



HOW TILAPIA HAS IMPROVED THE QUALITY OF LIFE OF THOUSANDS BRAZILIAN BACKLAND PEOPLE?

by Renata Barroso



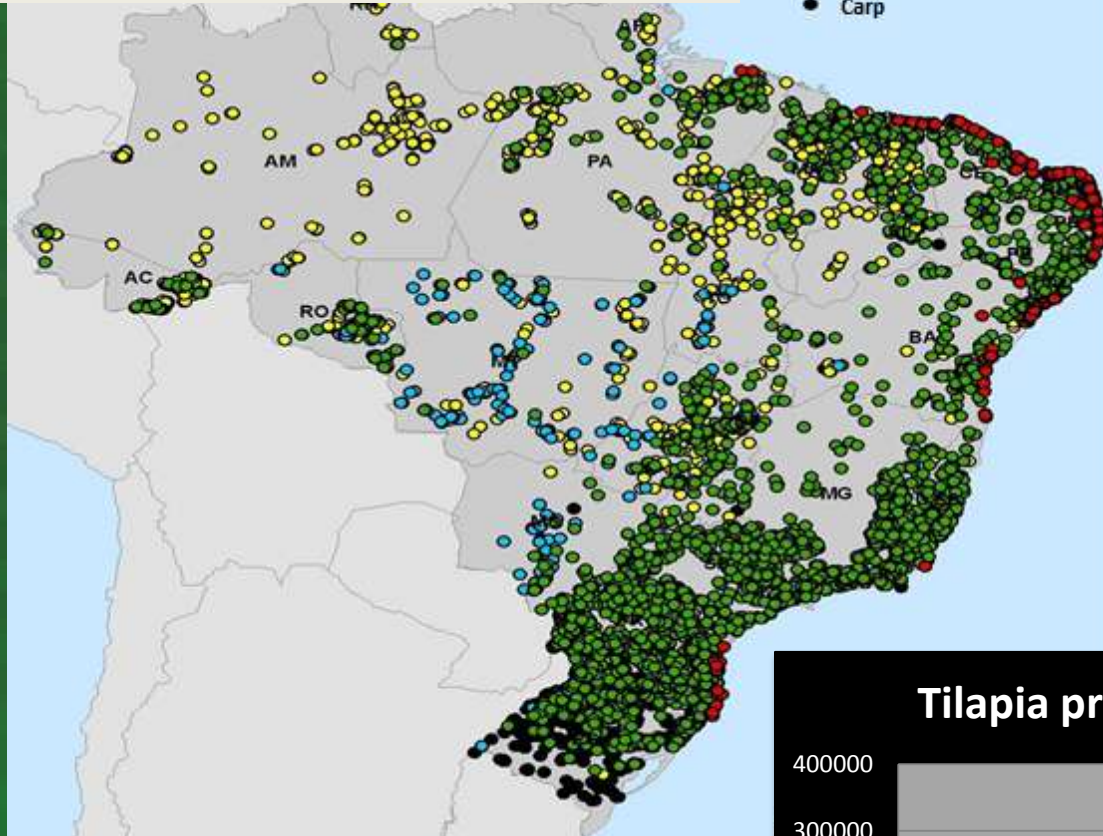
BACKGROUND - REGION



Embrapa

LAST 10 YEARS - BIG EXPANSION

By Brazilian fisheries law up to 1% of the total area could be utilized for aquaculture production which corresponds to 55,000 ha (IN nº 7, april 28, 2005).



✓ 47% Brazilian aquaculture

✓ grow 14 to 20% yearly

✓ Structured chain

✓ Internal consumption (negative trade balance of fish in more than 168,119 t and US\$ 605 million (2015))

≈ US\$ 330 million (farm price – 10-20% profitability)

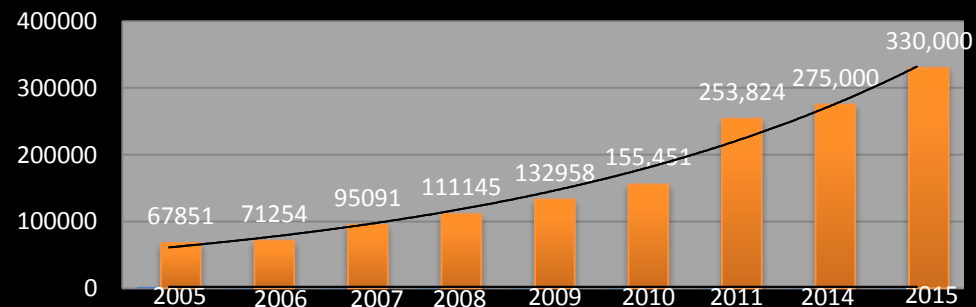
≈ 450 million seeds (US\$17 million)

