

The Problem with Rural Fires in Urban-Rural Interface Areas: Case Study of Samardã Wildfire 2022

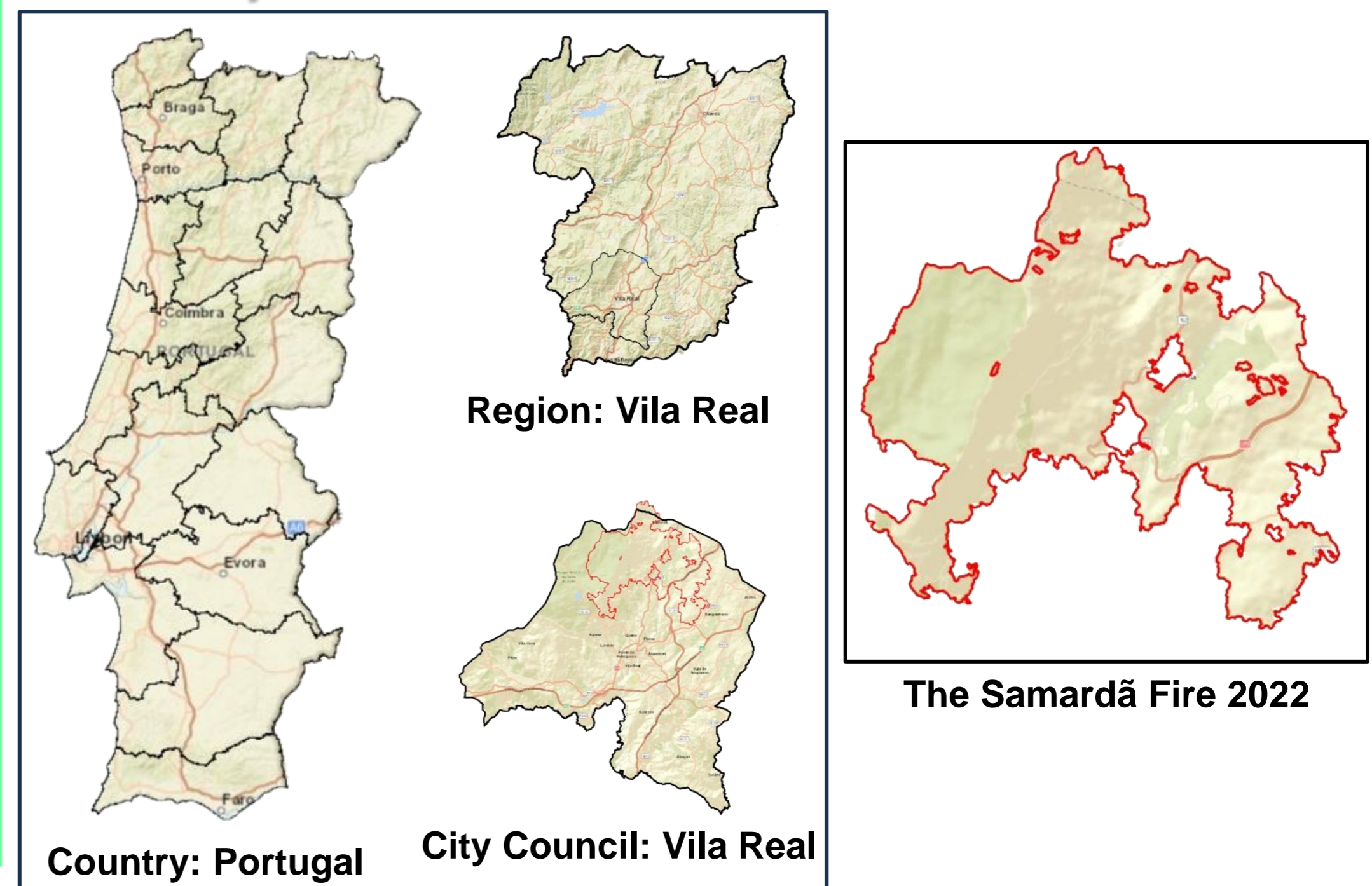
Daniela Fraga¹, fraga.dct@ium.pt

¹Military Academy Reserch Center – CINAMIL

1. Introduction

Over the years, the active movement of the population in Portugal has contributed to the increased pressure on urban-rural interface areas. The frequent abandonment of rural areas and increase in the ageing rate, boosted by the rural exodus of younger age groups, have contributed to the lack of planning, the abandonment of agro-pastoral activities, an increase in the fuel load and in its use near populated areas. The combination of these factors increases fire risk susceptibility in urban-rural interface areas.

