AFRICAN UNION
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FishGov 2 Project

EUROPEAN UNION

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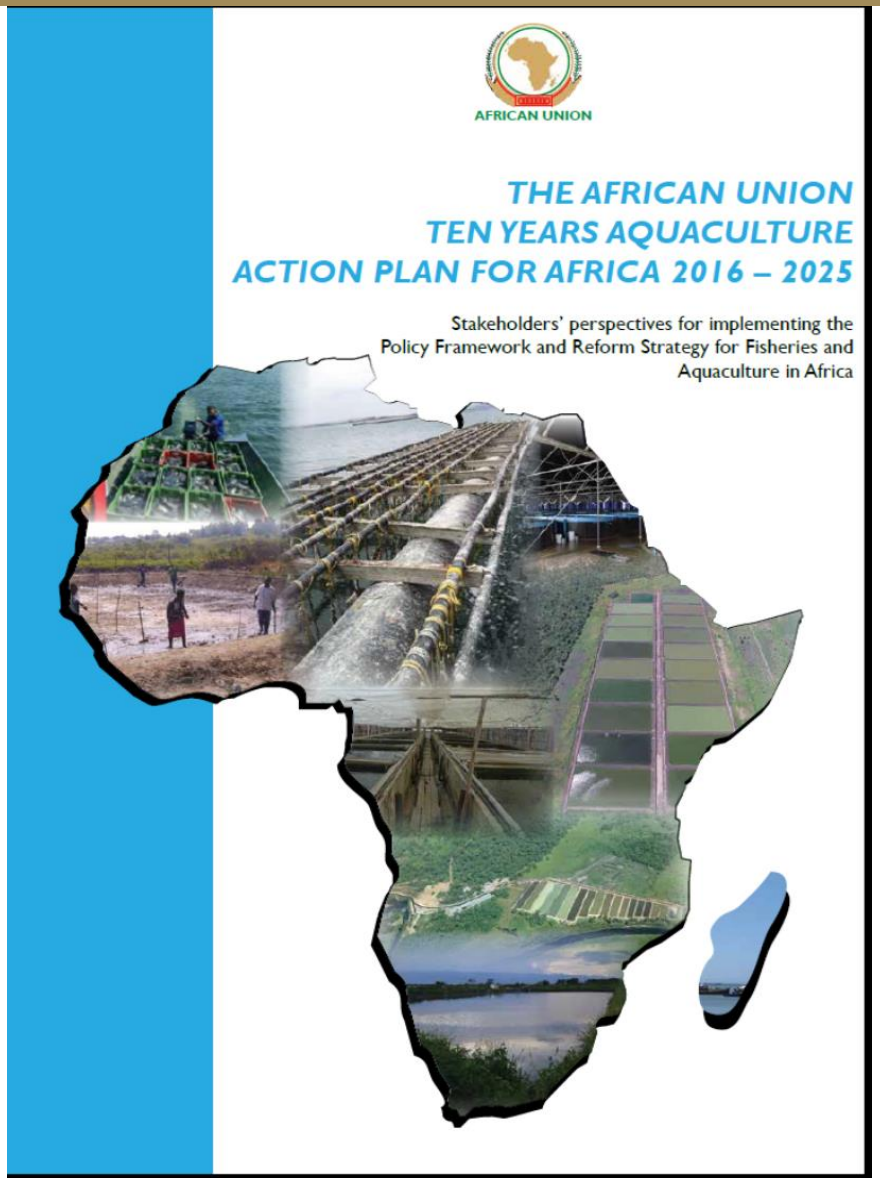


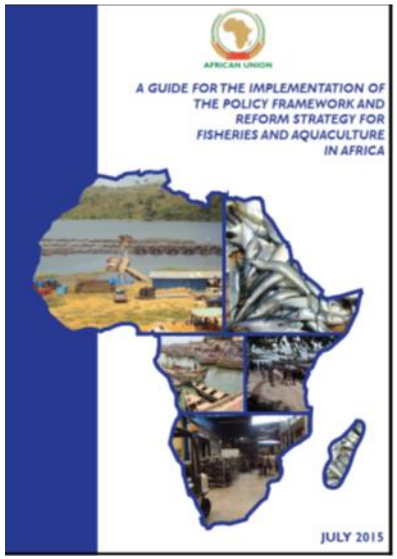

# *An Overview of Africa's Ten Year Aquaculture Action Plan 2016 - 2025*

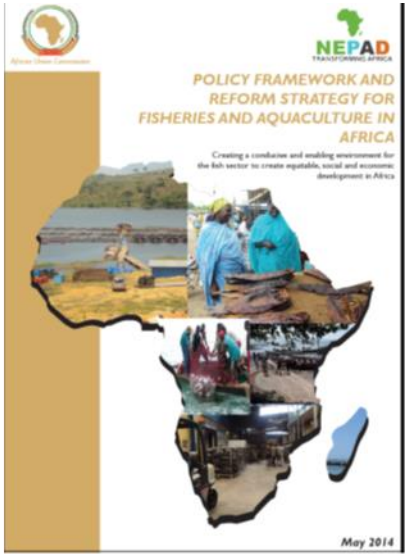
*Presented by Nelly Isyagi*
*Fisheries and Aquaculture Trade and Investment Expert, AU-IBAR*

**26th to 28th September, 2022**
**DAR ES SALAAM, TANZANIA**

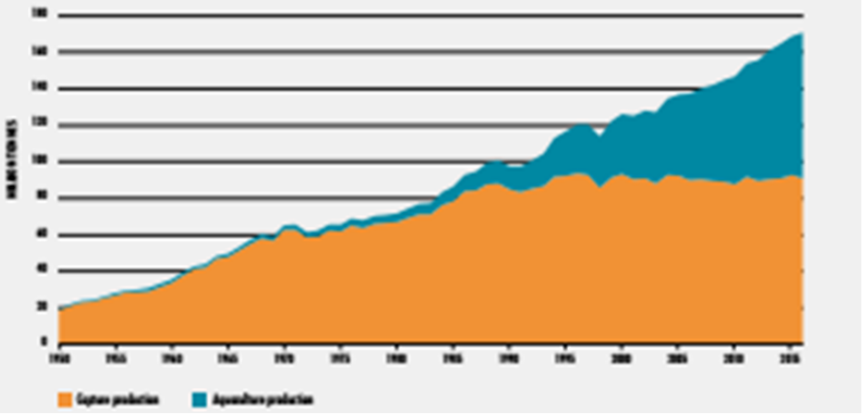
# LAYOUT OF THE PRESENTATION

1. **Status of Africa's aquaculture**
2. **The need for change**
3. **The opportunities for change**
4. **The action plan and its companion tools**

