AQUACULTURE PRIORITIES IN TANZANIA

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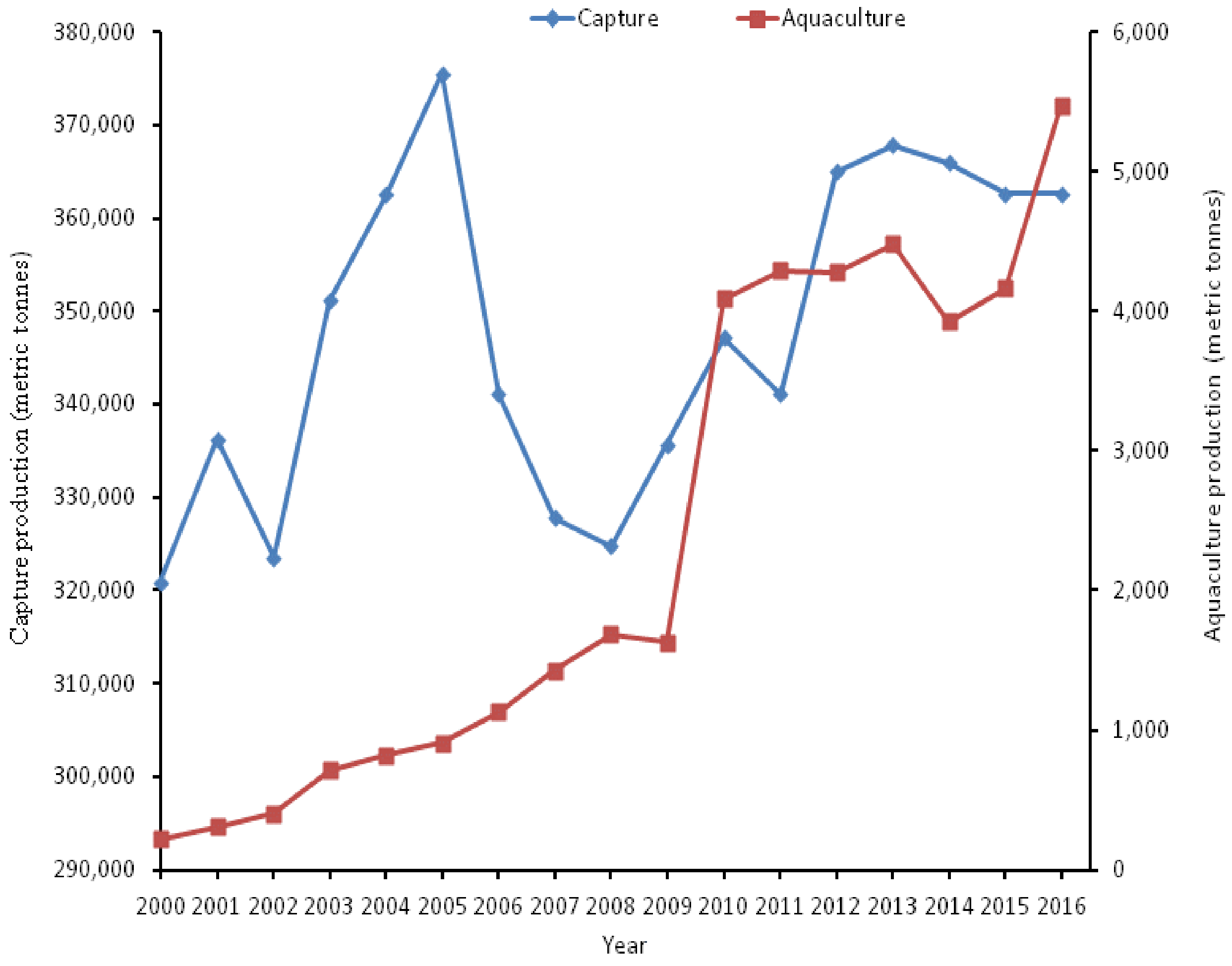
Presentation outline

