

Effectiveness of a participatory approach for collection of economic data in aquaculture systems at farm level in Brazil

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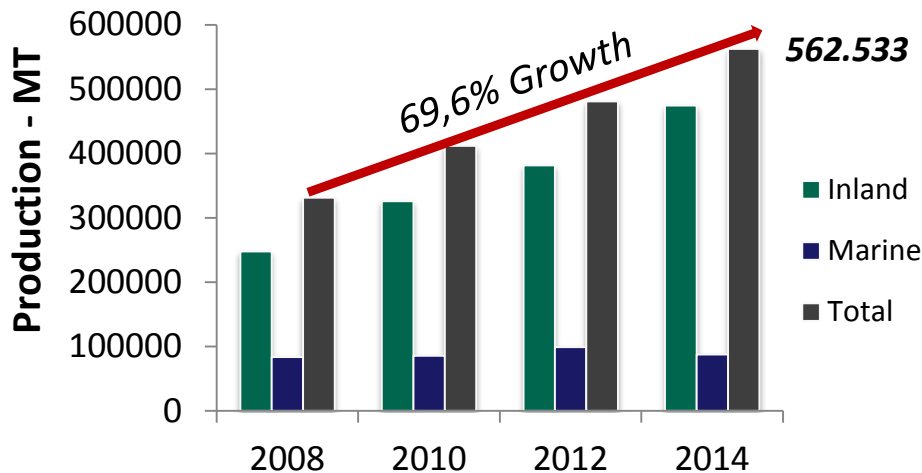
Ministry of Agriculture



