

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

Report of the

**TECHNICAL MEETING AND TRAINING ON THE AQUACULTURE
NETWORK FOR AFRICA (ANAF) WEBSITE: DATA COLLECTION
AND DISSEMINATION TOOLS**

Jinja, Uganda, 22–25 November 2011



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PREPARATION OF THIS DOCUMENT

This document represents the report of the technical meeting and training on the Aquaculture Network for Africa (ANAF) website: data collection and dissemination tools, held from 22–25 November 2011 in Jinja, Uganda. In the absence of the ANAF Secretariat, this report was prepared by Messrs Valerio Crespi, José Aguilar Manjarrez and Junning Cai from the Aquaculture Service of FAO Fisheries and Aquaculture Department in support of the network.

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ABSTRACT

The technical meeting and training on the “Aquaculture Network for Africa (ANAF) website: data collection and dissemination tools” was held at the Paradise Hotel in Jinja, Uganda, from 22 to 25 November 2011 and it was attended by 16 participants including representatives from nine ANAF member countries, one representative from SARNISSA, one from NEPAD, two from LVFO and four from FAO, Rome. Its objectives were to: (i) discuss ways of strengthening collaboration between ANAF and regional networks such as SARNISSA and others; (ii) train ANAF National Focal Points (NFP) and the IT consultant of the LVFO (temporarily in charge of the ANAF website) on the ANAF web site maintenance and operation; (iii) provide hands-on training on spatial tools for collecting, managing and disseminating national aquaculture statistics; and (iv) discuss major data or information gaps for assessing and monitoring the aquaculture sector performance in sub-Saharan Africa. Participants contributed directly by giving a short presentation at the meeting and taking part in the structured discussions. The meeting concluded with the identification of follow-up activities: (i) use SARNISSA as the online forum for the ANAF website and create a first level of integration between the two information systems on a common mailing list to be used for the dissemination of aquaculture information in the region; (ii) the NFPs to upload a minimum set of data and information for the ANAF website before its official launching on the Internet; (iii) the NFPs to collect data on aquaculture sites at the national scale to be used for the preparation of NASO maps for each country; and (iv) NFPs will review the information needed to fill the gaps for the assessment of the national aquaculture sector performance and they will prioritize the minimum set of data/information to be collected. In the end, the participants discussed and prepared a detailed work plan for ANAF related activities for 2012 particularly, it was decided to concentrate the work and discussions of the next ANAF annual meeting on the ANAF-Intergovernmental Organization (IGO) NACA-like transformation process.

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ACRONYMS

ANAF	Aquaculture Network for Africa
CIFAA	Committee for Inland Fisheries and Aquaculture for Africa
FAO	Food and Agriculture Organization of the United Nations
GAA	Global Aquaculture Alliance
IGO	Intergovernmental Organization
LOA	Letter of Agreement
LVFO	Lake Victoria Fisheries Organization
MOU	Memorandum of Understanding
NACA	Network of Aquaculture Centres in Asia-Pacific
NASO	National Aquaculture Sector Overview
NALO	National Aquaculture Legislation Overview
NEPAD	New Partnership for Africa's Development
SARNISSA	Sustainable Aquaculture Research Networks in sub-Saharan Africa
USDA	United States of America Department of Agriculture

INTRODUCTION

1. A Letter of Agreement (LOA) signed between the Food and Agriculture Organization of the United Nations (FAO) and the New Partnership for Africa's Development (NEPAD) Planning and Coordination Agency provided a financial contribution of USD 30 000 for the organization of an FAO meeting on “Aquaculture Network for Africa (ANAF) website: Data collection and dissemination tools” that was held in Jinja, Uganda from 22 to 25 November 2011. The Lake Victoria Fisheries Organization (LVFO) provided the logistical support.

2. Mr Mathias Wafula, Deputy Executive Secretary of the Lake Victoria Fisheries Organization, welcomed the participants and highlighted the importance of the activities of ANAF for supporting the sustainable development of aquaculture in the Region.

3. The meeting was attended by sixteen aquaculture experts from nine sub-Saharan countries (including Cameroon, Ghana, Kenya, Malawi, Mozambique, Nigeria, Senegal, Tanzania and Uganda). The participants mainly represented the governments, however, some representatives of the Ugandan private sector attended the meeting as well. The list of participants appears in Appendix B.

4. The main objectives of the meeting were to:

- provide training to the ANAF Regional Centre staff and National Focal Points on the ANAF website functionalities;
- provide an overview on spatial tools including emerging issues and applications for aquaculture planning and management in the region and hands-on training on spatial tools for collecting, managing and disseminating national aquaculture statistics;
- present major data or information gaps for assessing and monitoring the aquaculture sector performance in sub-Saharan Africa;
- hold a one-day discussion with the responsible officers of the existing regional networks/information systems to strengthen collaboration; and
- elaborate the ANAF work plan for 2012.

5. This technical meeting and training on the ANAF website provided a good opportunity to discuss salient issues related to the development and management's of the ANAF website, its interaction with other existing regional information systems and it was also an opportunity to identify strategies for its promotion.

BACKGROUND

6. The proposal made by the Committee for Inland Fisheries and Aquaculture of Africa (CIFAA) *ad hoc* Working Group on Aquaculture (WGA) for the establishment of a “NACA-Like” network for Africa was endorsed by the CIFAA, during its 13th Session held in Entebbe, Uganda from 27 to 30 October 2004. The establishment of this new regional network will be supported by the development of a regional aquaculture information system (i.e. the ANAF website) in order to respond to the increasing need to: (a) develop a regional system to facilitate the exchange of information among the ANAF member countries; (b) provide the private and public sectors timely access to information required for decision-making, both on specific technical matters and for the design and assessment of new aquaculture projects; and (c) respond to the increasing public demand for accurate and up-to-date information concerning aquaculture at national and regional level.

7. CIFAA Secretariat in consultation with the FAO Aquaculture Service (FIRA) prepared a project proposal during 2009 for the development of the ANAF website. Based on the analysis of the technical needs received from the CIFAA Secretariat, FIRA decided to use the same architecture adopted for the development of the Regional Commission for Fisheries (RECOFI) Regional Aquaculture Information System (RAIS). This decision was mainly based on a number of key factors, such as its affordability. FIRA identified competent IT consultants within FAO who developed the

ANAF website using the Open Source Content Management System (Typo3) which has been proven to be a user-friendly system and allows rapid data entry from the administrators and easy retrieval from end users. The ANAF website is now up and running (www.anafaquaculture.org). During the recent construction of the ANAF website there have been a number of regional networks and information systems which have become active in the sub-Saharan African Region; this has caused the duplication of certain activities due to the unclear role of the different regional networks. Based on the above, this meeting was timely because it enabled, for the first time, technical training and discussions on the ANAF website for ANAF focal points particularly, the Regional Centre staff, the National Focal Points (NFPs) and the administrators of the other existing regional networks/information systems.

8. The ANAF website is hosted and maintained through a regional and national mechanism: (1) a regional centre located at the Lake Victoria Fisheries Organization (LVFO) in Jinja, Uganda and linked to FAO in Rome and to the CIFA Secretariat in Accra, Ghana; and (2) a national centre in each ANAF member country under the supervision of the officially nominated ANAF National Focal Point (NFP).

ADOPTION OF THE AGENDA AND ARRANGEMENTS FOR THE MEETING

9. The meeting was developed over four days. The Agenda of the meeting was adopted (Appendix A). The approach for this meeting combined training in the form of lectures and discussions and hands-on training. Selected photos from the meeting are presented in Appendix C.

ACTIVITIES

Upgrading the ANAF Content Management System (Typo3) and training of the Regional Centre staff

10. A one-day meeting on 22 November was held at the premises of the LVFO as the host of the ANAF Regional Centre. During this meeting, Mr Antonio Petti (System Development Specialist from FAO) carried out in collaboration with the ANAF Regional Centre staff the upgrading of the Typo3 content management system (from version 4.1.3 to version 4.4) which included the following steps: (i) backup of the current files system; (ii) backup of all directories; (iii) updating of Typo3 files; (iv) testing of the new functionalities; (v) publishing of the new version; (vi) training the Regional Centre staff on the new maintenance functionalities and tools for updating of the ANAF Web pages and directories. It is important to note that the ANAF website is currently hosted in the server of a private firm based in Kampala because the LVFO does not yet dispose of optic fibres and consequently the Internet connection is very slow. This technical issue should be closely monitored in the future to ensure timely and easy access to the ANAF website.

Technical training on the ANAF website

11. During the second day on 23 November, Mr Valerio Crespi (FAO Aquaculture Officer, Information) presented to ANAF National Focal Points, a general overview of the ANAF website and outlined the main features and developments made since the information system was established in 2009. The information system was developed with the following main objectives in mind: (i) to ensure easy data management; (ii) to enable rapid publication of up-to-date aquaculture related information; and (iii) to make certain the easy access of information to a vast number of users at the national, regional and international level. The NFPs fully acknowledged the work carried out so far by FAO and LVFO team in the preparation of the ANAF website and recognized that the system was user friendly and allowed easy data entry, maintenance and retrieval.

12. Given the limitations of Internet connection, training on the ANAF website was carried out using wireless Internet connection. The site contents were presented and the different functions clearly shown and explained. The NFPs had the opportunity to access and test the new website with the guidance of FAO staff. The NFPs found the training to be most informative and useful.

13. Suggestions to improve the ANAF website layout and functionalities were proposed to better respond to national and regional requirements. It was also noted that, although efforts have been made by the ANAF NFPs to populate the system with the required data, additional efforts will be required prior to the official launching of ANAF website. It was agreed that the NFPs would verify the accuracy of the ANAF website content and ensure that the missing data and information would be uploaded with no further delay.

14. The afternoon of 23 November was followed by a presentation by Mr Crespi to update on the status of the National Aquaculture Sector Overviews (NASOs) fact sheets collection for the region. The NASO collection consists of concise and comprehensive products, providing a general overview of the aquaculture and culture-based fisheries aspects at the national level. To date, more than 100 NASO fact sheets for different countries around the world have been prepared by FAO (www.fao.org/fishery/naso/search/en). Participants were informed that the NASO fact sheets were used as baseline information for the preparation of the Regional reviews of aquaculture development status and trends, and as inputs to the global synthesis of aquaculture development status and trends published online at www.fao.org/fishery/regional-aquaculture-reviews/aquaculture-reviews-home/en/. Therefore, the regular updating of NASO is considered as a priority for the FAO Fisheries and Aquaculture Department to continuously report member countries status and trend of aquaculture development at national, regional and global scale. This will be possible only through a consolidated partnership and cooperation between FAO and its Member States in order to facilitate the flow of aquaculture information at national and regional levels for the mutual benefit of the Organization and its Members.

15. It was noted that several NASO Fact sheets of ANAF member countries have already been prepared and are part of the NASO collection. However, there are few countries (i.e. Mali, Nigeria, Senegal and South Africa) which have not yet prepared their NASO so they were urged to prepare and submit these fact sheets as soon as possible to complete and share the NASO collection for the benefit of the region.

16. Participants revised and discussed the role and functions of the NFPs and Regional Centre staff in managing the ANAF website (see Terms of Reference in Appendix D).

17. FAO Secretariat presented the draft ANAF website user manual to show how to input and retrieve data in the information system and invited the participants to provide feedback on its contents and structure. The NFPs endorsed the manual and agreed on the proposed layout and functionalities, provided suggestions for improvements and thanked the Secretariat for the work carried out. Participants were informed that the user manual is currently only available in English, but that the French version is under preparation and will be distributed as soon as it is ready from late 2012. The ANAF User Manual is presented in Appendix E.

18. The ANAF Information and Communication Strategy was presented to the NFPs to initiate discussions on how best to promote the ANAF website at national and regional levels during its official launching planned for September 2012. The participants deliberated on the actions to be taken to enhance the visibility of the system to ensure an effective flow of data and information. The ANAF communication strategy is enclosed as Appendix F.

19. The ANAF NFPs reiterated the importance of producing promotional material for the ANAF website, as well as the need of organizing *ad hoc* seminars in English and French to promote the system at the national level. In this regard, the Secretariat presented a draft flyer and press release regarding the ANAF website. The draft flyer and press release were discussed and finalized by the

participants, and NFPs requested to have them translated into French. The draft flyer and press release are included as Appendices G and H, respectively.

20. The NFPs also agreed that the participation of ANAF representatives at targeted national and international aquaculture events and major aquaculture exhibitions would be an opportunity to promote the existence of the ANAF to a wider spectrum of potential users.

Spatial information and training

21. On the third day on 24 November, Mr José Aguilar Manjarrez (FAO Aquaculture Officer, GIS) gave an overview on the importance of spatial data and information for aquaculture planning and management, as well as a brief summary of normative and field activities of the Aquaculture Service on spatial data and information of relevance and value to the ANAF website and the region. This was followed by a presentation of the National Aquaculture Sector Overview (NASO) maps collection (www.fao.org/fishery/naso-maps/naso-home/en/). The collection consists of Google maps showing the location of aquaculture sites and their characteristics at an administrative level (state, province, district, etc.) and in some cases even at an individual farm level depending on the degree of aquaculture development and the resources available to complete data collection form, and the level of clearance provided by the country experts. The collection is in its early stages of development, but holds potential for addressing issues such as site selection, zoning, and environmental impact assessment studies. Specifically, for ANAF, the Google maps are particularly important because they represent a valuable tool that can be used to enhance the collection, management and use of national aquaculture statistics. To date, there are over 20 NASO maps for different countries around the world, one of which is for Cameroon and another map for Ghana is currently being prepared.

