

Alvares: um caso de resiliência ao fogo

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Seminário

“Restauro de Ecossistemas”

11 de Maio, Barreiro

Alvares: um caso de resiliência ao fogo

Context

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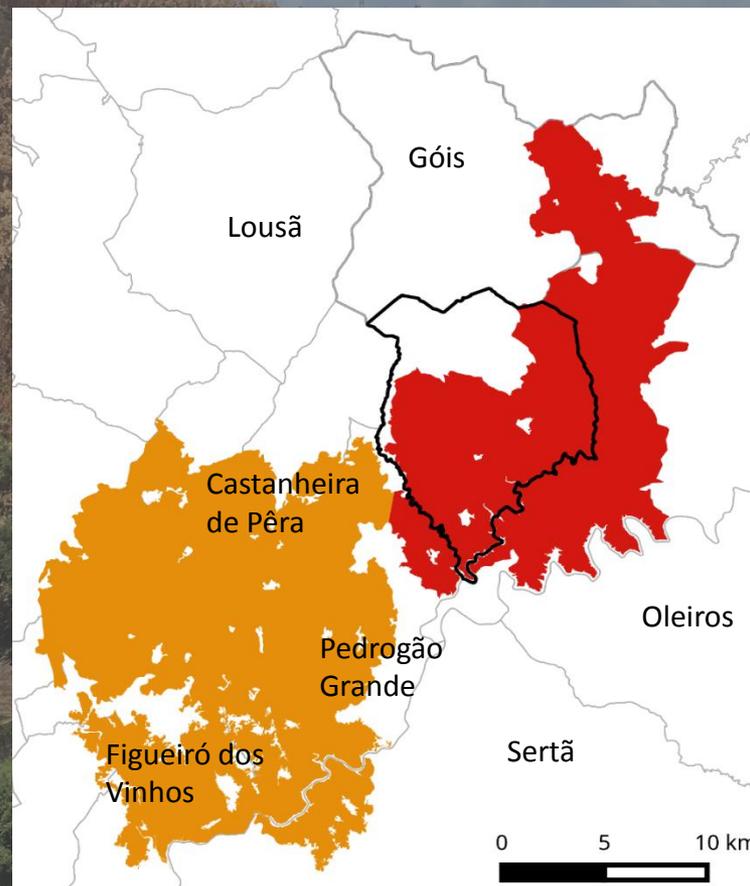
Context

In June 17th of 2017...

- 2 Extreme wildfires
- > 45,000 ha burned

In the Alvares parish..

- More than 6,000 ha burned (~60%)
- 20 M€ in damages



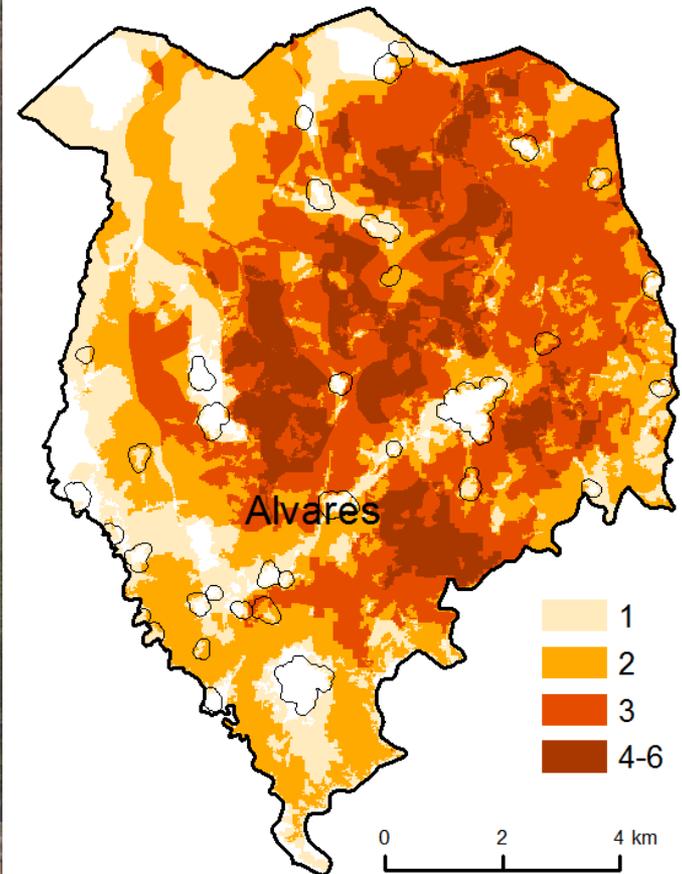
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Context

In the last 40 years..