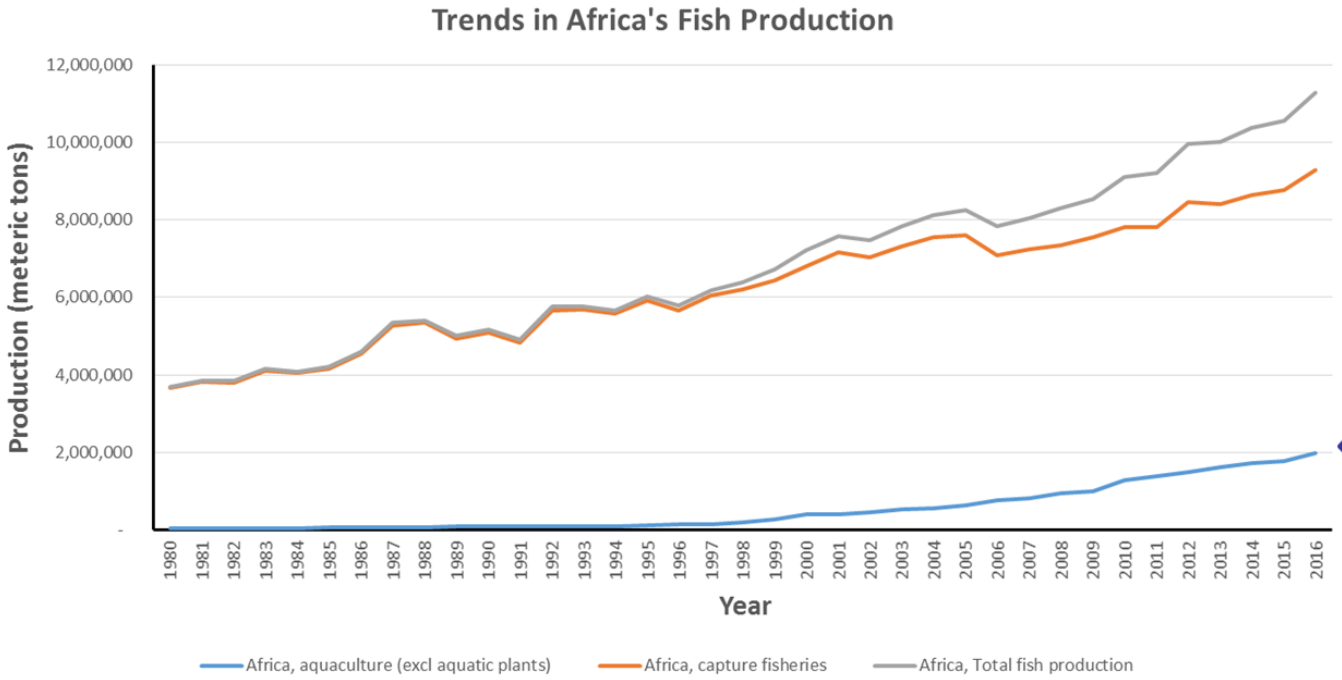


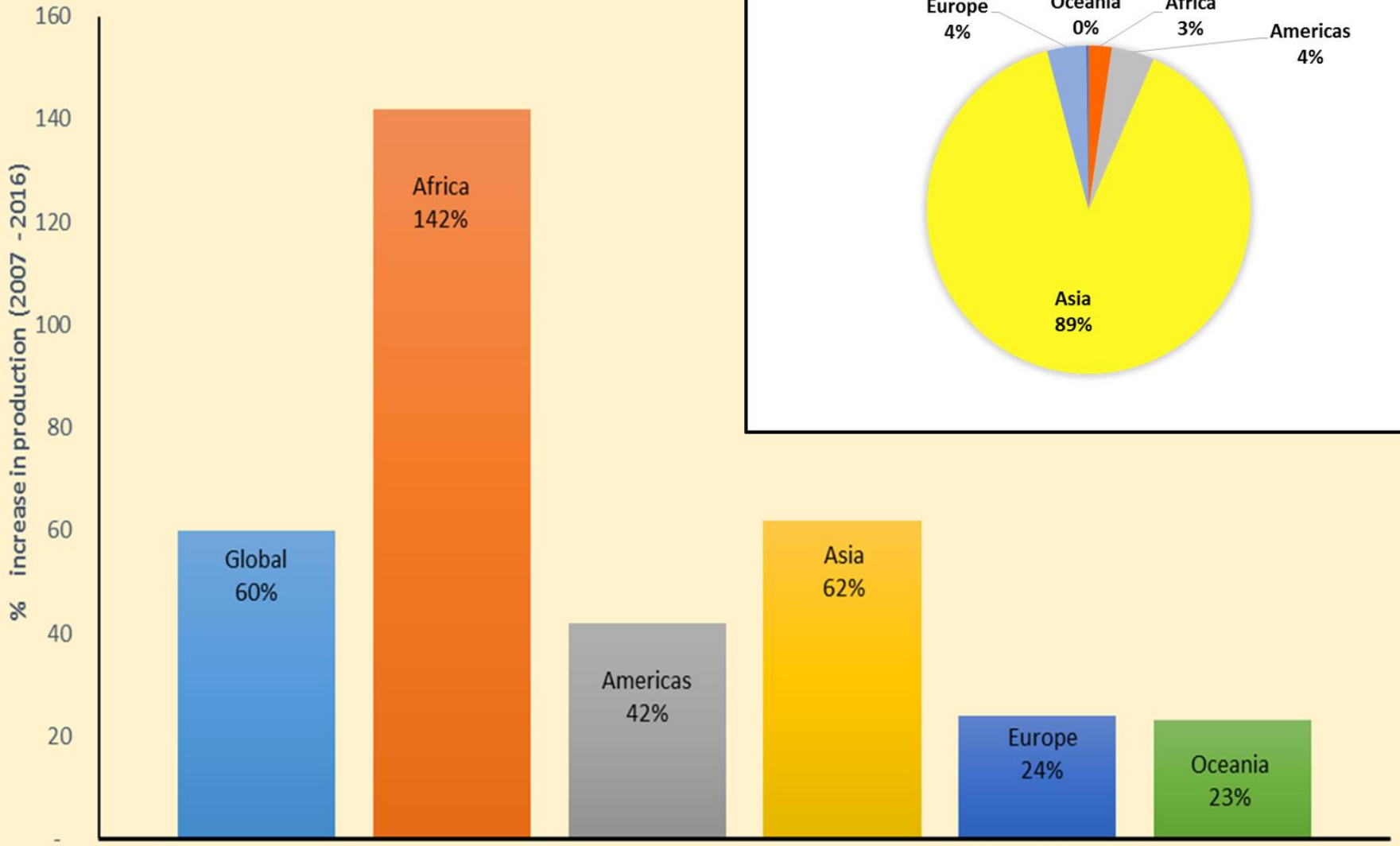
# 1. The Status of Africa's Aquaculture

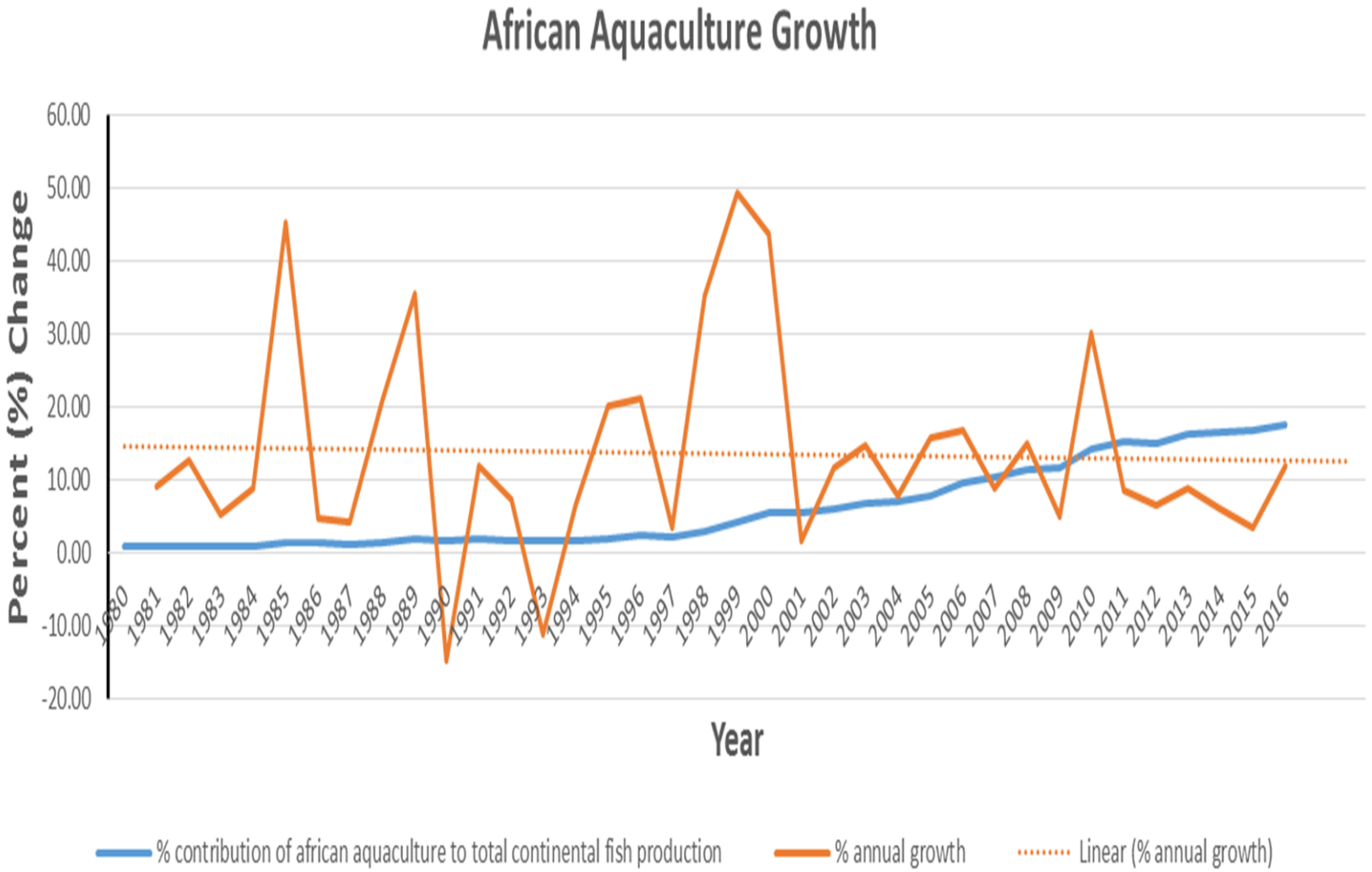


Aquaculture currently contributes 50% of global fish production (FAO 2018)




2016 African aquaculture contributed 18% of Africa's fish production valued USD 3,5 billion


160
140
120
100
80
60
40
20
-
% increase in production (2007 - 2016)
Global
60%
Africa
142%
Americas
42%
Asia
62%
Europe
24%
Oceania
23%
Europe
4%
Oceania
0%
Africa
3%
Americas
4%
Asia
89%