22. A detailed presentation was given on the NASO map Excel data collection form using Cameroon as an example and this was followed with a hands-on training exercise for completing the Excel form to create a NASO map. The NFPs acknowledged the value of NASO collection, provided suggestions for its enhancement and agreed to complete their corresponding Excel form during 2012. An example of an Excel form and cover page of the NASO map user manual which now contains the recommendations received from the NFPs is presented in Appendixes I and J.

23. NFPs informed that spatial tools (e.g. geographic information systems and remote sensing) in their countries are used at different scales to support aquaculture strategies, aquaculture development plans, assessments of aquaculture potential and/or site selection or zoning studies. Furthermore, NFPs agreed that the NASO map collection is important for ANAF because it places aquaculture in a spatial domain, it is easily accessible to nearly everyone, and it is a development that could have huge positive effects on the flow of reliable statistics and information about aquaculture for its improved development and management. They also acknowledged the value of the NASO map Excel form *per se*, to collect, standardize, assess and disseminate their national statistics and found the Excel form easy to use, and of immense value.

Monitoring the aquaculture sector performance in Africa

24. Mr Junning Cai (FAO Aquaculture Officer, Economics) delivered a presentation on data and information gaps for assessing and monitoring the aquaculture sector performance in sub-Saharan Africa. The presentation was a detailed analysis of Mr Cai's review of the newly published "Regional Review on Status and Trends in Aquaculture Development in sub-Saharan Africa 2010". The meeting participants acknowledged the value of the presentation but were concerned that the data and information that needed to be collected to fill the gaps highlighted by Mr Cai would be too vast and too detailed. Despite this, the presentation did provide the participants with an overview of the data that needs to be collected so now the NFPs will need to review the information and try to prioritize the minimum set of data/information to be collected.

25. Meeting participants pointed out that it would be helpful for FAO to provide practical examples to show what types of assessments and monitoring can be done with available data. The participant from Cameroon requested FAO's help (both technically and financially) on a project to look at socio-economic impacts of aquaculture. Participants indicated that a lot of data (e.g. data on fingerlings) have been collected but were not analysed or broken down for detailed examination. On the other hand, academic communities in Africa have research capacity but often lack topics to work on. Thus, coordination is needed so ANAF could play a role in this respect. Participants also pointed out that research should be more policy oriented; and case studies should provide guidance to policy design and implementation.

26. During the afternoon of 24 November, Mr Cai gave a second presentation on a decision-making tool for investments in aquaculture. The tool was developed under the leadership of Mr Nathanael Hishamunda (FAO Senior Aquaculture Officer) and has been tested in three sub-Saharan African countries and two Latin American countries. The tool is currently MS-Excel-based, but it will be eventually available on the Internet. Participants acknowledged the value of the tool and urged FAO to make it available as soon as possible. Participants also suggested additional testing in Africa and mentioned that the tool should be made available in both MS-Excel-based and the Internet to benefit all relevant stakeholders (especially fish farmers).

27. Particular concern was expressed by NFPs regarding the delay in making the investment tool immediately available. Given that the lack of capacity to conduct aquaculture as a business is one of the major constraints of aquaculture development in sub-Saharan Africa, putting the tool on ANAF website would not only facilitate aquaculture development in the region but could also enhance the popularity of the ANAF website.

Interaction between ANAF and other regional information systems

28. During the fourth day on 25 November, Mr Victor Motari (SARNISSA Information Officer) delivered a presentation on the Sustainable Aquaculture Research Networks in sub-Saharan Africa (SARNISSA). SARNISSA was a three-year project (2008–2011) aimed at strengthening collaboration among sub-Saharan Africa countries for the sustainable development of aquaculture in the region. SARNISSA was conceived to be a Web-based knowledge resource base and exchange platform. The systems main function is to share aquaculture information through a discussion mailing list. SARNISSA has currently more than 900 registered users so far. The SARNISSA project ended in 2011 and discussions are underway to maintain and continue supporting the discussion list.

29. The discussion then focused on the ways to integrate SARNISSA with the ANAF website. Among the proposals made by participants, it was suggested to: (i) use SARNISSA as the online forum for ANAF; and (ii) create a first level of integration between the SARNISSA mailing list and the ANAF website to allow for a single search of both systems.

30. All ANAF NFPs delivered short presentations focusing on main issues related to the collection and submission of data and information to ANAF and presented aquaculture success stories to be considered for inclusion in a special section of the website. The meeting decided to develop a standard template to be used by NFPs to elaborate one/two success stories per country and to create a new directory in the ANAF website where posting them.

ANAF WORK PLAN 2012

31. At the end of the third day, the ANAF NFPs presented brief country reports focusing on issues discussed during the previous ANAF meeting held in Mombasa, Kenya, from 9–12 August, 2011 (full report is presented as Appendix K) of importance at the national level and highlighted constraints faced by the sector. The NFPs discussed ANAF work programme for the next intersessional period taking into account the recommendations made during previous discussions. The ANAF work plan for 2012 is presented in the table below.

Activity	Responsibility	Timeframe	Outputs
Data entry in the ANAF website	National Focal Points	31 August 2012	Ensure a minimum set of 20 records for each directory
National Focal Points to verify the correctness of national data uploaded	National Focal Points in collaboration with ANAF Regional Centre	31 August 2012	Ensure the correctness of data stored in the ANAF website
Preparation/update of ANAF National Centre descriptions	National Focal Points in collaboration with ANAF Regional Centre	31 July 2011	National Centre descriptions for all ANAF member countries
Updating and translation of ANAF introductory pages and menu	FAO	31 January 2012	To have the ANAF website available in French
Official launching of the ANAF website and promotion at national/regional/international level	National Focal Points in collaboration with ANAF Regional Centre and FAO	3 September 2012	The ANAF website running and promoted
Preparation of National Aquaculture Sector Overview (NASO) fact sheets for missing countries and updating of existing NASO	National Focal Points in collaboration with FAO	31 July 2012	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	August 2012	Publication of NASO maps for all ANAF countries in the ANAF website and NASO maps website
Implementation of the ANAF website communication strategy	National Focal Points Regional Centre FAO	15 August 2012	National e-mail addresses; URL of national and regional aquaculture websites; flyers; press releases
Migrating the investment tool to a more user friendly Web based product; preparation of a bilingual (EN, FR) user manual	FAO	30 June 2012	Make it available in the ANAF website
Testing the investment tool and provide feedback to FAO	National Focal Points	End of July 2012	Consolidate the Web-based investment tool
Investigate first step of integration between ANAF and SARNISSA	SARNISSA IT Officer FAO IT Officer	31 July 2012	Obtain a first stage of integration
Preparation of National Aquaculture Legislation Overview (NALO) for all ANAF member countries	National Focal Points FAO (FIRA-Legal Office)	15 August 2012	Publish NALOs for all ANAF member countries in the FAO and ANAF websites
Establish a new directory in ANAF on aquaculture producer associations	National Focal Points FAO	31 July 2012	Dedicated pages for producer associations
Submission of one aquaculture success story per country using a standard template	National Focal Points FAO	31 July 2012	Advertise aquaculture success stories
Provide the NFPs information on the process of establishing ANAF as an IGO (similar process used for NACA and LVFO)	FAO FAO-Legal Office	July 2011	To be aware on the process to be followed
Identify strategies for strengthening collaboration between ANAF and NEPAD	National Focal Points NEPAD Secretariat	31 July 2012	Organize a convention meeting for the establishment of ANAF as an IGO
Presentation of a MOU for endorsement by CIFAA members	ANAF network CIFAA Secretariat	CIFAA Sub-Committee of Aquaculture	Endorsement of MOU

32. The ANAF annual meeting held in Mombasa, identified the following points as priority areas that would require specific attention:

- a) Developing a regional research programme including identification of centres of excellence, technical expertise and priority research needs of farmers to be garnered through national round tables, as well as modules for the elaboration of regional research programmes.
- b) Designing a regional capacity building programme using the results of the inventory of centers of excellence and round table meetings and identifying skill gaps and drafting a regional programme where these could be filled using a regional approach based on economies of scale.
- c) Constructing a prototype for a regional statistics programme covering the national, subregional [REC/RFB] and regional levels.
- d) Strengthening Research and Development collaboration between the Global Aquaculture Alliance (GAA) and the United States of America Department of Agriculture (USDA).

33. Meeting participants agreed to present a status of the actions taken so far on the priority areas at the next ANAF annual meeting (date and venue yet to be established).

CONCLUSIONS AND RECOMMENDATIONS

34. The meeting achieved its main objectives. The ANAF NFPs received in depth hands-on training on the use of the ANAF website structure and functionalities, as well as on spatial tools to enhance national aquaculture statistics.

35. During the meeting it was noted that Internet connectivity was very poor because optic fibers in Jinja are not yet available. However, since the ANAF website is currently hosted in a private Internet service provider based in Kampala, the connection to ANAF is ensured.

36. Participants identified a number of priorities to enhance aquaculture data collection and the improvement of the ANAF website. A work plan proposal was elaborated which will be proposed during the forthcoming CIFAA session for consideration and endorsement.

37. The general impression is that the ANAF website is evolving in the right direction and becoming a regional information system capable of collecting aquaculture data in the sub-Saharan Region and to disseminate it in an effective and user friendly way. However, additional efforts should be made by the CIFAA Secretariat and particularly by the NFPs to ensure the timely and accurate minimum set of data collection in order to allow ANAF, as a “NACA-like” network for Africa, to monitor the status and trends of aquaculture at the national and regional scale.

38. The Aquaculture Service of FAO should continue to provide technical assistance to ANAF in order to maintain a certain level of control on this (and other) regional aquaculture information systems to ensure synergies and avoid duplications of efforts. These systems, such as the ANAF website, are a valuable source of information which can be used for the preparation and updating of National Aquaculture Sector Overviews (NASO), and regional and global aquaculture reviews. The FAO Aquaculture Service should aim at further consolidating partnership with all FAO Members in order to facilitate the flow of aquaculture information at national and regional levels for the mutual benefit of the Organization and its Members.

39. The meeting was very well organized from a logistical point of view and hospitality. Partnership with the LVFO certainly helped in the smooth implementation of the meeting. There are many advantages in partnering with the LVFO since there are many interests in common between FAO and the LVFO.

Annotated Agenda

Arrival	
Arrival of the FAO Aquaculture Officer and the ANAF developer and transfer to the hotel.	
First day 22 November⁽¹⁾ - Only ANAF Regional Centre staff	
08:30-09:00	Visit to the ANAF Regional Centre: the Lake Victoria Fisheries Organization
09:00-12:30	Technical training on the Aquaculture Network for Africa website • <i>Introduction, scope of the training and adoption of the agenda</i> To inform the ANAF Regional Centre staff on the main objectives of the training session and to present the main issues which have affected the good running of the system so far. • <i>The databases</i> Description of the established directories and discussion on how to validate data submitted by the ANAF National Focal Points and external users. • <i>Typo3 upgrading</i> Upgrading of the Typo3 core (from version 4.1.3 to version 4.4) will be carried out as follows: (i) backup of the current files system; (ii) backup of all databases; (iii) updating of Typo3 files; (iv) testing of the new functionalities; (v) publishing of the new version; (vi) training on the new back-end functionalities and tools (<i>this activity will last a full day involving only the ANAF developer and the IT officer of LVFO</i>). • <i>Role of the Regional Centre</i> Discussion on the Terms of References (TORs) of the Regional Centre staff. • <i>Open debate on ANAF structure and management.</i> Feedback and comments on the ANAF web site by the Regional Centre staff to agree on the structure and functionalities of the information system.
12:30-14:00	<i>Lunch break</i>
14:00-17:30	Training of the Regional Centre staff • Training on Typo3 (Open Source Content Management System), presentation of training material and the ANAF user manual. • Training on maintenance and updating of the web pages and databases.
PM	Arrival of WGA National Focal Points and the Responsible Officers of the Regional Networks.
Second day - 23 November	
08:30-09:00	Registration
09:30-10:00	Discussion and adoption of the agenda
10:00-12:30	The Aquaculture Network for Africa website • <i>General overview and status of the information system</i> To inform the National Focal Points on the status and recent developments of the ANAF information system. • <i>Presentation by the Focal Points on the data submitted</i> The National Focal Points will present/provide an overview on data submitted and will report on difficulties encountered during data collection and data submission into the system.
12:30-14:00	<i>Lunch break</i>
14:00-17:30	The Aquaculture Network for Africa website – (continued) • <i>Data quality control and validation</i> To discuss and agreed on the validation process to follow during data collection and submission.

¹ The planned training on the first day is **only** for the nominated ANAF Regional Centre staff responsible for the maintenance of the information system at the regional level. The meeting with the ANAF National Focal Points and the Responsible Officers of the regional networks will commence one day later.

