Aquaculture Development in West Africa

Opportunities and Bottlenecks

E. Rurangwa[1], S.K. Agyakwah[2], O.M. Onagbesan[3], B.G. Abiona[3], A.O. Akinwole[4], S. Touré[5], B.C. Bolman[6]

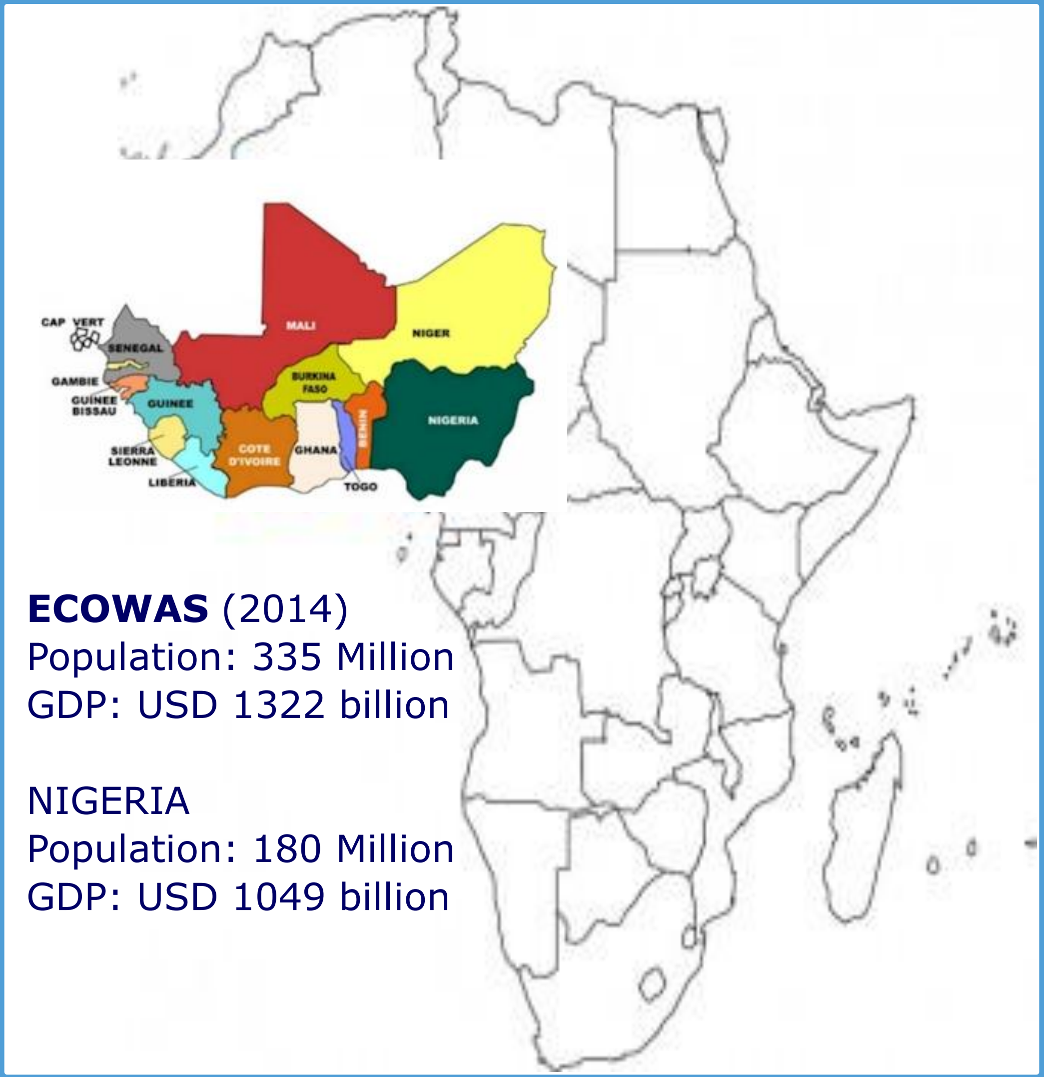
[1]IMARES, Wageningen UR, Yerseke, The Netherlands; [2]CSIR-WRI/ARDEC, Akosombo, Ghana; [3]FUNAAB, Abeokuta, Nigeria; [4]University of Ibadan, Ibadan, Nigeria; [5]Ministère de l'Élevage et de la Pêche, Bamako, Mali; [6]LEI, Wageningen UR, The Hague, The Netherlands

WAGENINGEN UR
For quality of life

Aquaculture Development in West Africa

Outline

- Background
- Opportunities
- Bottlenecks
- Conclusions



ECOWAS (2014)
Population: 335 Million
GDP: USD 1322 billion

NIGERIA
Population: 180 Million
GDP: USD 1049 billion

WAGENINGEN UR
For quality of life

Countries Studied

Chaîne de Valeur du Poisson au Mali

IMARES: E. Rurangwa, K. Goudswaard, J. Kals, A. Rothuis
LEI: E. Hoefnagel, A. van Duijn
MALI: S. Touré, B. Traoré, S. Keita

