues and concerns of members.
7) It operates with the maximum political support and minimum political interference.
8) It is not dependent on a single source of assistance and operates in the best interest of all its members.
9) It enters into mutually beneficial collaboration with international and other regional organizations and institutions.

The third group of stakeholders to persuade would be the “private sector” comprising industry (input and services providers and output buyers), investors, and producers. Basically, the same argument and evidence presented to the finance ministry would apply to the private sector. In addition, as this quotation suggests, ANAF should have to present its programme as one that assures that investment climate is favourable, investments are secure, and producers would have access to efficient support services.

“Most growth has occurred as small and larger scale private sector enterprises develop, and as focused skills and market linkages become established” Satia 2011.

This goes beyond assurance of higher yields and profitability. It basically means better governance of the sector. Practical outcomes would include a policy, strategy and plan for the aquaculture sector, progressive

legislation and regulations specific to aquaculture, better management practices, and market-based governance mechanisms. Governments will be assisted by ANAF to formulate these and best practices can be exchanged through the ANAF mechanism of networking. This in fact is one of its tasks under the SPADA programme¹⁰.

To summarize, ANAF needs to line up persuasive arguments that government investment would bring a favourable cost-benefit ratio, that regional participation brings collective benefits that are multiplied and enlarged by acting together, convince the private sector that aquaculture is a profitable investment area, and assure donors that their assistance are applied to priority problems and have a wide spread of beneficiaries and therefore a bigger impact.

One strategy that might be explored is to find a champion in the region and within each country who can effectively articulate and present the arguments to the government.

7. How does it become an Intergovernmental Network Organization?

The steps toward the attainment of a full-fledged functional IGO status can be divided into three stages whose activities can overlap, namely: strategic, legal, organizational and technical.

7.1 Strategic. This is essentially what has been discussed above. But it is not enough to prepare everything and present the package to governments for their agreement or support. They and the other primary stakeholders of aquaculture should be part of the process. A consultative process is aimed to bring the primary stakeholders in the decision making. The object of this strategy is to obtain a collective decision and instill ownership of the countries in the outcome of the decision.

7.2 Legal. Transformation requires that the legal and administrative instruments are formulated and adopted, the governing and coordinating bodies are constituted, the network structure and mechanism is in place, and a work programme is developed and adopted. These are the essential attributes of an IGO. ANAF has now some of these attributes as well as the mechanisms that could be upgraded to the essential attributes. A comparison of the equivalent attributes of ANAF and the Intergovernmental NACA Organization would indicate the action required for ANAF to transform into an IGO, like NACA. This table compares the current attributes of ANAF with that of NACA and briefly suggests the actions needed to upgrade to the level that is comparable to NACA's.

Table 3. ANAF's attributes that correspond to NACA's and the actions it needs to upgrade to IGO status

Attributes	NACA	ANAF	Actions to "Upgrade" as needed
Legal status	NACA Agreement	Founding Document	Draft of ANAF Agreement, with advice of FAO Legal Office; adopt at a plenipotentiary meeting convened by fao.
Hosting agreement	With the Royal Thai Government's Ministry of Agriculture	With Lake Victoria Fisheries Organization, Uganda	ANAF members identify, agree and negotiate with potential host government; draft the hosting agreement with legal experts of the host agency and foreign ministry of the host country and the assistance of FAO

¹⁰ SPADA's second aim is to "assist two-thirds of countries in the Africa region in elaborating and implementing national aquaculture development strategies with accompanying aquaculture plans, legislation and regulations".