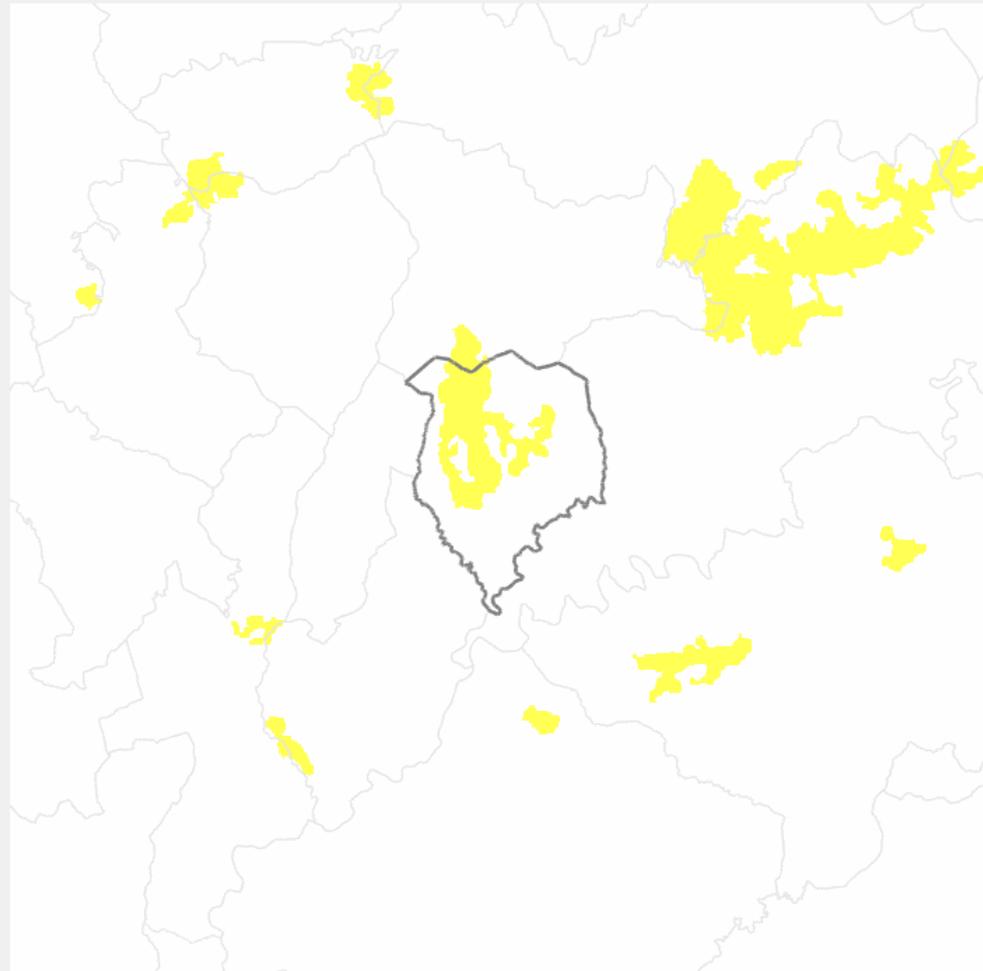
- More than **20,000 ha** burned, equivalent to twice the size of the parish;
- **42 wildfires** in the last 40 years;
- **10 were larger than 1000ha** and burned 90% of the area.

Times burned (1975-2017)

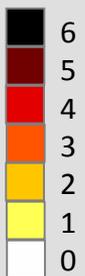


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1975



**Nº times
burned
(1975-2017)**



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What made Alvares so vulnerable?