Smallholder Fish Production in Nigeria

A technical and economical feasibility study for tilapia cage farming and food security in Nigeria

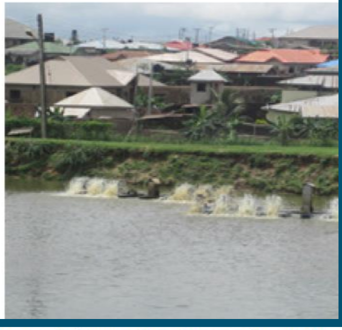
Wageningen, 8 July 2013

IMARES - LEI

Urban and peri-urban aquaculture production systems in South West Nigeria. Research and Business Opportunities

E. Rurangwa, A.O. Akinwole, B.G. Abiona, O.M. Onagbesan

Report number C048/13 [publishable after 1 year]



Development of Aquaculture in Ghana

Analysis of the fish value chain and potential business cases

E. Rurangwa[1], S.K. Agyakwah[2], H. Boon[3] & B.C. Bolman[4]

IMARES report C021/15

Mission exploratoire

Pêche, Pisciculture et Aquaculture au Bénin

Un quick scan du secteur pour des possibilités d'interventions

E. Rurangwa[1], J. van den Berg[2], P.A. Laleye[3], A.P. van Duijn[2], A. Rothuis[1]

IMARES report C072/14
LEI report 14-049

SAFEWAY COLLEGE OF TECHNOLOGY
DEPARTMENT OF AQUACULTURE

MISSION REPORT OF A QUICK ASSESSMENT OF NEEDS

E. Rurangwa

IMARES report C112.14

Business Cases for Aquaculture Investment in Ghana

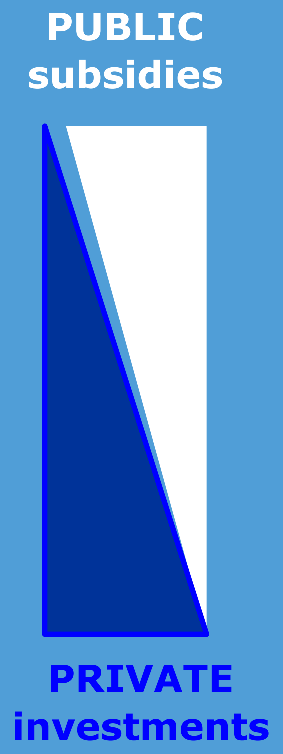
E. Rurangwa[1], S.K. Agyakwah[2], H. Boon[3] & B.C. Bolman[4]

Excerpt from: IMARES report C021/15 (2015)
Publication date: 31 March 2015.

