STRATEGIES FOR PRODUCTIVE INCLUSION OF SMALL-SCALE FISH FARMERS OF TOCANTINS STATE

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Context

- Potentiality + Governmental programs

- Opportunity for big entrepreneur but also small-scale fish farmers
  - Small-scale fish farms = 82% of 18,075 aquaculture (share 39.5% fish production)
  - Impacts on local economy, food security and environment

- Evolution of the retail channels
  - Small-scale fish farmers supplying traditional retail channels
  - Supermarket increased role on fish market
  - Saturation of the local market: Increase of sales of the large fish farmers
A few explored potential

Brazilian aquaculture production by state (2009, in ton)

Source: MPA.

- Increase of 833% between 2000 to 2011

Fish production in Tocantins
Diversified business

- Heterogeneity in terms of fish farm profile:
  - About 1,000 fish farms → most smallholders

Small-scale fish farms
Water surface area: 0.1 ha

- Strongly based on economies of scope
- Changing profile - from subsistence to market oriented

Large fish farms
Water surface area: 1,000 ha
Main species produced in Tocantins

- **Matrinxã** - *Brycon gouldingi*
- **Surubim** (and hybrids)
  - Hybrid: Tambaqui x Caranha
- **Caranha** - *Piaractus brachypomus* (± 50%)
- **Tambaqui** - *Colossoma macropomum*
- **Piau** - *Leporinus macrocephalus*
- **Matrixxã** - *Brycon gouldingi*

75% of Local Market

Photos: internet.

Embrapa
Market exclusion of small-scale fish farmers

- Reduction of traditional seafood retail channels
- Difficulty to achieve supermarkets requirements
- Competition with large fish farms

- Scale, regularity and quality
- Complexity due to high perishability
WHY SMALL-SCALE FARMERS ARE MORE AFFECTED

- More sensible to value-chain bottlenecks
  - Difficulty to produce with competitive costs
  - No bargain with feed sellers
  - Cannot afford technical assistance
  - Struggle to fulfill sanitary law - Absence of public or collective fish processing plants
  - Compulsory certifications:
    - To produce: Environmental allowance (fish farm)
    - To trade fish: Sanitary Inspection (Fish plant)

**COMPLEX TO GET**
Which paths to take to ensure sustainability of the small-scale fish farms?

What to do?

- Insertion in Brazilian governmental programs of food acquisition
- Adding value / processing
- Social seal “Small-scale fish origin”
- Short market channels / Valorization of Tradicional Markets

How to do?

- Through producers organization (PO)
  - Association ?
  - Cooperactive ?
    - Which cooperactive?
The case of the fish farming cooperatives in the Tocantins state

Failure of the all 3 cooperatives of small-scale fish farming

• Top-down initiatives from federal and state government;
• Producers didn’t participate in the decisions concerning processing plant construction or organizational model;
• Problems: governance of the cooperative, logistics of the processing plant, financing, etc.
Research problem

What are the determinants of the successful organizational models of PO for Brazilian small-scale fish farming?
Case Studies on Market Access
Different ways small-scale farmers found to “survive” and compete

METHODS

- Exploratory and qualitative research;
- Selection of successful PO`s in small-scale fish farming;
- Analyze of determinants of the success and their applicability in others regions of Brazil;
- 6 PO`s (in 4 different regions) were interviewed.
CASE 1 - “Project of Incubation of PO in Pernambuco State” since 2002

Strategy – Innovative Producers’ Organization Model

• Lead by a priest and supported by catholic church
• Generate income for young people living in the hydroelectric reservoir area;
• Colective Tilapia Aquaculture
• Current income of each associate is US$ 700 to 1,500/month
  ✓ Brazilian minimum wage = US$ 306/month
  ✓ Average per capita income in the region = US$ 228/month
• No leader = duty rotation
• Fixed number of 12 members
• Each association has 65 cages (12m³)
• Yield ≈ 15 Ton/monthly/association (135 tonnes total)
  6 – 8 month / 1,2 kg

Learning with experience
Rigorous internal rule
✓ All associates realize all tasks (i.e. handling of cages, accounting, sales, supply management);
✓ All decisions are taken by the group
✓ Handling 24h per day – 4 associates/day
1 meeting per day, at the moment of shift of the workers on duty

1 meeting/week with the 12 members

1 meeting every 2 weeks with all 9 POs
CASE 2 – Capixaba Aquaculture Association
since 2005

Strategy – Adding value + Governmental Program

rural producers / rural association

Accessed public program to build structures:
- Fish processing plan
- truck

72 associated - Family labour

23 employees in the fish processing plant

Production = 251 ton/year

70% of the production is sold to the National School Nutrition Program

Learning with experience
Rigorous internal rules
Main rules

- To provide high quality fish (no off-flavour, no disease, no damage allowed)

- Minimum size of 700g

- 80% of each associate production must go to ACA
CASE 3 – Fisherman Association of Serra

Strategy SHORT CHANNEL MARKET
Former fisherman
Former Association of fisherman
Accessed public program to build structures
  - 50 cages 12m³
  - fishmong
  - restaurant
Fixed number of 30 associated
Tilápia’s fair
70% is sold at their structure (restaurant + fishmong)
30% direct sale
Meeting once a week

Learning with experience
Rigorous internal law
Main rules

- No absence allowed:
  - US$40 fee for each non-worked day
  - US$20 fee for each missed meeting

- 25% saving fund

- Same income for every member (average US$500)

- One out – one in (3 month experience)
Conclusion

Determinants of the success:

- Participatory feature;
- Incubation process (Learning with experience);
- High self-control by associates (Rigorous internal law);
- Defining the working group – not everyone has the same profile/skills
OBRIGADA!!!

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