



SPADA:

Special Programme for Aquaculture Development in Africa

SPADA -- What is it?

The Special Programme for Aquaculture Development in Africa (SPADA) represents the FAO Fisheries and Aquaculture Department's strategic approach to accelerate aquaculture development in its member countries in Africa in view of the high importance given by the 27th Session of the FAO Committee of Fisheries as well as the 2007 High-Level Event on Aquaculture during the 32nd FAO Conference. It recognizes, in accordance with the NEPAD Action Plan for the Development of African Fisheries and Aquaculture, the growing opportunities and emerging successes of aquaculture development in the region, and identifies the key arenas and elements necessary to complement or catalyze country efforts. SPADA is also designed to contribute to the Millennium Development Goals in Africa. Aquaculture systems enable adaptive responses to climate change that will ensure future fish supply. Appropriate production technologies are more input-efficient in terms of energy, feed, fertiliser and water whilst expanding entrepreneurial sectors enables non-traditional opportunities for vulnerable groups such as women and youth.





AQUA-BUSINESSES: SMALL AND MEDIUM ENTERPRISES

The small investor can and should be the motor for development of sustainable and profitable national aquaculture programmes in Africa. Small and medium enterprises, aqua-businesses, will benefit the Region's comparative advantages of relatively inexpensive and available land, labour and water. These enterprises, concentrated in high potential zones with optimal bio-physical and socio-economic resources, including under-served markets, will go a long way to fill the Region's growing supply gap for aquatic products. However, this process requires a catalyst; this catalyst is SPADA. SPADA will provide the needed support to thousands of small investors across the Region, helping them develop profitable aqua-businesses producing needed aquatic products and providing needed support services. As an integrated and multi-dimensional programme with a variety of national, regional and international partners including NEPAD, SPADA will benefit from regional economies of scale and rapidly improving communication technologies to assist rural and urban dwellers across the Region in establishing and managing sustainable aqua-businesses.



SMALL INVESTORS NEED ASSISTANCE

Across the Region, small investors are anxious to see positive and sustainable returns from their fishponds and other aquaculture units. After years of trial and error, those farmers who have persisted have realised the potential of aquaculture. However, without the proper inputs, including good feed and seed as well as good quality information, and without access to good markets, these investors find themselves in disadvantaged positions that do not allow them to achieve their productive potentials. These farmers look to partners such as FAO to assist them in tackling these obstacles, to assist their Governments in providing facilitating environments and to assist decision-makers in better understanding the real opportunities and constraints to the sustainable development of the aquaculture sub-sector.

AQUACULTURE IS AN OPPORTUNITY FOR ECONOMIC DEVELOPMENT IN AFRICA

Aquaculture is one of the fastest food production sectors in the world. However, aquaculture production in Africa has yet to catch up with this global trend in spite of significant natural resources and a high demand for fishery products. Today, of the total quantity of aquatic products marketed in African countries, very little is produced by aquaculture systems. Nevertheless, there are now means to increase aquaculture's contribution to Africa's fish supply.

Africa needs fish and fishery products. Whereas fish is a major source of animal protein as well as fatty acids and micro-nutrients for African peoples, Africa is the only region of the world where the present level of per capita fish consumption has declined over the past decade as populations grow and fewer aquatic products reach markets. This falling supply has noticeable negative nutritional and financial affects. Declining supply has also created opportunities for aquaculture.



FISHPONDS

Most aquaculture in Africa has been practiced in earthen farm ponds that are usually small and hand-dug. These ponds are typically used to raise tilapias and/or catfish using available on-farm resources and employing family labour.



LARGE-SCALE FARMS

Ponds can also be used for large farms where they are much bigger and built using heavy machinery. Large fish farms are becoming more common in Africa but still relatively rare given the challenges in developing this scale of enterprise.



SMALL BUSINESSES

Small-scale fish farms, or aqua-businesses, can use fishponds in a more market-orientated production system to produce significant quantities of fish for local and urban consumers.



AQUACULTURE IS AN INVESTMENT

Given the imperative to improve food security and economic growth in the Africa Region, and the widely recognized untapped potential for aquaculture, the FAO Committee on Fisheries (COFI) has placed high priority on aquaculture as an investment in Africa. A new and innovative programme - the **Special Programme for Aquaculture Development in Africa (SPADA)** - has been established to provide assistance to African countries to enhance aquaculture production, to facilitate producers' access to financial services and markets, to promote user-friendly regulatory frameworks, to boost investment in aquaculture as well as to exchange knowledge.