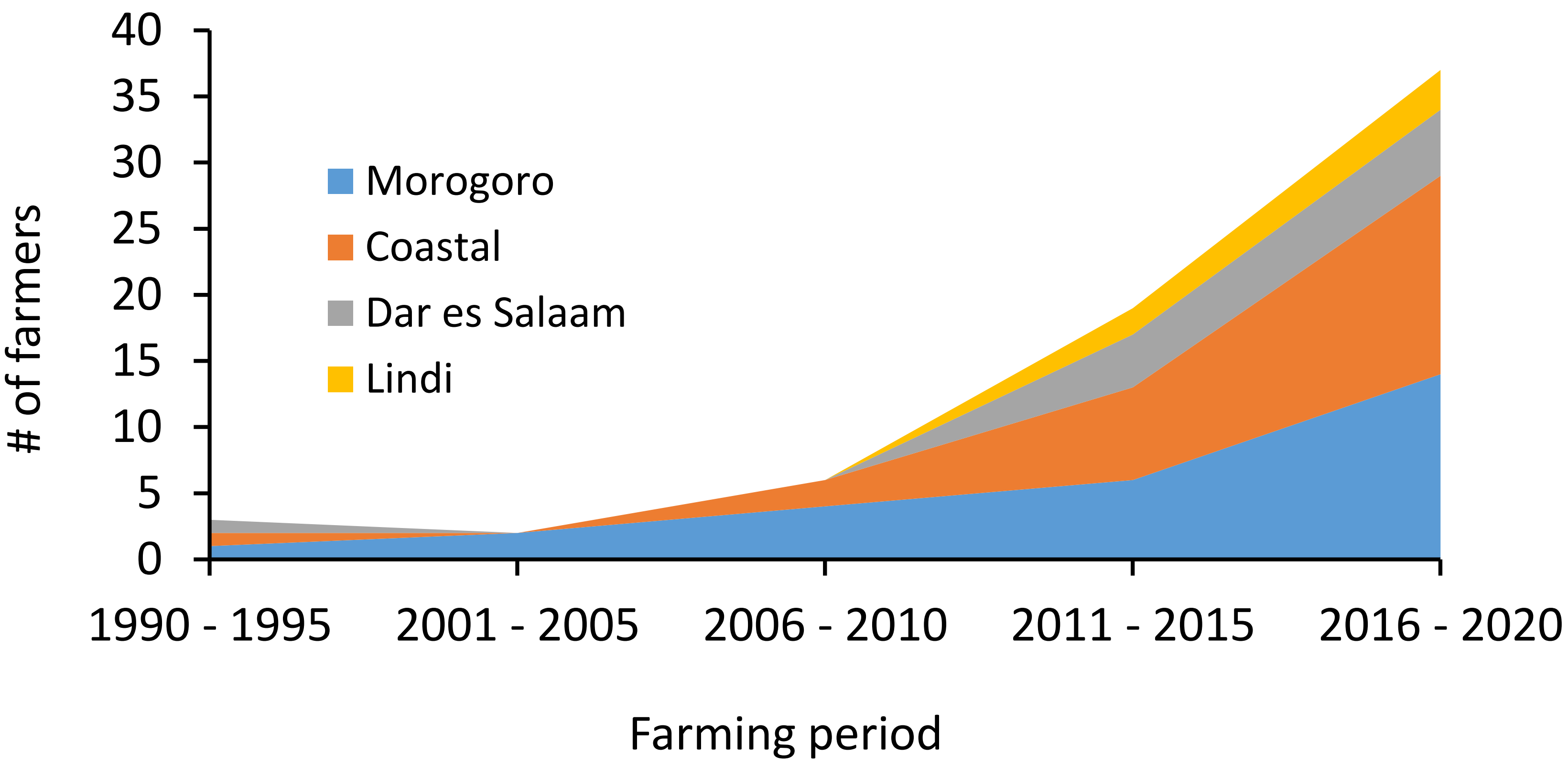
- Background information
  - Status of capture fisheries and aquaculture
  - Aquaculture chain analysis
- Challenges/Constraints
- Priorities

BACKGROUND INFORMATION



- Fluctuation of capture fisheries production with increased effort: more uncertainties in the future production
- Fishes demand increase in Tanzania: 730,000 mt (capture fisheries produce ≈ 362,595 mt in 2016)
- Aquaculture sub-sector has the potential to meet the production gap
- Aquaculture production has been increasing recently (doubled from 5000 mt in 2016 to 10,000 mt in 2017, DAD)