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What made Alvares so vulnerable?

Landscape

Large increase in forested area, from 10% to 90% in the last 100 years

Forest property

Over 3000 landowners
Small and fragment properties (0.6ha)

Population

Abandonment (75% loss since 60's)
Aging (half are more than 65 y old)

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The project

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The project



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The project

Objective: reduce the vulnerability of Alvares to wildfires

1. Reducing large wildfire frequency



2. Increasing forest-related income



3. Improving the safety of people and assets



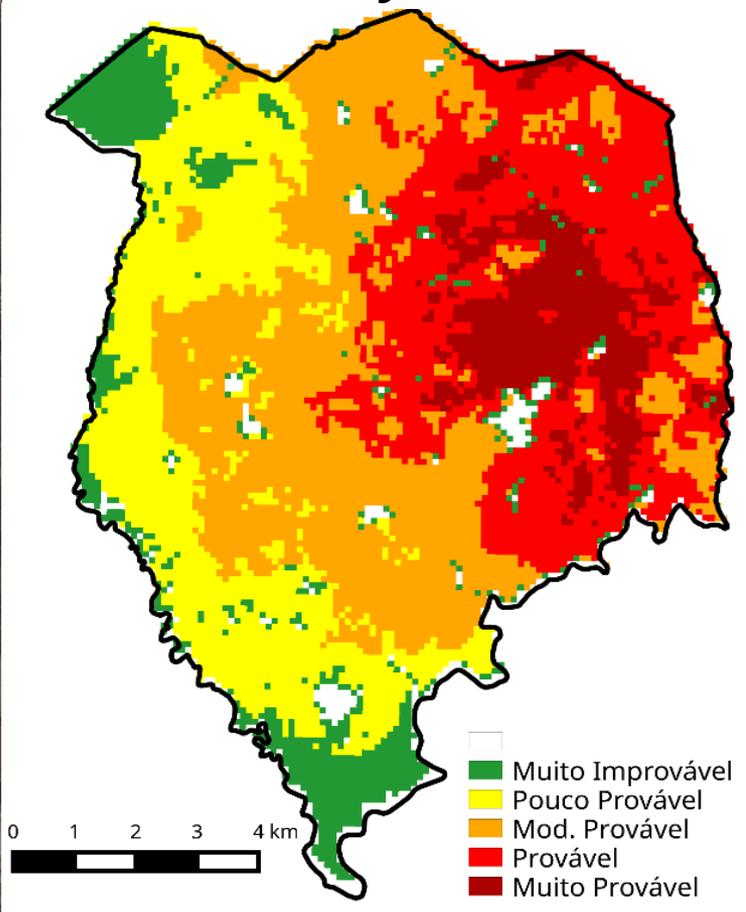
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What will happen if nothing is done?

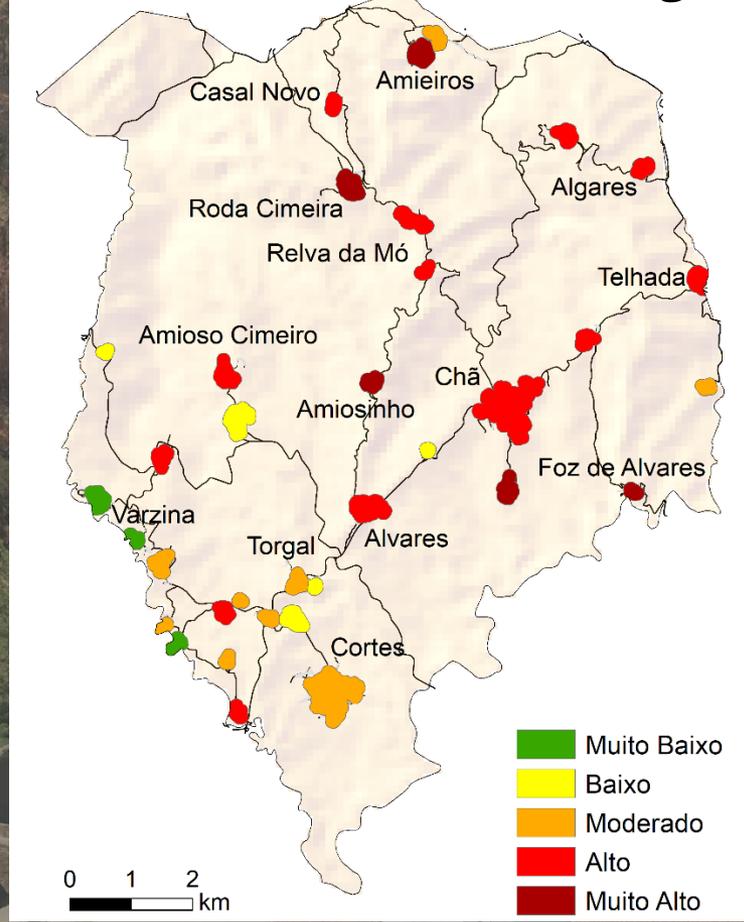
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What if, nothing happens?