This Programme follows closely the priorities set by the The New Partnership for Africa's Development (NEPAD) Action Plan for the Development of African Fisheries and Aquaculture (2005) which include, among others; developing sector-wide strategies at national level for expansion and intensification of aquaculture, supporting priority aquaculture zones, encouraging private sector investment across the sector and harnessing the opportunities for small and medium enterprise development provided by expanding domestic markets for fish, including growing urban demand.



CAGES

Cage systems are rapidly gaining prominence due to their advantages to rationally and responsibly use the Region's lakes and other surface waters for increased fish production.



TANKS

Concrete and cement block tanks have proven to be very suitable culture systems for catfish where high densities of fish can be maintained on relatively small surfaces.



RECIRCULATING SYSTEMS

Even higher densities of fish can be raised in recirculating systems, but these require high levels of capital and technical knowhow if the enterprises are to be successful.



SPADA'S GOAL

The programme's goal is to improve economic and rural development by enhancing fish supply and distribution as well as benefiting nutrition through increased aquaculture production; this goal achieved by promoting sustainable aqua-businesses at national level including the necessary public and private support services, specifically the programme will strive to:

1. Increase aquaculture production in the Region by at least 200% over the next decade;
2. Assist two-thirds of countries in the Africa Region in elaborating and implementing national aquaculture development strategies with accompanying aquaculture plans, legislation and regulations;
3. Implement the Code of Conduct for Responsible Fisheries (CCRF) and Best Management Practices (BMPs) as they relate to aquaculture as well as instituting monitoring and evaluation methods that ensure social and environmental soundness;
4. Strengthen the **African Aquaculture Network [ANAF]** to facilitate information exchange, provide technical assistance, co-ordinate education and research and provide basic support to the sector while employing the latest information technology including communications technology to facilitate networking and information exchange; and,
5. Facilitate access to inputs (e.g., feed, seed, capital, land, water) by investors while promoting intra-regional trade and markets for aquatic products.



MARINE POND SYSTEMS

The marine and brackish-water environments are receiving increased attention; initially this focused on shrimp farming but these areas are also being used for fin-fish culture.



MARINE INVERTEBRATES

While shrimp is the most well-known marine invertebrate culture organism, there is growing interest in other crustaceans and mollusks including small-holder mud crab farming.



SEAWEED

Seaweed farming is a growing activity on the Indian Ocean coast, often involving women as the seaweed farmers.



PROGRAMME SCOPE & STRATEGY

The programme will cover all African countries and be directly linked to NEPAD through its Action Plan. SPADA activities will take place at national, sub-regional and regional levels. At national level the programme will work with public and private institutions, service providers, NGOs/CSOs and the private sector to establish sustainable and responsible aqua-businesses which will, in turn, increase employment, fish supply and investment opportunities. At sub-regional level SPADA will work with Regional Economic Communities (RECs) to develop protocols for managing shared resources, trans-boundary movement of aquatic products as well as intra-regional trade and markets. At regional level, the programme will assist NEPAD in implementing its Action Plan including assistance to the nascent African Aquaculture Network [ANAF] as well as relevant aquaculture bodies including the **Committee on Inland Fisheries for Africa and Aquaculture (CIFAA)**.



TILAPIA

Tilapia is the most widely cultivated aquatic crop. Recently activities have accelerated to identify an improved tilapia species for the Africa Region



CATFISH

Often catfish were relegated to a secondary status until these fishes became the centerpiece of the successful Nigerian programme. Much more effort is now being invested in catfish farming across the Region.



SOUTH/SOUTH CO-OPERATION

Africa has a lot to learn for Asia where aquaculture has become a much more profitable enterprise. South/south co-operation brings practical Asian experiences to the African continent.



PROGRAMME RATIONALE

While aquaculture in varying forms has been promoted in the Africa Region for over five decades, it has only recently developed into a sustainable and productive sub-sector that can make meaningful contributions to economic growth and food supply. The transition from small, integrated farm ponds, for which there were great expectations, to profitable fish farms was a long process of discovery. Through a careful review of lessons learnt, what worked and what did not, African aquaculture experts have now agreed upon new paradigms for aquaculture development that focus on aquaculture as a business. This business approach does not exclude the many existing subsistence farmers but rather develops more sustainable and effective support mechanisms that will promote development of the whole sub-sector to the benefit of all.