Fish farming value chain…



Shoko et al., 2018 (unpublished data)

- High optimum fish stocking density (1 – 3/m^2)
- Stocking density in mono sex farming: 3 - 6/M^2 and 7 – 10/m^2

Seed value chain

- Zonation in seed production (LT- *O. tanganicae*, LV- *O. niloticus*)
- Health certification of imported seeds
- Encourage mono sex farming
- More research on reliable aqua-seeds (TAFIRI, UDSM, SUA, FETA)

Input supplies

- Investment capital: 100,000 to 500,000 seeds at a time
- Brood stocks made through selective breeding of the wild
- Feed sources: pellets for brood-stocks, and powdered mash and pre-starter pellets for fingerings (60%).

Seed Producers

- Public (20%) since 1970s; private (80%) sector since 2014
- Annual production: 2 to 3 m (catfish) and 2 to 5 m (tilapia)
- Employment for youth (60%)

Middle man

- This group trade only 1% of the fingerings

Fish farmer

- Farmers (99%) buy fingerlings
- Tilapia: TZS 200 - 300; Catfish: TZS 500 - 600

Fish feeds value chain

- 5 private aqua-feed investors
  - Local: 4; Importer: 1
- Produced and importation of feeds (e.g. floating pellets)
- Feeds are sold directly to local fish farmers
- More research
  - Proximate analysis (SUA, NFQCL)
  - TAFIRI

Input supplies

- Local available feed ingredients: maize, rice bran, wheat bran, sunflower cake, soya bean seeds, sardines etc.
- Soya bean seeds and bean cake Zambia & Malawi
- Additives (minerals, premixes, methionine, lysine & antioxidant)

Feed producer

- Industrial aqua-feed producers from 2014
- Feed production or feed importation and fish farming
- Extruded pellets, non-extruded pellets and powder feeds

Market and Traders

- Sell directly to farmers and retailers

Other Feed importers

- Import and sell imported feeds directly to farmers

Fish farmers

- All feed produce end to this group

Fish feeds formulated by TAFIRI

TAF 1 (Dagaa, cotton seed cake
maize bran multivitamins and fish oil)

TAF 2 (Soya beans, rice bran,
fish oil and multivitamin)

25 and 30% crude protein)

Fish farming value chain

- Intensive to semi-intensive (90%: concrete tanks/ponds, cages, re-circulation)
- Bigger farming infrastructures: 300 – 600 m^2
- Subsistence to commercial (> 20, 000 US$)
- More extension officers (Dep. of Aquaculture Development)
- More trainings: short courses, certificate to postgraduates (FETA, TAFIRI and HELIs)

Input supplies

- Wild, farmers and industrial seed producers
- Local (65.7%), industrial (32.8%) & imported (1.5%)
- Locally available fertilizers (100%)

Middlemen/ Trader

Fish Farmers

- Mono sex tilapia, mixed sex culture
- Monoculture tilapia (40%), catfish (21%) & polyculture (38%)
- Earthen (56%), concrete ponds (40%), both 4%

Consumers (45%)

Traders (15%)

Both (40%)

Surveillance and control of fish diseases

- Seed importation control measures
- Best practice of fish farming
- Capacity building (e.g. Degree programme of Health of Aquatic resources at SUA)

Challenges/constraints

- Unavailability of quality fish seeds and feeds;
- Inadequate technical know-how and poor adoption of appropriate technologies;
- Low capacity in fish disease surveillance, diagnosis and control;
- Inadequate sensitization to aqua-farmer investors on the opportunities for commercial aquaculture.

PRIORITIES (National Fisheries Policy, 2015)

Objective: To develop and promote aquaculture industry in order to increase aquatic products for local consumption & export

- Production and regulation of quality aqua feeds and seeds through promotion of private sector to participation
- Promotion and regulation of the application of appropriate technologies in aquaculture development (e.g. biotechnology & bio-safety);
- Sensitization to aqua-farmer investors on commercial aquaculture.
- Strengthen surveillance and control of fish diseases and escapees.