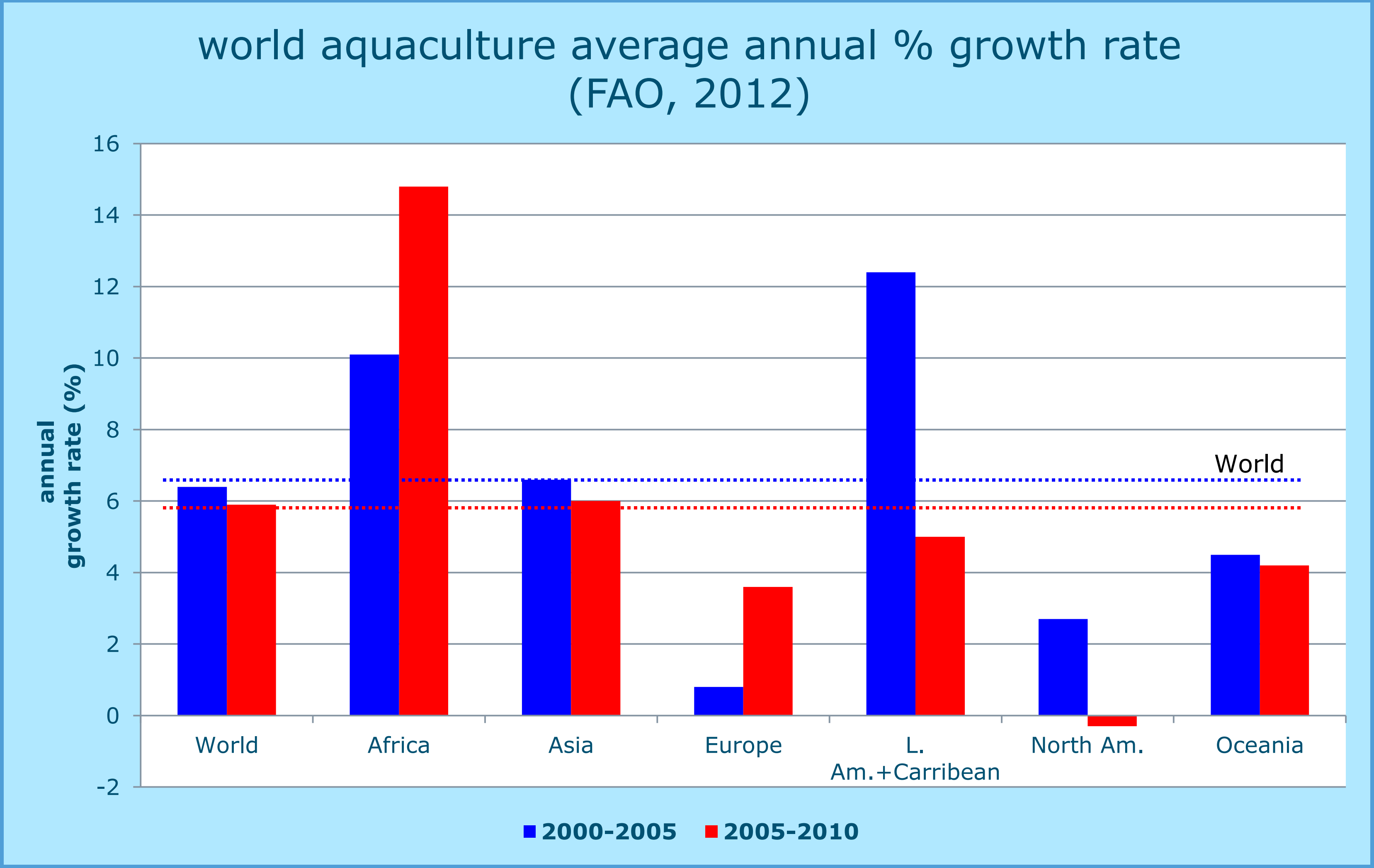
GENERAL BACKGROUND

4 phases of AQ development in SSA

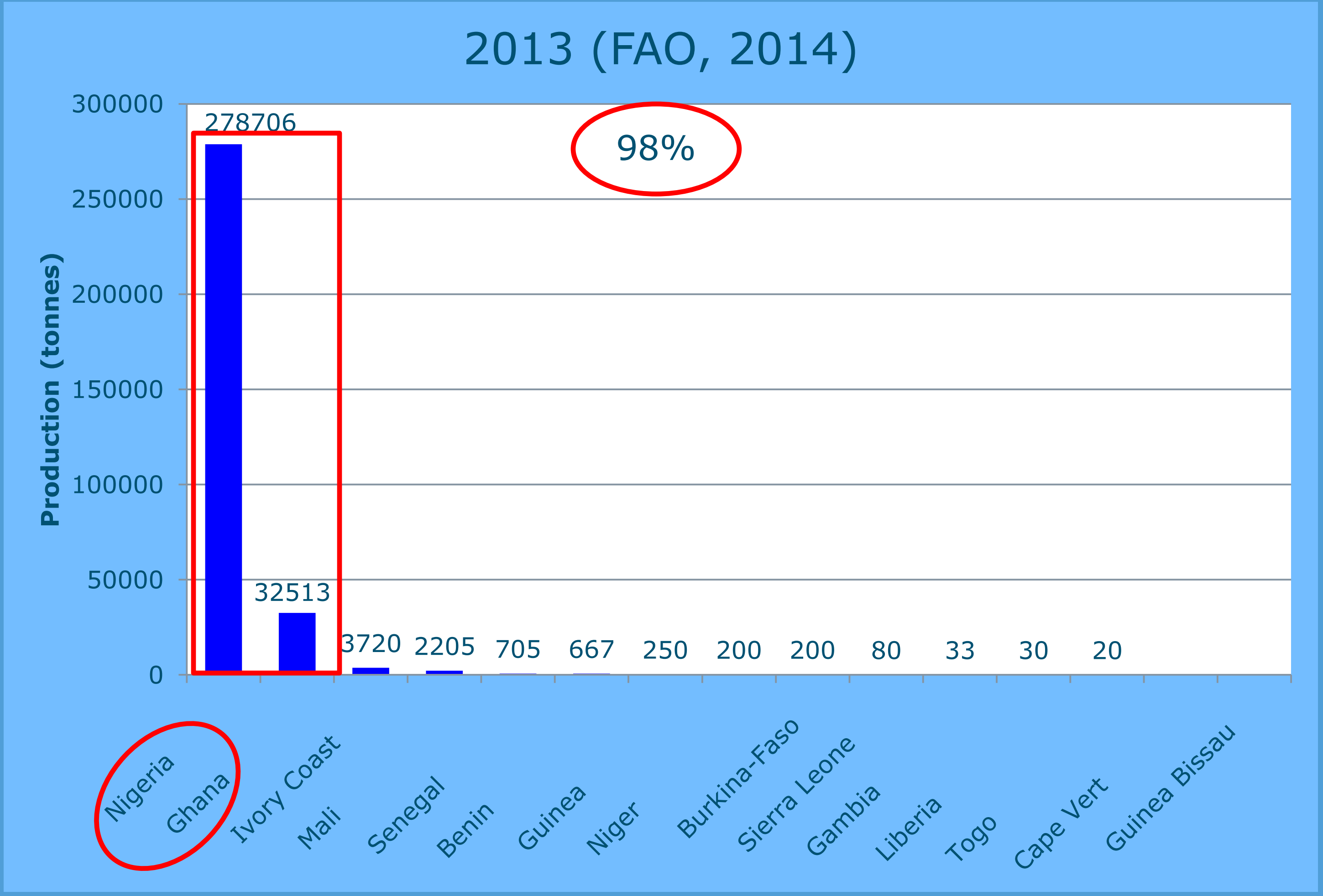
- 1950-1970: Popularisation
- 1970-1995: Assistance
- 1995-2005: Facilitation
- 2005->: Business approach
  - Led by the private sector