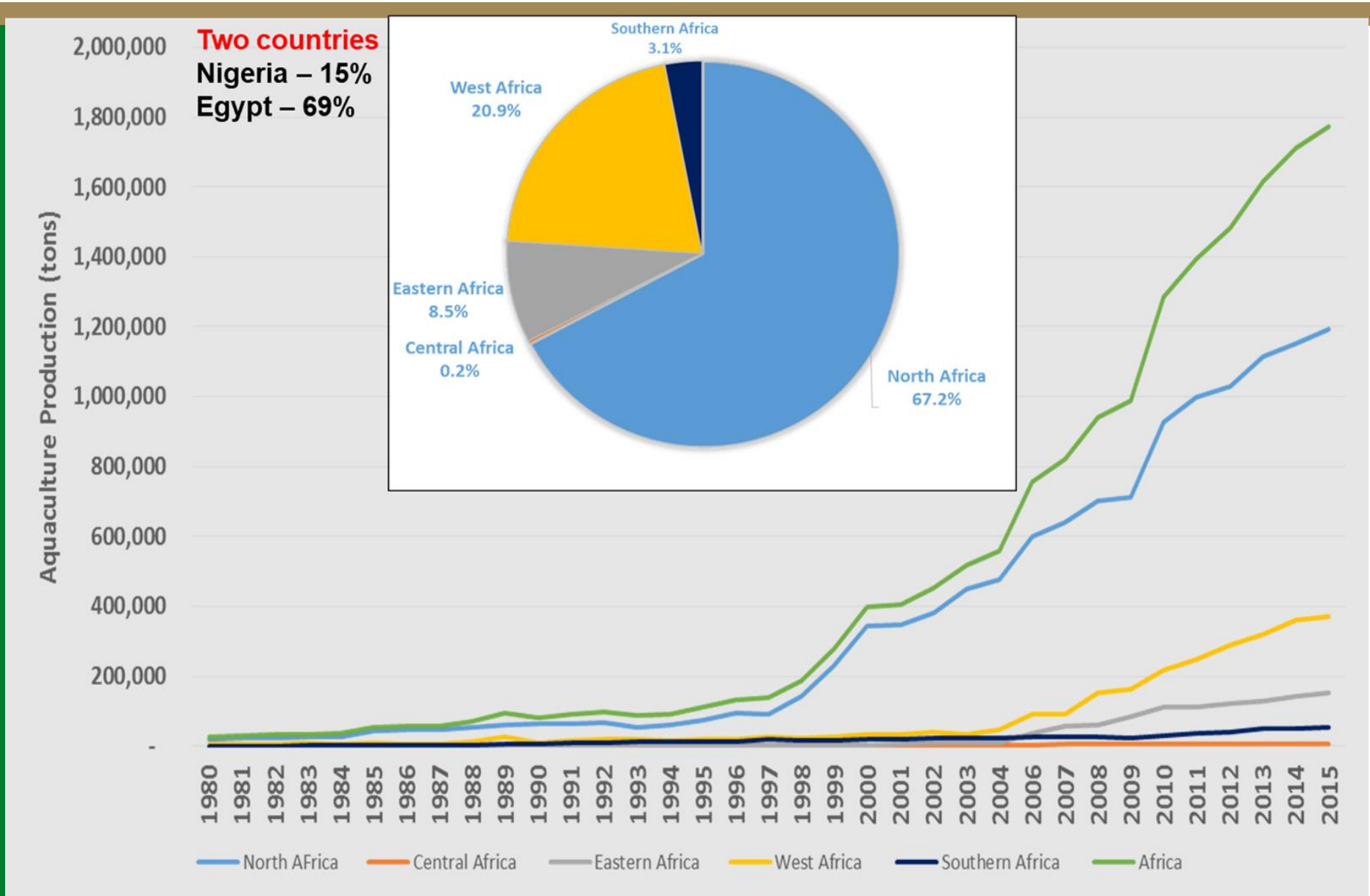

**Current aquaculture contribution to total fish production**
Global 50%
Africa 18%

**% increase in production 2007-2016**
Global 60%
Africa 142%

**% change in aquaculture production between 2015 to 2016:**
Global 5.2%
Africa 11.9%

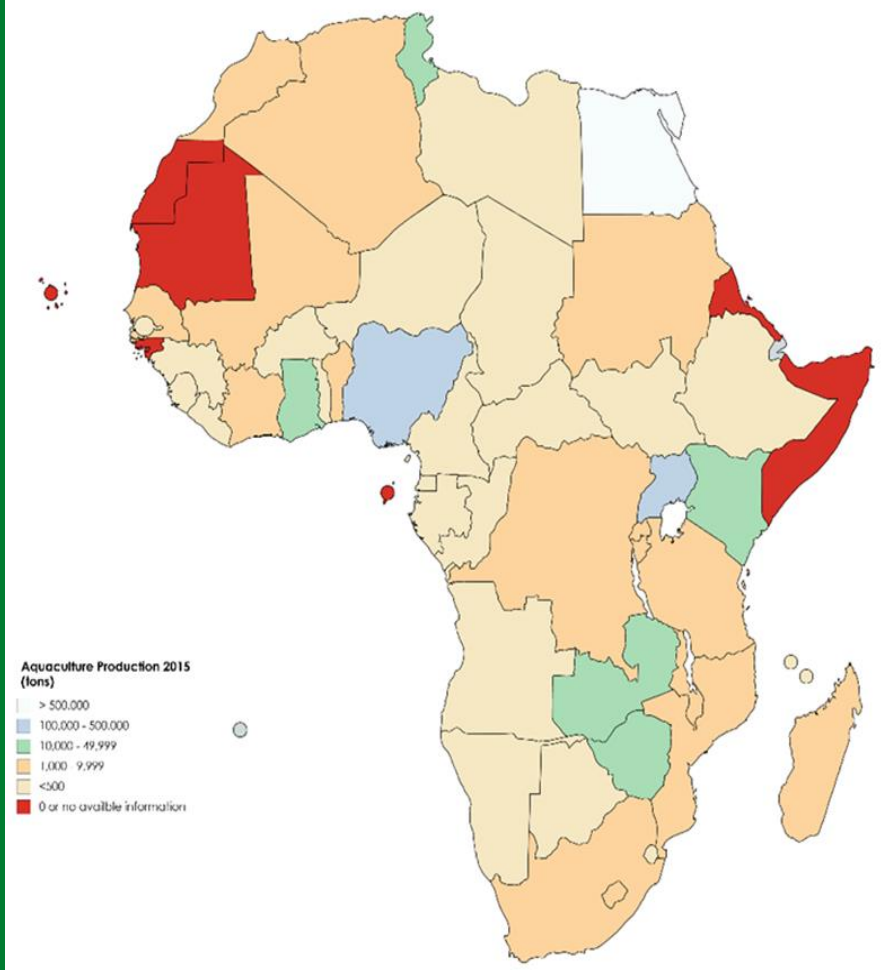
**Relative % average annual growth per year 2007-2016:**
Global 5.4% p.a.
Africa 10.4% p.a.

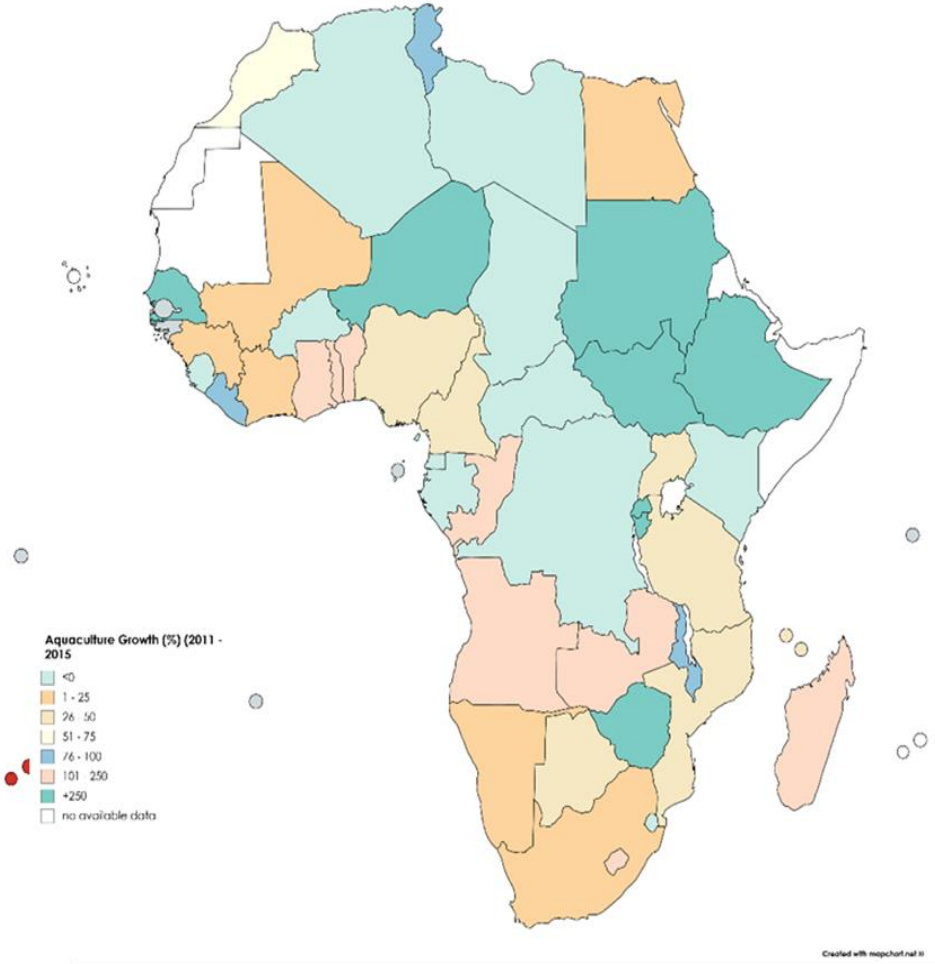
# ……disparities in regional growth



*… countries with the highest growth, are not necessarily the largest producers,*