	• <i>Role of the ANAF National Coordinator</i> To discuss the Terms of Reference (TORs) of the ANAF National Coordinators and receive confirmation by the Focal Points on the availability of ANAF workstation technical requirements. • <i>Open debate on the new system</i> To receive feedback and comments on the ANAF web site and to agree on its final structure and contents.
Third day – 24 November	
08:30-12:30	Spatial data and information • Overview on spatial tools including emerging issues and applications for aquaculture planning and management in the region. Presentation of National Aquaculture Sector Overview (NASO) map collection to inventory and monitor aquaculture. • Hands-on training for completing an MS-Excel form to create a NASO map. Monitoring the aquaculture sector performance in Africa • To inform the ANAF National Focal Points on data/information needed for assessing and monitoring the aquaculture sector performance in Africa. • Demonstration of a user-friendly investment tool for decision making in aquaculture. Training of the Focal Points and/or ANAF National Coordinators • <i>Log in and on-line data entry</i> ⁽²⁾ To train the Focal Points and/or ANAF National Coordinators on how to use the system and how to perform data entry. • <i>Training material</i> • Presentation of the ANAF user manual.
12:30-14:30	<i>Lunch break</i>
14:30-17:30	Training of the Focal Points and/or ANAF National Coordinators - (continued) Establishment of a common communication strategy to promote • These include: i) Regional/national communication strategies; ii) Preparation of a flyer for the promotion of the system; and iii) National Focal Points' role and interaction with the ANAF Regional Centre. To discuss with the National Focal Points the main issues related to widening and improving the effectiveness of the ANAF network and promoting ANAF at national, regional and international levels.
Fourth day – 25 November	
08:30-12:30	Interaction with the other regional aquaculture networks • <i>Presentation of the regional networks and information systems</i> To inform participants on the other existing information systems, their scope and mandate and how they are serving the regional aquaculture stakeholders. • <i>Open debate on the new system</i> To receive feedback and comments on the ways to integrate the ANAF website with the other information systems.
12:30-14:00	<i>Lunch break</i>
14:00-17:00	Discussion and elaboration of a report of the meeting including the main findings and proposed follow up actions.
17:00-17:30	Any other matter • These include: i) new developments (e.g. mailing lists, forum and newsletter); and ii) how to stimulate advertisement on the ANAF website by external users/clients. To discuss with the country participants potential and future areas of development within the information system.

² Training sessions will be carried out in a meeting room fitted with computers and with internet connection.

APPENDIX B

List of participants

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APPENDIX C

Selected photos from the meeting



Training on the Typo3 backend to the ANAF Regional Centre staff



Training on the ANAF website



Group discussions at meeting



Group photograph of meeting participants



ANAF website (www.anafaquaculture.org)



NASO map collection
www.fao.org/fishery/naso-maps/naso-home/en

APPENDIX D

Terms of reference of the ANAF National Focal Points and Regional Centre Staff

Terms of reference of the ANAF National Focal Points

Recognizing each government's commitment to ANAF within the *aegis* of the Committee for Inland Fisheries and Aquaculture of Africa (CIFAA), and the full support of his/her national supervisors, the duties of ANAF National Coordinator (it is assumed that this post is covered part-time, 30 percent) shall include (but not be confined to):

- The National Focal Point, working for the competent authority, is representing his/her country in ANAF.
- In close collaboration with the ANAF Regional Centre based in the premises of the Lake Victoria Fisheries Organization (LVFO) Jinja, Uganda and in coordination with other National Focal Points, be responsible for all ANAF activities in his/her country.
- Promote through national workshops or other means such as press releases and brochures the ANAF website, its contents and services for the regional aquaculture community.
- Participate when possible in national sector events (e.g. meetings, conferences, workshops, fairs, etc.) and deliver presentations to promote the role played by ANAF at national and regional level.
- Prepare and submit annual draft budgets for all national ANAF activities, including essential national and international travel, for government funding.
- Be responsible for the regular and timely submission of data and information to the ANAF Regional Centre also required for the updating of the ANAF Web pages.
- In strict collaboration with the ANAF Regional Centre certify the news and data submitted by national registered users before being published on the Internet.
- Assist the ANAF Regional Centre in identifying and soliciting potential non-governmental and private sources of funding to support the ANAF Network and activities.
- Fully publicize the existence and value of the information contained in the ANAF website to the private sector and within his/her government, as well as in relevant institutions such as universities and provide guidance in the use of the ANAF website.
- On a continuing basis, suggest ways in which ANAF can be improved.
- Conduct continuous internal evaluation of the efficacy of information dispersal by ANAF on a national level in order to improve future services.
- Assist in the promotion and success of ANAF in any other way as shall be requested, from time to time, by the ANAF Regional Coordinator and by the CIFAA Secretariat.

Qualifications

- Good computer skills including information architecture of websites, content management and maintenance tools.
- Good knowledge of aquaculture sector in the region.

Terms of reference of the ANAF Regional Centre Staff

The Regional Centre staff will be responsible for the management, maintaining, assessment and exchange of aquaculture related data and information among all ANAF member countries and networking with national governmental institutions, scientific and non-governmental organizations, regional and specialized agencies, for the effective information dissemination and implementation of Network activities. The staff should accomplish the following tasks:

- Liaise with all ANAF Focal Points to implement and ensure an efficient data and information flow in ANAF.
- Encourage the ANAF National Focal Points to submit data and news on a regular basis.
- Prepare and distribute news releases and technical reports, as appropriate, and produce a brief annual report on the status, trends and prospective of aquaculture development in the region.
- Carry out regular revision and validation of submitted data to ensure correctness and consistency.
- Ensure the regular maintenance of the information system, supervising ongoing publishing activities and administration of the system including backups and security patches.
- Conduct Web analysis to assess the impact of ANAF on aquaculture stockholders, and prepare biannual Web analysis reports to be presented during the annual meetings of ANAF Network and CIFA sessions.
- Handle relevant correspondence and reply to inquiries for public information materials;
- Liaise with public/private organizations which may support the ANAF Network.
- Participate when possible in national and regional events (e.g. meetings, conferences, workshops, fairs, etc.) and deliver presentations for promoting the role of ANAF in the region.
- Any other duties as may be assigned.

Qualifications

- Aquaculture Officer: with university degree or equivalent in aquaculture science with at least 5 years of experience in the sub-Saharan Africa Region;
- Information Officer: University degree or equivalent in information or communications sciences with at least five years of practical experience in information and communication;
- IT Officer: University degree or equivalent in computer science with at least 5 years of practical experience in information architecture of web sites, content management and maintenance tools.

All should satisfy the following criteria:

- Excellent and proven communication skills with government officials, scientific organizations and other stakeholders engaged in the sub-Saharan Africa aquaculture sector.
- Working knowledge of English and limited knowledge of French.
- Excellent team working skills.

Aquaculture Network for Africa Information System Draft User Manual



Summary

The Aquaculture Network for Africa (ANAF) information system is a website based on open source Typo3 software (an open source Content Management System). It has been established by the Food and Agriculture Organization (FAO) under the *aegis* of the Committee for Inland Fisheries and Aquaculture of Africa (CIFAA to facilitate the exchange of aquaculture information in the sub-Saharan Africa among regional experts and stakeholders, and to promote and develop a sustainable aquaculture industry. This simple user manual is addressed to all ANAF authorized users who wish to gain a better understanding on how the system works and to exploit all its functionalities.

Author	CIFAA Secretariat (Responsible Officer: Mr Valerio Crespi)
Version	1.0
Project	Aquaculture Network for Africa (ANAF) information system
Distribution	ANAF National Focal Points, ANAF Regional Centre staff
Object	ANAF User Manual

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1. OVERVIEW AND LOGIN

The ANAF has been designed by applying the most up-to-date information technology and database management in accordance with international Information Technology (IT) standards: i.e. the Open Source Content Management System TYPO3³. The system is user-friendly and allows rapid data entry from the administrators and easy retrieval by end-users. The use of specific tools such as the “white page” directories also allow the easy development of additional Web pages created upon request to provide preliminary outlooks on the major emerging regional aquaculture issues.



Figure 1. Login box

The first step in order to add new records in the ANAF consists in the login of authorized users (Figure 1):

Step 1 - Click on the following address: **www.anafaquaculture.org**

- Step 2 - Enter your username in the username box
- Step 3 - Type your password
- Step 4 - Click on the *Login* button

To logout, just click on the *Logout* button.

2. HOW TO ADD NEW RECORDS

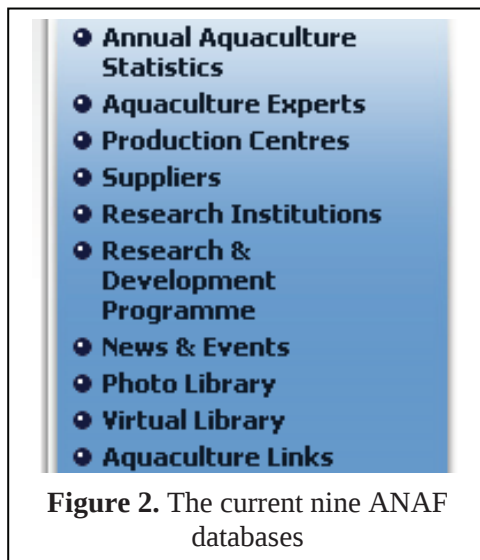


Figure 2. The current nine ANAF databases

Nine main databases have been currently developed to store data and information. They are available on the left hand side of the ANAF home page (Figure 2).

The **Annual aquaculture statistics** database provides national aquaculture statistics by year: total production volume, in tonnes and value in USD, grouped under cultured species (common name and scientific name), farming system (intensive, semi-intensive, extensive, and integrated aquaculture), system of culture (cage, pond, long lines, etc.) and areas (marine, brackish water, and freshwater). To add a new record, an authorized user should click on the selected item (Aquaculture statistics) and subsequently a new sub-item called “Add new record” will appear. By clicking on this sub-item the user is lead to an online submission form (Figure 3) which should be duly completed providing the following data: *year* of reported

statistics; name of the cultured *species* (select one species from the scroll-down menu); *farming system* (select one farming system from the scroll-down menu); *system of culture* (select one system of culture from the scroll-down menu); production in *tonnes* and *value* in USD. Additional pertinent

information can be added in the *other information* box, if needed. This box provides basic formatting tools. Finally, the name of the *country* is required. Once the user has completed the submission form, the new record can be immediately posted on the internet by clicking the *submit* button placed at the bottom right corner of the form.

³ TYPO3 is a **free Open Source Content Management System** for enterprise purposes on the Web and in intranets. It offers full flexibility and extendability while featuring an accomplished set of ready-made interfaces, functions and modules (See www.typo3.org for more technical information).

Insert new/edit record for aquaculture statistics

*Year

*Species
 --- select ---

Farming system
 --- select ---

System of culture
 --- select ---

Environment
 --- select ---

*Tonnes

*Value USD x 1000

Other information

*Country
 --- select ---

* Mandatory field

Submit

Figure 3. Annual aquaculture statistics

Insert new/edit aquaculture expert

*Salutation
 Mr

First name

*Family name

*Nationality

*Country
 --- select ---

Company / Affiliation

*Work address

*City

*Telephone 1

Telephone 2

Fax

*Email 1

Email 2

*Qualification level
 --- select ---

Personal Web site

*Expertise 1
 --- select ---

Expertise 2
 --- select ---

Expertise 3
 --- select ---

Expertise 4
 --- select ---

Curriculum file (max 500kb)

Current position

Photo file (max 500kb)

* Mandatory field

Submit

Figure 4. Aquaculture experts

The directory on **Aquaculture experts** includes a list of regional experts by country with their respective address, field of expertise and curriculum vitae, when available. Authorized users must click on the selected item (Aquaculture experts) and a new sub-item called “Add new record” will appear. By clicking on this sub-item it will lead users to an online submission form (Figure 4) that should be duly completed by providing the following data: gender; *first name* and *family name* of the expert (first letter always capital letter); *nationality*; *country*; *company/affiliation*; *working postal address*; *city*; business *telephone number* and *mobile* (specifying the international country dialling code, e.g. +973-number); *fax* (same as previous); valid *email* address; *qualification level* (select one item from the scroll-down menu); *expertise* (choose one or more than one item in the scroll-down menu); *curriculum file* (upload the CV of the expert as a pdf or .doc file); *current position* (provide a few lines describing the current position/job/main activities of the expert); *photo file* (include a passport photo of the expert, if available and desired). Once a user has completed the submission form, the new record can be immediately posted on the internet by clicking the *submit* button placed at the bottom right corner of the form.

Insert new/edit production centre

*Company

Acronym

Type
 --- select ---

*Mailing address

City

*Country
 --- select ---

*Telephone 1

Telephone 2

Fax

*Email 1

Email 2

First name

Family name

*Type of product
 Broodstocks
 Egg + Juveniles
 Eggs
 Juveniles
 Live feed
 [hold down ctrl key for multiple select]

*Species
 Banana prawn [Penaeus merguensis]
 Banana prawn [Penaeus semisulcatus]
 Barbus [Barbus xanthopterus]
 Bighead carp [Hypophthalmichthys nobilis]
 Black-lip pearl oyster [Pinctada margaritifera]
 [hold down ctrl key for multiple select]

Number of fish

Other information

B I U ABC [link icon] [undo icon] [redo icon] [list icon] [menu icon]

* Mandatory field

Submit

Figure 5. Production centres

The directory on **Production centres** provides a list of producer companies (from the public and private sector) in each country with the name, address, cultured species, technology and type of products farmed. Authorized users should click on the selected item (Production centres) and a new sub-item called “Add new record” will appear. By clicking on this sub-item it will lead the users to an online submission form (Figure 5) which should be duly completed. Authorized users must provide the following data: complete name of the *company*; the *acronym*, if it exists; *company type* (select one field in the scroll-down menu); *postal address*; *country*; provide at least one *telephone number* (specifying the international country dialling code, e.g. +973-number); *fax*; valid *email address*; *first name* and *family name* of the designated person to be contacted; *type of product* (select one item from the scroll-down menu); *species* (select one species from the scroll-down menu); *number of fish* (in case the company produces fish, provide the estimated number of fish produced). Once the user has completed the submission form, the new record can be immediately posted on the internet by clicking the *submit* button placed at the bottom right corner of the form.