General Background



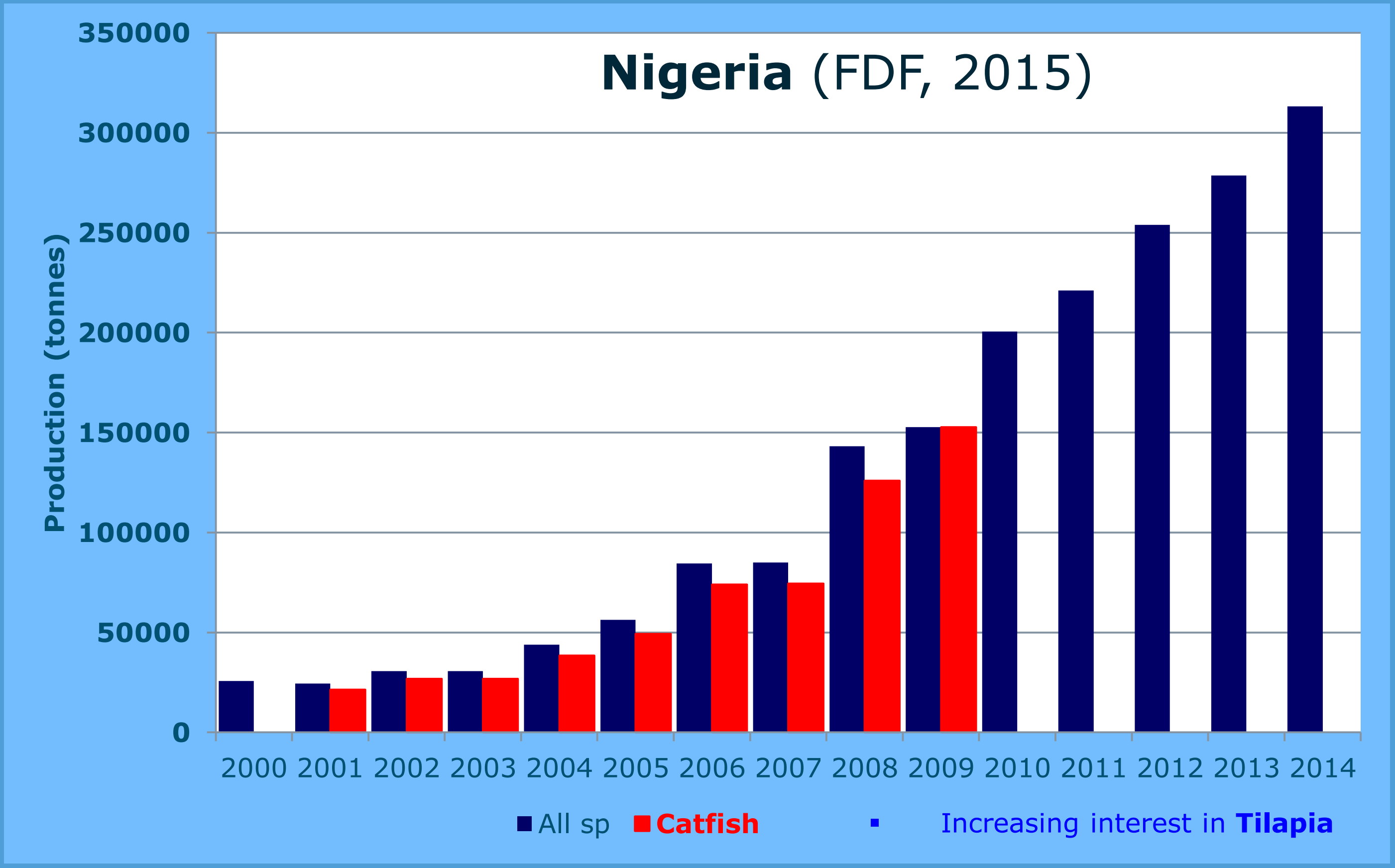
Aquaculture Production in West Africa



WAGENINGEN UR
For quality of life

Aquaculture Production in Nigeria

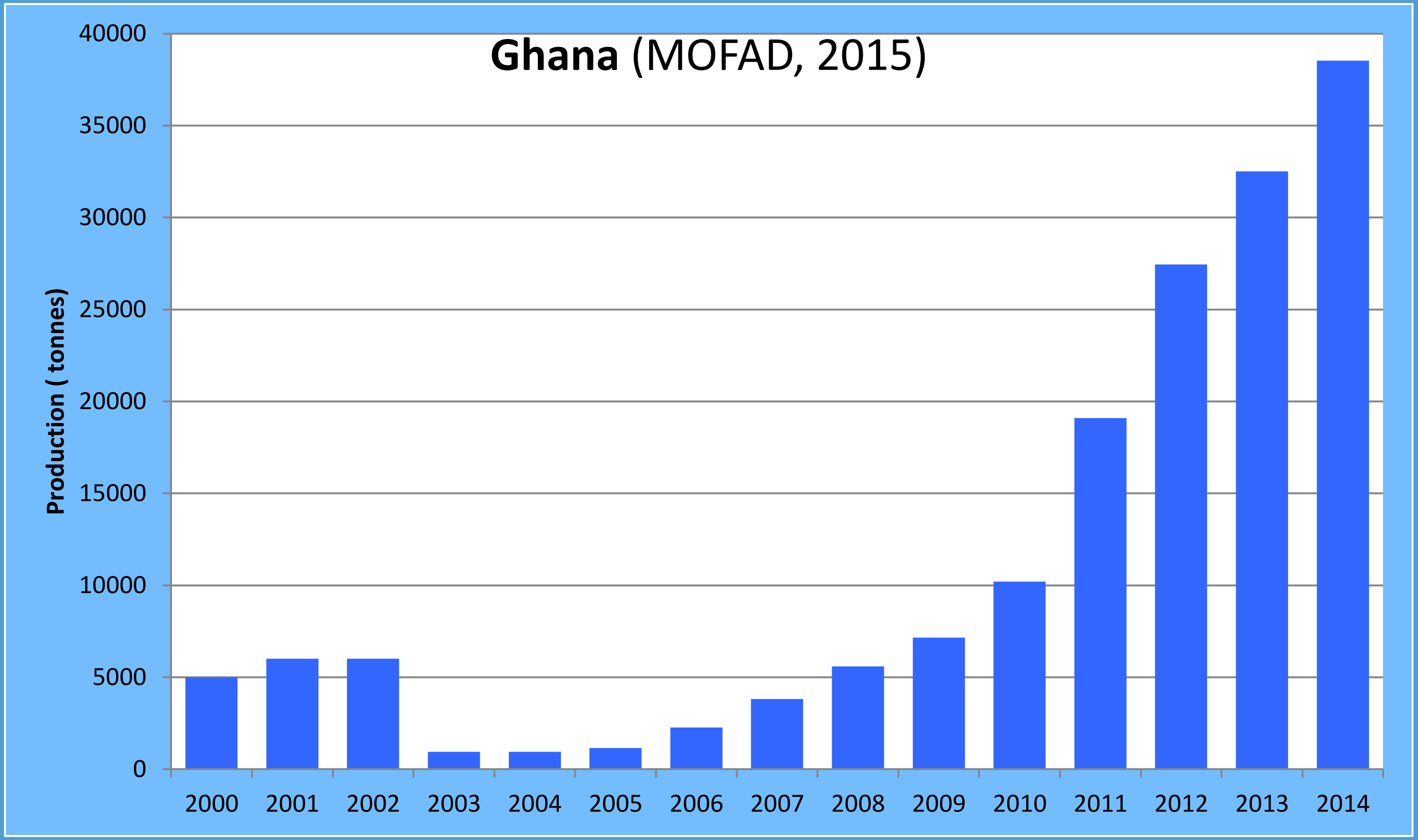
- **Private sector led development**



WAGENINGEN UR