*…. volumes are actually small*



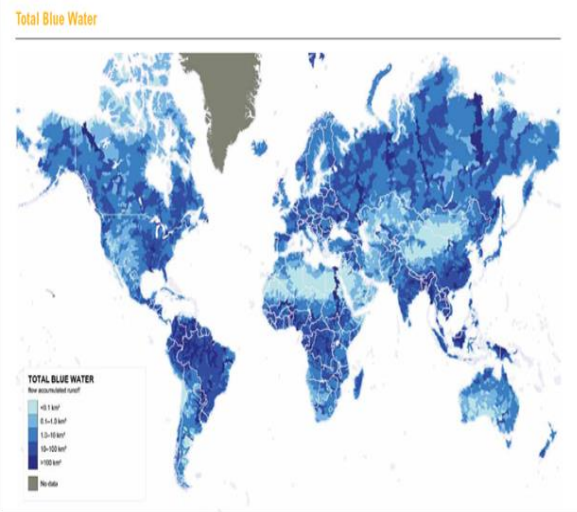

*Aquaculture Production, 2015* www.au-ibar.org *% Aquaculture Growth (2011 – 2015)*

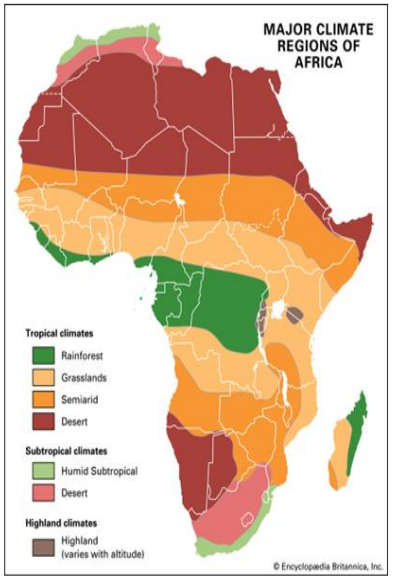
*…… and yet…..*

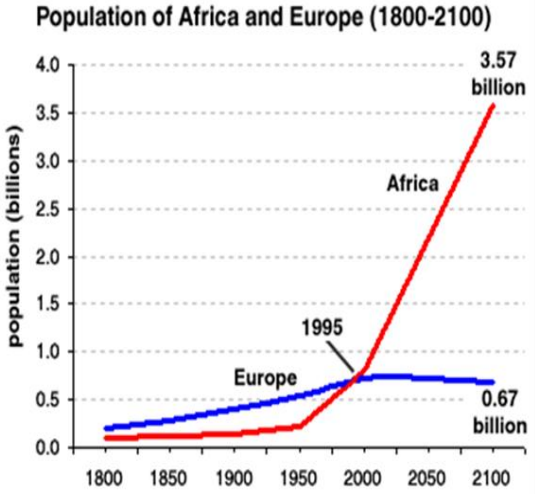
# 2. The Need for Change

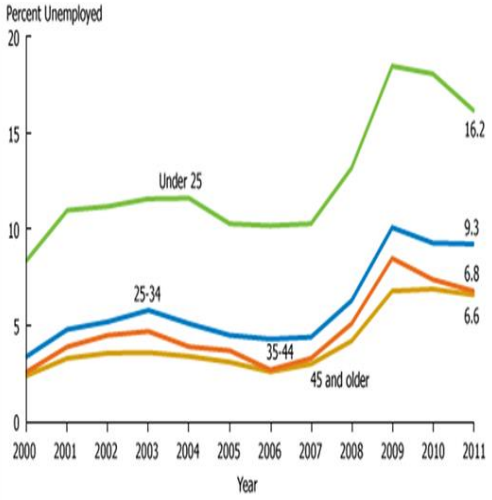
# ….. the potential for Africa's aquaculture

1. *Natural resource potential*
   => water, land, climatic conditions, etc.
2. *Species*
   => indigenous commercial species with available production technology
3. *Human resource potential*
   => young population
4. *Resources to produce inputs,*
   => feeds
5. *Markets*

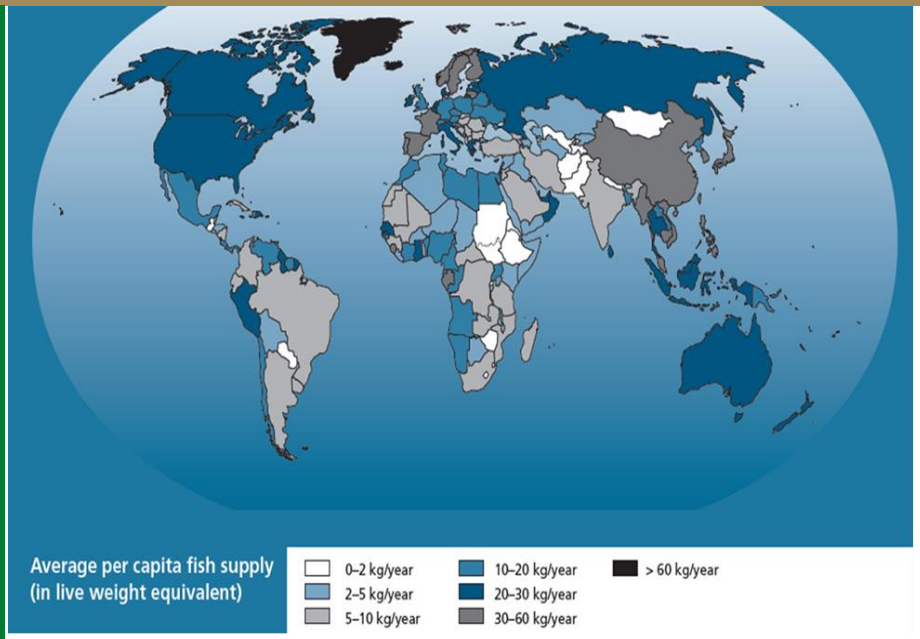


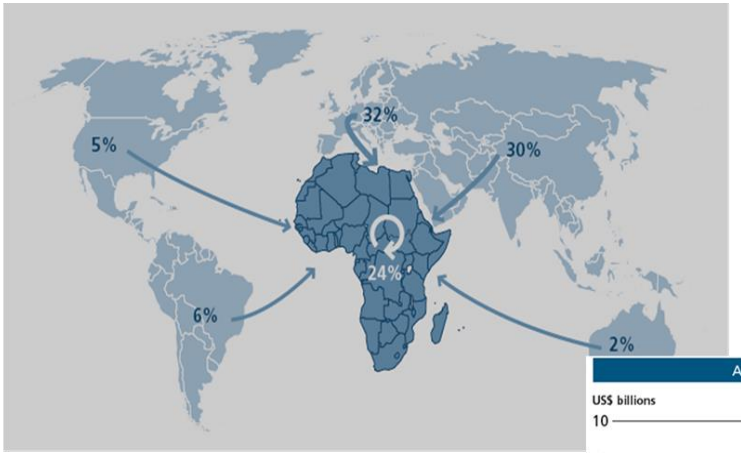



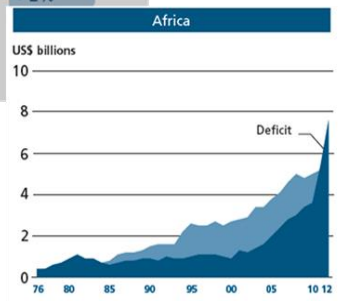



# ….. the status of fish food nutrition, security, forex dispensations



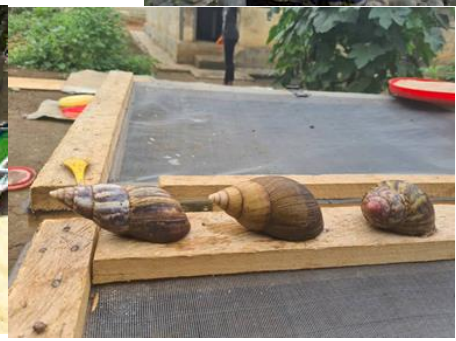

***Per capita fish consumption rates lower than global average***




Africa now increasingly a net importer of fish and fish products

# …the true face of Africa's Aquaculture . its not just fish





# Some of Africa's aquaculture products



# The challenges affecting Africa's aquaculture

1. Sub-optimal utilisation and management of the available natural resources for aquaculture.
2. Challenges in the supply and access to key inputs notably, feed, seed, human resources, appropriate technology and finance.
3. Challenges producers face in accessing markets.
4. Inadequate physical and sectoral infrastructure such as weak policies within both the public and private sector.

