

# **The impact of wildfire experience in the adoption of preparedness measures to reduce future losses in industries**

Correia, Fernando and Tedim, Fantina

*1- Centre of Studies in Geography and Spatial Planning; 2- Faculty of Arts, University of Porto, Portugal*

## **Abstract**

Extreme wildfires in Portugal have caused severe damage to factories located either in industrial parks or in isolated industries surrounded by forested areas. In 2017, at least 551 companies suffered losses affecting more than 4,500 jobs; in 2022, 13 factories recorded damage too. The aim of this work is to assess the impact of direct experience with extreme wildfires in the adoption by the industries of preparedness measures to reduce social and economic losses. Data were collected through an online survey applied to companies affected by wildfires in 2017 and 2022; in addition, a semi-structured interview was implemented in industries located in the municipalities of Arouca, Castelo de Paiva, Vale de Cambra, Oliveira de Frades e Vouzela affected in 2017, and the municipality of Albergaria-a-Velha affected in 2022. In data analysis a methodological triangulation was used. The preliminary results show: i) most of the companies did not develop risk reduction measures before being affected by wildfires; ii) the industries that suffered more losses had activities related to wood, plastic, and paper; iii) industries that did not suffer losses had implemented 1.9 times more risk reduction measures before wildfire occurrence, than the ones that suffered damage; iv) after wildfires, companies that suffered losses developed more risk reduction measures. The preliminary results of this work permit concluded that the type of activity (which defines the type of raw material used), the architectural characteristics of the buildings and the material used in their construction, the management and storage conditions of materials and products, and the adoption of fire risk reduction measures influence the occurrence of losses. Direct experience is not in itself a factor that promotes the adoption of risk reduction measures if the factory did not suffer losses. The findings of the research allowed us to identify functional preparedness categories that may be used to support industries' preparedness.

**Keywords:** Extreme wildfires; Preparation; Damage; Businesses

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