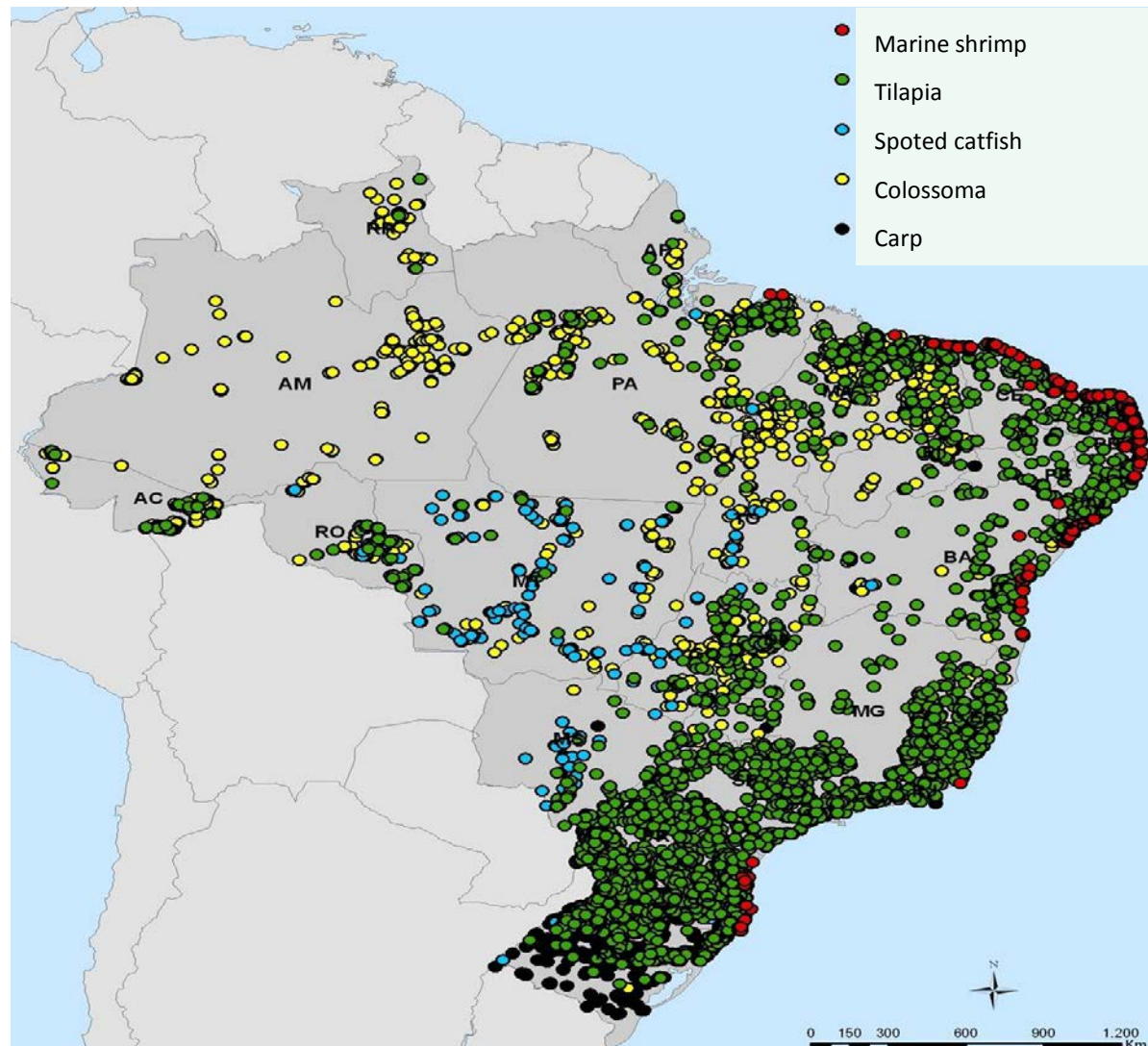
Brazilian aquaculture

- » What about the Brazilian aquaculture?
 - » Growth in recent years
 - » Inland production (floating cages and earthen ponds)
 - » Great diversity of species

Brazilian aquaculture production 2008 - 2014



Brazilian aquaculture distribution by top 5 species



» Great diversity of species

Aquaculture production in Brazil by category of species

Dourado (*Salminus brasiliensis*) 38

- Only aggregated data of export/import and production
- No economic data at farm level

How to provide economic data at farm level in a context of high diversity of species?

Trapia (*Oreochromis niloticus*)