For quality of life

Aquaculture Production in Ghana

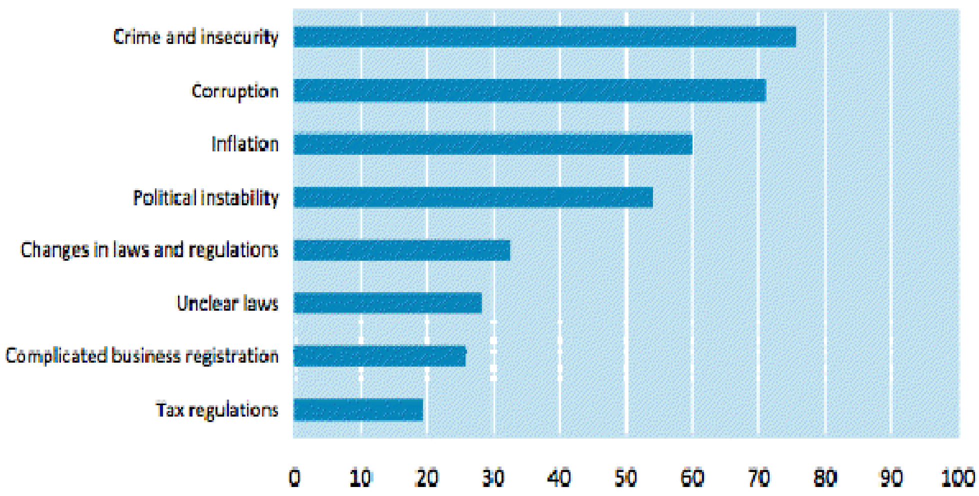
- **Private sector led development**



- mainly **Tilapia** & cages

OPPORTUNITIES OR CHALLENGES

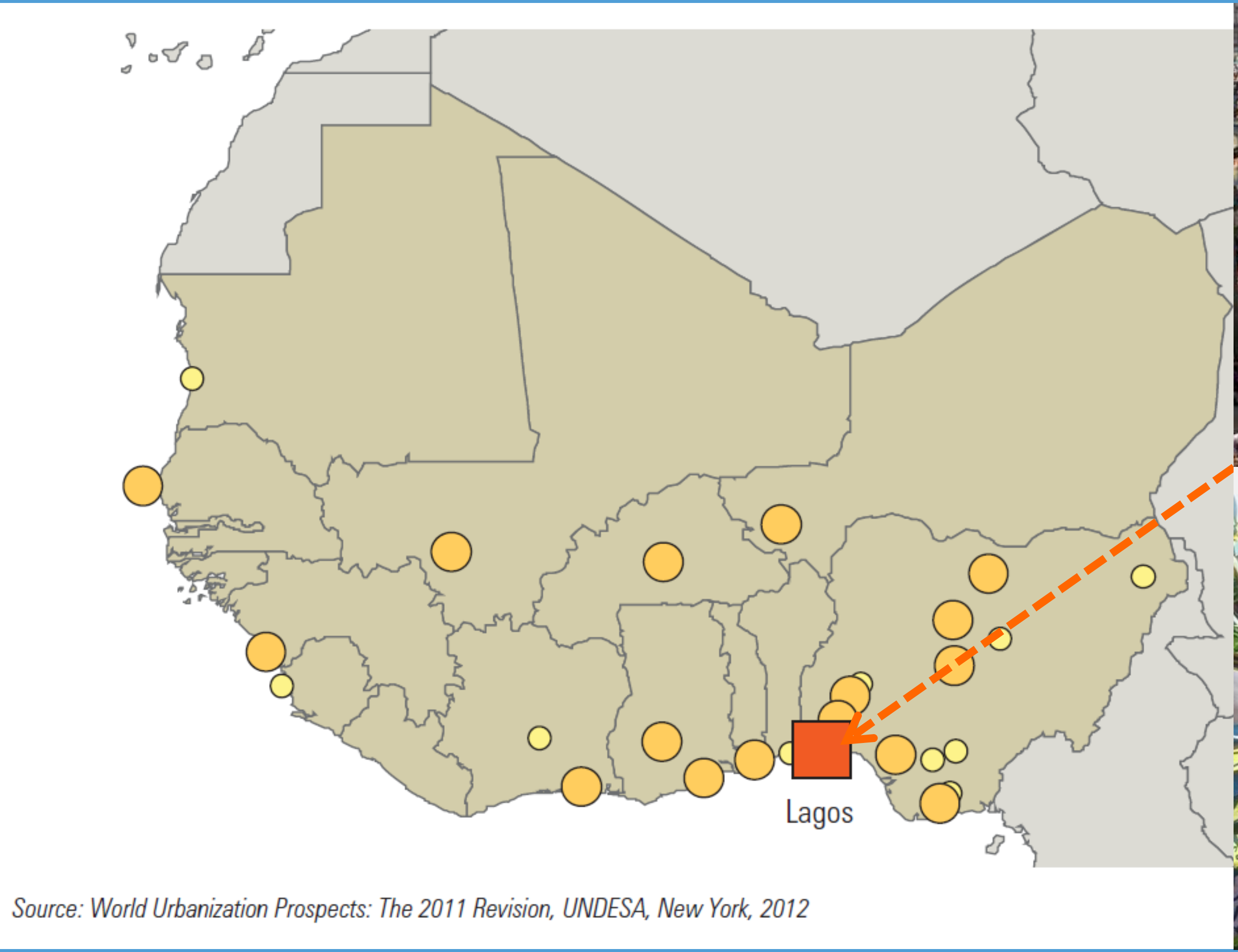
- There are challenges ………………………