Attributes	NACA	ANAF	Actions to “Upgrade” as needed
Diplomatic status with host government	Hosting agreement	none	Identify, agree and negotiate with the host government. draft with the foreign ministry of the host government and legal advice of FAO; gazetted in host government’s official register; disseminated to the diplomatic missions in the host country.
Governance	Governing Council	CIFAA	Constitute a provisional governing body; draft duties and responsibilities; designate representatives to the governing body; and develop Rules of Procedure for ANAF
Technical advice	Technical Advisory Committee	ANAF National Coordinators;	Include provision for a technical advisory body in the agreement; agree on its membership; develop its TORs; develop TORs for ANAF National Focal Points
Coordination and Management	Secretariat	ANAF Regional Centre	Train staff and establish a secretariat; elect coordinator; develop coordinator’s tor, propose a staffing pattern and draft the TORs of the professional staff
Network nodes	Regional Lead Centres	ANAF Regional Centre	Depending on the work programme, ANAF could retain this designation and, as needed, expand the number of collaborating national institutions.
	Regional and National Collaborating Centres	National Centres	Based on capacities and areas of competence, ANAF designates these centres.
	National Aquaculture Centres (NAC)	National Centres	Agree on areas of responsibility, but usually NACs adapt for national application the research results of the regional lead institutions.
	Focal Agencies	National Centres or the mother institutions of the National Centres (such as the Ministry of	Governing Board Members serve as the focal person and their agency as the focal agency. National Coordinators for various programmes need to be identified and tasked with technical and coordinating responsibilities for specific projects or

Attributes	NACA	ANAF	Actions to “Upgrade” as needed
		Fisheries) ; ANAF National Focal Points	programmes.
networking mechanism	tcdc	Technical cooperation under the framework of FAO/CIFAA	Will be part of the implementation mechanism for the Work Programme
	Consortia and partnerships based on programmes and projects	Programme in support of SPADA objectives; ANAF website	A regional programme is the basis for forming a consortium. Consortium members collaborate collectively or with one or two on projects within the programme (an example is NACA’s shrimp aquaculture and the environment consortium with FAO, World Bank, WWF, and UNEP ¹¹).
	Expert exchanges	No formal programme	Exchanges are developed and executed through TCDC arrangements, usually between centres.
	eNACA; Regional information hub and links with national and partner institution websites	ANAF information system (www.anafaquaculture.org)	ANAF website is now linked to those of its members as well as with those of partner organizations.
Programme of Work	5-year Regional Work Programme developed by TAC and approved by the Governing Council	Discussed at the ANAF annual meetings?	A Work Programme that reflects the common priorities is an essential attribute. It is formulated through a series of consultations and adopted by the Governing Body. It is as much a regional policy for aquaculture development as a programme of work.
	2-year work plan	Annual work plan and budget is developed by the WG and approved	Annual planning can be retained if that is more convenient and practical for ANAF.

¹¹ www.enaca.org/shrimp

Attributes	NACA	ANAF	Actions to “Upgrade” as needed
		by the management Technical Comm.	
Administration and finance	Schedule of government contributions	None.	Has to be carefully and thoroughly studied by a task force and adopted by the governments; must be seen as equitable.
	Rules of procedure	None	Draft or borrow an existing “rules” and amended as necessary, with the advice of FAO Legal Office
	Financial regulations	None	Need input from financial management expert; with assistance from FAO
	Employment conditions	None	Need assistance from personnel management expert; also with assistance from FAO
	Staff regulations	None	-same as above-

7.3. Organizational. The architecture of the IGO would depend on the Agreement although at this point, the consensus is for an intergovernmental organization operating as a network with government centres of excellence or government fisheries agencies as the national nodes of the network. However, as in Asia, the network may subsequently decide to designate a few key regional lead centres, which are centres of excellence in specific aquaculture systems. Mostly, their role is to do applied research and be the source of technology that the national centres will adapt to specific national conditions. Their other functions are training and information development and dissemination. The Secretariat could be located in one of these lead centres. The RAIS ANAF portal headquarters should continue to be located in and operated by the Secretariat with IT nodes established in the other centres. In Asia, the original four lead centres were located in countries that were acknowledged to have distinctive competence in a certain farming systems (integrated fish farming in China, composite carp culture in India, brackish water aquaculture in the Philippines and freshwater aquaculture of indigenous species in Thailand).