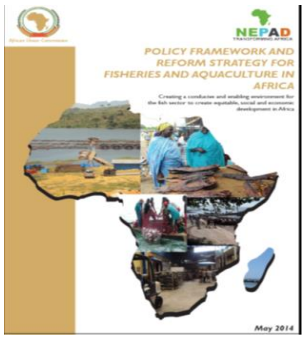
**The need for change**

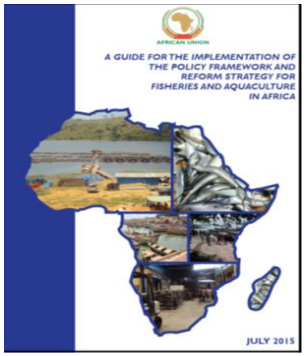
1. Sustainable growth supply in tandem with the growing food and nutrition needs.
2. Provide gainful employment for Africa's youth => sustainable livelihood, increased incomes
3. Rural development
4. Socio-economic development => GDP

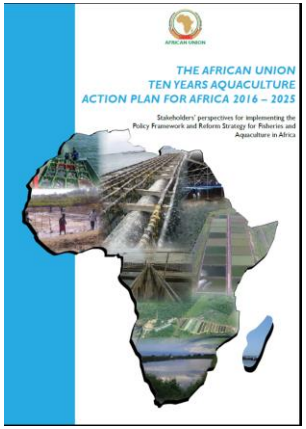
=> *how do you transform Africa's aquaculture to meet socio-economic and food/nutritional needs for both the farmer and nations.*

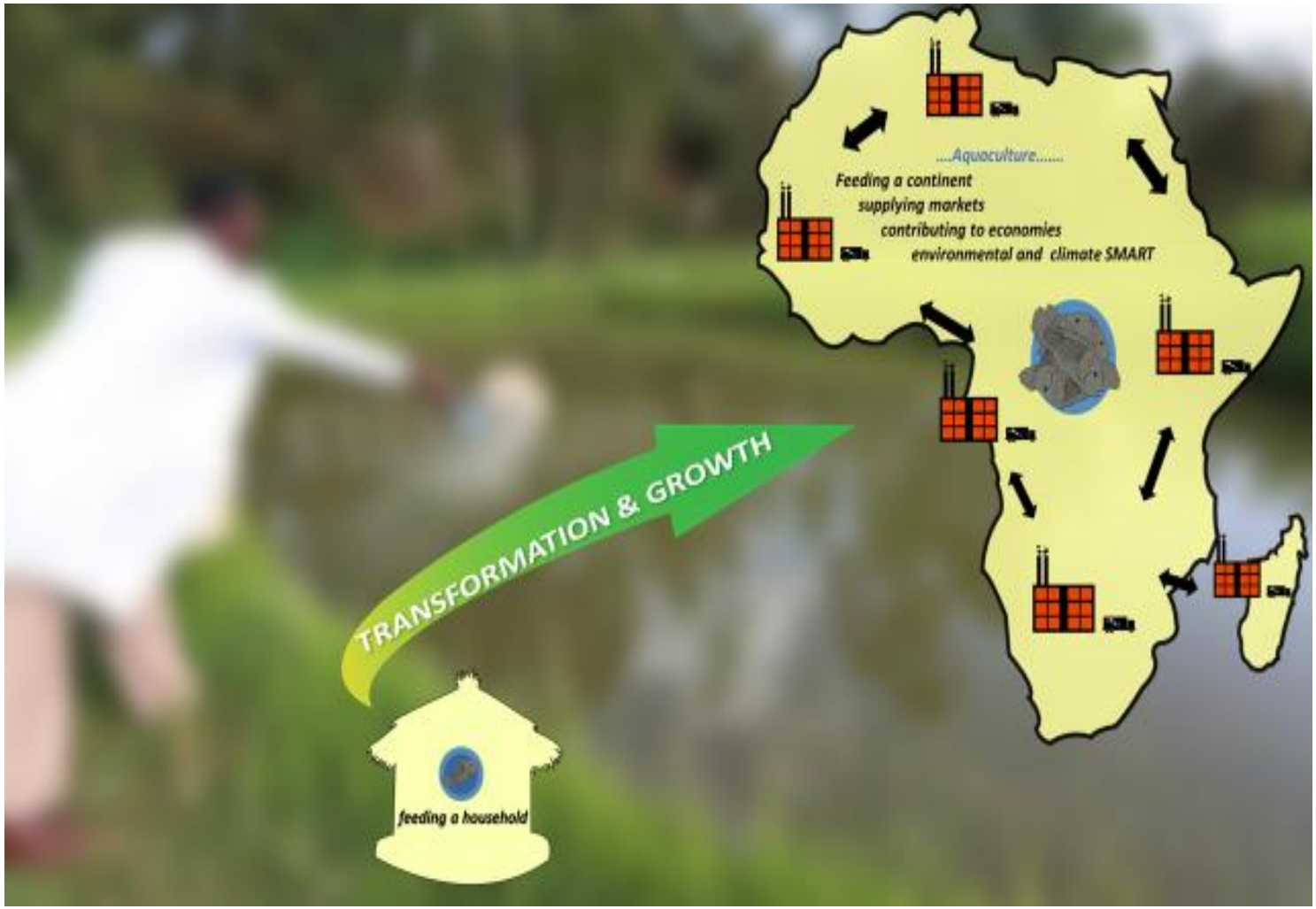
# 3. The Opportunities for Change

# The PFRS aquaculture policy objective: Achieving Africa's full aquaculture potential

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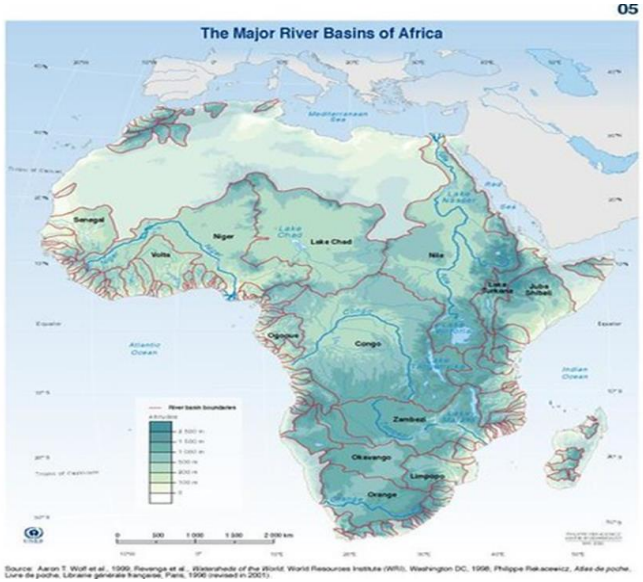
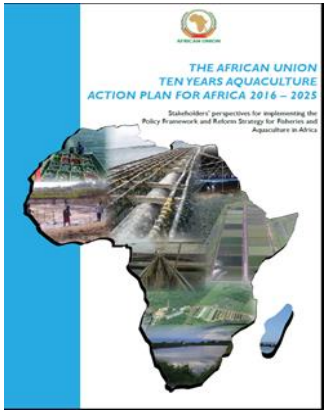
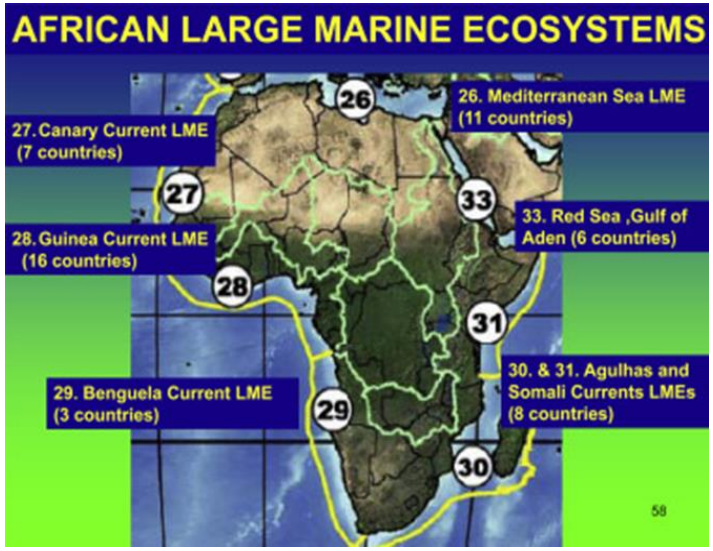
# Coherent Continental strategic approaches