≈ 650.000 ton of feed (US\$1,200 billion)

≈ 10.000 employment (just production)

+ inclusion of smallscale farmers

Tilapia production in Brazil (tonnes)



Em

Social situation of the rural area in Brazil

- 4,4 million rural establishment
- 500,000 farms = 90% production value
 - 24,000 = 50% of total value

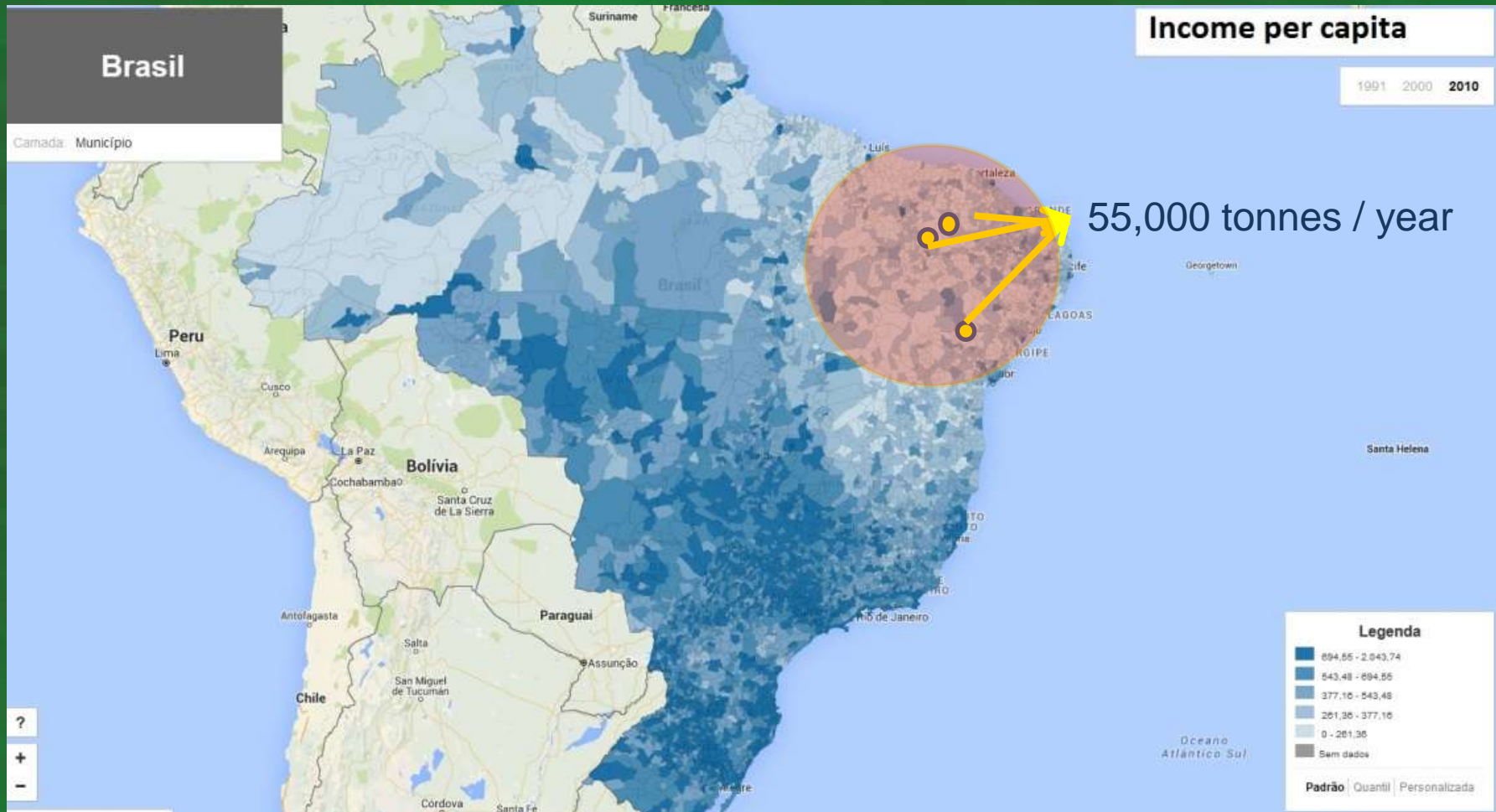
What is the destiny of the 3,9 million rural farm?

