

How to overcome the taboo regarding fire use and control?

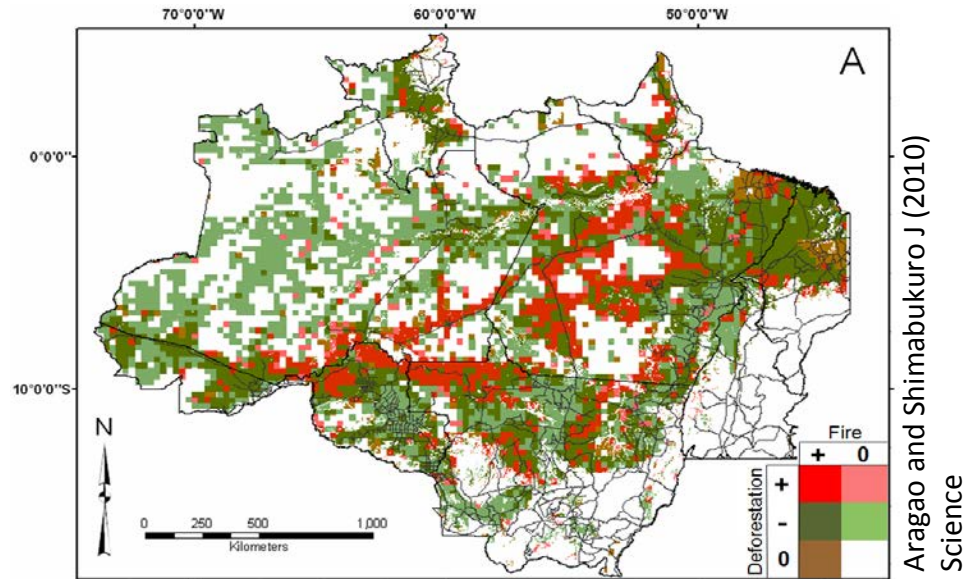


Participatory methodologies to reveal farmer motivations and discuss fire policies in an advanced frontier of the Brazilian Amazon

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The critical importance of fire in the Amazon

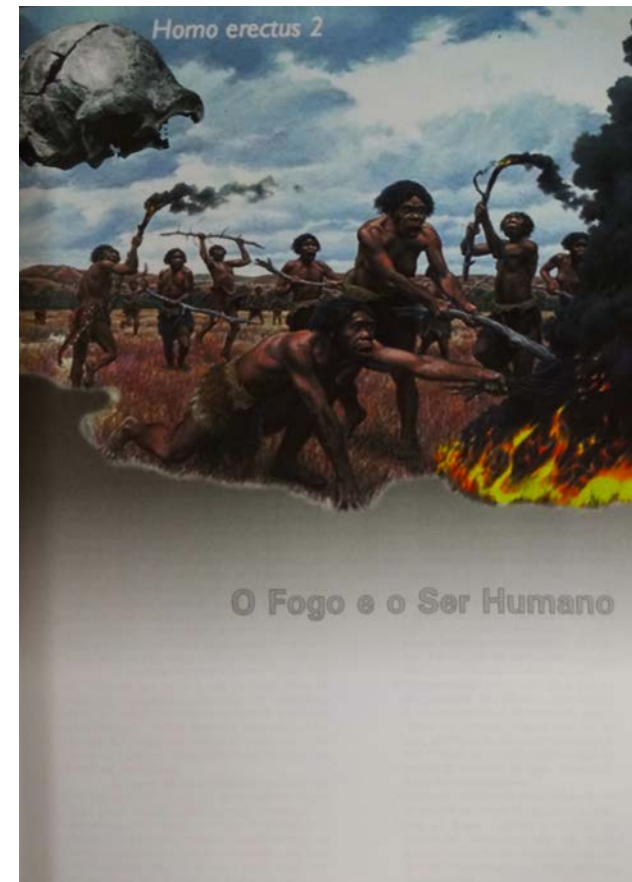
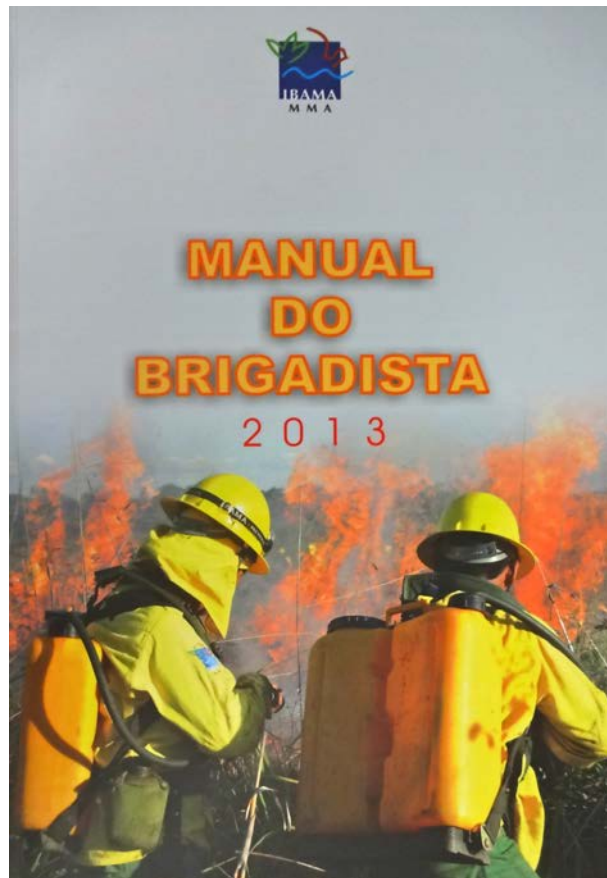