The membership of two of the three organic bodies of the ANAF, the governing body and the technical advisory body, will depend on the provisions of the agreement. Usually, the governing body is composed of high government officers of the fisheries ministry or bureau, so that there are as many members as member governments. In NACA, FAO is a non-voting member of the Governing Council and a member of the Technical Advisory Committee. Because of the importance of the private commercial sector, it could be represented in the governing body, which indeed was proposed by the CIFAA study (figure 1). In NACA, farmers’ associations, NGOs and industry are invited to the Technical Advisory Committee meetings in which the work programme is crafted and/or assessed. (The NACA agreement was revised to accommodate associate members, which are non-voting members of the Council and usually send technical experts to the TAC meetings). This organizational structure was proposed by the CIFAA-commissioned study, which depicts the relationship of ANAF to CIFAA, NEPAD and other partners. It conforms with NACA’s organizational structure.

The original thinking to have a Pan-African ANAF had been scaled down to a sub-Saharan network. Chris Nugent’s review for CIFAA described the advantages and disadvantages of a vast network that comprises numerous countries with diverse agro-ecological, socio-economic and cultural characteristics.

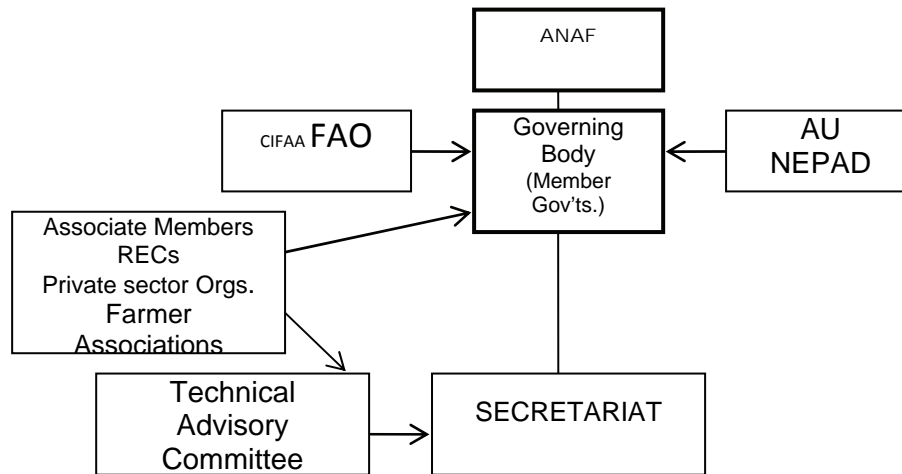


Figure 1. Proposed ANAF Structure (from C. Nugent's review for CIFA, 2008)

7.4. The technical phase is the development of a regional work programme. This is elaborated in detail elsewhere below (in section 10).

8. Legal instruments to establish an ANAF IGO.

The basic legal instruments should be drafted with the participation of concerned government authorities. The two essential documents are the organization's constitution (Agreement) which establishes its legal status, organizational character, objectives and functions, and operational systems, and the Hosting Agreement with the host country, which establishes its diplomatic status with and specifies the obligations of the host government. The Agreement can be drafted with the assistance of FAO, and the Hosting Agreement with the collaboration of FAO and the legal department of the Ministry of Fisheries of the host government (which would consult its foreign ministry). NACA constituted a Legal and Financial Working Group to develop with FAO's legal assistance the Agreement and the other administrative instruments, as well as, the schedule of mandatory contributions of governments.

9. Administrative and management instruments

The administrative instruments and can be borrowed off the shelf with modifications as necessary. These include the:

Rules and procedures for the organization: This provides for the following: - representation in the governing body (GB), regular and special sessions of the GB, representation of FAO in the GB, observers, election of the GB Chair, functions of the GC Chair, rules on the conduct of GB meetings including having an agenda, quorum, voting (one member one vote, majority or plurality vote to validate a decision, open or secret, etc.) , public (open) and private (closed) meetings, language of the proceedings and documents, responsibilities of the Secretariat, approval of meeting reports, requirement of an external auditor, creation of subsidiary bodies, and the application of the Rules to the meetings of any other body of ANAF such as the technical advisory body and a subsidiary body.