Insert new/edit supplier

*Company

Acronym

*Mailing address

*City

*Country

*Telephone 1

Telephone 2

Fax

*Email 1

Email 2

First name

Family name

*Type of product 1

Type of product 2

Type of product 3

Other information

B I U ABC | |

* Mandatory field

Submit

Figure 6. Supplier

The directory on **Suppliers** or producers of aquaculture equipment contains a list of supplier companies (from the public and private sector) in each country with the name, address and speciality of supplier (e.g. feeding equipment, cages, nets, chemical analysis). Authorized users must click on the selected item (Suppliers) and a new sub-item called “Add new record” will be generated. By clicking on this sub-item it will lead the users to an online submission form (Figure 6) which should be duly completed. Add the complete name of the *company*; the *acronym*, if it exists; *postal address*; name of the *city*; *country*; provide at least one *telephone number* (specifying the international country dialling code, e.g. +973-number); *fax*; valid *email* address; *first name* and *family name* of the designated person to be contacted; type of product (select one product or more than one from the scroll-down menus). At least one *type of product* must be selected. Once the user has completed the submission form, the new record can be

immediately posted on the internet by clicking the *submit* button placed at the bottom right corner of the form.

The directory on **Research institutions** contains a list of existing research institutions in the region and sorted by country. Name, specialization, main research activities and address are provided. Authorized users must click on the selected item (Research institutions) and subsequently a new sub-item called “Add new record” will be generated. By clicking on this sub-item the user is lead to an online submission form that should be duly completed (Figure 7). Insert the complete name of the *research institution*; the *acronym*, if it exists; *postal address*; name of the *city*; *country*; provide at least one *telephone number* (specifying the international country dialling code, e.g. +39-number); *fax*; valid *email* address; URL address of the *website*, if exists; main *fields of research* (one or more can be selected). Other information on the research institution can be added in the appropriate box, if needed. Once a user has completed the submission form, the new record can be immediately posted on the internet by clicking the *submit* button placed at the bottom right corner of the form.

Figure 7. Research institutions

Figure 8. Research and development programme

The **Research and development programme** directory provides information on past and ongoing research and development projects dealing with aquaculture in the Region. Authorized users must click on the selected item (Research and development programme) in order to generate a new sub-item called “Add new record”. By clicking on this sub-item leads the user to an online submission form which has to be duly completed (Figure 8). For each project a half page summary should be provided including: *project title*; *participating institutions*; *objectives*; *expected outputs* (if the research is ongoing) or *main results* achieved (if the research project has terminated). Moreover, start and end dates should be provided along with the name of the project’s coordinator, his/her email address and country. A blank box (*Comments*) allows user to add comments or additional information, if required. Once a user has completed the submission form, the new record can be immediately posted on the internet by clicking the *submit* button placed at the bottom right corner of the form.

News & Events directory. Through an online submission form authorized users have the possibility to submit information relevant to the RECOFI area for inclusion in the ANAF website, particularly aquaculture-related news items and events of interest to the region. The users need to

Add News & Event

*Title

*Description

B I U ABC [link] [img] [list] [menu]

*Country
--- select ---

File
Browse...

Related URL

*Event from
13/02/2009

Event to

Where

Organizer

* Mandatory field

Submit

Figure 9. News & Events

complete the specific form shown in the figure below (Figure 9). The following information is requested: *title* of the news item or event (title should be self-explanatory); *description* (provide a brief description/summary of the news item/event); *country*; *file* (by clicking on the *browse* button user can upload an electronic file (.pdf; .doc; .html) or the links related to the specific news item or event (*related URL*). In the case of an event, users are requested to add the dates of the event (*event from* and *event to*), the venue of the event (*where*) and the name of the organizer (*organizer*). Once a user has completed the submission form, the new record can be immediately posted on the internet by clicking the *submit* button placed at the bottom right corner of the form.

A **Photo library** has been developed for storing and searching high quality and relevant photos of regional aquaculture. Authorized users have to click on the selected item (Photo library) and a new sub-item called “Add new record” will be generated. Clicking this sub-item leads the user to an online submission form that should be duly completed (Figure 10). For each photo the following metadata

Insert new/edit photo

*Photo (max size 2mb)
Browse...

*Title

Description

B I U ABC [link] [img] [list] [menu]

*Author

*Location

*Year

*Country
--- select ---

Categories
Cultured species
Hatchery
Ongrowing
Harvesting
Handling and processing
[hold down ctrl key for multiple select]

* Mandatory field

Submit

Figure 10. Photo library

should be provided: upload the *photo* (JPG file; size not exceeding 2 MB) by clicking on the *browse* button; insert a *title* of the photo; brief *description* of the image; *author's* name; *location*, where the photo was taken; *year*; *country*; *category* (choose one of the ten categories listed in the scroll-down menu). Once a user has completed the submission form, the new record can be immediately posted on the internet by clicking the *submit* button placed at the bottom right corner of the form.

A **Virtual library** has been implemented for storing and searching relevant and updated documents in electronic format (.pdf; .doc; .html) on regional aquaculture. Authorized users have to click on the selected item (Virtual library) and a new sub-item called “Add new record” will be generated. Clicking this sub-item leads the user to an online

submission form (Figure 11) that should be duly completed providing the following information: *year* of publication; upload the electronic copy of the *document* (.pdf, .doc or .html format) by clicking on the *browse* button; *title* of the document; brief *description* or abstract including name of the author/s; *country* where the document has been produced. Once a user has completed the submission form, the new record can be immediately posted on the internet by clicking the *submit* button placed at the bottom right corner of the form.

Figure 11. Virtual library

Figure 12. Selected links

The **Aquaculture links** directory provides useful national, regional and international links dealing with aquaculture. Authorized users have to click on the selected item (*Aquaculture links*) and a new sub-item called “Add new record” will be generated. Clicking this sub-item leads the user to an online submission form (Figure 12) that should be duly completed by providing the *URL* (internet address of the website); *image*, in other words the icon or banner of the home page to display (when available); complete *title* of the website; brief *description* of the website contents; *country* where the website is hosted. Once a user has filled in the submission form, the new record can be immediately posted on the internet by clicking the *submit* button placed at the bottom right corner of the form.

3. HOW TO MODIFY/DELETE A RECORD

Only authorized users have the right to edit/modify and/or delete the “uploaded” records. Once logged in, users should click on one of the nine databases on the vertical banner located on the right side of the ANAF home page. The user will then perform a search, by using available filters, of the record he/she wishes to modify or delete. A table with the results will be generated and in the last column of

Country Zambia ▼ Expertise --- All --- ▼ search reset			
Name	Expertise	Telephone	Email
Cleopher Bweupe	Training and extension Project and planning Farm management	+260-966 438116	CBweupe@zm.peacecorps.gov
Mweemba Chijoka	Aquaculture statistics	+260-211- 278418	chijoka@yahoo.com
Martin Chilala	Feeds and fish nutrition Environment and aquaculture impact Hatchery and reproduction	+260-211- 278418	mchilala@yahoo.com
Zyangani Chirambo	Environment and aquaculture impact Feeds and fish nutrition Fish pathology	+260- 967899170	zyanganifish@yahoo.com
Ian Habulembe	Aquaculture economics	+260 979682747	ian_habulembe@yahoo.com

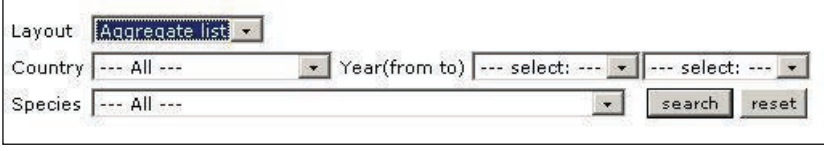
Figure 13. Action (formatting) tools

the aforementioned table two action (formatting) tools, represented by a *pencil* (to modify) and a *bin* (to delete), will appear. Clicking on the pencil's icon will lead the user to the filled online submission form that can be modified and re-submitted. By clicking on the bin's icon the record will be completely erased. Once the record has been modified click on the *submit* button to post it back online.

4. HOW TO PERFORM A SEARCH

All records and metadata stored into the system can be easily searched and retrieved by using the filters available or through the ANAF search engine by typing a single word. The criteria to perform such a search in each directory are listed below.

In the *Annual aquaculture statistics* database users can perform a search: by **layout**, aggregated list or flat list; by **country** (use the scroll-down menu to select the desired country); by **year** (or range of years); and by cultured species **common name** and **scientific name** (Figure 14).

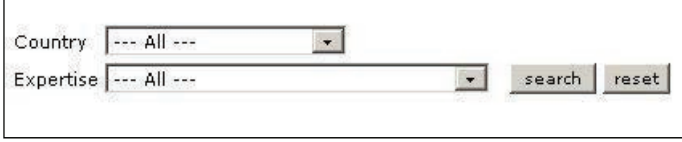


The search form for 'Annual aquaculture statistics' includes the following fields:

- Layout:** A dropdown menu currently showing 'Aggregate list'.
- Country:** A dropdown menu showing '--- All ---'.
- Year(from to):** Two dropdown menus, both showing '--- select: ---'.
- Species:** A dropdown menu showing '--- All ---'.
- Buttons:** 'search' and 'reset' buttons.

Figure 14. Annual aquaculture statistics

In the *Aquaculture experts* database the search criteria are the following: by **country** (use scroll-down menu to select the desired country) and/or by **field of expertise** (use the scroll-down menu to select area of expertise) (Figure 15).



The search form for 'Aquaculture experts' includes the following fields:

- Country:** A dropdown menu showing '--- All ---'.
- Expertise:** A dropdown menu showing '--- All ---'.
- Buttons:** 'search' and 'reset' buttons.

Figure 15. Aquaculture experts

Production centres can be searched by **region** (*All*) or by **country** (use the scroll-down menu to select the desired country) and/or by **type of product** (use the scroll-down menu to select aquaculture products) (Figure 16).



The search form for 'Production centres' includes the following fields:

- Country:** A dropdown menu showing '--- All ---'.
- Type of product:** A dropdown menu showing '--- All ---'.
- Buttons:** 'search' and 'reset' buttons.

Figure 16. Production centres

Criteria to be used in the directory of *Suppliers* are the following: by **region** (*All*) or by **country** (use the scroll-down menu to select the desired country) and/or by **type of product** (use the scroll-down menu to select product and service) (Figure 17).

Figure 17. Suppliers

Research institutions can be searched by **region** (*All*) or by **country** (use the scroll-down menu to select the desired country) (Figure 18).

Figure 18. Research institutions

Research and development programme can be search by **region** (*All*) or by **country** (use the scroll-down menu to select the desired country) (Figure 19).

Figure 19. Research and Development programme

News and events can be easily searched by **country** (use the scroll-down menu to select the desired country) or the full list of news and events in chronological order (Figure 20).

filter list by: --- All ---

News & Events

10 Nov 11 Multilingual Aquaculture Technical Documents
The Fisheries and Aquaculture Department of FAO is pleased to announce the publication of seven technical documents on aquaculture which are of global relevance,...

26 Oct 11 FAO Technical Guidelines for Responsible Fisheries. No.5, Suppl.6 now available
The FAO/FI/FIRA publication below (FAO Technical Guidelines for Responsible Fisheries. No.5, Suppl.6) has been printed and released on the FAO Web site. See below. These technical guidelines have been produced to supplement...

18 Oct 11 to 07 Nov 11 Vacancy Announcement for the NFFP (GCP/RAF/463/MUL) Programme Coordinator
We are please to advise you that the Vacancy Announcement (V.A. RAF-732-11-PRJ) for the post of the NFFP (NEPAD-FAO Fish Programme / Programme in Support of the Implementation of the FAO Fisheries and Aquaculture Strategy for...

13 Oct 11 Reducing fish stocks affecting export cargo volumes
Illegal fishing is taking its toll on Uganda's aviation industry. Statistics from the transport ministry show that exports declined by 11 per cent, from 34,203 tonnes in the 2008/9 financial year to 30,327 tonnes the...

13 Oct 11 First African retailer commits to sustainable seafood
Availability of Marine Stewardship Council (MSC) certified seafood is set to increase on South African retail shelves following the announcement on 10 October by Pick n Pay that they intend to sell only...

Figure 20. News and Events

In the *Photo library*, high quality photos can be easily found by selecting one of the ten photo **categories** or by **country** (use the scroll-down menu to select the desired country) (Figure 21).

Filter by category	Filter by country
All	All
Hatchery(28)	United Arab Emirates(8)
Cultured species(12)	Bahrain(7)
Harvesting(4)	Iran(56)
Nursery(6)	Kuwait(11)
Ongrowing(33)	Oman(9)
Others(11)	Qatar(4)
Equipment(2)	Saudi Arabia(7)
Market and trade(4)	
Meetings and events(1)	
Handling and processing(2)	

Figure 21. Photo library

In the *Virtual library*, relevant and updated documents (.pdf; .doc; .html) on regional aquaculture can be searched and retrieved by using the list of documents and/or by **country** (use the scroll-down menu to select the desired country) (Figure 22).

filter list by: --- All ---

Virtual Library

A **Virtual library** has been implemented for storing and searching relevant and updated documents (pdf; .doc; html) on regional aquaculture.