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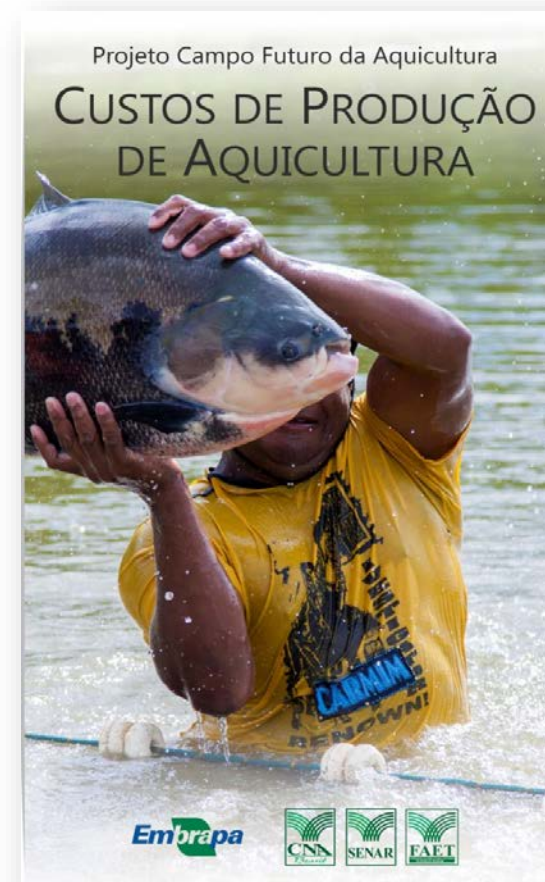
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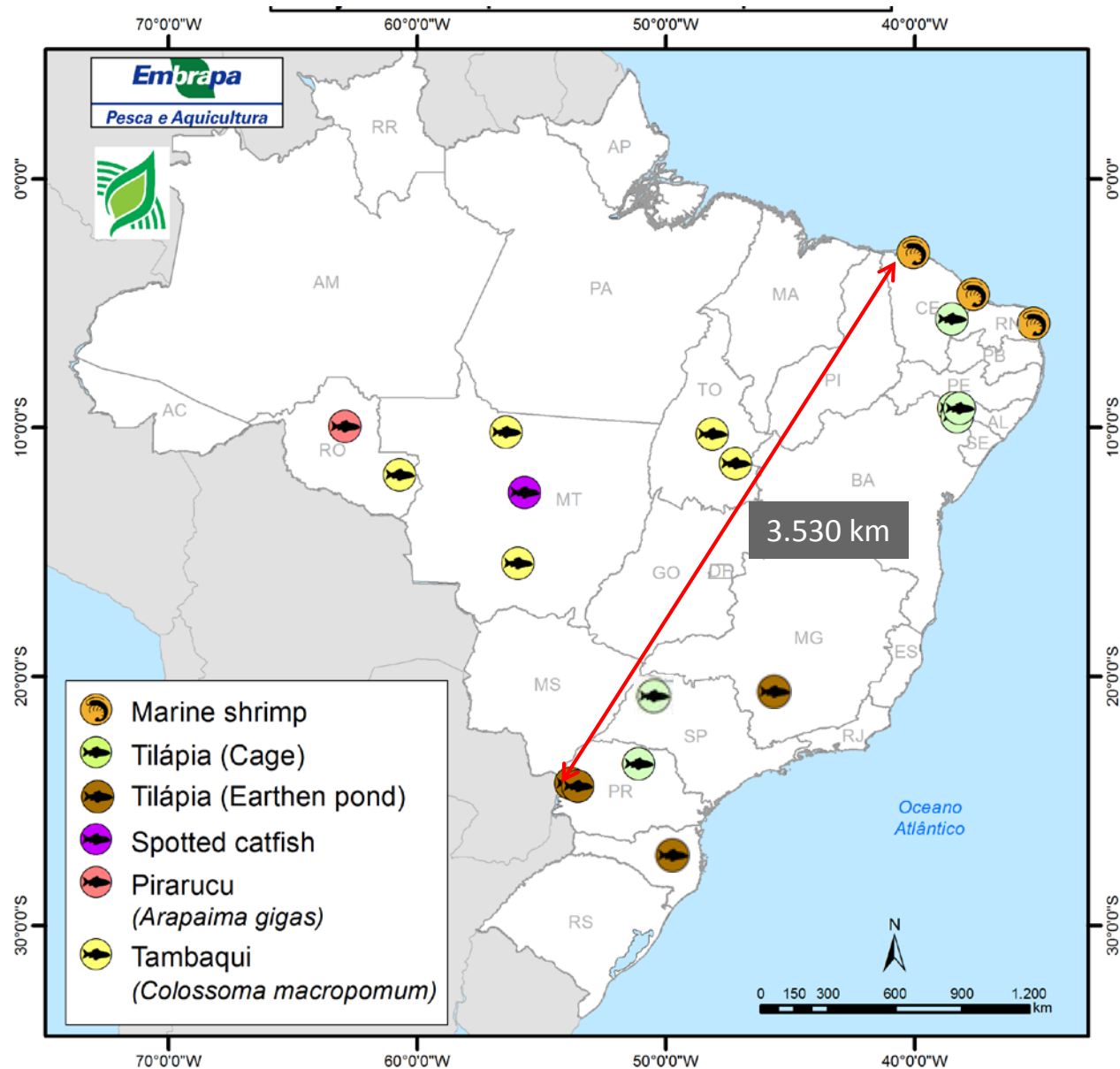
Project “*Campo Futuro da Aquicultura*”

Partnership EMBRAPA X National Agriculture Confederation

- » Methodology used in several sectors:
e.g. grains, livestock, cotton, coffee and forestry
 - » *Aquaculture from 2014*
- » Participatory approach for collection of economic data at fish farming level
- » *Realistic and up-to-date* database developed from panels method

