

Perceptions, Awareness, and Action: Climate Change and Natural Hazards Risk Management in New Zealand

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Abstract:

The increasing complexities of climate change and natural hazard risks pose significant challenges for communities globally, necessitating a deeper understanding of how these risks are perceived at both societal and community levels. The negative impacts of natural hazards and climate change are often exacerbated when these risks are not adequately integrated into land use planning. Currently, New Zealand lacks a comprehensive national framework to establish tolerable risk thresholds related to life, property, and the economy. While several local councils have attempted to develop their own risk-based frameworks, these efforts are constrained by several factors: insufficient community awareness about acceptable risk levels, limited understanding and motivation among decision-makers to adopt risk-based approaches, and inherent uncertainties associated with natural hazards and climate change.

This research explores the complex relationship between individuals' perceptions of climate change and natural hazard risks, examining how these perceptions are shaped by diverse contexts and backgrounds in the societal, geographical and cultural environments. It specifically investigates the factors that influence community perceptions of these risks, focusing on the level of awareness within communities about the significance of these risks and how this awareness affects their actions in managing and mitigating them.

The literature on risk perception in New Zealand, situated within a global context, suggests that risk perception is influenced by various factors, including environmental and cultural characteristics, with significant regional variations (Fan et al., 2022). Research indicates that risk perception is shaped by social representations of the associated risks and that personal values significantly impact attitudes towards climate change (Han et al., 2022). In New Zealand, social vulnerability indicators have been developed to identify populations at risk of flooding—a common natural hazard in the region. These indicators assess community resilience by considering factors such as exposure, health and disability status, social connectedness, and housing (Mason et al., 2021). Moreover, public perceptions of risk often diverge from expert assessments, which are based on empirical data and specialised knowledge (Xiao et al., 2023). Factors influencing risk perception include gender, age, race, education, region of residence, cultural background, social status, income, knowledge of risks, disaster experience, and communication strategies (Xiao et al., 2023).

The Henderson-Massey Local Board area in Auckland region in New Zealand was selected as a case study, with data collected through both direct household surveys and online questionnaires to assess community 'understanding' and 'awareness' of their exposure to natural hazard and climate change risks. Preliminary findings highlight a complex interaction of cognitive and social factors that shape these perceptions, subsequently influencing community decision-making and behaviour concerning risk mitigation.

This study advances the field of risk management by integrating community perspectives, providing new insights and developments relevant to both local and international contexts in mainstream climate change adaptation. The findings offer valuable implications for future policy and planning initiatives aimed at enhancing urban resilience and adaptive capacity to natural hazards and climate change exacerbated impacts.

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