Burn Probability



Fire risk in villages



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How can we decrease the vulnerability to wildfires?

Proposals...

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How can we decrease the vulnerability to wildfires?

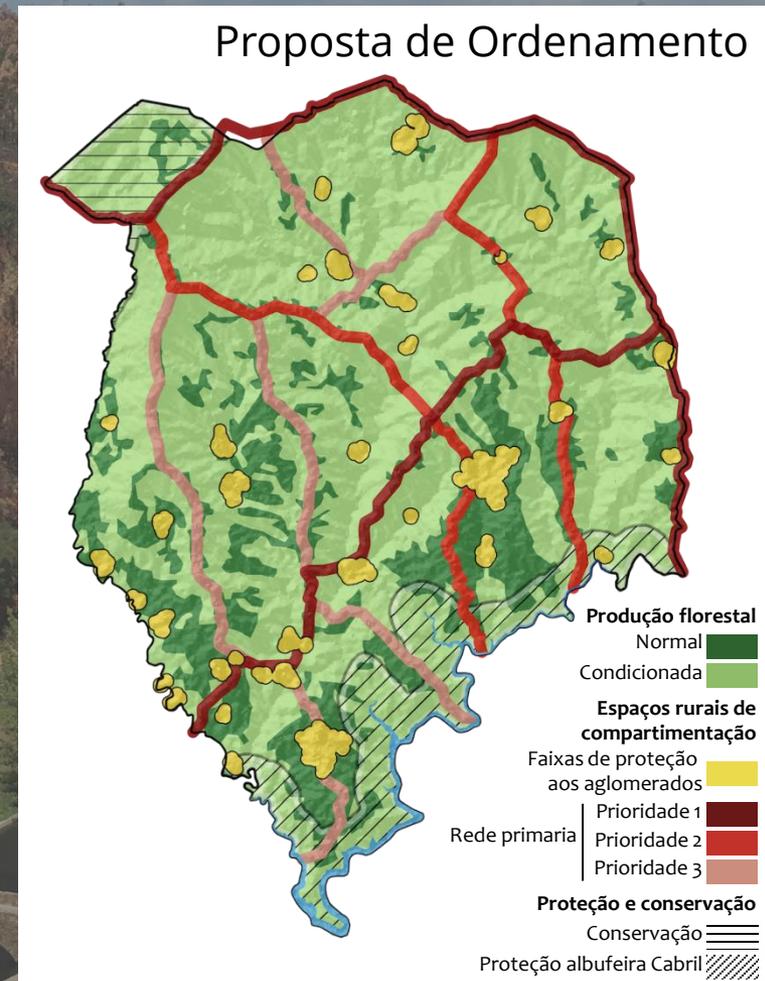
A. Spatial Forest Planning

1. Maintain forest production

Zoning of better adapted species
Suitable silvicultural models

2. Open the landscape

At least 30% open spaces
Fuel break network (priorities)
Fuel reduction around villages



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How can we decrease the vulnerability to wildfires?