……………………but also **many opportunities**

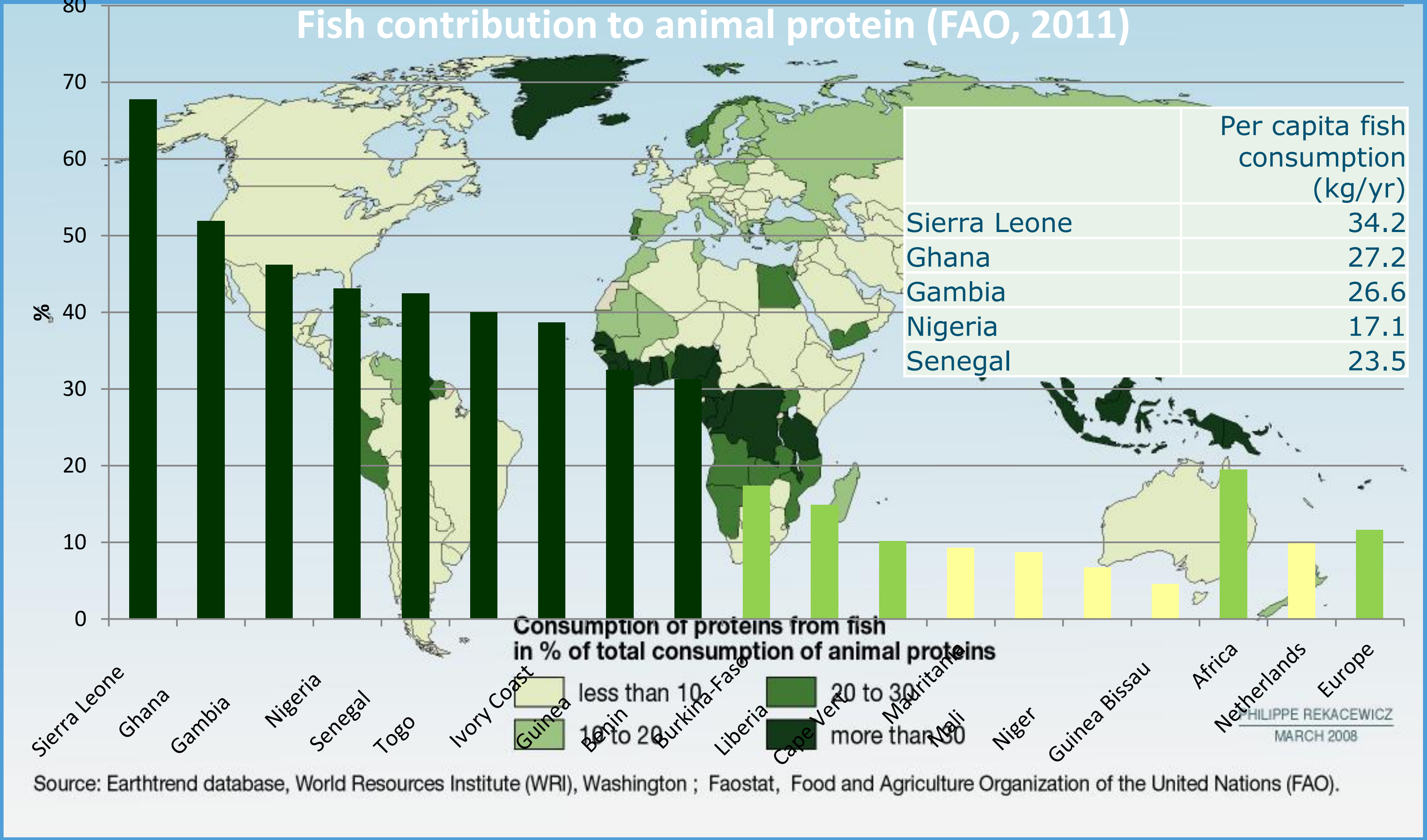
OPPORTUNITIES

- Growing population and urbanisation



Opportunities

- Fish consumption is high



	Per capita fish consumption (kg/yr)
Sierra Leone	34.2
Ghana	27.2
Gambia	26.6
Nigeria	17.1
Senegal	23.5

OPPORTUNITIES

Dynamic Fish Value Chains and Markets

Opportunities

Suitable environment

- Markets
- Labour
- Climate
- Water

SMALL SCALE AQ PRODUCTION SYSTEMS

- Extensive traditional systems
- Semi-intensive ponds overall
- Low input/Low output systems