Financial regulations: The regulations cover a financial or budget period, the budget estimate for the financial period, appropriations for the ensuing financial period, source of money, the type funds to be established (e.g. general, reserve and trust), statement of accounts, custody of funds (which bank or banks), investment of funds (short and long term), and external audit. (NACA also designated subsequently a person to act as the internal auditor, but this was an operational decision, not policy).

Employment conditions: This covers a very wide range of personnel management and administrative conditions some of which are particular to an intergovernmental organization with diplomatic status: these

include privileges and immunities; assignment of staff in countries other than the headquarters; provident fund; health and accident insurance; living allowance; and staff entitlements and benefits (grade levels; probation period and annual steps increments; remuneration package that includes salary scale, dependency allowance, education grant, installation and dislocation allowances; shipment of goods and personal effects. The remuneration package needs careful study as it involves setting professional or grade levels and the commensurate salary levels, which has the added complication of having to be in line with the status of the organization relative to equivalent regional organizations.

Staff regulations: This covers the duties, responsibilities and privileges of staff, classification of posts and staff (professional, support); salaries and allowances (increments and methods of payment); appointments and promotions (appointment of the head, especially) separation from service (modes such as resignation, termination, retirement and death); hand over of responsibilities of a separated staff; holidays and hours of work; overtime conditions and remuneration; leave of absence (annual, medical, maternity, home, and special leave); travel and travel expenses; social security; and accident and health insurance.

9.1 Schedule of government contributions

The most important and most difficult to develop is the schedule of contribution of members. It is important because it is the basis for achieving the status of and operating a self-sustaining and self-reliant organization. It is difficult because members are usually of different state of economic development so that the contributions would have to vary, but should be seen as equitable. A task force should be organized to study and recommend a scheme, which is subsequently taken up in negotiations among all governments. With NACA's it took two attempts and several formulations before an acceptable schedule of contribution was adopted.

10. Work programme

The regional programme of work is more than a programme; it is also a regional aquaculture development policy, indicating the directions and priorities for development efforts. It should be developed by technical personnel working with policy and programme officials in a series of consultations. The work programme is the equivalent of a national social and economic development plan and therefore should be effective for a reasonable period of time (such as five years). It is a rolling programme in that each work programme is not discrete. It should have the flexibility to accommodate emerging issues. The work programme includes an indicative budget, personnel to implement it and of great importance, a strategy to generate the resources to execute it.

The work programme is developed by the Technical Advisory body with assistance from the Secretariat, and approved by the governing body. It is not a programme that the Secretariat develops for itself but one that the governing body adopts for the region. It is usually informed by international, regional and national fora, which provide the context and justification for the programme priorities.

Formulating the work programme involves the inventory and assessment of capacities of the various institutions. Such assessment also indicates the priority needs of the same institutions for capacity building. This assessment is extended to the priority needs of countries. It would yield the essential information needed for a TCDC capacity-and-needs-matching exercise; this involves matching the capacities of institutions with the needs of the members. The matched needs and capacities become the basis for agreements on particular assistance between members. An important by-product of this exercise is that it reveals the capacity building needs of the entire network, as for instance, when it turns out that there is no institution or there is insufficient capacity in the network that can meet some needs. The process should include the private sector (such as their needs for technical inputs, marketing and trade, and joint ventures). The output is a negotiated technical assistance agreement among members.

11. Strategy for resource build-up and funding

Raising the resources to operate an organization and implement activities is always a difficult task. A piecemeal and opportunistic approach, with luck, might yield a one-time “windfall” or success. But it is always more prudent and sustainable to develop and follow a well-thought out strategy for building resources and attracting investments. A network organization’s resources come from the items described below; they are an integral part of the work programme.