A. Spatial Forest Planning

3. Diversify forest composition

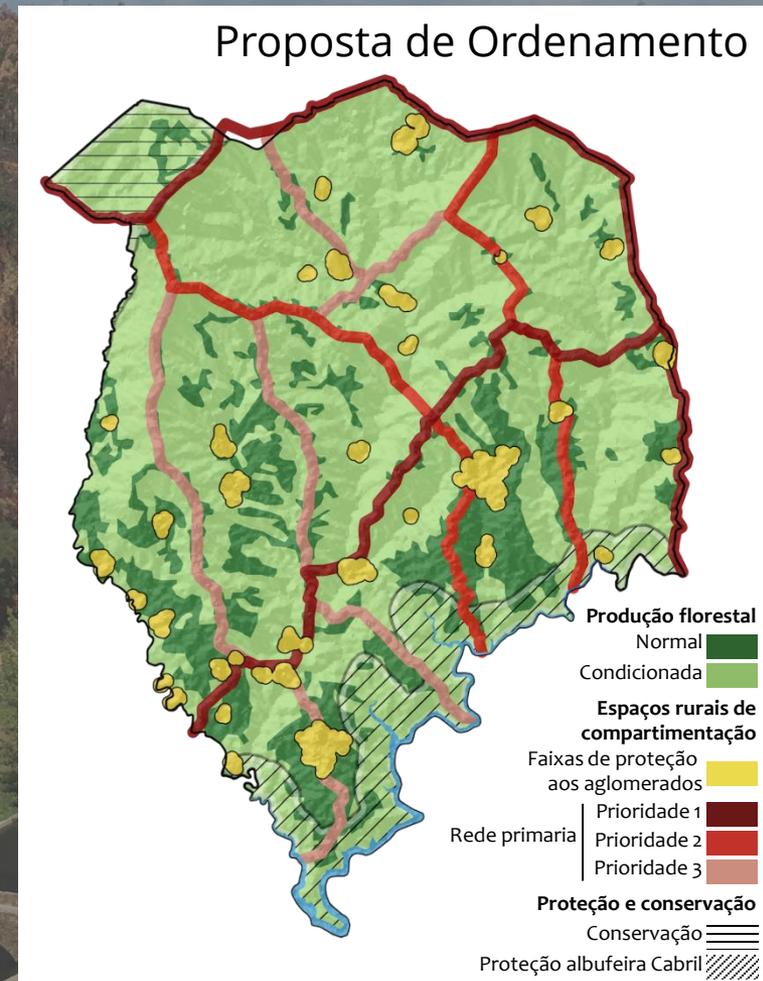
No species must cover more than 70% of the forest area

Mix slow\rapid growth species

4. Apply suitable silviculture models

Condition production in the margins of Cabril bayou

Habitat conservation



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How can we decrease the vulnerability to wildfires?

B. Intensity Forest Management

1. **Increase the forest area that is frequently managed** by non-industrial private landowners
2. **Reduce fire risk** through fuel management
3. **Increase forest productivity and income** through forest management

Current | (~4000 ha)

Moderate | +20% (750ha)