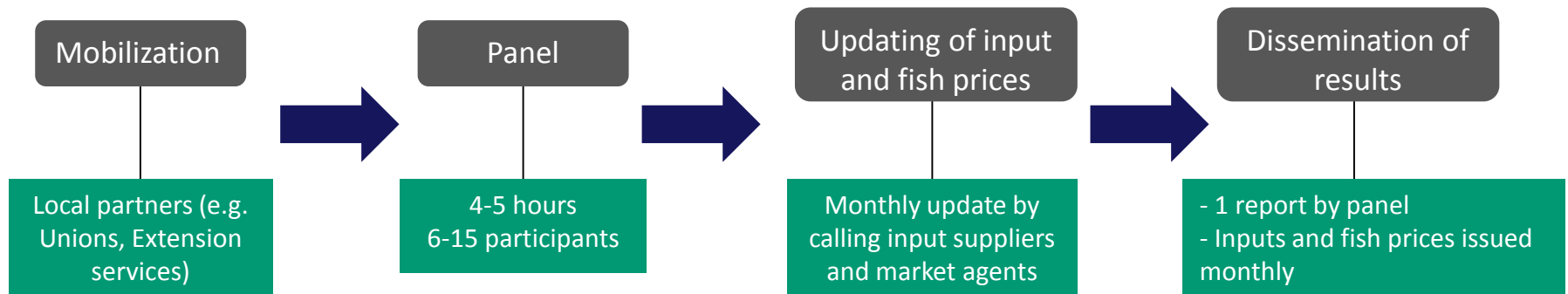


20 aquaculture production zones and 5 species studied (2014-2016)



Methods

- » Technical and economic characterization of the modal aquaculture producer → “Typical farmer”
- » Data collected: e.g. farm inventory, technical parameters, feed and input prices, production and transaction costs , feed conversion ratio (FCR), market prices.
- » Data reflects an agreement among the panel participants → More accurate picture of reality than statistical averages from surveys



The concept of typical farmer

- » A typical farmer must be representative of the production zone in terms of size, species, production systems and technology
- » The data used to describe the typical producer is neither individual farm information nor statistical averages, but is based on a consensus
- » Eventually a production zone can have more than one typical farmer. In this case, one panel is realized for each typical farmer

The panel process

- » Technical meeting bringing together fish farmers, technicians and input suppliers (6 and 15 people average)
- » Moderator asks the participants about the prevailing production system by using the criteria of the most frequent features of the typical farmer
- » All results are presented to farmers in order to validate data and to improve participants understanding about their economic performance

Panel meeting



+ field visit



Zootechnical parameters

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Results

Comparison among economic indicators of three production zones in Brazil

Production zone	Specie	Net profit margin (R\$/kilo)
São Francisco Valley/Bahia State	Tilapia	1,73
Mato Grosso State	Amazonian catfish	1,13
Tocantins State	Tambaqui (Colossoma)	0,18

