

Capacities and vulnerabilities of rural communities in the face of wildfire risk

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Free Paper presented at the X Annual Congress of the Scientific Society of Psychology of Chile, organized by the Universidad de La Frontera, Campus Pucón, Chile, November 13-15, 2024.

The increase in forestry activity has had significant consequences for rural communities near plantations, exposing them to a greater risk of forest fires. This risk is intensified by global environmental change, which aggravates the frequency and severity of these extreme events. Forest fires not only destroy ecosystems and biodiversity, but also have devastating effects on human well-being, the social fabric and local economies, especially in urban-rural interface areas. Given this scenario, the question arises: How do these exposed and vulnerable rural communities perceive the risks, their vulnerabilities and the capacities they possess to cope with forest fires? A participatory action research (PAR) design was used in five rural localities of the Ñuble Region, Chile. During three sessions in each community, the capacities and vulnerabilities matrix (CVM) and participatory mapping were applied to identify the risks, vulnerabilities and capacities of the communities. Subsequently, a content analysis of the data obtained was carried out. Finally, the results were validated with the communities, who received the products generated as inputs for community risk management. All the communities studied have had direct or indirect experiences with forest fires. In terms of *vulnerabilities*, most identified key factors such as the lack of resources for prevention and response, their location in areas of high risk exposure and the insufficiency of adequate infrastructure to mitigate impacts.

In addition, the lack of coordination between local institutions and communities was highlighted as a significant obstacle, weakening the joint response to fires. While some communities demonstrated some capacity for agency in the face of risk, these efforts are often limited to the response and emergency phase, neglecting long-term prevention and recovery. In this sense, communities tended to focus on *structural and contextual vulnerabilities*, such as adverse environmental conditions, derived from extractive activities, and the lack of governmental and institutional support for disaster risk management (DRM). This emphasis on external vulnerabilities overshadowed the recognition of *community capacities*, such as neighborhood support networks, local knowledge on fire management and the presence of community leaders with disaster experience, capacities that could play a key role in both immediate response and recovery. Although rural communities recognize the risk of wildfire, their main challenge is not fully identifying their *internal coping capacities*, which limits their potential for community resilience. The literature suggests that strengthening resilience requires going beyond the simple identification of external vulnerabilities, integrating local knowledge with technical expertise and fostering participatory self-assessment of resources. In addition, institutional support is key to providing resources and facilitating inter-community coordination, which can improve both response capacity and mitigation of long-term physical, emotional and psychosocial impacts.

Keywords: Capacities, forest extractivism, forest fires, community resilience, vulnerabilities.

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The support of FOVI 230212 project of the Chilean National Agency for Research and Development (ANID) is acknowledged.