Although deforestation has strongly decreased in the Brazilian Amazon, forest degradation has increased in strong part due to fire.

In 2010, 60% of pixels with decreased deforestation rates had increase in fire

In the Brazilian Amazon, 600 thousand families have livelihoods which depends on swidden agriculture (Homma, 2012).

A change in the environmental context requires adaptation in practices.

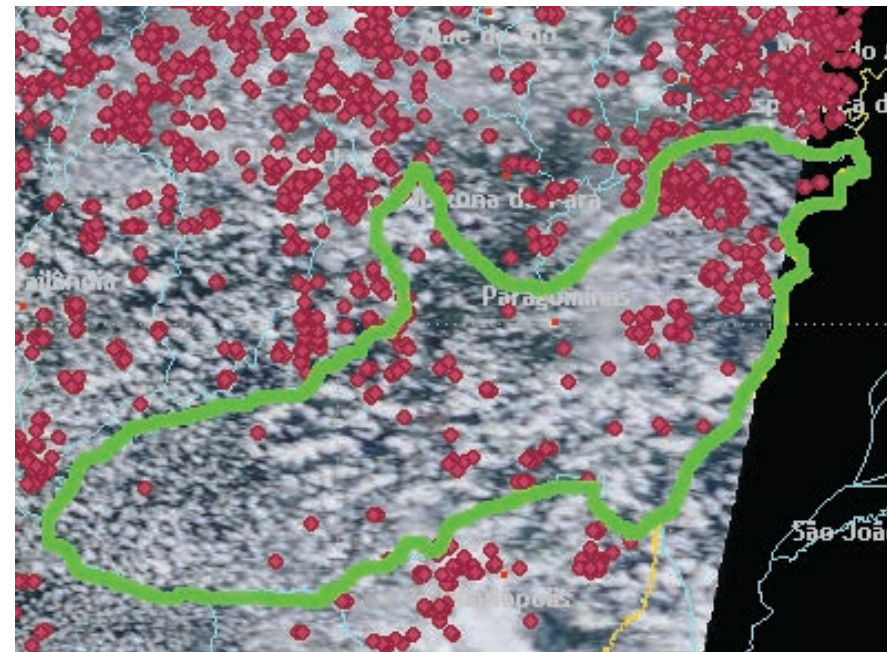


- Confusion between accidental fires and swidden fires, oversimplification which leads to negative discourse...
- Leads to prohibition policies, to close discussion spaces, or simply to ignore fire risk, such as for REDD+ (Barlow et al. 2012)



Why did we get interested in this issue?

