

A Resilience-Based Approach for Assessing Social Vulnerability in New Zealand's Coastal Areas

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Abstract : In the last few decades, Social Vulnerability Assessment (SVA) has been a favoured means in evaluating the susceptibility of social systems to drivers of change, including climate change and natural disasters. However, the application of SVA to inform responsive and practical strategies to deal with uncertain climate change impacts has always been challenging, and typically agencies resort back to conventional risk/vulnerability assessment. These challenges include complex nature of social vulnerability concepts which influence its applicability, complications in identifying and measuring social vulnerability determinants, the transitory social dynamics in a changing environment, and unpredictability of the scenarios of change that impacts the regime of vulnerability (including contention of when these impacts might emerge). Research suggests that the conventional quantitative approaches in SVA could not appropriately address these problems; hence, the outcomes could potentially be misleading and not fit for addressing the ongoing uncertain rise in risk. The second phase of New Zealand's Resilience to Nature's Challenges (RNC2) is developing a forward-looking vulnerability assessment framework and methodology that informs the decision-making and policy development in dealing with the changing coastal systems and accounts for complex dynamics of New Zealand's coastal systems (including socio-economic, environmental and cultural). Also, RNC2 requires the new methodology to consider plausible drivers of incremental and unknowable changes, create mechanisms to enhance social and community resilience; and fits the New Zealand's multi-layer governance system. This paper aims to analyse the conventional approaches and methodologies in SVA and offer recommendations for more responsive approaches that inform adaptive decision-making and policy development in practice. The research adopts a qualitative research design to examine different aspects of the conventional SVA processes, and the methods to achieve the research objectives include a systematic review of the literature and case study methods. We found that the conventional quantitative, reductionist and deterministic mindset in the SVA processes -with a focus the impacts of rapid stressors (i.e. tsunamis, floods)- show some deficiencies to account for complex dynamics of social-ecological systems (SES), and the uncertain, long-term impacts of incremental drivers. The paper will focus on addressing the links between resilience and vulnerability; and suggests how resilience theory and its underpinning notions such as the adaptive cycle, panarchy, and system transformability could address these issues, therefore, influence the perception of vulnerability regime and its assessment processes. In this regard, it will be argued that how a shift of paradigm from 'specific resilience', which focuses on adaptive capacity associated with the notion of 'bouncing back', to 'general resilience', which accounts for system transformability, regime shift, 'bouncing forward', can deliver more effective strategies in an era characterised by ongoing change and deep uncertainty.

Keywords : complexity, social vulnerability, resilience, transformation, uncertain risks

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