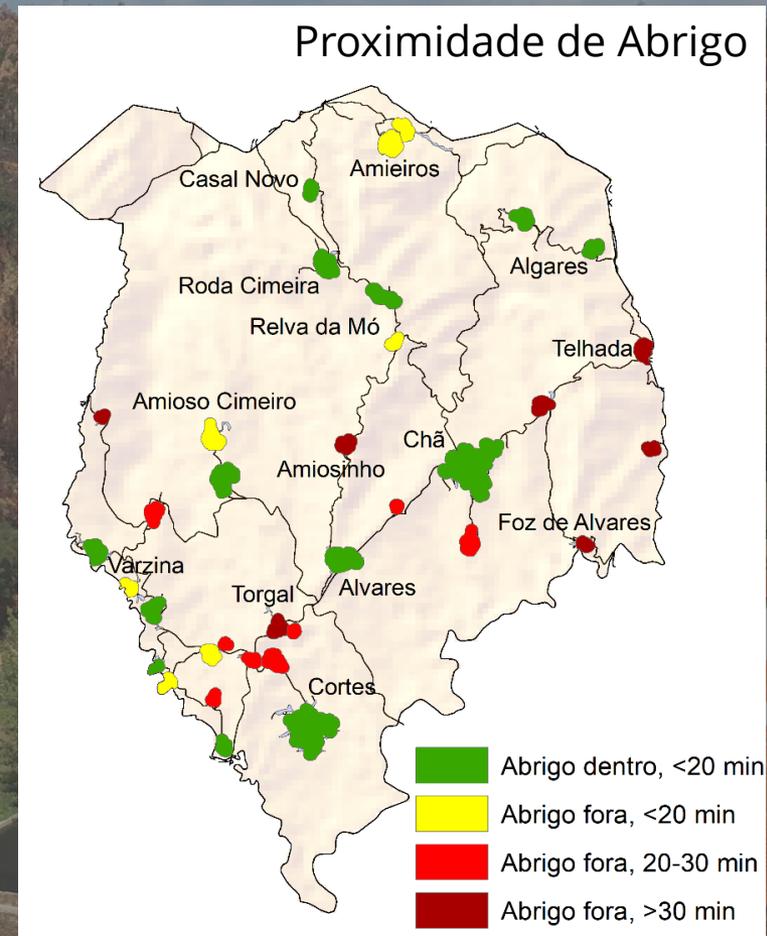
High | +35% (1400ha)

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How can we decrease the vulnerability to wildfires?

C. Improve safety of people and assets

1. **Identify priority villages** based risk assessment
2. **Identify potential shelters** within villages
3. **Promote self-protection** measures and **risk awareness**



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What are the benefits of the proposals?

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How can we decrease the vulnerability to wildfires?



Fuel Management

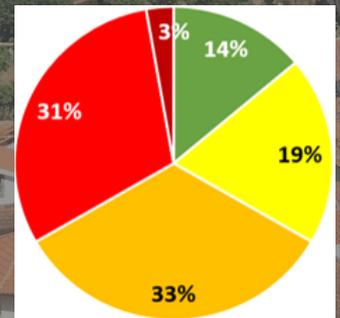
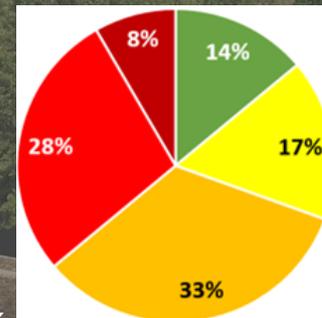
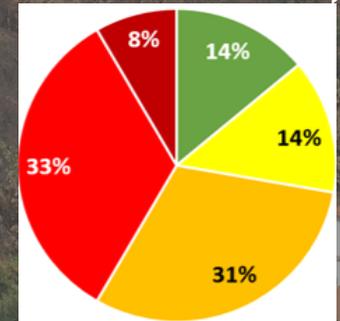
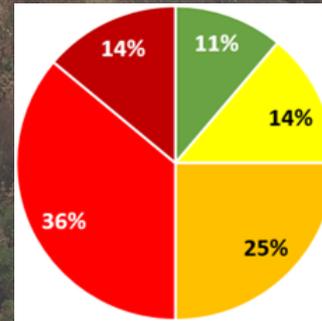


Fuel Management

Fuel Break

	Current	Moderate (+15%)	High (+30%)
None		-18%	-27%
P1	-17%	-26%	-34%
P12	-23%	-32%	-37%
P123	-24%	-37%	-37%

Fuel Break



*Prioridade

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How can we decrease the vulnerability to wildfires?



All non-industrial private landowners

Top non-industrial private landowners

Fuel Management

Fuel Management

Fuel Break

Fuel Break

	Current	Moderate (+15%)	High (+30%)
None	0%	46%	69%
P1	34%	58%	95%
P12	36%	71%	101%
P123	37%	86%	106%

	Current	Moderate (+15%)	High (+30%)
None	0%	200%	290%
P1	174%	244%	440%
P12	159%	314%	453%
P123	142%	380%	462%

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How can we decrease the vulnerability to wildfires?