2. Study Area



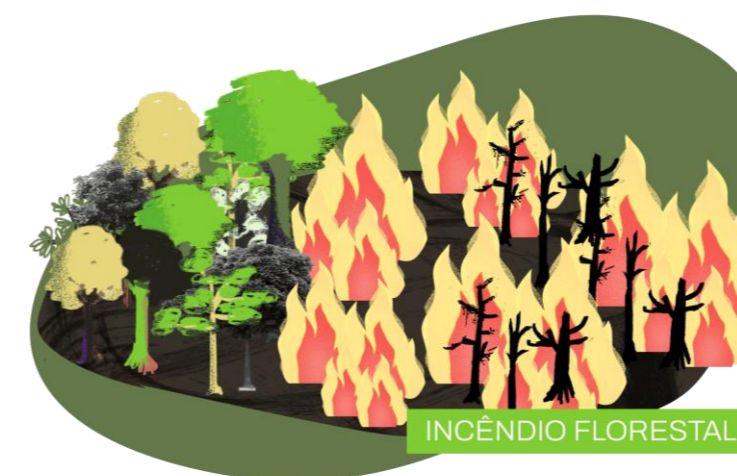
2. Synthetic Strategy



Geographic Information System



Statistical Analysis



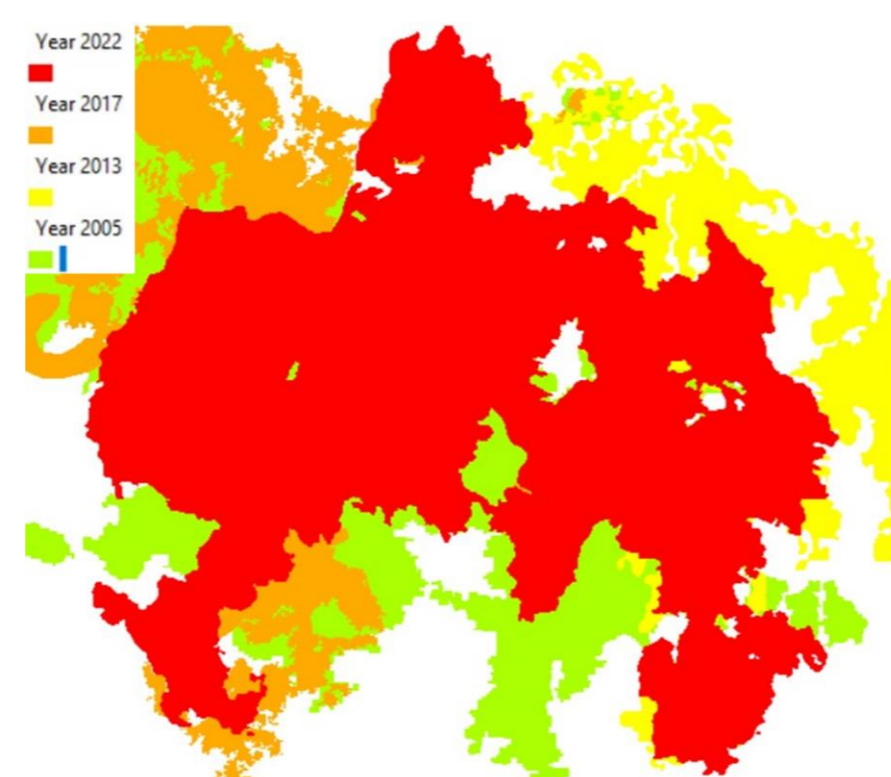
Historical Fire Analysis



Firefighting

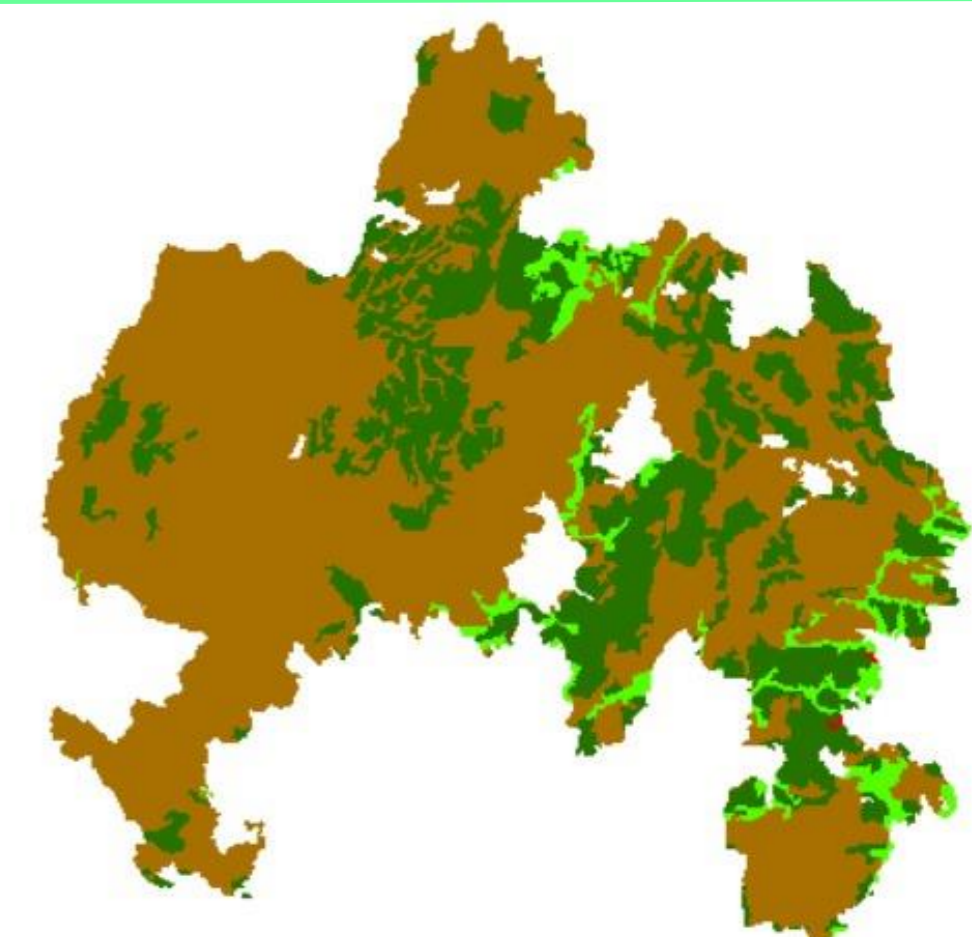
3. Results and Discussion

It was possible to verify that the area affected by the 2022 fire has a high recurrence rate, evidenced by the fires that occurred in 2005, 2013 and 2017, which consumed a large percentage of the same area as the 2022 fire.



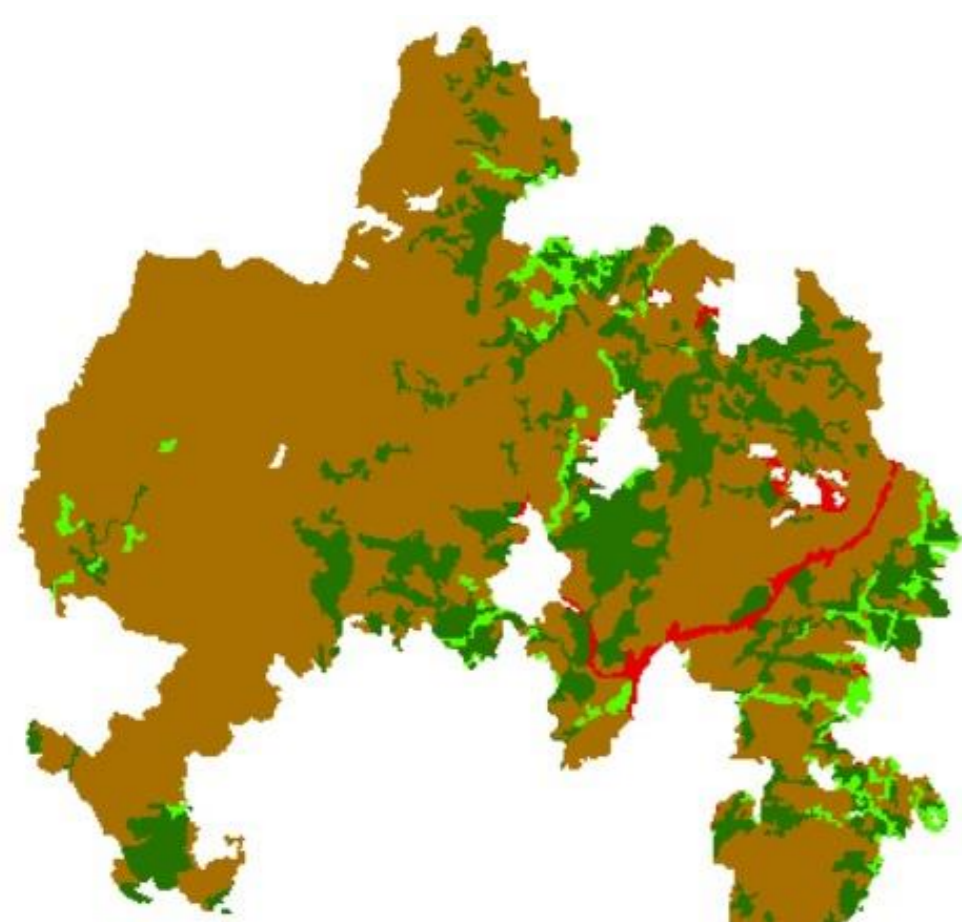
Timeline of burnt areas

In 1990, this area was 80% occupied by scrubland and rocky areas, 14.9% by diverse settlements, 5% by agricultural areas, and only 0.1% by artificialized areas.



Land occupation 1990

A 2021 map of soil use shows that 85.5% of the burnt area was occupied by scrubland, sparse herbaceous vegetation, and areas without vegetation; 12.4% was occupied by various settlements; and only 1.6% was occupied by agricultural areas. The rest was occupied by artificialized areas and water.



Land occupation 2021

4. Conclusion

The results show that when rural fires hit areas at the urban-rural interface, the means of protection and rescue are primarily allocated to protecting people and property, to the detriment of extinguishing the fire front.

The current prioritization of actions brings about freely burning fire fronts, leading to a wider burnt area overall.

