Transformations of the retail fish market in Brazil and its impacts on small scale fish farming

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Context

- Development of aquaculture in Brazil
  - Availability of production factors and increase on demand

- Small scale fish farming in Brazil
  - Importance for local economy, food security and environment

- Emergence of supermarket in the Brazilian seafood market
Potential of Brazil seafood industry

On production...
- 8,500 Km of marine coast;
- 12% of total world fresh water;
- 5.5 million ha of flooded areas, mainly hydroelectric plant reservoirs → Up to 1% (55,000 ha) available for aquaculture

...And on demand
- Increasing fish per capita consumption
  - 6.8 kg in 2002 to 9.7 kg in 2010
- Large population → 200 million inhabitants
Brazilian fisheries and aquaculture production 1990-2011

Annual production increased by 31% from 2008 to 2011

Source: Brazilian Ministry of Fisheries and Aquaculture 2012.
Per capita consumption of meat in Brazil

- Brazil is among world 5 big meat consumers (Source: USDA)
- Fish: greater increase in consumption from 2006 to 2010

Source: Ministry of Fisheries and Aquaculture and Ministry of Agriculture.
Importance of small scale fish farming

- Economic diversification by using in-farm resources
- Food security
  - Improvement of protein availability by inclusion of fish in daily diet
- Reduction of fisheries pressure on local aquatic resources
Small-scale fish farming in Brazil

Strongly based on economies of scope

Water reservoir for cattle

Utilization of byproducts

Familiar labour force
Emergence of supermarket in the Brazilian seafood market

- Directly related to:
  - Increasing on income (specially in middle and small sized cities)
  - Growth of fish supply by farming instead fisheries ▶ Regularity in terms of price, quality and volume

- Strong concurrence to traditional seafood retail channels (street market, fish shops, fishmongers, direct sale)

- Main strategies
  - Reduced margins
  - Fish as an attractive for customer 'visits in the supermarket
  - Strong marketing and promotion actions
Traditional retail channels

Availability

Supermarkets

Promotion

Price
Methods

- Exploratory and qualitative research
- Approach of *Global Value Chain*
- Semi-structured interviews with 123 agents of different nodes of the value chain in the Tocantins state (northern of Brazil)
Agents interviewed

- Producers
- Retailers/Wholesalers
- Processing plants
- Institutions
- Inputs suppliers
- Experts/consultants
Results

The case of the Tocantins state
Aquaculture value chain in Tocantins state

- Natural conditions (water and very high temperatures)

- Increase in production of 635% between 2000 to 2010

- Heterogeneity in terms of fish farmers profile:
  - About 1,000 fish farmers → most part smallholders

Source: IBAMA/MPA (Brazilian Ministry of Fisheries and Aquaculture)
Araguaia-Tocantins rivers Basin
Small-scale fish farmer
Water surface area: 0.1 ha

Large fish farmer
Water surface area: 1,000 ha
Fish processing plant structure in Tocantins state

Large producers: 4 processing plants working

Small scale fish farmers: 3 collective processing plant out of service
Evolution of the local retail market

- Competition with large producers in the local market:

  Destination of fish farming production of Tocantins (by state, % volume)

- Emergence of the supermarkets:

  Fish sales- "Quartetto" supermarket (tonnes)
Small-scale fish farmers supply traditional retail channels
Large fish farmers supply supermarkets
Exclusion of small scale fish farmers

City of Araguaína:
2002 – 12 fish shops
2012 – 6 fish shops

Reduction of traditional retailers (street market, fish shops, fishmongers, direct sale)

Difficulty in reach supermarket requirements (price, volume, quality and regularity)

Strong competition with large producers

Low technological level and high production costs

- Scale, regularity and quality
- Complexity due to high perishability
Conclusion

What paths to ensure sustainability of the smallholder fish farming?

- Strategies to adding value
  - Product differentiation
    - Certification, processing... etc.
  - Access to new markets channels
    - Governmental food security programs, short channels... etc.

- Cooperative initiatives
  - Increasing in scale, improvement in logistics and quality

*BUT.... WHICH FORM OF COOPERATION...??*
Thank you!
Obrigado!

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