2006 The effect of bacillus spp. bacteria used as probiotics on digestive enzyme activity
The effect of bacillus spp. bacteria used as probiotics on digestive enzyme activity

2006 Prevalance of white spot virus syndrom in the cultured shrimp P. indicus
Prevalance of white spot virus syndrom in the cultured shrimp

Figure 22. Virtual library

In the *Links* page useful national and international suggested links dealing with aquaculture are provided. A search can be performed by using the list of links and/or by **country** (use the scroll-down menu to select the desired country) (Figure 23).

**Figure 23.** Aquaculture links

Detailed data on the *ANAF National Centres* can be found by clicking on the item called ANAF National Centres in the right vertical banner of the page.

Item *Contact us* contains updated names and addresses of the ANAF National Focal Points, ANAF Regional Centre staff and the CIFA Secretariat.

ANAF information and communication strategy

1. OBJECTIVES

Promote ANAF at national and regional level. Implement and ensure an effective ANAF data and information flow. ANAF national focal points and authorized users regularly upload and retrieve data and information into/from the information system.

2. ACTORS AND ROLES

- a) **Regional Centre staff.** It should ensure the regular maintenance of the system, stimulate data entry and provide technical assistance to all ANAF authorized users.
- b) **National Focal Points.** They should focus on data entry and on the implementation of strategies to promote ANAF and its use as a tool for information exchange, planning and monitoring.
- c) **FAO.** During the launching phase and for the first year, FAO will provide guidance and support to the National Focal Points for the design and implementation of a proper national ANAF promotion strategy.
- d) **National aquaculture stakeholders.** They will be informed about the existence of ANAF, its contents and functionalities and they will be encouraged to use ANAF as a repository system where aquaculture data and information can be posted and retrieved.

KEY STAKEHOLDER GROUPS TO BE INVOLVED:

- National decision makers (government authorities, advisors)
- Research institutions
- Producers
- Potential producers
- Investors
- Suppliers
- Aquaculture associations
- Traders
- NGOs
- Local decision makers (local authorities, advisors)
- General public
- Others

3. EXPECTED RESULTS FROM THE COMMUNICATION STRATEGY

- A positive and collaborative **working environment** to be established with Regional Centre staff, and among the National Focal Points.
- ANAF users' **expectations and needs** to be identified and taken into consideration in the ANAF information and communication work plan.
- National Focal Points define and implement their National ANAF communication strategy and ANAF is **launched and adequately promoted** in the member countries.
- Data, information and news items are **regularly published** by ANAF member countries.
- A national and regional Web analysis will be activated just after the launching: the dissemination of information products on ANAF and the publication of data on the portal increase its usage in terms of number of **users**, of number of **visits** (hits) and quantity of **information** uploaded and downloaded.

4. TOOLS

- **Press release to be distributed to national, regional and international specialised journals.** Once the date for the official launching of ANAF has been defined, the most appropriate channels for the distribution of the press release (available in English and French) should be identified. Each National Focal Point should prepare a list of national journals and web sites to which submit the press release.
- **Exchange of links and information with national and regional aquaculture related web sites.** This should be a systematic activity. A preliminary list of national and regional aquaculture related web sites should be prepared by the Regional Centre in collaboration with the National Focal Points and FAO. The webmaster of each selected web site should be next contacted by the Regional Centre, the National Focal Point or FAO to establish a linkage for information exchange. The linkage to ANAF should be possibly made clearly visible in the Home page of each “partner” web site. Particular attention should be paid to the involvement of private sector.
- **Positioning of ANAF in the search results of the main internet search engines.** Proper actions should be identified and implemented by the Regional Centre in collaboration with FAO on this regard.
- **ANAF News & Events section (*to be continuously fed after the official launching*).** This section of the portal, **the most visible one**, will include news items concerning:
 - ✓ Aquaculture news of relevant interest for the region.
 - ✓ Aquaculture events and newly published documents relevant to the sub-Sahara Africa Region.
 - ✓ Brief summaries on the content of the ANAF directories and newly available data sets, reports and functionalities.

A part from the National Focal Points, the Regional Centre staff and FAO, *ANAF authorized users* will be also allowed to post news items. This opportunity should be properly publicized to potential national ANAF users.

- **ANAF flyer.** A light information product will be designed by FAO and presented to the ANAF administrators. It will be further translated into French and other local languages and made available to the National Focal Points for distribution to national aquaculture users. This product provides a general overview of the new information system and contact details of ANAF Regional Centre staff.
- **ANAF mailing list.** A national mailing list will be created by the National Focal Points. They will be responsible of collecting e-mail addresses of national aquaculture users and maintaining the *national ANAF mailing list*. At regional level, the national lists will be made available to the ANAF Regional Centre staff who will manage the *regional list*. The lists will be used to facilitate dissemination of communications related to the system, its content and functionalities. In the future an *electronic ANAF bulletin* could be easily developed.
- **Targeted communications to national users to introduce ANAF and involve them in the information contribution process.** They will include electronic and ordinary mailing campaigns, organization of meetings and small events, participation and delivery of presentations during national aquaculture events, production and distribution of promotional material (flyer, poster, etc.), calls for contributions, and distribution of questionnaires. They will be prepared by National Focal Points with the support of the Regional Centre and FAO. The appropriate media and approach to be used will be identified according to the specific situation of the aquaculture sector in each country.
- **Web statistic analysis.** Regular Web analysis reports will be elaborated every three months by the Regional Centre staff and distributed to National Focal Points to evaluate the overall use and impact of ANAF information system.

5. PROPOSED CALENDAR OF ACTIVITIES

5.1. Preparatory phase – December 2011 - September 2012

- Finalization of the ANAF flyer in English and French – **December 2011** (FAO-Regional Centre)
- Support National Focal Points in the design of a National ANAF Communication strategy – **December 2011** (FAO-National Focal Points-Regional Centre)
- Encourage the National Focal Points to verify the correctness of national data uploaded so far into the system and upload missing data - **End of August 2012** (Regional Centre)
- Building up ANAF national mailing lists in collaboration with the National Focal Points. – **July 2012** (National Focal Points -Regional Centre)
- Preparation of a list of national and regional aquaculture related web sites for linkages exchange - **End of July 2012** (National Focal Points-Regional Centre-FAO)
- Finalize and made available to the National Focal Points the ANAF flyer and press release – **December 2011** (FAO)

5.2. Official launching – 3th of September 2012

- Official launching of ANAF and promotional strategy – 3th of September 2012.
- Stimulate National Focal Points to continuously posting news items into the system – **Systematic** (Regional Centre)
- Assisting the National Focal Points in the promotion of ANAF at national level. **September – December 2012** (Regional Centre)
 - Distribution of the press release
 - Establishment of linkages with other national and regional aquaculture web sites
 - Distribution of the flyer.

5.3. Consolidation phase – September 2012 - onwards.

- Positioning in the search result list of the main Search engines will be completed.
- The activities started during the launching phase will be continued and possibly expanded
 - Exchange of linkages and information with national and regional aquaculture related web sites
 - Dissemination of the flyer
 - Running the ANAF News & Events section as mentioned above.
- Web analysis reports to measure the **quantity** of data, information and news items uploaded and downloaded by the ANAF users.

6. ASSUMPTIONS

- ANAF Regional Centre staff must play its role ensuring daily maintenance of ANAF and assistance to National Focal Points.
- National Focal Points must ensure continuously data entry and actively collaborate for the promotion of the information system at the national level by implementing the ANAF information and communication strategy.

Aquaculture Network for Africa website Draft flyer



ANAF

The ANAF Network is currently composed by ten African countries; Cameroon, Ghana, Kenya, Mali, Mozambique, Nigeria, Tanzania, Uganda, Zambia and Senegal which have decided to lead the establishment of a web-based information system to facilitate the exchange of aquaculture information in the Sub-Saharan Africa area and to develop an informal, flexible and efficient network of regional experts to promote and accelerate the development of the sector in the region.



WHAT IS ANAF?

ANAF, is a regional aquaculture information system designed to assist both the private and public sectors to have a quick and easy access to the Sub-Sahara Africa regional aquaculture information for the sustainable development of the sector.

It supports and serves as a tool for the regional aquaculture research and development networks which operate in the Sub-Sahara Africa region under the umbrella of the Committee for Inland Fisheries and Aquaculture (CIFAA).

The ANAF groups all member countries of Aquaculture Network for Africa (Cameroon, Ghana, Kenya, Mali, Mozambique, Nigeria, Senegal, Tanzania, Uganda and Zambia) which have decided to establish a web-based information system to facilitate the exchange of aquaculture information in the area.

WHY WAS ANAF DESIGNED?

To respond to the growing importance of aquaculture in the region; to the lack of structured and easy accessible information on aquaculture; to promote cooperation between ANAF member countries and to develop a modern monitoring system facilitating decision making.

ANAF ONLINE

The new aquaculture information system is now up-and-running and it is available at the following address:

www.anafaquaculture.org

THE STRUCTURE

The Web site is organized in nine databases (Annual aquaculture statistics; Aquaculture experts; Production centres; Suppliers; Research institutions; Research and development programmes; Photo library; Virtual library; Selected links) to store and retrieve national and regional aquaculture information.

The ANAF is organized and maintained through a regional and national mechanism: (1) a Regional Centre located in Jinja, Uganda linked to the FAO in Rome and to the CIFAA Secretariat in Accra, Ghana; and (2) a National Centre in each ANAF member country under the supervision of an officially nominated ANAF National Focal Point. All authorized users have the right to directly post new information through user friendly online submission forms.

HOW CONTRIBUTE?

The system has been conceived to be as user-

friendly as possible and allows rapid data entry from the administrators and authorized users and easy data retrieval. Users who want to contribute by submitting new items into the system are kindly requested to contact the ANAF Regional Centre or the ANAF National Focal Points. Full addresses are provided in the "Contact us" section accessible from the ANAF entry page.

HOW TO ADVERTISE ON ANAF

ANAF offers space on its home page to facilitate the private sector to advertise in the new aquaculture information system of the Sub-Sahara Africa region. Placing your Web site address or company logo with a hyperlink to your site is a common form of advertising on the internet to enhance visibility and to promote your business.

HAVE A QUESTION?

For further details you are invited to contact:

Mr Bright Onapito
ANAF Aquaculture Information Expert
Tel: +256-434 125 000
E-mail: bonapito@lvfo.org
onabright@gmail.com

Aquaculture Network for Africa website Draft press release

A NEW WEB-BASED INFORMATION SYSTEM FOR AQUACULTURE DEVELOPMENT: THE AQUACULTURE NETWORK FOR AFRICA (ANAF) WEBSITE

A new website has been established by the Food and Agriculture Organization (FAO) under the *aegis* of the Committee for Inland Fisheries and Aquaculture (CIFAA) to facilitate the exchange of aquaculture information in the Sub-Sahara Africa area among regional experts and stakeholders, and to promote and develop a sustainable aquaculture industry.

ANAF member countries (Cameroon, Ghana, Kenya, Mali, Mozambique, Nigeria, Senegal, Tanzania, Uganda and Zambia) are responsible for the timely data entry and validation along with the promotion of the information system at the national, regional and global level.

The new aquaculture information system is now up-and-running and it is available at the following address:

www.anafaquaculture.org

The website is organized in nine databases (*Annual aquaculture statistics; Aquaculture experts; Production centres; Suppliers of technology; Research institutions; Research and development programmes; Photo library; Virtual library and Selected links*) to store regional aquaculture information.



ANAF is organized and maintained through a regional and national mechanism: (1) a Regional Centre located in Jinja, Uganda and linked to the FAO in Rome and to the CIFAA Secretariat in Accra, Ghana; and (2) a National Centre in each ANAF member country under the supervision of an officially nominated ANAF National Focal Point. All authorized users have the right to directly post new information through user friendly online submission forms.

The system has been conceived to be as user-friendly as possible and

allows rapid data entry from the administrators and authorized users and easy data retrieval. Users who want to contribute by submitting new items are kindly requested to contact the ANAF Regional Centre or the ANAF National Focal Point. Full addresses are provided in the “Contact us” section accessible from the entry page.