Core fund: The resources to operate an autonomous IGO are varied and the key resource is the members’ contributions. Not only does it provide the funding for core activities such as coordination (staff salaries, communication, and essential travel), but it also for developing projects. Most of all, it indicates to donor agencies in concrete terms the commitment of members.

Projects: These can provide the secretariat both manpower assistance and revenue.

Consultancies and payment against services: a scheme of technical servicing could be developed by which ANAF provides the technical consultancies for bilateral and multilateral projects. Member governments could give preference to the ANAF technical services in the implementation of bilateral projects, the condition being that the technical services arm of ANAF has the necessary competence and the projects are in line with ANAF objectives. This is a medium- to long-term venture.

Training courses and study tours: These are also significant sources of revenue. Training courses could be implemented in collaboration with other institutions (such as the private industry and agricultural and development banks) for their clientele. Study tours, while mostly ad hoc and on request, could be institutionalized by having a core group of experts in various institutions who can be relied on to organize a requested study program on short notice.

Secondment of personnel to the Secretariat: Governments could second the needed and suitable staff for a fixed time period (one year to two years) at the Secretariat. A seconded staff is allowed official time and salary by the government and provided with travel and living allowance by the organization. The seconded staff renders technical service to the secretariat and learns the skills and requirements of coordinating a regional activity, both of which would be useful to the organization and to the person’s government.

Associate Professional Officers in the Secretariat or deployed in National Centres: This scheme of placing associate professional officers (APOs) is extremely useful in that young and talented and highly motivated professionals work alongside the Secretariat staff in specific projects or activities. It costs the recipient organization nothing except the provision of office space and materials while the output from an APO can range from a project proposal to a publication.

Interns: Some organizations and academic institutions have an internship programme and ANAF could use their expertise in some activities. It is also helping in the training of the intern, which is by itself earns goodwill from both intern and her institution.

12. Network structure and mechanism

As a network of centres and institutions, the action happens in the networks’ nodes – the centres and institutions and agencies of the network. These are the implementing units. The Secretariat is not **the** ANAF. The Secretariat coordinates and directs the implementation of network activities, which are carried out by the ‘implementing units. These implementing units may include focal agencies (bureaus or ministries), centres, institutions and people. ANAF’s work programme. ANAF should have to include the designation of centres and institutions for specific and clear responsibilities in the programme. The task, therefore, is to identify and designate centres and institutions for: disciplinary research, multidisciplinary research, applied and adaptive research, farming systems research, education and training and information

development for major fields of development in the work programme, as it has done with the lead institutions of working groups.

13. Collaborative arrangements with other regional and international organizations

The IGO will find itself in a context where there are other organizations, some likely with mandates that might overlap others' in certain areas. It is understandable that institutions fiercely safeguard their mandates and turf from the encroachment of others, not to mention having to compete for donor resources.

An IGO will need to interact with other regional organizations in various ways and degrees because, as a network, it is even more dependent on collaboration and positive interactions than a single monolithic regional institute. It needs to create the climate for collaboration and one of the ways to do so is to avoid projecting an image of supremacy and domination. A network itself has no concept of hierarchy and this idea should permeate its interactions with every regional and international organization. A practical measure to achieve this objective is a consultative meeting with the other regional organizations and FAO to arrive at a consensus for collaboration. This can serve to identify key areas for cooperation and, just as important, delineate areas of responsibilities so that duplication of efforts and arguments over turf incursions are avoided. A concrete initiative would be a consortium arrangement based on the regional programme of aquaculture development or a part of it.

ANAF has developed, implemented or proposed specific functional relations or informal but collaborative linkages with a number of the regional (AU-NEPAD), international (FAO and World Fish Center), national institutions and projects (such as SARNISSA). These will likely have to be reviewed for the purpose of aligning them with the adopted mandate and the work programme of ANAF.