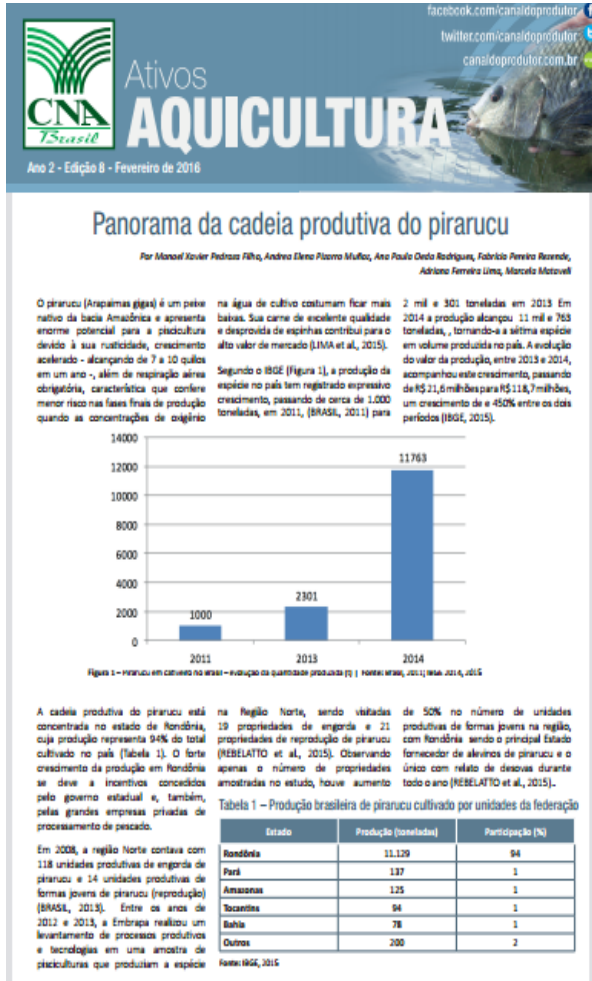
US\$ 1 = R\$ 3,2

Economic indicators for Tambaqui (Colossoma) in earthen ponds, different regions in Brazil

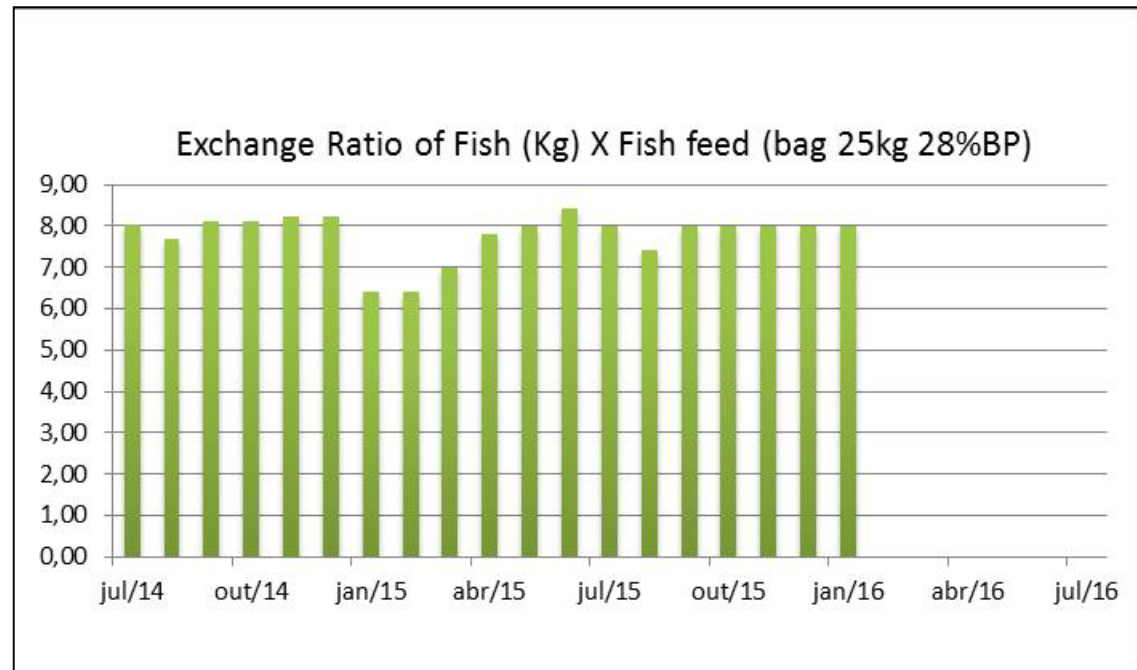
Indicators	Unit	Palmas	Baixada Cuiabana	Alta Floresta
Price of tilapia (gross profit)	R\$/kg	4,80	4,50	4,00
Efective Operational Cost	R\$/kg	3,85	3,77	3,56
Total Operational Cost	R\$/kg	4,62	4,43	4,32
Gross profit margin	R\$/kg	0,95	0,73	0,44
Net profit margin	R\$/kg	0,18	0,07	-0,32

Main outputs

1 report by production zone



Monthly update of main input prices



Main findings

Advantages:

- » Strong reliability of data because information is provided by real producers
- » Low cost of data collection compared to individual visits to farmers or survey
- » Possibility of covering a large number of production zones in a large country

Challenges:

- » Gathering economic data at farm level is complex because it is very dependent on farmer's capacity in providing reliable information
- » Heterogeneity of producers' profile and difficulty in defining the typical farmer
- » Mobilization of farmers in order to assure a representative sample in panels

Thank you! Obrigado!

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