Further details can be obtained by writing to:
E-mail: inquiries@anafaquaculture.org

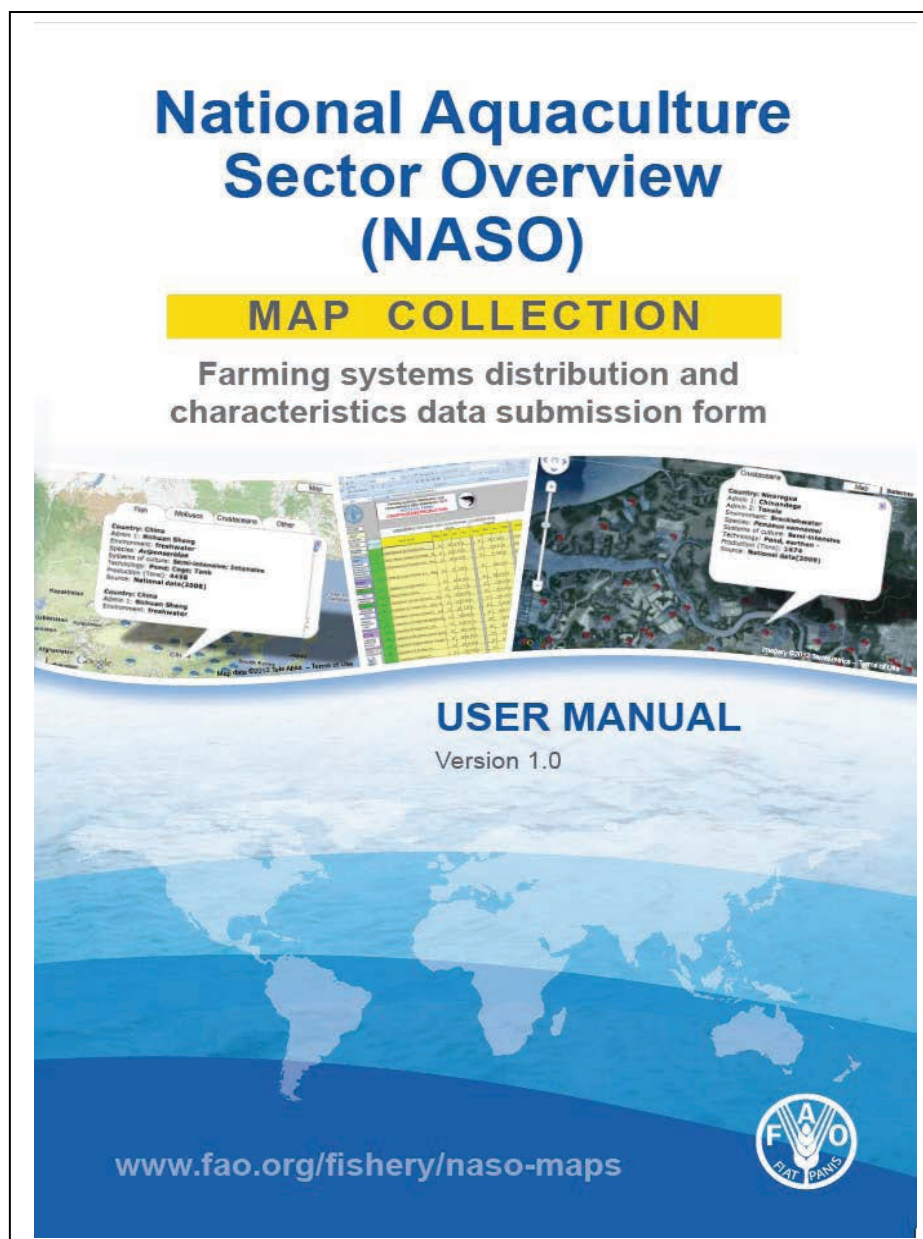
NASO maps submission form

The National Aquaculture Sector Overview (NASO) maps collection geographically illustrates where aquaculture is taking place. Key information features that accompany the geographical locations are either by administrative units or individual fish farms and they include: cultured species, technology used, culture systems, environments, farm characteristics and respective production quantities, and main issues (credit, diseases, environmental impact, etc.). A section of the NASO map Excel form for Cameroon is shown below for collecting data an individual farm level. The Excel form is completed by simply selecting from the drop-down list of standardized information as shown in this example.

Microsoft Excel interface showing the 'Farming systems distribution and characteristics data submission form' for 'INDIVIDUAL FARMS' and 'FISH PRODUCTION'. The form is titled 'LOCATION (FARM NAME AND GEOGRAPHIC COORDINATES)' and includes a table for data entry. The table has columns for 'ID record', 'Farm name', 'latitude' (Deg., Min., Sec., N/S), 'longitude' (Deg., Min., Sec., E/W), 'Administrative level 1 (region/state)', and 'Administrative level 2 (province/district)'. The table contains data for three farms: Tshianga village, 3P, and Nkolinda village. The 'Administrative level 1' dropdown menu is open, showing options: Centre, Centre, Est, Extreme_Nord, Littoral, Nord, Nord_Ouest, Ouest, and Sud.

Cover page of the NASO maps user manual

A NASO map Microsoft Excel form was created to facilitate the creation of the NASO maps. This user manual aims to facilitate the completion of the Excel form. The manual is aimed for all FAO member countries who are reporting aquaculture statistics to FAO and who also wish to inventory and monitor aquaculture in their respective countries. The NASO map collection is being developed by the Aquaculture Service in collaboration with the Fisheries and Aquaculture Statistics and Information Service of the FAO Fisheries and Aquaculture Department.



**Report of the ANAF annual meeting
(Mombasa, Kenya, 9–12 August 2011)**



List of acronyms

AAG	Association of American Geographers
ANAF	Aquaculture Network for Africa
AU-IBAR	African Union Interafrican Bureau for Animal Resources
CIRAD	Centre de coopération Internationale en Recherche Agronomique pour le Développement
CIFAA	Committee for Inland Fisheries and Aquaculture of Africa
CRDI	Centre de recherches pour le développement international
CRSP	Collaborative Research Support Program
FAO	Food and Agriculture Organization of the United Nations
GAA	Global Aquaculture Alliance
IGO	Inter Governmental Organization
INFOSA	Marketing Information and Technical Advisory Services
LVFO	Lake Victoria Fisheries Organization
MOU	Memorandum of Understanding
NASO	National Aquaculture Sector Overview
NEPAD	New Partnership for Africa's Development
REC	Regional Economic Community
R&D	Research and Development
SARNISSA	Sustainable Aquaculture Research Networks in sub-Saharan Africa
SON	Source of the Nile Farm
RFB	Regional Fisheries Body
TCP	Technical Coordination Programme
TIVO	Tilapia Volta project
USDA	United States Department of Agriculture

1. Introduction

The 2011 Annual Meeting of the Aquaculture Network for Africa (ANAF), and a CIFAA *ad hoc* working group was held in Mombasa Kenya from the 9 to 12 August at Sai Rock Hotel. This network comprises ten member countries: Kenya, Uganda, Tanzania, Zambia, Mozambique, Mali, Nigeria, Ghana, Cameroon and Senegal.

2. Opening

Twenty-four participants attending the meeting including representatives from nine out of the ten member countries (only Mali not represented), FAO representatives from the Regional Office for Africa and the Headquarters, representatives from LVFO, AU-IBAR, GAA, USDA, INFOSA and the private sector (refer to Annex 1 for the complete list of participants).

The ANAF facilitator opened the meeting and welcomed the participants. He complimented the hosts' good work and proceeded by going through the revised agenda of the meeting (Annex 3).

3. Objectives

The objectives of the meeting were as follows:

- to recommend a consolidated structure for aquaculture networking in Africa and define its role, its function and structure;
- to review ANAF unconsolidated structure with particular focus on the network's:
 - comparative advantage over other networks in the region; hence,
 - its priority function(s) thereafter;
 - its doable activities, identifying three key tasks that ANAF can undertake within the next twelve months.
- to identify partners to develop synergies and add value when implementing activities;
- to elaborate a work plan for ANAF for the period 2012/2016; and
- to review possible TCP support to the network highlighting the specific areas of support that should be targeted.

4. Meeting structure

The four-day meeting was structured into the following four sessions:

1. Presentations - delivered by each of the focal points present plus other stake holders at the meeting.

FAO Senior Fishery Statistician provided an overview on data needs in aquaculture management and introduced several tools supporting the enhancement of national monitoring capacity on aquaculture that included the Global Strategy to Improve Agricultural and Rural Statistics, Coordinating Working Party Handbook on aquaculture statistics, System of Environmental and Economic Account, and NASO mapping tools.

Participants split into groups to derive solutions to the set objectives of the meeting. In an attempt to meet the set objectives of the meeting, three working groups were formed around a preselected catalyst from among participants. Each working group then held time bound discussion sessions. Working group results were synthesized in the form of *answers to key questions which were* prepared and presented on flipchart sheets during plenary. The questions asked were:

Q1: What is the ideal structure for ANAF as a regional network?

Q2: What are the three comparative advantages of ANAF?

Q3: What are the five priority functions of ANAF? And what are the three actions that can be taken over the next 12 months for each of priority function identified and resource need to undertake those actions?

After the individual sessions, working groups reported the outcomes at plenary and exchanged the views among different groups. The discussion regarding Task 3 and Task 4 of the TORs were held together as Q3. For details on each group findings, refer to Annex 3 and 4.

2. Plenary – to compare results and come up with unanimous conclusions on objectives being discussed during group sessions.
3. Field trip – visit to selected aquaculture sites within the area.

4.1 Country reports

Presentations were made by each of the member country focal points highlighting the current status of aquaculture in their respective countries.

4.2 Partner reports

The Senior Aquaculture Officer and the Regional Africa Office FAO Representative gave a historical perspective of ANAF from its inception as a CIFAA initiative comprising four founder members (Cameroon, Mali, Zambia, Uganda, and Ghana) and went through the process of its evolution to the current status. He outlined the bottlenecks of transforming the working group into an Inter-governmental Organization (IGO). The last step was the drafting of a Memorandum of Understanding which could not be endorsed by member countries to allow for an interim structure (ANAF partnership) lacking a quorum at the last CIFAA meeting held in Mozambique in 2010.

The ANAF facilitator presented an overview of the last ANAF meeting held in Jinja, Uganda in July 2010 which was attended by seven out of ten member countries plus potential ANAF partners such as SARNISSA, CRSP, CIRAD, SON and Auburn University among others.

He also gave an update on the ANAF activities from 2010 to date which included representing ANAF interests at meetings at the regional level (NEPAD, CIFAA 16, and FAO), coordinating ANAF meetings, branding ANAF, production of e-Newsletters and helping the Tilapia Volta project (TIVO) design a website.

Presentations were also made by the Representative for AU-IBAR and USDA. See Annex 2 for details.

4.3 Consultant's report

A consultant from INFOSA was hired to conduct a survey on the status of aquaculture networking in the region. He presented his findings to the plenary. See Annex 2 for details.

5. Conclusions

Outcomes from the group discussions were discussed and consolidated as much as possible during plenary. Below is what was agreed upon by all the stakeholders present. The plenary first agreed upon the comparative advantages of ANAF and then discussed the most suitable structure to effectively promote such advantages:

5.1 Structure and function

ANAF is the only structure that has long term focus compared to the other aquaculture organizations in the region that are mostly projects of long duration. ANAF has the backing of ten governments and is poised to become an IGO which provides for sustainability. It will link directly to national networks that integrate all stakeholder groups with an emphasis on the private sector.

Considering ANAF's comparative advantages, it should lead the position as "*the advisory group to the AU on all matters regarding aquaculture*". This would be the best way to benefit from ANAF's comparative advantages as being an African-wide network directly linking to governments, hence, making it relevant to aquaculture development. ANAF's immediate

institutional structure should be pursued as agreed during the 2010 meeting and the transformation to the **ANAF Partnership** through a Memorandum of understanding (MOU) with member countries that have no financial implications.

5.2 Comparative advantages

The meeting identified the following comparative advantages of ANAF:

1. ANAF has a *wide representation of aquaculture in Africa* considering that it has a broad mandate (endorsement of 38 CIFA member countries) and has the appropriate structure, that is, direct linkage to government (national producer forum through to the network of 38 governments).
2. ANAF *has central linkage with producers and other stake holders* considering that it is placed strategically to link directly with producers/private sector.

5.3 Functions and activities

The meeting identified the following as the priority functions and activities of ANAF:

1. Enhance Research and Development (R&D) Collaboration:

- a. assess the capacities, resources, opportunities for R&D Collaboration of aquaculture;
- b. identify structure for collaboration through lead centre and experts in various areas in RD in aquaculture; and
- c. establish and or update inventory of expertise and service providers along the aquaculture value chain (including private service providers and consultants).

2. Promote Best Management Practices:

- a. identify, standardize, train and disseminate Best Management Practices in aquaculture; and
- b. harmonize data collection formats and train in aquaculture production data collection.

3. Enhance ANAF's awareness:

- a. establishment of national pages on ANAF website;
- b. create awareness on ANAF to various stakeholders;
- c. identification of relevant stakeholders and round-table meeting to develop a partnership and collaboration;
- d. update aquaculture inventory of fish farmers at village, district and regional levels; and
- e. promote participation of farmers, producers and other stake holders in ANAF.

4. Formally establish ANAF as IGO:

- a. initiate actions for the establishment of an IGO; and
- b. develop and elaborate funding mechanism for sustainability of IGO.

5.4 Activities to be undertaken within the next twelve months under a revised TCP in support of ANAF

The meeting developed the work plan for Function 4 identified in Section 5.4 as follows:

Activities	Urgency	Feasibility	Resource	Time
Executing MOU for ANAF partnership	High	Yes	FP all	Nov. 2011
Consultation at country level	Med			
- Round-table at country level	Med		Need additional budget	
- Develop TORs for round-table	high		Sec	Sept.2011
- Planning for round-table			FP all with Sec	Nov. 2011
Agree on structure, functions (TORs articles and convention)	Med			
Ensure that ANAF is on the CAMFA agenda -Prepare and submit documentation to AU	High	Yes	FP Kenya to follow up**	Nov. 2011

The meeting faced difficulty developing a concrete work plan for the other functions. Main problems were that participants did not have a clear idea on actual information and resources currently available, as well as possible constraints. Therefore, it was decided to defer the concrete work planning to the meeting expected to be held in November 2011, provided that all focal points would collect national information to be placed and incorporated into ANAF network and further collaboration. That information would become the basis of further work planning. The list of information to be collected and reported at the next November meeting is indicated in Section 6 of this report.