14. Key players and stakeholders in the process

Much of the effort to move the process forward will necessarily be borne by the ANAF Working Group. In the interim, the coordinating institution should continue to perform the Secretariat responsibilities, which is largely providing the regional focal point and communication hub. It should assist members in assembling evidences and developing a strong message beamed at government ministries (technical, finance and foreign ministries) to convince them of the benefits to national economies of ANAF becoming an IGO. A strategy should be devised to present the messages to the government and bring them on board in the process. They hold the key to attainment of IGO status and its sustainability.

Working out productive and mutually beneficial relations with various organizations and initiatives in the SSA will be an important and probably delicate task. There are many¹² and it will be necessary to develop links – and decide on the kind of functional relations -- with the ones that can effectively complement the strengths, competence and objectives of ANAF. Care must be taken to avoid straining the capacities of the organization and diffusing the focus of its work programme.

¹² Aside from FAO (FIRA and RAF), CIFAA, NEPAD's CAADP (Comprehensive Africa Agriculture Development Programme of the New Partnership for Africa's Development), and SPADA (Special Programme for Aquaculture Development of Africa), the list includes World Fish Centre, SARNISSA (Sustainable Aquaculture Research Networks in sub-Saharan Africa), INFOPECHÉ (Intergovernmental Organization for Marketing Information and Cooperation Services for Fishery Products in Africa), INFOSA (Intergovernmental Organization for Marketing Information and Technical Advisory Services for the Fisheries Industry in Southern Africa), COMESA (Common Market for Eastern and Southern Africa), WIOMSA (Western Indian Ocean Marine Sciences Association and the Regional Economic Cooperation blocs).

15. Milestones: target events and outputs:

Transformation will require definition of inputs and outputs for each target and phase. Key players (governments and FAO) would work together to agree on measures, documents and activities. These are broadly outlined in this section for discussion and planning:

16. Initiating the process

In order to initiate the process of transformation the following consultations may be considered by the Working Group:

16.1 Special ANAF Working Group Meeting : Target date: May 2013.

- Action: Development and presentation of proposed IGO transformation initiative to ANAF member institutions for consideration, approval and inputs; consensus building among national stakeholders.
- Materials: Essentially the decisions from this workshop and assembled arguments for government.
- Method: National stakeholders consultations.
- Support: ANAF information system and mass media releases.

16.2 Task forces are constituted and enabled: Target start: January 2013; end June 2014

- Actions:
 - Designation of task forces to develop legal and administrative instruments;
 - Designation of a financial task force to develop the schedule of contribution.
 - TORs are written for the task forces.
 - TOR is drafted for the head of the Secretariat i.e. Coordinator or Director.
 - Meetings are scheduled for planning and then presentation of results.

17. Formalizing the transformation process

Following initial consultations, decisions and indications or confirmations of interest in participation in the transformation process, and with three important instruments drafted -- the draft Agreement, Schedule of Contribution and Rules of Procedure – ANAF along with its interested partners and stakeholders would consider and address these issues and steps:

- Confirm government commitments – to be done by the respective members of the Working Group
- Constitute a task force to identify and short list prospective host governments
- Constitute a task force to draft the hosting agreement
- Constitute a task force to develop: a Work Programme for the first three or five years that includes a personnel requirement and budget estimate; and (ii) a resource generation strategy to support the work programme.
- Designate a task force to work on the draft of the ANAF Agreement.
- FAO and CIFAA to assist ANAF craft the Agreement, Rules of Procedure, Staff Rules and Regulations, Terms of Employment, and, in collaboration with the legal experts of the Ministry of Foreign Affairs of the host government, develop a hosting agreement.

17.1. Finalizing the provisional drafts of all the legal and administrative instruments and the proposed schedule of contributions for discussion and adoption in a plenipotentiary meeting to be convened by FAO. Expected duration of phases and costs. Target date January 2015. Indicative cost of the processes above including the meeting: US\$ 90 000.

Box 2. Length of the transformation period: NACA experience

The transformation period can be lengthy. There is no shortcut although the six years of ANAF operation may be seen as the equivalent of the first two phases of the NACA project period. Cost is difficult to assess but it should be based on the Work Programme.