Proposals

- A. Spatial Forest Planning
- B. Intensified Forest Management
- C. Improve Safety of People and Assets

Benefits (in the next 40 years)

1. **20-40%** burned area reduction



2. **30%** less large wildfires

3. **15-30%** less villages in High & Very High risk



4. **80-110%** of increase in forest income for non-industrial private landowners



5. **Economic, social and environmental benefits can go up to ~3M€.**



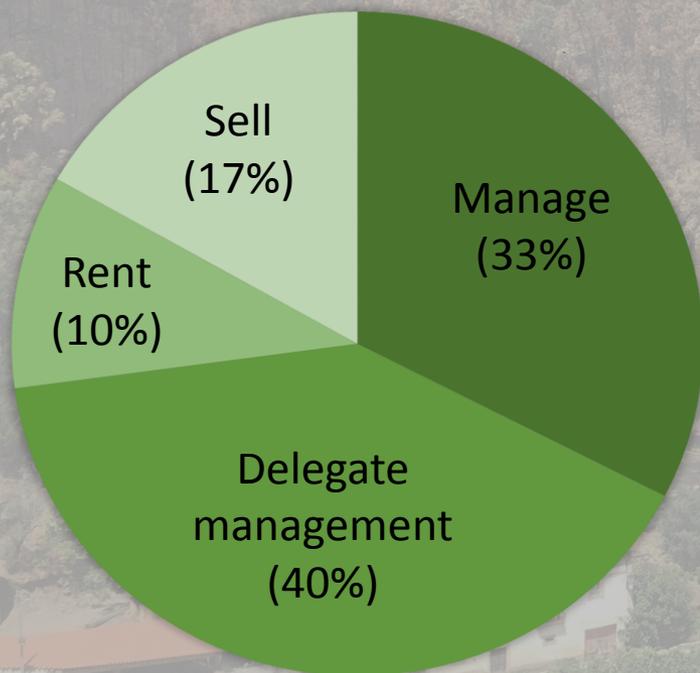
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How can we motivate land owners ?

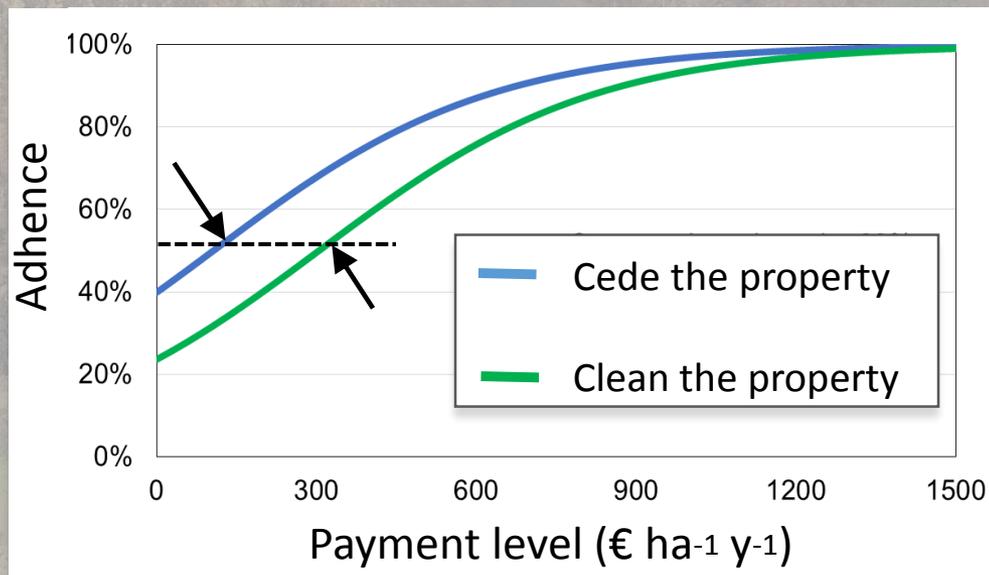
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How can we motivate land owners ?

The faith of the property



Attitude towards fuel management incentives



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For more information please visit:

www.alvares-fogo.com

Obrigado!