In addition, the meeting identified the followings as priority area that would require specific attention:

1. Designing a regional research programme including identification of centres of excellence, technical expertise and priority research needs [of farmers to be garnered through national round tables], as well as modules for regional designs of specific research.
2. Designing a regional capacity building programme using the results of the inventory of centres of excellence and round table meetings [No 1] and identifying skill gaps and designing a regional programme where these could be filled using a regional approach based on economies of scale.
3. Prototype of a regional statistics programme covering the national, sub-regional [REC/RFB] and regional levels.
4. Follow up with the Global Aquaculture Alliance (GAA) and the United States Department of Agriculture (USDA) regarding R&D collaboration.

6. Recommendations

Due to time constraints, the process of completing this work plan was adjourned to another meeting that has been scheduled for November 2011. The actual date will be communicated at a later date.

The focal points were given the task to present some requirements for the November meeting. These include the following:

- documents on legislation affecting Aquaculture;
- inventory of farmers;
- success story in aquaculture;
- an expression of interest (for those interested) to use NASO maps for their countries;
- Research and Development centres, experts and ongoing research;
- priority needs of fish farmers;
- producer Organizations;

- national process of establishing an IGO;
- the value ANAF is going to add to your country;
- content of national pages.

6.1 Closing remarks

The ANAF facilitator thanked all the members present for their time and effort put into making the meeting successful by achieving most of the set objectives. He again thanked FAO for their continued support towards ANAF, LVFO for generously housing the ANAF Secretariat, AU/NEPAD and INFOSA, USDA, GAA and finally the host country Kenya. He wished everyone a safe journey back to their respective destinations and urged them to prepare for the forth coming meeting in November 2011.

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Summary of presentations by focal points and stakeholders

Kenya Focal Point

- Aquaculture suitability maps developed and potential documented.
- National Aquaculture strategy and Development Plan in place.
- National Aquaculture Communication Strategy developed.
- National Aquaculture Policy being developed.
- FAO Technical Coordination Programme (TCP) operational - Business plans for cluster farmers developed, cluster farmers are in the process of forming a cooperative to address marketing and other related challenges.
- Economic stimulus project has been implemented covering 160 constituencies and entailed construction of 300 fish ponds per constituency supported by the government. It provided employment to the youth.
- Main challenges: access to seed and quality feed, inadequate market linkages, limited capital, and access to credit.
- Opportunities: underutilized freshwater resource, and unexploited marine culture potential.

Tanzania Focal Point

- Described the status of fresh water aquaculture in Tanzania which is comprised of small-scale farmers owning 14 000 ponds of average of 150 square metres.
- Ongoing research on *Clarias gariepinus*.
- Common fish feeds are rice and maize brand;
- There is a marine aquaculture along the coast (Zanzibar, Tanga, and Mafia Island) comprising of seaweed, *Penaeus monodon*, crab fattening, and milkfish farming.
- Main challenges: weak extension service, limited research work, limited markets and limited funds.
- Preparation of National Aquaculture Strategy and Development Plan ongoing.
- Aquaculture Policy in place.

Zambia Focal Point

- National Aquaculture Strategy and Development Plan in place and being piloted.
- Aquaculture Advisory Group (Private/Public multi-sectoral composition) guiding aquaculture development in the country.
- TCP on support to Aqua farmers ongoing in cluster at three sites for market, inputs, credit and other support services.
- Training on aqua-business for farmers and extension staff undertaken.
- Training for business planning undertaken.
- Strategic Environment Assessment for cage culture done.
- Inadequate extension personnel.
- ANAF as means of improving farmer and stakeholder access to information.
- ANAF Zambia initiated 2010 under auspice of Association of American Geographers (AAG) - TORs for network and coordinator developed.
- Developing database and being updated.
- Need for computer and internet connectivity.
- Directory of fish farmers and stakeholders in place and being updated.
- Best Management Practices being developed (BMPs)/BAPs.

Ghana Focal Point

- Directory of fish farmers and stakeholders available and is being updated.
- Review of communication tools and options including website, Short Message Service (SMS) networking, E-mail list of stakeholders.
- Preparation of data on list of stakeholders.
- Bi-annual newsletter.
- Farmers producing 10 200 tonnes annually;
- Commercial fish farming data incomplete.
- Set up national guidelines for aquaculture.
- TCP being developed for extension/World Bank project for staff training being set-up.
- Fish breeding project for improved growth of local species at Lake Volta.
- Challenges: imported fish feed which is very expensive.
- Cluster for credit markets and other support services.
- Trials on marine culture being undertaken.

Mozambique Focal Point

- Poverty reduction strategy includes small-scale aquaculture.
- Fisheries policy in place.
- Aquaculture strategy in place.
- Shrimp strategy in place.
- Small-scale fisheries plan implemented.
- Small-scale fish farming of tilapia and carp (100–400 m² ponds) and production of 2 tonnes per hectare per year.
- Culture of tilapia in cages being done.
- Challenges: lack of quality feed, seed, training, capital, credit and extension.
- Sea weed and shrimp farming – problem of marketing.

Senegal Focal Point

- Aquaculture has become a priority due to increasing demand for fish – capture fisheries on the decline.
- Aquaculture promotion agency – creation of fisheries and aquaculture institute.
- Have big potential for growth: 78 km coastline, Senegal River 1 700 km, Gambia River 750 km, and numerous water bodies.
- Extensive and semi-intensive ponds in both freshwater and brackish water, cages and concrete ponds.
- Culture of tilapia and catfish.
- Three public hatcheries.
- Rice and fish culture is being promoted.
- Oyster farming.
- Algae cultivation trials at government centers supported by the « Centre de recherches pour le développement international (CRDI) ».
- Have a strategy, investment plan.
- Code of conduct for aquaculture.
- Have two TCPs for fresh water and for brackish water.

Nigeria Focal Point

- 150 000 tonnes of annual production (80 percent catfish, tilapia, carp).
- Require 2 600 tonnes annually, import 700 000 tonnes.
- Use different systems flow-through, re-circulating, extensive, semi-intensive, intensive to culture fish.
- 2 700 fish commercial farms.
- Conducting an inventory of hatcheries.
- Have two research institutes – fresh water and marine.
- Have many fisheries associations – the largest and most active is the catfish association of Nigeria.
- Challenges: expensive imported fish feeds, lack of good quality brood stock, marketing farmed fish difficult, lack of demand-driven research, lack of credit facilities, and inadequate extension, dishonest/fake consultants, government interference in pricing.
- National aquaculture strategy preparation is ongoing.

Uganda Focal Point

- Experienced fast growth in production 285 tonnes in 1999 to 10 000 tonnes 2005, current 90 000–100 000 tonnes.
- Identification of potential zones is going on and establishment of aquaculture parks, development of local species.
- Have vast potential for growth: 18 percent covered by water, rich in feed ingredients, have market.
- Developing their strategy and plan.
- Challenges: expensive fish feed, poor data collection, predation and diseases, lack of credit facilities and poor quality seeds and brood stock.
- European Union has commissioned a study on commercialization of aquaculture.
- Aquaculture policy in place.

Cameroon Focal Point

- Mostly small-scale aquaculture which is largely subsistence.
 - Government launched a strategic framework for aquaculture in 2003.
 - Developed aquaculture development plan with the support of government and FAO in 2009.
 - Produce 870 tonnes/year, but has a potential to produce 20 000 tonnes estimated in 1999.
 - Mainly extensive, with some semi-intensive, and few intensive farms.
 - Promoting re-circulating systems.
 - Rural sector and food security development strategies.
 - Have two institutions that are offering aquaculture technical training.
 - Challenges: inadequate extension, seed, feed, capital.
 - No commercial fish farms that can demonstrate fish farming as a business.
- Opportunities: good demand for fish, good resources for fish farming, government goodwill to develop aquaculture.

African Union (AU) Representative

The role of AU in fisheries development in Africa

- She gave an overview of SPFIF: Strategic Partnership for a Sustainable Fisheries Investment Fund in the Large Marine Ecosystems of the sub-Saharan Africa and elaborated the functions, objectives, roles and responsibilities.
- She also explained possible avenues for collaboration with ANAF through the AU structures.

INFOSA Representative

Mechanisms and structures to optimize efficiencies and access to information

INFOSA was contracted to undertake the following activities for ANAF:

- a. Reviewing the status of Aquaculture Networking in Africa.
- b. Contacting identified actors, determining areas of concentration, resources ,etc.
- c. Propose a consolidated networking structure.
- d. Craft prototype MOU through which the different actors could collaborate.
- e. Propose a consolidated Networking Programme for Africa (2012-2016).
- f. Draft a TCP project to assist in implementation of the programme.

General findings

- Much work has already been done. More needs to be built on what ANAF has already done and create strong partnerships with other actors.
- A significant number still do not know the existence of ANAF.
- A bit of confusion exists between SARNISSA & ANAF, for some SARNISSA is by far the organization known, followed by the Aquaculture Association of Southern Africa.
- The majority love the idea of consolidated networking.
- Many have financial weaknesses – some think that the network could potentially be an avenue for their sustainability.
- Others are wary of ANAF taking over some roles.
- A growing number of people with functional communication tools developing beyond just email/internet.

USDA Representative

Aquaculture production systems – advances in water, genetics, health, and nutrition

He informed the meeting that the ARS (Agricultural Research Service) under USDA is a Mission-Driven Organization whose mission is to conduct research to develop and transfer solutions to agricultural problems of high national priority and to provide information access and dissemination to:

- International Food Security
- Bio-energy
- Climate Change
- Childhood Obesity
- Food safety

ARS is interested in international cooperation especially with research scientists. ANAF could potentially benefit from such cooperation.

FAO HQ Representative

Possible FAO contribution to ANAF – Overview

- Global standards and guidance – information and assistance for implementation
- Implementation of national/regional projects
- Assistance for regional coordination
- Tools for data collection, dissemination, and information exchange (Strategy – STA, NASO mapping tool, ANAF website, and FIGIS, FishStat)

Agenda and Terms of reference for meeting

Revised Provisional Agenda **ANAF Annual Meeting** **Mombasa, Kenya: 9-11 August 2011**

Date	Time	Event	Notes/Topics	Presenter
9 Aug	0830	Housekeeping	Logistics, registration	Ferry
	0845	Introduction	Perspective & meeting expectations	Moehl
	0915	Review of 2010 Report	Summary of Meeting Report	Bright
	0930	ANAF Update	Key activities since last meeting	Bright
	0945	Country Reports	5-10 min per country	FPs
	1015	Tea Break		
	1030	Country reports	5-10 min per country	
	1200	FAO HQ Report	Overview + regional information systems	Sachiko
	1300	Lunch		
	1430	Discussion	Follow-up to morning session	Sachiko
	1500	USDA-ARS Report	Research systems	Silverstein
	1600	Tea Break		
	1615	Review of Networking	Comparative analysis	Blessing
	1730	Discussion & Recap	Select Working Groups	
10 Aug	0830	Way Forward	Working Groups: see TORs	
	1000	Tea Break		
	1015	Way Forward	WG Continues	
	1300	Lunch		
	1430	Assistance needs	Gaps to fill [TCP proposal]	Bright/Blessing
	1500	Way Forward	WG Continues	
	1600	Tea Break		
	1615	Way Forward	WG Continues	
11 Aug	1730	Recap		
	0830	Way Forward	WG Continues	
	1030	Tea Break		
	1045	WG Results	Plenary	Bright
	1300	Lunch		
	1430	Work plan 2011/14		Bright
	1600	Tea Break		
	1615	Conclusions & Recommendations		Bright
12 Aug	1800	Summary		
		Field Trip		

Working Group Terms of Reference

Working groups will be formed around a preselected catalyst from among participants. Each working group will then appoint a facilitator and rapporteur. Working group results will be synthesized in the form of **answers to key questions**; these to be prepared on **flipchart sheets**.

Working groups must strictly adhere to time allocations.

Total in-session time allotment: 8 hrs⁴ [480 min]

Task 1 – Consolidated structure

1.1 What should be the regional aquaculture networking structure?

1.2 What should be ANAF's place in this structure?

Time allocation: 90 min with 20 min group reporting = 110

Task 2 – ANAF Functions [part I]

2.1 What are ANAF's comparative advantages?

Describe **three**

Time allocation: 60 min with 20 min group reporting = 80

Task 3 – ANAF Functions [part 2]

3.1 What are the **five** priority functions of ANAF?

Be specific: activities and outputs at national and regional levels

Time allocation: 120 min with 20 min group reporting = 140

Task 4 – ANAF Action

4.1 What **three** actions can be undertaken over the next 12 months with specific objectives for each?

4.2 What specific resources are required?

Time allocation: 90 min with 20 min group reporting = 110

Follow-up Plenary Work

Task 1 – ANAF partners & operations

1.1 For each priority function, how should these be undertaken?

Options include country support through partnerships. Partnerships include joint activities, as well as activities backed up through the collaboration specifically designated for ANAF. For this latter, specific recommendations should be made in regards to possible FAO TCP support as well as other non TCP support recommended from FAO or other partners.

Task 2 – ANAF Workplan 2012/2016

2.1 Fill in table below

Activities derived from priority functions [WG Task 3]. No more than three activities during Year 1, maximum four activities in Year 2 and not more than five activities in Years 3-5.

No	Activity	Year					Resource Requirements
		1	2	3	4	5	
1.							

⁴ Out of 11 hours

Results of Group Work

Task 1 – Consolidated structure

- 1.1 What should be the regional aquaculture networking structure?
- 1.2 What should be ANAF's place in this structure?

