

The Role of Aquatic Animal Health Programmes in Promoting Food Security in Africa

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Africa, Geographical



Importance of aquaculture

Agriculture in the broad sense plays a dominant role in most African economies as an important source of livelihood

Aquaculture plays a **minor role** as a contributor to livelihood except In Egypt, Nigeria, Uganda, Madagascar, Mozambique



Aquaculture could potentially play a significant role in food and nutrition security, employment, wealth generation to both small- and large-scale producers in both rural and Peri-Urban localities, as exemplified in a few countries.

Regional demographics (UN-DESA 2009)

- Africa's population passed **1 billion** in mid-2009; growing by 24 million per year and will double in 2050.
 - Northern Africa: 205 million
 - Western Africa: 297 million
 - Eastern Africa: 313 million
 - Central Africa: 125 million
 - Southern Africa: 58 million
- Over 15 percent of the continent's population is in Nigeria, the eighth most populated nation in the world. The average population growth rate in Africa is 2.3 per cent

Special consideration for Africa

- Limited Aquaculture development in Sub-Saharan Africa
- Contribution to World aquaculture < 1%
- Per capita consumption of fish is declining (**Ugandan experience**)
- Cage culture developing in Ghana, Kenya, Malawi, Uganda, Zambia, Zimbabwe
- Desert expanding creating limited land available for food production (need to resort to the waters)



Top producers and growth rates

• Country	Production(2007)	Rate of growth (2005-2007)
Egypt	635 516	7.8
Nigeria	85 837	17.0
Uganda	51 110	51.6
Madagascar	11 257	8.4
South Africa	5 789	0.0
Zambia	5 125	0.0
Togo	5 000	44.4
Kenya	4 240	36.3
Rwanda	4 038	46.8
Tunisia	3 367	11.5

Africa rivers and lakes



Uganda: rivers and lakes



Farming Systems

- Without Egypt, 93.4% tonnage from **freshwater** -predominantly fish and in particular the indigenous species of tilapias and the African catfishes.

- Marine fish culture,

culture of crustaceans and molluscs, date back to less than **20 years ago** and production is concentrated in a few countries .



Potential for growth

- International awareness and interest in aquaculture spawned by the New Partnership for Africa's Development (**NEPAD**) Fish for All Summit in 2005 continues to increase
- African Head of States at the Abuja, Nigeria Summit on Food Security in **2006** agreed to promote and protect fisheries and aquaculture as strategic commodity alongside rice, maize and other strategic products and committed themselves towards attaining **continental self reliance on fish by 2015**

Potential for growth

FAO's Special Programme for Aquaculture Development in Africa (**SPADA**), NEPAD's Action Plan for the Development of African Fisheries and Aquaculture, South African Development Cooperation (SADC) Fishery Action Plan expected to contribute to the foreseen rapid expansion of the sector in the next decade

World Fish Centre enhanced its presence on the continent in staff strength and disciplines as well as geographical coverage (working closely with Fisheries Research Centres in many African countries e.g Ghana)

Regional trends & success stories

Prawn farms in Madagascar intensifying production technique and more farms opening up in Nigeria and Kenya

Expansion of cage culture in lakes and reservoirs in Nigeria, Ghana, Cote d'Ivoire, Cameroon, Uganda, Zambia, Malawi, Kenya, Madagascar and Zimbabwe

Malawi and Zambia have zoned areas for cage culture

Further research on the production of tilapia in cages and in enclosures have been undertaken in Ghana and Egypt respectively.

Challenges to Aq. development

Production concentrated in a few countries; bulk of production was from commercial farms not small-scale aquaculture

Persistent emphasis by several countries in promoting aquaculture with a social objective (limited commercial ventures)

Limited managerial and technical expertise

Inappropriate policies, Insufficient inputs such as credits, as well as seed and feeds in quantity and quality.

OIE listed diseases in Africa

- Koi hepes virus in South Africa
- Epizootic Ulcerative Syndrome (EUS) in Zambia, Botswana, Namibia and South Africa

EUS in Africa

- Disease of fresh water fin fish caused by a fungus (oomycete) *Apharomyces invadans*
- Reference laboratory in Thailand, AAHRI,
- Laboratory twinning underway with University of Zambia.



Reported EUS outbreaks

- 2006-2007 diseased fish began to appear in Chobe and Upper Zambezi rivers
- This was first appearance in Africa(formerly reported in Australia, Japan, South East Asia and USA)
- Later reported in Zambia, Botswana and Namibia
- Feb 2011, disease reported in South Africa, western Cape Province (tip of S. Africa)

EUS Spread

- July 2009, United Nations Food and Agriculture Organisation warned about the spread of this disease up and downstream of Zambezi river (4th longest river in Africa)
- Threatens the livelihoods of 32 million people in 7 countries (Angola, Botswana, Malawi, Mozambique, Namibia, Zambia and Zimbabwe)
- Zambezi river basin is home to more than 200 species of fish



Role of OIE

- The main aim of OIE is to ensure the sanitary safety of international trade in live animals and their products.
- This is achieved by providing guidelines on the health measures to be used by the competent authorities of importing and exporting countries to prevent the transfer of agents pathogenic for aquatic animals, while avoiding unjustified trade barriers.

Guidelines provided by the OIE

- Notification of diseases and epidemiological information
- Obligations and ethics in international trade
- Risk analysis
- Import and export procedures
- Specific disease information (experts and ref. Labs)
- Aquatic animal health surveillance
- Certification procedures
- Aquatic welfare issues
- Disease diagnosis (Aquatic manual)

Other programmes

- Accreditation of reference laboratories and collaborating centres (None of these In Africa)
- Laboratory Twinning arrangements (University of Zambia and ref lab for EUS in Thailand)
- Regional OIE offices establishment (SADC, North Africa and East Africa)
- Training workshops for Aquatic animal focal points strengthening streamlining aquatic issues into government policies(Namibia)

Measures to contain the disease

- Training especially directed at focal point persons
- Basic diagnostics and twinning arrangements
- Targeted surveillance
- Aquatic animal health management

- OIE and FAO establishing a prog to strengthen institutional and human ability for managing aquatic animal health in the wild and in aquaculture establishments in Africa

Conclusion

- – African countries should zone aquaculture areas and encourage the clustering of producers, promote creation of viable organizations for the industry.
- – African countries should facilitate efforts to improve bio-security and aquatic animal health management as this is critical and constitutes an important requirement for the sector development and sustainability especially through international trade

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