As an indication, it took NACA three years from 1987 to 1989 to consolidate the achievements of the first two phases (1980–3; 1984–6) during which time all the legal instruments, management and administrative instruments, the formulation of and negotiations on the government contributions, and the adoption of all these in a Plenipotentiary meeting were carried out. The funding from UNDP for that final phase was around US\$2 million (in 1980s money). On top of this are the voluntary contributions of some governments, the complementary assistance from the Regional Seafarming Project and funding for specific projects in training, expert exchange, research and information development and dissemination from a variety of donors. The total cost would have come up to US\$3 million, but that included the costs of implementing programme activities, not just carrying out the transformation process.

18. Expertise required to assist in the development of the documents

The outputs that have to be developed require a broad range of expertise. The provisional list is proposed as follows:

- FAO/CIFAA: technical and legal inputs from RAF, FIRA, LEG, NGO and TCO.
- Network Coordination and Management/Work Programme Development and Management
- Government policy and regulations, and national aquaculture programme planning and management.
- Senior aquaculture expert in research and technology transfer.
- Socio-Economist
- Organizational management/Personnel management.
- Financial management.
- Development Communications Support/Information Technology; Training and Extension

19. Concluding statement

19.1. The strengths and weaknesses of ANAF

The groundwork for ANAF's transformation has been laid by the accumulated experience over its six years of operation. As it prepares for the final leap, it might be salutary to take stock of its strengths and weaknesses. Table 4 contains an indicative list, some of which are not innate strengths or weaknesses of ANAF, but ones that are imparted on it by its environment:

Table 4. Indicative strengths and weaknesses of ANAF

Strengths	Weaknesses
<ol style="list-style-type: none"> 1. It is in a period of accelerating economic growth in the region 2. It has members with rapidly growing economies 3. It has members with relatively advanced aquaculture technology 4. It has accumulated a useful body of experience in network management and operation and in information development and exchange. 5. It has accumulated some useful experiences in supporting technical development in aquaculture through SPADA. 6. The private commercial sector is active and a strong agent for aquaculture development 7. Information technology is now widely used and has become a potent tool for development and social transformation. 8. It enjoys regional political recognition through the African union and NEPAD 9. It can forge closer and functional collaborative linkages with recognized organizations and initiatives such as WorldFish, FAO, CIFAA, African Development Bank, INFOSA (marketing and information services for the fishery industry in south Africa), and SARNISSA, PAF and CAADP as well as producers groups like the CAPA (Commercial Aquaculture Producers of Africa). 10. The stagnation of capture fisheries in the region has positioned aquaculture as the major source of aquatic products. 	<ol style="list-style-type: none"> 1. It operates in a region where: <ul style="list-style-type: none"> • infrastructure are in need of a great deal of improvement and modernization; • policy, laws and regulations need to be made more supportive of public investments in development and private investments in aquaculture business enterprises; • manpower development at all levels needs to be accelerated and sustained; • technology development and innovation systems for aquaculture development are either absent or weak in many member countries; and the absorptive capacity for borrowed technology needs much improvement; • resilience of the aquaculture sector to all shocks and its adaptive capacity to all risks are as yet untested. • it is not sure how the aquaculture industry can compete in an open and globalized trade. 2. A strong regional bond among the members states that is the foundation of a network still has to be tested. 3. The spirit of sharing and the concept of pooling of resources has yet to manifest itself strongly in the running of ANAF. 4. There is not a lot of accomplishments that can readily be presented to win the support of national stakeholders. 5. The regional and national markets are as yet extremely fragmented.