PROGRAMME DESIGN

SPADA covers NEPAD countries in Africa and is implemented by FAO from its Regional Office for Africa (RAF). Importantly, SPADA is an iterative and evolving programme that will adjust its focus to meet priority needs of the aquaculture sub-sectors of participating countries. In a first step, countries sign on to SPADA by adopting the initiative's aims. Concurrently with national endorsement, countries will make a commitment to develop their respective national aquaculture development strategies and plans for implementation. As the Programme develops, it will be co-ordinated from a hub situated in RAF and directly linked to NEPAD. The hub will have full-time technical staff as well as a support staff who will assist programme partners on multiple levels. The team will work in close collaboration with the fisheries and aquaculture staff of the NEPAD Secretariat as well as relevant regional and sub-regional partners. At regional level, the team will also work closely with CIFAA and regional producer associations. The team will, moreover, serve as direct counterparts to the regional aquaculture network.

At sub-regional level the staff and its development partners will work with RECs, while at national level it will work with national institutions, service providers, NGOs/CSOs and the private sector. At all levels, the programme will use TCDC and South/South Co-operation to provide appropriate technical assistance on priority topics where expertise is available in other parts of the world.

At country level, the programme will have three stages of intervention. The first stage will be to assist in establishing an enabling environment including such key elements as operational national aquaculture strategies as well as appropriate rules, regulations and monitoring procedures along with strengthening relevant national institutions. The second stage will assist with the development of functional and sustainable clusters of aqua-businesses, including their enhanced access to markets, processing and trade channels. The final stage will involve monitoring of the outcomes of stages one and two.

Networking and ANAF will be fundamental to the programme's functions. The programme will benefit from and use existing networking structures. It will build up the African network of fisheries and aquaculture libraries, strengthen information resource sharing with the global network and assist the ongoing development of the Aquatic Commons as a mechanism for sharing published information.

The programme will initially operate in the core countries of ANAF. As the first stage of operations is accomplished in this primary tier, a second group of countries will be added. Stage one and two activities will be simultaneously undertaken in not more than six countries at a given time. Self-sufficient clusters will serve as demonstrations for both the country and the sub-region.

At regional level the hub will serve as a disappearing precursor to sustainable regional structures in the form of the regional aquaculture network (ANAF) which will technically co-ordinate and support the sub-sector in close collaboration with CIFAA which will provide long-term political assistance to the aquaculture sub-sector in Africa.



The programme will employ the latest information technology including communications technology to facilitate networking and information exchange as well such tools as Geographic Information Systems (GIS) to enhance planning and monitoring of aquatic resource management as described later in this document.

The final stage will involve an *ex post* impact assessment of the outcomes of stages one and two based on monitoring activities during both phases.

SPADA ACTIVITIES

Working through national, sub-regional and regional governmental organizations, as well as NGOs/CBOs, the principal counterparts of the programme will be the private sector producers. Accordingly, the project is a one-time catalyst to open the way for achieving the outputs specified above and not part of support to a recurrent public sector programme. In this context, sustainability is evaluated in terms of the long-term increase in fish supply from successfully producing farms with beneficial social, economic and environmental contexts.

The programme will be active in seven arenas:

[\(i\) Strengthening Regional, Sub-Regional & National Institutions](#)

SPADA will provide capacity building and advise as to how to efficiently structure aquaculture institutions at all levels as well as provide training on a broad spectrum of aquaculture issues ranging from aqua-business management and production to facilities development. It will assist with the elaboration of national development strategies, plans and adjusted legal frameworks that enable increased investment and production.

[\(ii\) Networking & Outreach](#)

SPADA will strengthen ANAF and build effective links to extension and outreach activities at all levels including producer organisation involving local farmer “clusters”. These activities will include publicising information concerning opportunities in aqua-business to encourage investment in the sub-sector, as well as successful examples of the impact chain from the policy level to access to financial and production inputs, processing and marketing. Websites, discussion fora and use of the latest information and communications technology will facilitate the tasks.

[\(iii\) Capital & Input Supply](#)

SPADA will assist in ensuring access by investors to critical inputs including, among others, capital, feed and seed. This would include certification programmes for the suppliers of such inputs as feed and seed to ensure quality and traceability. As the aquaculture sub-sector expands, access to essential land and water issues will become increasingly competitive; this subject an important area of activity.

[\(iv\) Processing & Marketing](#)

SPADA will provide guidance as to options, methods and methodologies for processing and marketing including establishing quality control programmes. Adoption of standards and labels along the value chain will improve access to domestic, regional and export markets.

[\(v\) Research & Education](#)

SPADA will focus on proven technologies, co-ordinating and harmonising research and education programmes in the Region to identify comparative advantages for different research and education institutions, support regional research and education programmes, match needs with providers and generally increase the overall efficacy of these operations.

[\(vi\) Social, Economic & Environmental Soundness](#)

SPADA will establish baselines and targets that are conducive for sustainable aqua-businesses as well as determining elements to be considered for pre-investment impact assessments and post-investment impact assessment and monitoring.