- 2,9 million belong to extremely poor families (12 million people) that live with $\frac{1}{2}$ Brazilian minimum wage (USD 125) monthly with agriculture activity;
- Specially in the Northeast Brazil



Source: Navarro & Alves, 2016

Human Development Index at the tilapia centers in the Northeastern Brazil



Total population at the 3 tilapia's production centers
of Orós, Castanhão and Low and middle São Francisco = 449.435 citizen

Two main models of tilapia farming:

- Group of farmers own production = small → medium scale



- Entrepeneur = medium / big scale



Parameters	Description		
Time in the activity	6 – 10 years		
Production average volume (m ³ cages)	Small	500 to 1.000 m ³	10-20 ton/month
	Medium	5.000 to 8.000 m ³	20-50 ton/month
	Big	20.000 to 30.000 m ³	200-400 ton/month



Job Genration

Parameters	Description	
Average Number of workers by farm	Small scale	2-5
	Middle	18 - 28
	Big	60
Labor use Index	Small scale	1 worker/200 m ³
	Middle	1 worker/285 m ³
	Big	1 worker/500 m ³
average participation of women	15% (8-29%)	
Salary range	From 1 to 2 Brazilian minimum wage*	
Bonus	No	
Worker regularization	Yes - São Francisco production Center No - Ceará Production Center	

*1 Brazilian minimum wage = US\$ 250

Smallscale farm

- ✓ Fish farming became important activity
- ✓ alternative to family agriculture
- ✓ contribute to sustainable development
- ✓ provide self-esteem to families
- ✓ income security – food security
- ✓ prevent rural exodus.



PRODUCTION MAIN TRAITS

Low technology use

High density (100 - 140 kg/m³), 6 to 7 months production

Farmers organization (formal and informal groups)

Regional market – high acceptance

Main product = whole (degutted) tilapia, 800g to 1kg

20 % profit (farmer level)





Orós Dam

- Over 450 families engaged in the tilapia farming at Orós, benefiting over 19 communities;
- Over 9,000 cages;
- Production of 450 tons of tilapia / month;
- More than R\$2,5 million generated monthly.



Fish farmers organization

- 23 farmers association in Jatobá/PE
- Women participation – organized in association



ADDING VALUE



Handcraft from tilapia's skin



Fillet production

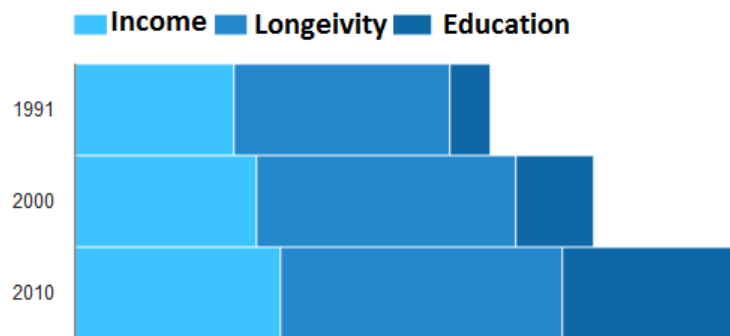


Oil production from tilapia's gut



IMPROVEMENT OF LIFE QUALITY

HDI Glória (BA)



HDI

0,308

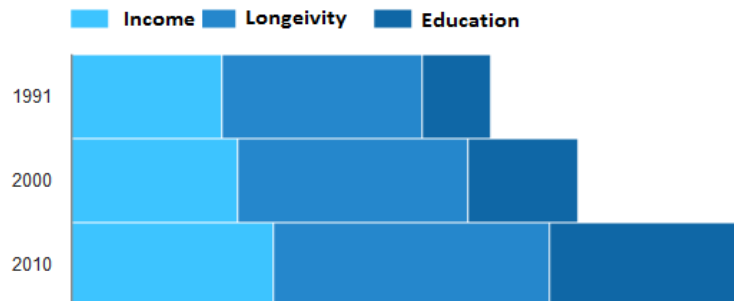
0,421

0,593

Tilapia production in Glória
2000 = no production
2010 = 15,000 ton/year

Fonte: PNUD, Ipea e FJP

HDI - Orós (CE)



HDI

0,366

0,465

0,636

Tilapia production in Orós
2004 = 960 ton/year
2010 = 5,400 ton/year

Fonte: PNUD, Ipea e FJP

Challenges, Bottleneck



- Regulamentation
- Capacity building
 - Technical inefficiency to technical leapfrogging
 - Must improve efficiency / productivity
- Genetics management
 - Comercial farm level
- Trade
 - Fish processing plant
 - Add value

Draught

Opportunities

Annual aquaculture production potential in the 37 largest Brazilian reservoirs

Region	Production (tons)
Northeast	1,934,100
Southeast	1,569,660
North	872,025
Midwest	429,435
South	173,750
Total	4,978,970

Diversification / Adding value

- ✓ Package, presentation, products
- ✓ Certification

Market

- ✓ Improve distribution and marketing structure
- ✓ Assure quality control along the distribution chain

Thank you!!

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