*Coherent approach and roadmap for creating a conducive and enabling environment for private-sector driven sustainable commercial aquaculture development within the framework of the PFRS and its guidelines.*

**Five Main Activity Areas:**

1. Establish and enabling environment for sustainable aquaculture development
2. Improved service delivery to the sector
3. Capacity building
4. Trans-boundary ecosystem management for aquaculture
5. Innovation (Research and Development)

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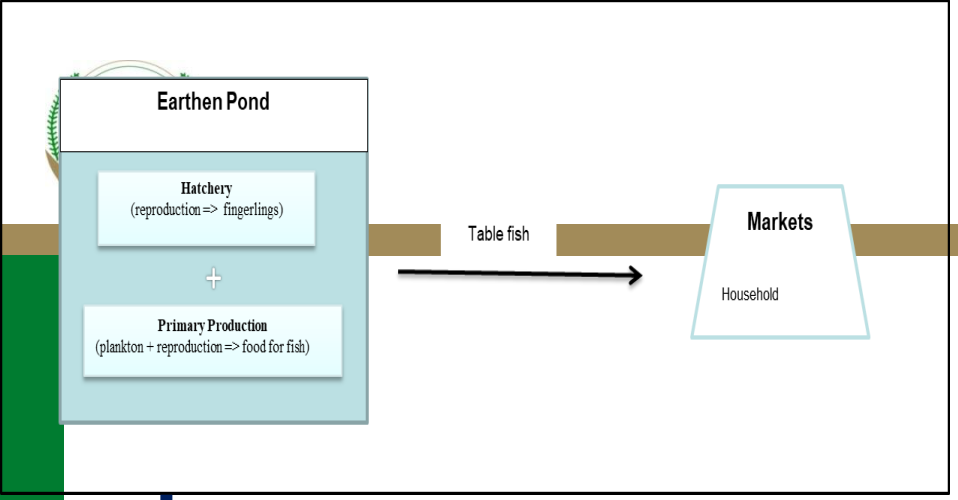
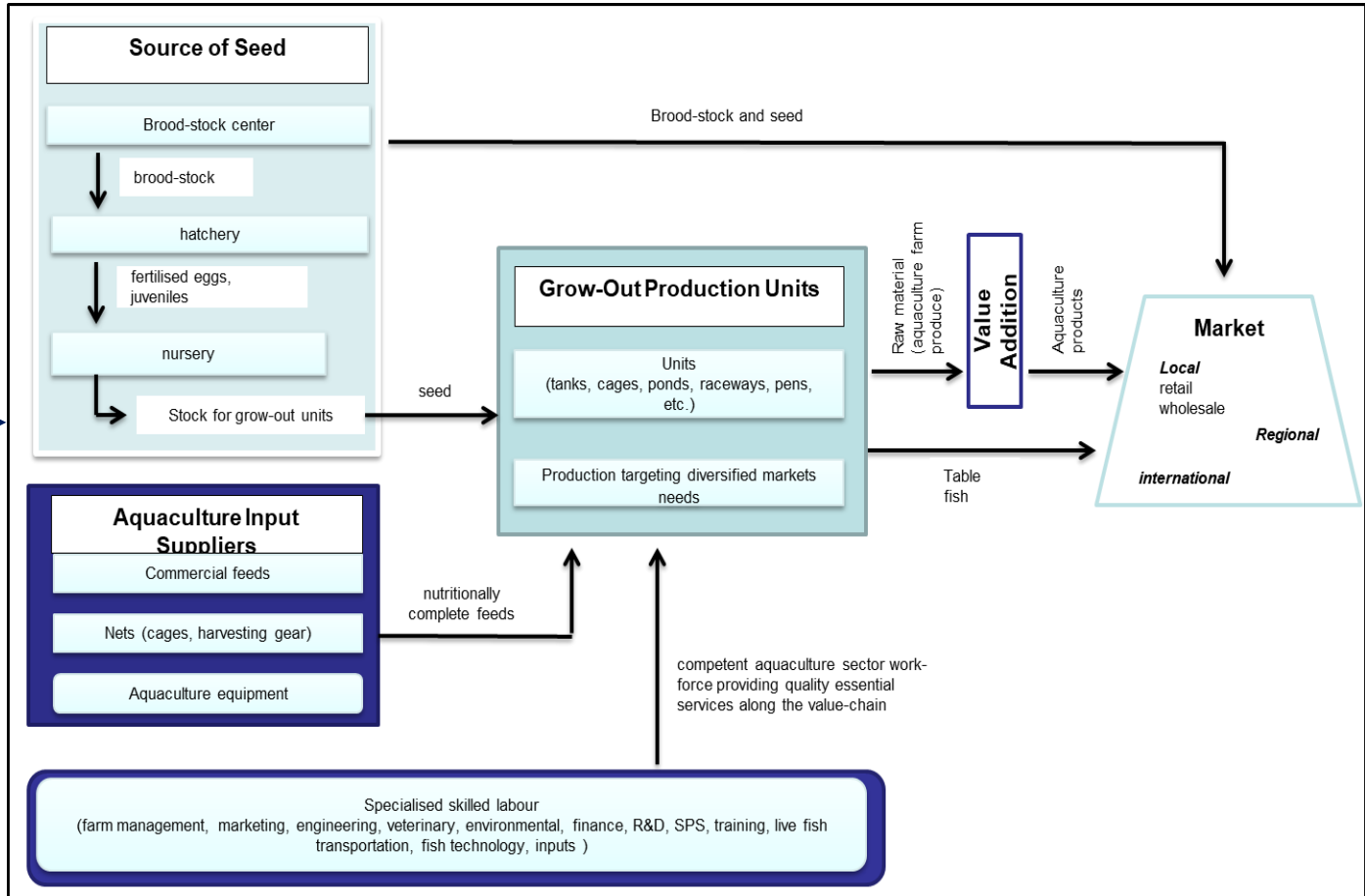