19.2. Prospects

The economic context and institutional environment, and the growth in aquaculture in the SSA region, have made the prospect of aquaculture development brighter. These and the persistent constraints and new ones make a compelling case for ANAF to become a regional intergovernmental network organization; the flipside of a constraint is opportunity. Experiences from Asia provide evidence of the benefits of an IGO, and ANAF's own accomplishments, however scanty as yet, can be assembled into a persuasive argument for its support by national and regional stakeholders and international supporters. The process of transformation will not be easy, the path can hold pitfalls that are the result of lack of understanding of ANAF's ideals and the tendency for self interests to override common interests. That said, there are documented evidence that the benefits to countries in investing in an IGO far exceed their cost.

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Annex 1**GDP Growth Forecasts for Selected sub-Saharan Economies¹³**

1. Cameroon. After an estimated expansion of 4.5% in 2012, real GDP growth is forecast at an average of 4.7% a year in 2013–14 and 5% a year in 2015–17.
2. Ghana. GDP growth will average around 7.5% in 2013–17 as the nascent oil sector expands.
3. Kenya. Growth will rise in 2013–17, although structural constraints will persist.
4. Mali. After estimated expansion of 5.4% in 2011, real GDP growth will slow to an average of 4.2% in the 2012–13 forecast period; expansion will be bolstered by buoyant mining activities, most of which are located in the south and west.
5. Mozambique. After reaching 7.4% in 2012, economic growth is forecast to average 8% a year in 2013–17, owing to the minerals boom and investment in the gas sector.
6. Namibia. Real GDP growth is forecast at 3.8% in 2012, provided that another global recession does not occur, and at an average of 5.4% in 2013–16, driven by investments in mining.
7. Nigeria. 5–7.5% Real GDP Growth (forecast, 2013–2016)
8. Senegal. Real GDP will expand by an annual average of 4.6% in the 2012–16 forecast period (it was estimated at 2% in 2011)
9. South Africa. Boosting economic growth, jobs and investment will remain the government's primary focus. Real GDP growth will remain modest in 2013, due to weak global conditions. Growth will edge up in 2014–17 in line with better global and domestic conditions.
10. Tanzania. Real GDP growth is forecast to average 7.1% in 2013–17 supported by Tanzania's abundant resources and favourable location, although poor infrastructure will keep growth well below potential.
11. Uganda. Real GDP growth is forecast to increase to an average of 6.9% in 2013–15 and accelerate to 12.9% in 2016 as oil production starts, before easing slightly to 9% in 2017, as the one-off impact from oil production cannot be repeated.
12. Zambia. Despite an increase in policy uncertainty, real GDP growth is forecast to average 7% in 2013–17, supported by large investments in infrastructure and the mines, a surge in copper production and robust growth in services and agriculture.
13. Angola. A steady rise in oil output and investment will drive average real GDP growth of 6.1% in 2013–17. Crude output is forecast to rise from an average of 1.81m barrels/day (b/d) in 2012 to 2.23m b/d in 2017.

¹³ Source: Economist Intelligence Unit, "Africa Cities Rising." Sep 18, 2012.

This document contains the report of the Fourth Annual Meeting of the Aquaculture Network for Africa (ANAF), which was held in Entebbe, Uganda, from 4 to 6 December 2012. The participants addressed and made decisions on matters concerning relevant follow-up to the third ANAF meeting. The meeting was attended by the ANAF National Focal Points from nine member countries, two international consultants, two representatives from NEPAD, a representative from ACP FISH II (Eastern Africa), a consultant from the FAO Regional Office for Africa and an FAO Aquaculture Officer. The meeting discussed the steps for the establishment and management of National Aquaculture Advisory Group (NAAG) and National Aquaculture Farmer Associations (NAFA) in ANAF Member Countries. The participants adopted a strategy to turn ANAF into a functional Intergovernmental Organization and they discussed and endorsed the ANAF work plan for 2013.

During the session, three task forces were established and elaborated their terms of references for the preparation of three distinguished reports. These reports will describe the measures that ANAF member countries shall take in order to turn the ANAF into an Intergovernmental Organization. The reports will be presented and finalized at the Fifth ANAF Annual Meeting to be held in September 2013 in Dakar, Senegal.