[\(vii\) Monitoring & Evaluation](#)

The programme will implement regional and national monitoring and evaluation activities including improved and more precise statistical reporting mechanisms. Partners will be supported to access appropriate tools for planning, priority-setting, monitoring and impact assessment.



PROGRAMME OUTPUTS

The Programme will provide support to the region and participating countries towards achieving the following outputs:

- Increased aquaculture production and increased contribution of aqua-products to national supply
- A functioning regional aquaculture network serving the needs of its member countries
- A strengthened and self-financing regional committee/commission (CIFAA)
- National and regional aquaculture strategies, regulations, and legislation
- Functioning national certification mechanisms in line with the CCRF and BMPs
- Research and education networks including training materials and curricula for a wide variety of skill levels
- Appropriate business plans for producer associations and production clusters including the regular use of record keeping and valid statistics
- Functioning input supply channels at national and sub-regional levels
- Improved intra-regional trade and market channels for farm-raised products



FRESH FISH

Most aquaculture products are sold fresh in local markets with some luxury items exported. There is a growing supply gap for fishery products in most intra-regional markets.



SERVICE PROVIDERS

Aquaculture as a growing sub-sector provides increasing opportunities for service providers throughout the value chain from input supply to retail marketing.



AQUACULTURE PRODUCTS

Aquaculture products are becoming increasingly available in the marketplace. In addition to the whole product, increasingly aqua-products are processed including smoking of farm-raised fish.



PROGRAMME INPUTS

At its various operating levels, the Programme should have the following inputs:

- National technical staff representing the public and private sectors as well as civil society
- National administrative and support staff to ensure smooth implementation
- Technical and administrative support staff posted to “the hub”;
- Intra-regional networking support to ANAF
- National pilot activities to serve as models and sites for on-farm training
- Training of all stakeholder groups with an emphasis on farmer-to-farmer exchanges
- Inter-regional exchanges through south/south co-operation
- Links with international aquaculture organisations combined with needed technical assistance from these organisations



HATCHERIES AS NUCLEI

Small-scale nurseries and hatcheries have been demonstrated to be successful nuclei for the development of aquaculture SMEs as well as successful businesses and service providers in their own right.



GOOD QUALITY SEED

Good quality and accessible seed is one of the first ingredients for a successful aquaculture programme. All too often in the past, seed was of poor quality and either unavailable or prohibitively expensive.

FEED

Feed is an essential input, especially for producers using cages, tanks or other more intensive systems. Currently much of the feed used is imported until national programmes develop the economies of scale to support local aqua-feed industries.



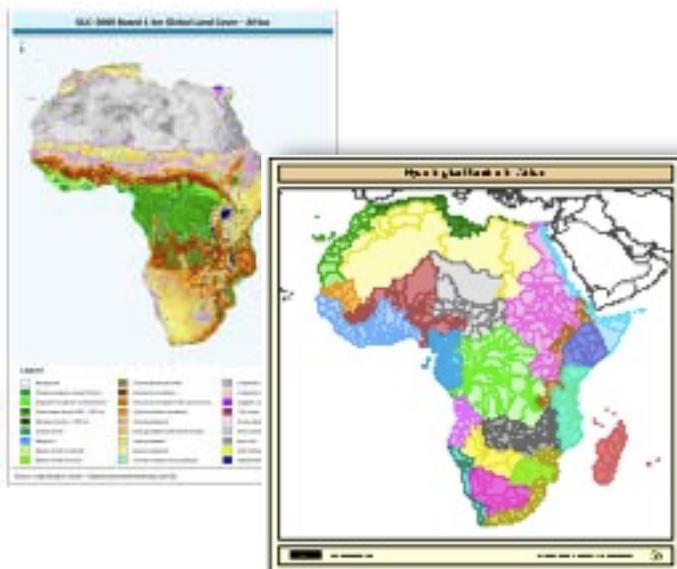
AFRICAN WATER RESOURCE DATABASE

As fisheries and aquaculture are fundamentally spatially distributed and many of issues are spatial in nature, responsible management requires a solid understanding of the underlying dimension. Geographic information systems (GIS), remote sensing and mapping provide the technology for addressing issues such as: suitability of site and zoning; strategic planning for development; inventory and monitoring of aquaculture and the environment, etc. which can support decision-making. FAO plays a unique role in providing such information.

The African Water Resource Database (AWRD) is a set of data and custom-designed tools, combined in a GIS analytical framework aimed at facilitating responsible inland aquatic resource management with a specific focus on inland fisheries and aquaculture.