GOVERNMENT SUPPORT - NIGERIA

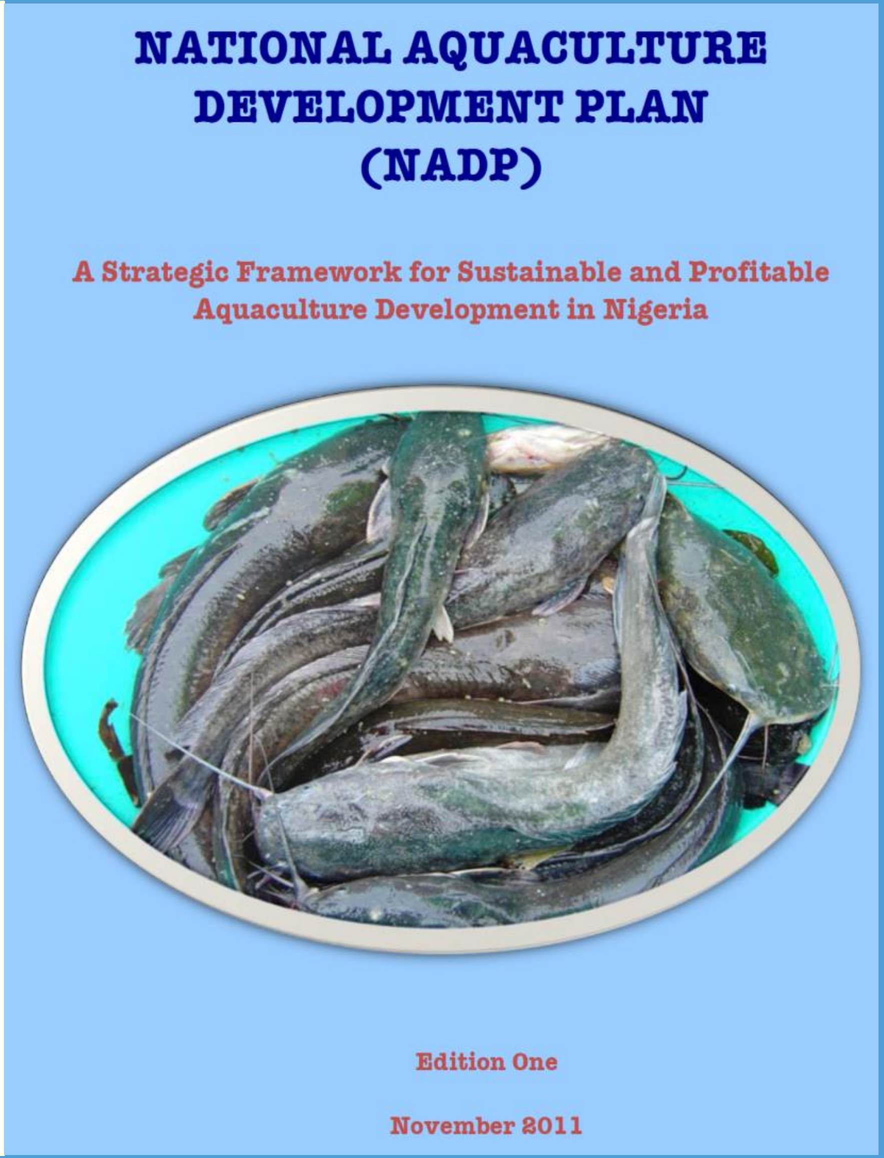
Nigeria: a huge fish market

2010 Data in Million Tons:

- Annual Fish Demand: 2.66
- Domestic Production: 0.80
- Aquaculture Production: 0.20
- Frozen Imports: 0.80
- Supply Deficit: 1.06
- Value of Imports: N100 Billion (USD 625 Million)

Promotion of fish farming

Regulation of fish imports



Large scale intensive AQ production systems

Government support - Ghana

- Private sector led development
- Target 100,000 tonnes by end of 2016 (39,000 tonnes in 2014)
- Aquaculture fund and subsidies from government
- Increased availability high quality feed and seed
- Enhancement of genetic quality broodstock
- Technical and administrative support by government
- **Ban on Tilapia imports**

MINISTRY OF FOOD AND AGRICULTURE
FISHERIES COMMISSION

Ghana National Aquaculture Development Plan (GNADP)

March, 2012

BOTTLENECK – PERMITS

ENVIRONMENTAL PROTECTION AGENCY (EPA)

ENVIRONMENTAL PERMIT

↓

FISHERIES COMMISSION

AQUACULTURE OPERATIONAL PERMIT

↓

WATER RESOURCES COMMISSION

WATER USE PERMIT

↓

VOLTA RIVER AUTHORITY (VRA)

VRA PERMIT

(if operations within VRA)

↓

DISTRICT ASSEMBLY

OPERATIONAL PERMIT

Bottleneck - Feeds

60-70% production costs

- Imported (too expensive)
- Locally Industrially Manufactured
- Local Artisanal
- Compounded on-farm

- No standards

Bottleneck - Seeds

- Quantity and quality
  - Insufficient
  - High mortality
  - Low performance
- No standards

WAGENINGEN UR
For quality of life

OVERALL BOTTLENECKS

- Bureaucracy in policy & permitting
- Lack of investment capital for local producers
- Knowledge, expertise, technology, skills
- Infrastructures, Logistics

Conclusions and recommendations

- 3 important and shared bottlenecks: Feed-Seed-Knowledge
- Public Private Partnerships:
  - Turning Bottlenecks into Business Opportunities
  - Research support to sustainable development of AQ
  - Increase (sub)regional networking & collaboration
- Government/Policy in WA:
  - Investment in basic infrastructures
  - Fish farming permits
  - Import of aquaculture inputs
  - Introduction and farming of performant fish strains
  - Certification of inputs and providers
  - Introduction of BMPs

THANK YOU

- All PP Partners & Stakeholders in WA and NL
- Dutch Embassies in Accra, Lagos, Cotonou, Bamako

eugene.rurangwa@wur.nl | http://www.imares.wur.nl

WAGENINGEN UR
For quality of life