*The transformation envisaged*

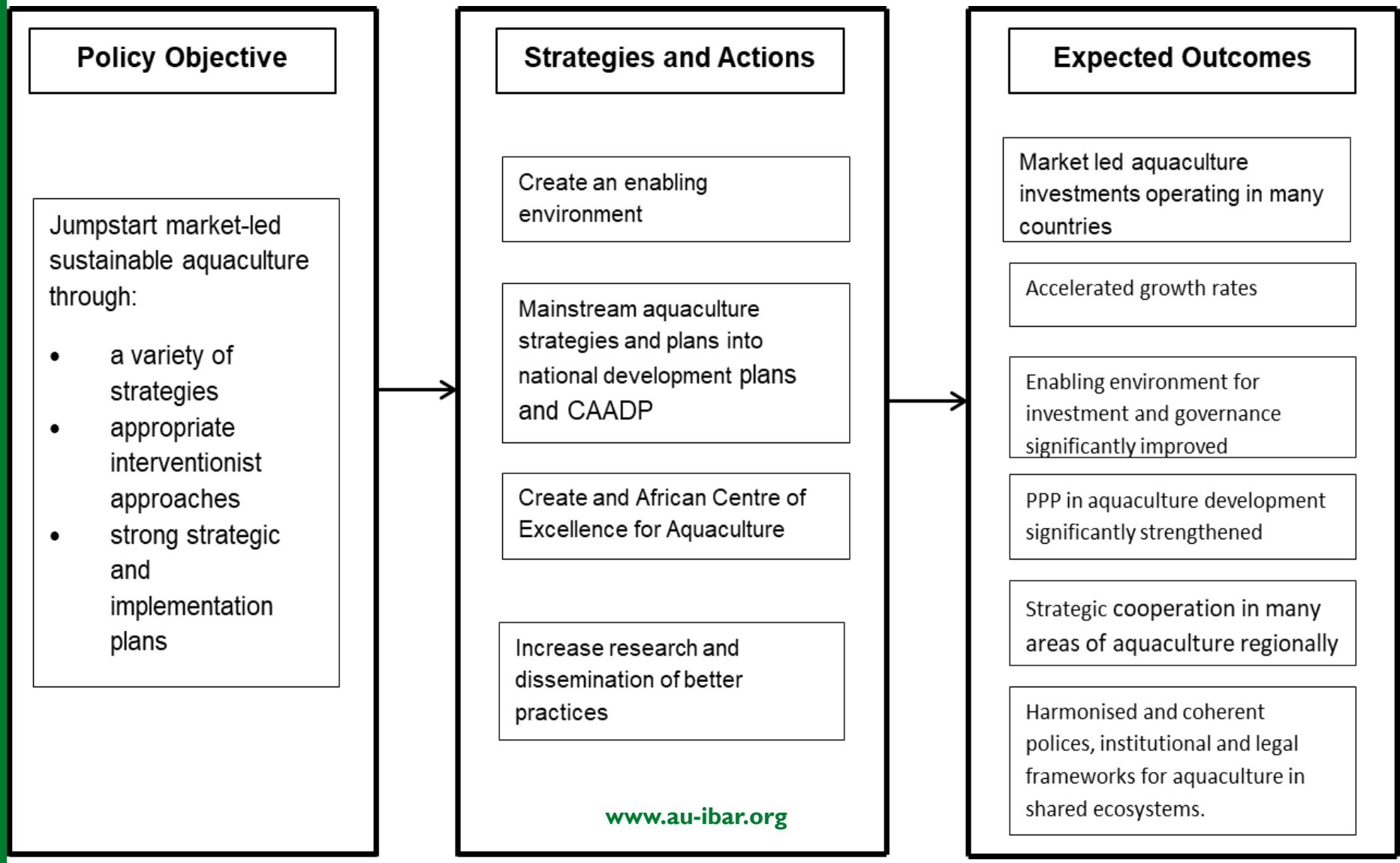


# Description of Enterprise Characteristics in the Progression of the Aquaculture Development Value Chain

| Development Criteria | Subsistence Level | Emerging Fish Farmer Level | Start Up Commercial Fish Farmers | Developing Commercial Fish Farmers | Aquaculture Industry |
|---|---|---|---|---|---|
| 1. Quality Fish Farm Design & Construction | None | None | Limited based upon visits to other farms/facilities with incomplete or poor designs | Development of core group of commercially viable producers and poor copycats; Design by academia or government support | Establishment of specialized services by private sector-Engineering, design and construction services |
| 2. Quality & Quantities of Feeds | Compost or supplemental feeds (Ag/household wastes) | Supplemental or on-farm feed production | Limited access, incomplete on-farm produced sinking feeds | Development of nutritionally complete pelleted feeds with increased access, but limited understanding of feed application and its economics | Extruded and pelleted feeds widely available with quality control measures in place; Feed costs decrease or remain the same (but quality increases) as market expands and competition increases. |
| 3. Quality & Quantities of Fish Seed from Hatcheries | Irregular, limited availability; Usually natural pond production or government supplied | Government supplies seed; Limited hatchery design; Limited artificial spawning techniques | Improved Hatchery Design with Aeration; Use of Artificial Spawning Techniques | Increased use of artificial spawning with greater production intensity through improved aeration/water quality management | Variety of spawning techniques available and implementation of quality control management plans; Fingerling producers become specialized and foodfish producers purchase fingerlings from hatcheries. |
| 4. Record Keeping (Inventory & Budgets) | None | None or little; mostly in journal format. | Awareness and Started | Greater need as intensity and required inputs increase. Records used to make management decisions. | Business plans implemented and used by banks for loan qualification. Farm records assure traceability of produce on-farm and are used to make management decisions |
| 5. Water Quality Monitoring & Management | None | None; Limited flushing for control | Awareness but no equipment | Water Quality Monitoring & Management increases requiring increased access to equipment | Widespread use of water quality monitoring for intensive farm management and environmental/marketing requirements. |
| 6. Understanding of Holding & Transport Live Fish | None | None to poor | Awareness but no equipment | Increased need for holding and transporting fingerlings and foodfish; Introduction of specialized methods and equipment | Specialized private-sector services for harvesting, transporting and live holding for markets |
| 7. Fish Farm Production Management Plans | None | None to Limited | Awareness | Limited numbers of technical packages available for farmers for field implementation and testing | Widespread use of field-proven technical packets with development of additional systems/species by academia/government |
| 8. Fish Health Management | None; disease outbreaks limited or not recognized | None; disease outbreaks limited or not recognized | Awareness due to increased outbreaks, but limited planning | Limited development of support services and limited understanding of management relationship to disease occurrence | Widespread use and private and public service providers available for on-farm management advising plus developed disease diagnostic services |
| 9. Quality Training in Aquaculture | None | Limited training by NGOs and local government | Limited Government & Academic Delivery | Training emphasis provided in hands-on, commercial-scale production by NGO/academia | Level of training increases to strengthen technical knowledge and provided by academia and on-farm experience |
| 10. Availability of Trained Farm Staff | None | None | Very limited; mostly theoretical training | Increasing in number and quality but still limited | Widely available with practical knowledge & highly competitive (i.e., higher pay) |
| 11. Quality Advisory Services | None | Limited Extension Services by Government | Limited Extension Services (i.e,. NAADS), but no certification of qualifications | Quality increasing but still mostly farm based support (farmer to farmer transfer) | Network of Service Providers with certification |
| 12. Equipment & Suppliers/ Tech Support Capacity | None | None | Self-served by farmers or NGO-driven | Very few with some farmer cooperatives forming to facilitate purchasing | Network of Suppliers with technical back-stopping |
| 13. AQ Regulations & Laws | None or Limited | None or Limited | Developing but often conflicting | Understood need to develop and harmonize | Need to facilitate industry development but set reasonable limits |
| 14. Markets | Mostly household consumption | Mostly household use and pond bank sales | Local sales | Local sales (retail) with expanding wholesale market | Range in retail and wholesale markets with regional distributors and exporters |

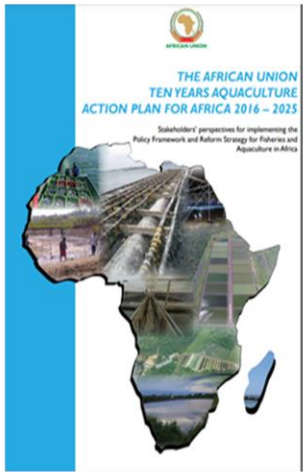
# 4. The action plan and its companion tools

# The PFRS Aquaculture Policy Objective



## The Issues

- Promote sustainable development across the continent
- Coherence in approaches
- Appropriate Production systems
- Equity (gender, youth, vulnerable communities)
- Employment
- Access to markets
- Environmental sustainability
- Biosecurity & biosafety
- Climate change
- Private-sector
- Access to technology
- Inputs
- Information
- Intra-regional trade
- Biodiversity conservation
- Networks & associations




## Expected Outcomes

*Coherent approach and roadmap for creating a conducive and enabling environment for private-sector driven sustainable commercial aquaculture development within the framework of the PFRS and its guidelines.*

**Five Main Activity Areas:**

1. Establish and enabling environment for sustainable aquaculture development
2. Improved service delivery to the sector
3. Capacity building
4. Trans-boundary ecosystem management for aquaculture
5. Innovation (Research and Development)

# Companion tools: Activity Areas 1 &2
# Enabling environment and service delivery

| Issues | Guidelines Developed | Expected Outcomes |
|---|---|---|
| **Bottlenecks affecting market-led sustainable commercial aquaculture across Africa** |  | *Coherent approach and roadmap for creating a conducive and enabling environment for private-sector driven sustainable commercial aquaculture development within the framework of the PFRS and its guidelines.*<br>**Five Main Activity Areas:**<br>1. Establish and enabling environment for sustainable aquaculture development<br>2. Improved service delivery to the sector<br>3. Capacity building<br>4. Trans-boundary ecosystem management for aquaculture<br>5. Innovation (Research and Development) |
| **Bottlenecks in the availability, supply and access of good quality aquatic animal broodstock and seed** | ***Guidelines for the Production, Transboundary Distribution and Trade of Aquatic Animal Seed and Brood-Stock*** | 1. Competitively priced quality assured aquatic animal broodstock and seed that meet biosecurity and environmental standards<br>2. Viable and sustainable commercial aquatic animal broodstock and seed value-chains producing the critical volumes necessary for the sector.<br>3. Improved distribution of aquatic animal broodstock and seed within Africa's regions. |
| **Bottlenecks in the availability, supply and access of good quality aquatic animal feed** | ***Regional Guidelines for the Production, Transboundary Distribution and Trade of Aqua-feeds, Feed Ingredients and Feed Additives*** | 1. Adequate supply of quality assured aquatic animal feed ingredients and feed additives.<br>2. Quality assured aquatic animal feeds that meet sector specified nutritional and other feed standards including on ecosystem impacts<br>3. Viable and sustainable commercial aquatic animal feed value-chains competitively producing the critical volumes of feed necessary for the sector.<br>4. Improved distribution and accessibility to aquatic animal feed ingredients and feed within Africa's regions.<br>5. Aquatic animal produce the meets food-safety and other market standards. |

