The role of communities in coping with natural disasters: Lessons from the 2010 Chile Earthquake and Tsunami.

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Abstract

This paper examines the impact of the 2010 Chile earthquake and tsunami on community resilience, and the crucial role that communities had to play in coping with this event. The results of a primary research conducted in Talcahuano, one of the worst affected cities by the disaster (through methods of semi-structured interviews, observation, documentary review and social media) show that communities have the power to activate internal resilience capacities to cope with and recover from natural disasters. For instance, the role of social networks, organisation, cooperation, trust, local knowledge, and participation was crucial at all stages of the disaster. The study highlights that communities are not simply passive victims of disasters; rather, they are active agents. The lessons from the 2010 Chile earthquake and tsunami can become a useful operational tool for managing efficiently emergency situations in vulnerable communities and planning effective and sustainable disaster risk reduction policies in developing countries.

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1. Introduction

The focus of this paper is on the 2010 Chile earthquake and tsunami which is considered the sixth largest earthquake recorded in the history of humanity and the most powerful quake to hit Chile after the great 1960 earthquake. The 2010 earthquake triggered a series of tsunami waves that devastated many coastal areas of the country. Over 500 people were killed in the disaster [18]. The country was in chaos. The disaster caused power outages for several days. Telecommunications, transport, water, and sewerage were inoperative. The vague information provided by political authorities left people in a state of profound uncertainty. Additionally, the fear of food and water scarcity increased exponentially. As a result, the lack of information and the central government’s slow emergency response led to looting and breakdown in civic order in the first 24 hours after the disaster [12]. The long history of disasters in Chile could give the impression that the country is well prepared to respond to disasters. Nevertheless, the 2010 catastrophe showed that this was not the case. The earthquake revealed serious deficiencies in the national emergency warning system. The Chilean Navy made a mistake by not immediately issuing a tsunami warning after the earthquake. The tsunami risk was dismissed by Chilean authorities causing the death of many people in coastal villages.

Nevertheless, in the midst of the chaos, collective actions emerged spontaneously in communities and people were able to survive and cope with the disaster. The most common strategies were rescuing neighbours, running community kitchens and implementing community security guards. The activation of community capacities such as participation, solidarity, cooperation and social networks was evident in the hours following the disaster. This phenomenon has not only been observed in Chile but also in other disasters around the world. For example, community responses to Hurricane Katrina (USA) demonstrated the importance of local knowledge, resources, and cooperative strategies in determining their survival and recovery [20]. Community responses to major disasters illustrate the potential of communities to mobilise internal resources and capacities to deal with and recover from disasters.

1.1. Community resilience

The term ‘resilience’ originates from the Latin word resilio, which means ‘to jump back’ [15]. The concept of resilience became popular among scholars with the Hyogo Framework for Action (HFA) 2005-2015 which emphasises the need and the ways to build resilient communities. The entry of the term into disaster discourse can be seen as the birth of a new culture of disaster response [17]. This could be observed in a new major agreement after HFA, The Sendai Framework for Disaster Risk Reduction 2015-2030, which establishes ‘investing in disaster risk reduction for resilience’ as one of its priorities [24]. In this context, the concept can be seen as spanning both pre-event measures that seek to prevent hazard-related damage and losses, and post-event strategies designed to cope with and minimise disaster impacts [6]. The concept of community resilience has gained extensive acceptance in disaster management [17] and the term will probably continue to be used because evidence shows that ‘resilient communities are far less vulnerable to hazards and disasters than less resilient places’ [10].

Colten et al. [8] describe resilient communities in the disaster context as those that have the following capacities: integrated emergency institutions and communications; formal disaster plans; trained first responders; multihazard event response exercises; a reserve of personnel, material, and financial resources; public education and information; and continuing long-term planning for recovery and vulnerability reduction. Other common capacities of the resilient communities include social capital [2, 9, 22], principally elements such as norms [2] and networks [2, 7]. Furthermore, a positive outlook [7] and community participation [4, 14, 21] are considered relevant factors for communities in the face of disasters. Additionally, King [14] point out the importance of the role of community organisations in the process of response and recovery as evidenced in the 2004 Asian tsunami tragedy. Moreover, Ross and Carter [22] have observed the spontaneous activation of social capital bonds in disasters in Australia and New Zealand. Lastly, in the case of 1995 Kobe earthquake in Japan, Aldrich [3] investigated the factors which speed
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