- Paragominas: A ban on fire for a Green Municipality (2011)
- 5000 family farmers still depend on fire
- In a rural appraisal we carried out in 2012, fire was identified by farmers as the number one problem

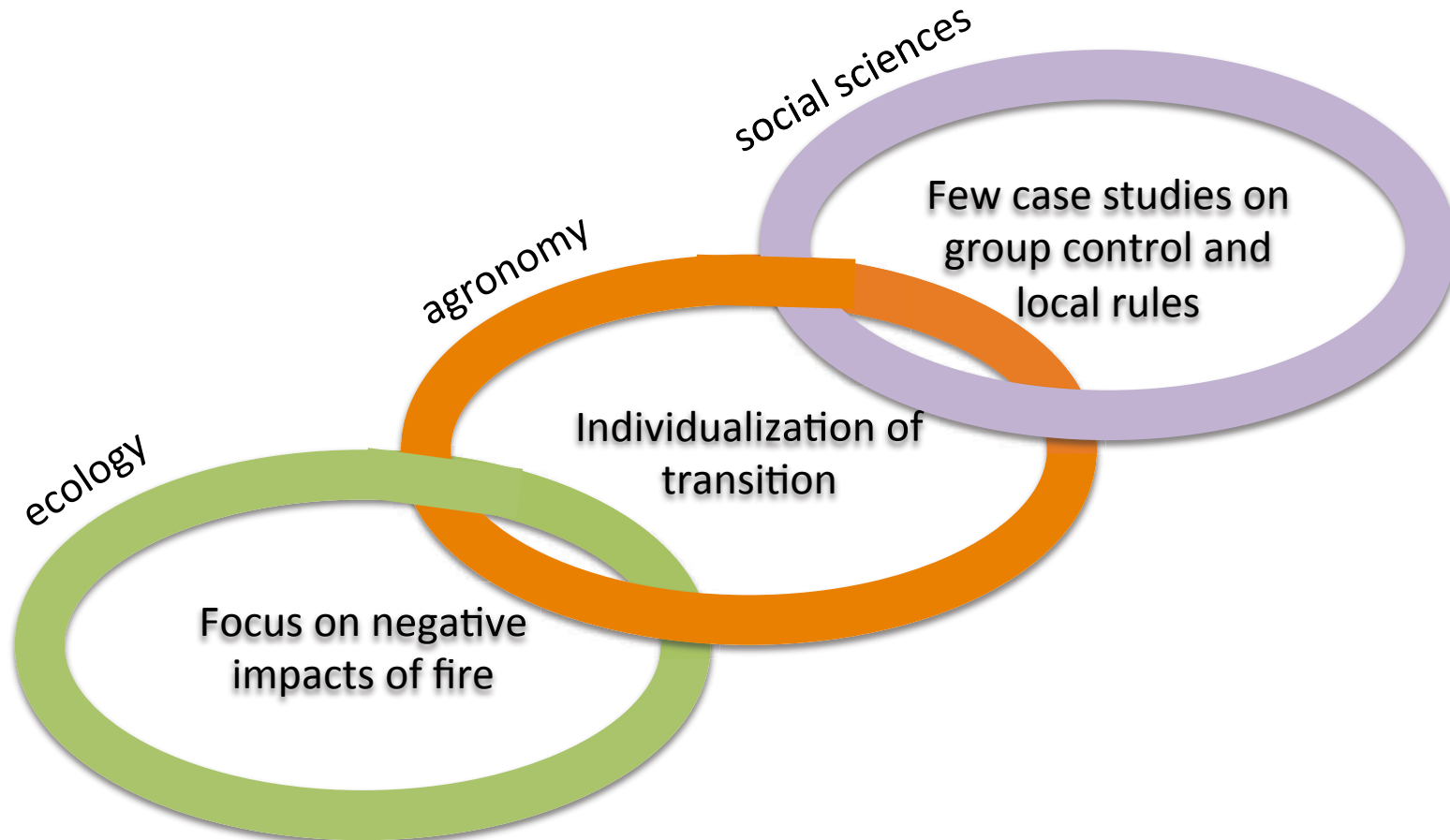


Modis Terra/Rapid Response - November 2015 (INPE, 2016)

What does literature on fire say?

	Type of knowledge	Related policies	Limits in policy application
Ecological point of view	Impact of fire on ecosystems (degradation, emissions) => considered as devastating	Prohibition policies (1987, 1998) Increase enforcement on private properties	Difficulties in enforcement Only consider ignition sources, not landscape context (Sorrensen, 2009) Lack legitimacy (Mistry, 1998)
Agronomical point of view	Degradation of soils and productivity (Martins et al., 1991) => research of alternatives to use of fire	Demonstration units (Kato et al., 1999) Tractor patrols	Costly investment (Börner, 2007) Little institutional support (Villemaine, 2009) Not an individual choice (Pollini, 2009)
Social sciences point of view	Exploratory studies, few case studies Focus on how fire risk (Mendonça et al., 2004) Very little on collective rules (Simmons et al, 2011)	Best practices (Carvalho et al, 2007) Communication campaigns (Costa, 2006)	Presume that fire management is inappropriate (Carmenta, 2013) Farmers have different ways of assessing loss, damage and risk

Links of the taboo chain



How to explore more adapted policies?



- What is the farmers point of view on fire?
- What are their motivations in using and controlling fire?

Participatory methods to overcome the taboo of fire



1/ Fire is a problem for farmers but this doesn't mean they see it as something wrong

- Farmers are the first to lose from fire: 70% of interviewees lost more than 2000 R\$ because of fire
- Games: *“Why don't you plant perennial crops?”*
“Because it's not possible with the fire”
- Q method: although most interviewees condemn “bad neighbours”, they do not condemn fire use
- Theatre: the solution is not tractors and stopping fire, but talking with the neighbours