Task 2 – ANAF Functions [part I]

- 2.1 Describe three comparative advantages of ANAF?

Task 3 – ANAF Functions [part 2]

- 3.1 What are ANAF's five priority functions

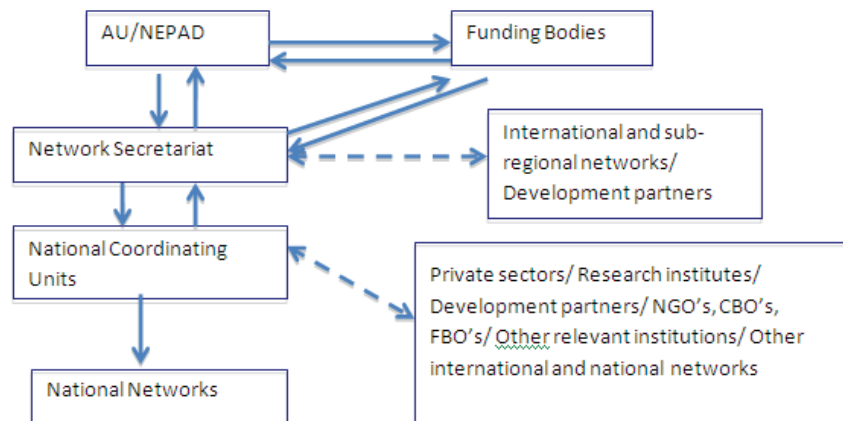
Task 4 – ANAF Action

- 4.1 What **three** actions can be undertaken over the next 12 months with specific objectives for each?
- 4.2 What specific resources are required?

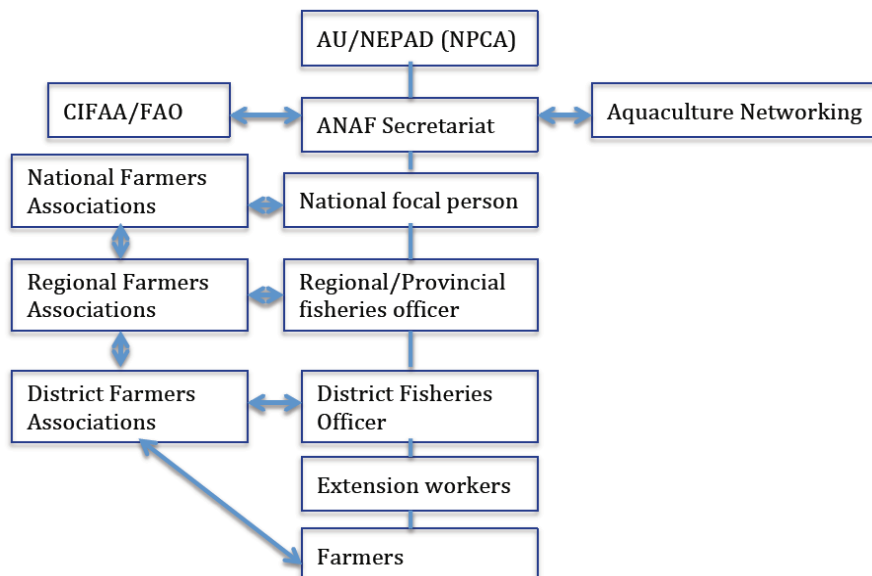
Results of Group Work

Q1. What is the ideal structure for ANAF?

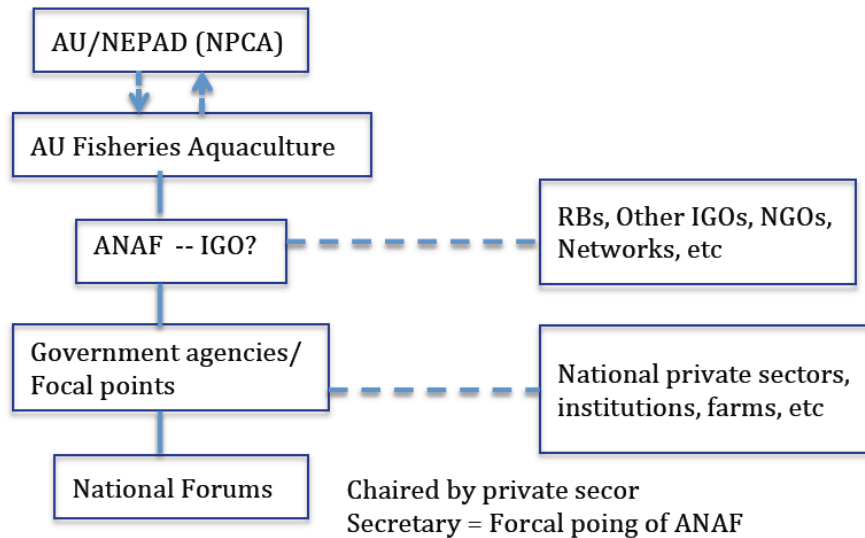
Group1



Group2:



Group3:



Q2. Three ANAF strengths:

Group1

1. ANAF covers and focuses on all African countries
2. Wider subjects matters covered.
3. Participation of the government linked to the African Union for sustainability and more credible information.

Group2:

1. ANAF can improve intercontinental communication and information sharing in aquaculture right from the grass root level.
2. ANAF can promote the development of commercial aquaculture, which is at its inception level, through identification of public private partnership initiatives.
3. ANAF can be a vehicle to influence political decisions in favour of aquaculture development through studies, relevant information, etc.

Group3:

1. ANAF has a broad mandate (endorsement of 38 member countries) and appropriate structure (national producer forum through to the network of 38 governments) to focus on the needs of aquaculture producers.
2. ANAF being placed on a central position by its linkage directly with the producers through a network of 38 CIFA member staffs to disseminate ANAF and other network information.
3. ANAF is purely an African organization.

Q3. Functions and activities:

Group1:

1. Information exchange

Activities: Data sourcing, collation, analysis, storage, dissemination – NATIONAL and REGIONAL

Outputs:

- National databases developed and posted on the Web-site
- Packaging and dissemination of best practices and research findings
- Organized study tours

2. Conduct aquaculture inventory

Activities: – NATIONAL

- Documentation and identification of various services providers, institutions, facilities, experts, private individuals, etc.
- Identification and map potential aquaculture sites

- Information to be sent to ANAF Secretariat to be posted/put in the regional directory

Outputs:

- Directory of service providers, facilities, institutions, private individuals, produced
 - Fish production data published
 - Potential sites mapped and digitized
3. Capacity building, research and extension
- Activities: – REGIONAL
- Identification and documentation of lead institutions including fish farms in and out of Africa
 - Developed profiles institutions/ forms
 - Training in specific domains (MOUs with partners)

Outputs:

- Specialized institutions categorized
 - Specialized trainings conducted national capacity building in various domains
 - Increased in fish production
 - Research findings shared
 - Extension package developed
4. Trade and Market
- Activities:
- Conduct market survey for aquaculture products, equipment, inputs – NATIONAL
 - Create market linkages
 - Promote aquaculture products of the international , national, regional, through advertising,
 - Round-table buyers and sellers – REGIONAL

Outputs:

- Market survey conducted
 - Market linkages created
 - Aquaculture products advertised
 - Market access improved
5. Certification and Standard
- Activities:
- Establishment of certification system along the aquaculture value chain – REGIONAL
 - Provide guidelines for certification and standard aquaculture products system, inputs, etc

Outputs:

- Certification system established
- Guidelines for certification and standard developed and disseminated
- Healthy and safe fish products
- Export of aquaculture products enhanced
- Pollution of environment from aquaculture system minimized

Group2:

1. Aquaculture data and information sharing

Activities: - REGIONAL

- Establishing, equipment, and staff of Secretariat
- Design data collection formats
- Train
- Collate and analyze
- Design website and disseminate information

Activities: - NATIONAL

- Collect and analyse data
- Train
- Report and disseminate

2. Resource mobilization (Technical assistance and capacity building)

Activities: - REGIONAL

- Identify and collate needs
- Identify sources of resources and sign agreements
- Implement capacity building and technical assistance
- Monitor and evaluate

Activities: - NATIONAL

- Needs assessment
- Report to regional implement capacity building and technical assistance programmes
- Report

3. Promotion and advocacy for aquaculture development

Activities: - REGIONAL

- Needs assessment including package needs
- Identify donors
- Participate in various promotion for aquaculture development
- Disseminate information

Activities: - NATIONAL

- Needs assessment
- Partake in for a to promote ANAF
- Report at Regional level

4. Standards, certification and best practices in aquaculture

Activities: - REGIONAL

- Review existing standards/ certifications
- Harmonize
- Train

Activities: - NATIONAL

- Create awareness
- Train

5. Coordination of studies and research

Activities: - REGIONAL

- Needs assessment and prioritization
- Mobilization of resources
- Identification of lead centre
- Award consultancies
- Disseminate results

Activities: - NATIONAL

- Identification of needs
- Identification of lead centres
- Monitoring of studies
- Disseminate results

Group3:

1. Establishment of a network of contact for information flow/sourcing, piloted in the ten countries with the secretariat as a hub.
2. Establish, prioritize, harmonize specific research programs using the established national research institutions and experts to address pressing producers issues.
3. ANAF to develop a system of public support for commercial producers.
4. Assist member countries to build capacity in aquaculture management.
5. Assist member countries in developing their aquaculture policies and institutional frameworks.

Activities:

1. Assessing the capacities, resource, opportunities for research and development collaboration of aquaculture for the public institutions.
2. Identifying structures for collaboration through lead centre and experts in various areas in R&D in aquaculture.
3. Reviewing policies and institutional frameworks.
4. Conducting comparative studies.
5. Identifying BMPs.

DAY 3*Consolidation exercise at Plenary***Work Plan for the next twelve months****Formally establish the institutional structure of ANAF**

1. Initiate actions for the establishment of an IGO
2. Develop and elaborate funding mechanism for sustainability of IGO

TORs already elaborated. MOU for ANAF-partnership – interim structure until formalizing ANAF as IGO. Agreement move toward IGO - Yes.

Activities	Urgency	Feasibility	Resource	Time
Executing MOU for ANAF partnership	High	Yes	FP all	Nov. 2011
Consultation at country level	Med			
- Round-table at country level	Med		Need additional budget	
- Develop TORs for round-table	high		Sec	Sept.2011
- Planning for round-table			FP all with Sec	Nov. 2011
Agree on structure, functions (TORs articles and convention)	Med			
Ensure that ANAF is on the CAMFA agenda - Prepare and submit documentation to AU	High	Yes	FP Kenya to follow up**	Nov 2011

Enhance Research and Development Collaboration

1. Assess the capacities, resources, opportunities for RD Collaboration of aquaculture.
2. Identify structure for collaboration through lead centre and experts in various areas in RD in aquaculture.
3. Establish and or update inventory of expertise and service providers along the aquaculture value chain (including private service providers and consultants).
4. Follow up with the GAA and USDA regarding R&D collaboration.

Activities	Urgency	Feasibility	Resource	Time
Assess for R&D collaboration				
- Inventory of expertise				
- Inventory of service providers				
- Ongoing and proposed research				

Enhance ANAF's awareness

1. Develop the national pages and publish on the ANAF website.
2. Create awareness on ANAF to various stakeholders.
3. Identification and round-table of meeting relevant stakeholders for partnership and collaboration.
4. Update aquaculture inventory of fish farmers at village, district and regional levels.
5. Promote participation of farmers, producers and other stake holders in ANAF- Who are the audience? What to present – contents, what is the message? How?

Discuss concrete plans and contents during the November meeting. John will provide specific information required to report.

Activities	Urgency	Feasibility	Resource	Time
Create national pages on ANAF web site				
Identify the contents for ANAF			FP all	Nov.2011
Follow up work with Global Aquaculture Alliance (GAA)				
Stakeholder meeting, national WS			Limitation in funding	Nov.2011
Ministry campaign – TV – use other existing opportunity to advertise?				
Introduce small section to				
Organize national meeting				
Use of newsletter				
Exhibition in the region				
FM station for advertise				
Within national meeting > magazine, TV, etc.				
Pamphlet				
FI-AQ summit – inputs				
Aquaculture association				

Promote Best Management Practices

1. Identify, (standardize, train) and disseminate Best Management Practices in aquaculture.
2. Harmonize data collection formats and train in aquaculture production data.

Materials available. Development of a regional standard? Potential of funding through GAA and SIDA. Standards may have a direct link with certifications? This is a long process, however it needs to be initiated.

The technical meeting and training on the “Aquaculture Network for Africa (ANAF) website: data collection and dissemination tools” was held at the Paradise Hotel in Jinja, Uganda, from 22 to 25 November 2011. The objectives were to: (i) hold a one-day discussion with the responsible officers of the existing regional networks/information systems to strengthen collaboration; (ii) provide training to the ANAF Regional Centre staff and National Focal Points on the ANAF website; (iii) provide an overview on spatial tools including emerging issues and applications for aquaculture planning and management in the region and hands-on training on spatial tools for collecting, managing and disseminating national aquaculture statistics; and (iv) present major data or information gaps for assessing and monitoring the aquaculture sector performance in sub-Saharan Africa. Participants contributed directly by giving a short presentation at the meeting and taking part in the structured discussions. The meeting was attended by 16 aquaculture experts from nine sub-Saharan countries. The meeting concluded with the identification of follow-up activities to upload a minimum set of data and information for the ANAF website and a work plan for the ANAF website and other ANAF related activities for 2012.