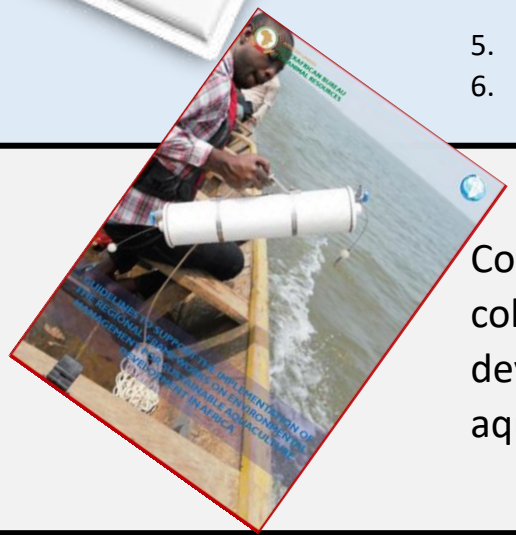
# Companion tools: Activity 3:
## Appropriate extension and service delivery strategy

| Issues | Guidelines Developed | Expected Outcomes |
|---|---|---|
| **Need to transform Africa's aquaculture species value chains into sectoral value-chains** | ***Guidelines to support the development of species specific aquaculture value-chains*** | Guidance on the key elements necessary for transforming smallholder aquaculture value chains into sustainable sectoral value-chains for targeted species.<br>**Specifically:**<br>1. Basic sectoral requirements for commercial aquaculture species value chains<br>2. Modular commercial aquaculture sector species value chains focusing Africa's important commercial aquaculture species namely; *Tilapia, African catfish, Marine Finish, Marine Shrimp, Freshwater prawns* |
| **Transformation of current aquaculture practice into viable commercial enterprises** |  | Business models templates to guide the systematic transformation and development of a commercial aquaculture sector and enterprises.<br>The guidelines provide guidance on:<br>1. Building blocks of an aquaculture business<br>2. Value chains for aquaculture<br>3. Business models for aquaculture in Africa<br>4. Best aquaculture business practices |
| **Inadequate practical knowledge and skills for commercial aquaculture and adoption of new appropriate technologies.** |  | Guidance to evaluate and strengthen capacity of extension service delivery systems to address the commercialization of the aquaculture sector in Africa.<br>The guidelines provide guidance on:<br>1. The core elements of effective extension<br>2. Extension models for aquaculture in Africa<br>3. Best practices in extension services |
| **Poor enterprise performance arising from farm management and production process** | ***Best Practices for Aquaculture Production Systems*** | Best practices and guidelines for operating production systems. The guidelines compile experiences from several parts of the world including Africa.<br>Best aquaculture practice guidelines are provided for: *aquatic animal hatcheries, freshwater pond culture, cage culture, tanks and raceways, shell fish rafts and longlines, shrimp pond farming, aquaculture in irrigation schemes and aquaculture parks*. |

# Companion tools: Activity 3: Capacity building - Networks

| Aquaculture Networks | Support Provided |
|---|---|
| Aquaculture Network for Africa | • Inter-governmental network<br>• 7th annual general meeting<br>• Prospects: transformed from a 15 MS network to an AU network comprising the AU's 55 MS<br>• Proposed TORs for its institutionalization into AU-IBAR |
| WORLD AQUACULTURE CONFERENCE, 2017<br>SUSTAINABLE AQUACULTRE NEW FRONTIERS FOR ECEONOMIC GROWTH<br>SPOTLIGHT ON AFRICA<br>Cape Town 2017 World Aquaculture<br>CAPE TOWN, SOUTH AFRICA<br>26-30 JULY 2017<br>**World Aquaculture Society - African Chapter** | • Private sector network<br>• Participation of aquaculture associations and farmers to WA17<br>• Support for the formation of African Chapter<br>• Among activities supported at WA17 was the 2017 Aquaculture biosecurity special session and workshop<br>Cooperating and Participating Organizations included<br>WORLD AQUACULTURE Society; International Aquatic Veterinary Biosecurity Consortium; World Aquatic Veterinary Medical Association; Aquaculture Association of Southern Africa; the Center for Food Security & Public Health, Iowa State University; CAHS; FAO; OIE; Aquaculture Stellenbosch University; USDA Veterinary Services; African Union Interafrican Bureau for Animal Resources; PATENT CO. Experts in Prevention; The World Bank |
| **Regional aquaculture networks** | • Private sector networks<br>• Consultant's report on recommendations for their formation and operationalization. |

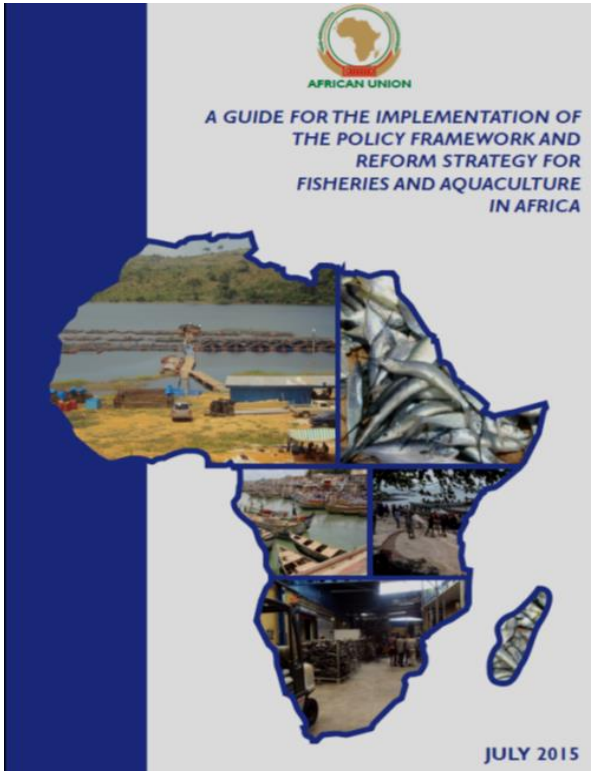
# Companion tools: Activity Area 4
# Transboundary Ecosystem Management

| Issues | Guidelines Developed | Expected Outcomes |
|---|---|---|
| • **Sustainable management and utilization of aquatic ecosystems for aquaculture and other uses.**<br>• **Sustainability issues arising from environmental impacts, climate change and biosecurity.**<br>• **Appropriate EIAAs** |  | Harmonized ecosystem approaches to aquaculture development within Africa's regional transboundary watersheds.<br>**Notably:**<br>1. Guiding principles for regional collaboration in the rational management and utilisation of aquatic resources, safeguarding aquatic ecosystem health and ensuring the supply of aquatic resources goods and services for sustainable aquaculture development.<br>2. Mitigate against negative environmental impacts from aquaculture, including on biodivesity<br>3. Foster biosecurity, food-safety and access to markets for aquaculture produce and products.<br>4. Safeguard the interests and rights of other aquatic resource users far as aquaculture is concerned.<br>5. Climate smart aquaculture<br>6. Regionally harmonised scientific basis for conducting EIAA |
| **A common appreciation and implementation approach of the regional aquaculture environmental frameworks among the wide-array of independent multi-sectoral aquatic resource stakeholders** |  | Coherence and multi-stakeholder collaboration for sustainable aquaculture development; including in transboundary aquatic ecosystems. |

# Companion tools: Activity Area 4
## Disease Control and Biosecurity

| Issues | Guidelines Developed | Expected Outcomes |
|---|---|---|
| **General lack of capacity for the detection, control and surveillance of aquatic animal diseases in Africa** | ***Training and field manuals on the detection and control of aquatic animal diseases in Africa*** | 1. Reference manuals to guide professional and producers respectively in the detection and control of aquatic animal diseases.<br>2. Improved reporting and response to aquatic animal diseases<br>3. Increased awareness of aquatic animal diseases and their impacts |
| **Weak institutional capacity for the control and surveillance of endemic and transboundary aquatic animal diseases** | ***Regional frameworks for the control of aquatic animal diseases in Africa*** | 1. Region specific framework to guide regional coherence and cooperation in the detection, control and epidemio-surveillance of aquatic animal diseases<br>2. Enhanced and effective biosecurity controls to protect Africa's aquatic animal production systems from threats attributable to diseases, pests and invasive species.<br>3. Safe aquatic animal products<br>4. Safe trade of aquatic animals and their products and improved access to markets<br>5. Improved sharing of phyto-sanitary information among stakeholders |

# …..ultimately




**Outcome 1: Improved market-led aquaculture investments**

- Markets (awareness creation, PPPPs—Price, place promotion and products)
- Aquaculture infrastructure
- Financing/investment strategy
- Quality assurance and standards
- Skills development plan
- Research and extension services
- Fish farmers associations or cooperatives
- Enabling environment
- Growth in trade of locally produced

**Outcome 2: Improved regional cooperation in shared ecosystems**

- Common strategies on management and research on transboundary resources
- Consistency with best ecosystems management approaches (eg. FAO, CCRF)
- Conformity with accreditation
- mechanisms

# Thank You


**AU-IBAR: Providing leadership in the development of animal resources for Africa**