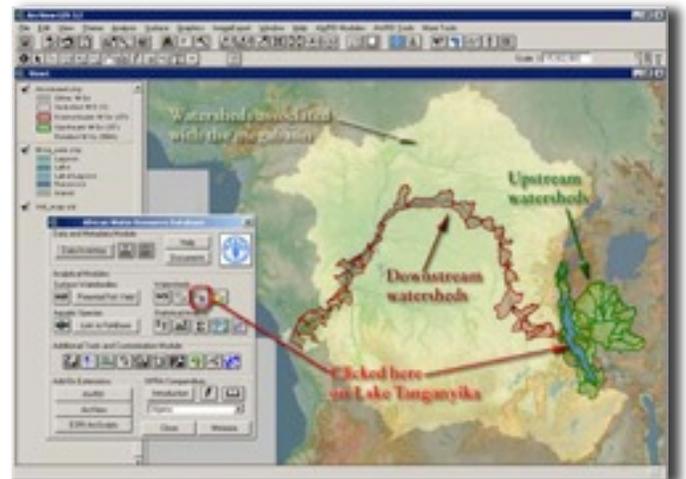
At its 12th session, Yaoundé, Cameroon, 2–5 December 2002, CIFA acknowledged that GIS-based products such as the AWRD are “powerful tools for fishery and aquaculture management, planning and development”. The African Water Resource Database (AWRD) represents a follow-up activity based on the recommendations of CIFA.

The AWRD aims to facilitate responsible aquatic resource management; thus providing a valuable instrument to promote food security.



SPATIAL DATA

AWRD archive is comprised of 153 unique data layers representing 4.7 Gb of data. Main data categories (Continental and national level datasets) are: Surface water bodies; Watersheds; Aquatic species; Rivers; Political boundaries; Population density; Soils; Satellite imagery and many other physiographic and climatological data types. AWRD database is available in CDROM's, DVD's and from FAO's GeoNetwork.



TOOLS

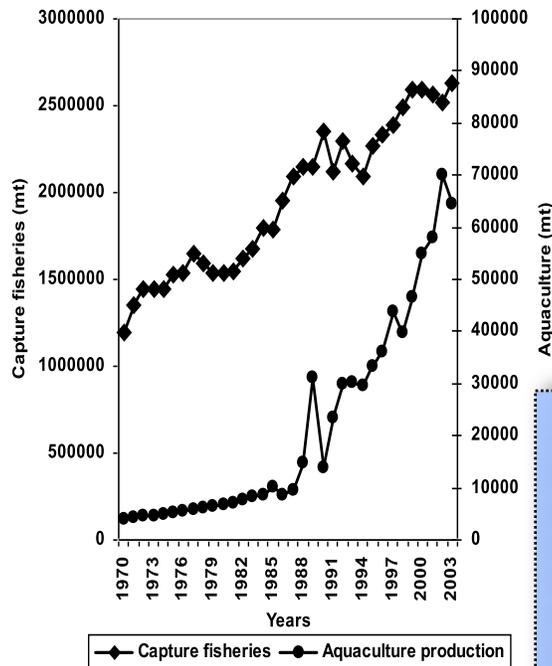
To display and analyse the AWRD archive, the AWRD also contains a large assortment of new custom applications and tools. There are six analytical modules within the AWRD interface: 1) the Data and Metadata Module; 2) the Surface Waterbodies Module; 3) the Watershed Module; 4) the Aquatic Species Module; 5) the Statistical Analysis Module; and lastly, 6) the Additional Tools and Customization Module. Many of these tools come with simple and advanced options and allow the user to perform analyses on their own data.



AQUA- OPPORTUNITIES

Three decades ago the largest fish farm in sub-Saharan Africa was Aviara (Nigeria), producing about fifty-five tons a year. Today, several farms in the Region produce more than 1,000 tons of finfish annually with several score of producers producing smaller, but significant harvests. These larger producers have demonstrated aquaculture is feasible in Africa. They have established precedents and platforms from which smaller investors can grow. Demonstrated technical and economic viability

combined with better inputs, better markets and increasing prices have now merged into a scenario where ***the time is right for investing in aquaculture***. Whilst larger firms are quickly searching for opportunities to set up big farms, the small- and medium-scale producer is confronted with a number of challenges relating to their size of operations and limited voice. These challenges can be mitigated through joint, concerted and well-organised efforts as foreseen by SPADA. SPADA provides a pathway for the smaller investor to benefit from today's opportunities.



Status of the aquaculture sub-sector in Africa as presented in the 2005 FAO Regional Review, data from those countries incorporated into this activity. The figure to the left compares the production from capture fisheries and aquaculture.

Aquaculture: an investment in the future