2/ Farmers do adapt, creating new practices, combining fire and “modern” equipment

- Informal interviews: Use of tractor to bring down trees (derruba) and then burn
- Game: when available, tractors aren't used for mechanizing parcels but to make large fire breaks around the property
- Fire is seen by farmers as having a place in “modern” systems, although they do see it as arduous work

3/ Farmers do believe in group action but they also want more external enforcement and sanctions

- 70% of farmers say that they talk about fire during meetings
- More than 60% of farmers have followed a training in fire control
- Theatre: the solutions proposed are combating together and calling external inspectors
- Q method: all the respondents consider that government enforcement is highly desirable

4/ There are successful experiences of group control but they are increasingly annihilated by large-scale wild fires

- Informal interviews: exclusion of farmers who had left fire escape,
- Nearly 60% of farmers have been damaged by wild fires
- Q method: non of the farmers feels protected against risk of wild fires
- Perspectives from experimental economics: Increasing large scale fire risk jeopardize community based approaches

Insight for policies

- Need more focus more on how to support fire control and not just on how to suppress fire use
- Not just training on individual fire control but a reflexion on changing conditions and implications for farmers and for the communities
- Consider how to protect family farmers from wild fires (and not just seeing them as potential wild fire “setters”)
 - Preventive geographical barriers (open space, dense forests) and avoiding propagation (abandonned lots)
 - Using monitoring differently: instead of individualizing fire, identify global risk of large-scale fire and communicating to organize fire combat by local populations
- Change the way of carrying out enforcement: how to reinforce group control, prevention versus sanctions

Breaking the taboo chain...

Valuing local knowledge on fire...
before it gets lost...



Thank you



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