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Modelling Earthquake Hazard Preparedness During Recovery in Nepal

A thesis presented in partial fulfilment of the requirements for the degree of

Doctor of Philosophy in Emergency Management
At Massey University, School of Psychology
Wellington, New Zealand

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2018**

Abstract

Preparedness is a vital component of disaster risk reduction (DRR), but more often communities fail to prepare for disasters adequately. Theory-based approaches have found prominence for helping to identify the factors that drive preparedness behaviour of the population. However, there has been a limited empirical validation of these theories of preparedness in post-disaster recovery contexts. Further, their application has been mostly limited to culturally individualistic and developed countries, and there is a great need for their application in the setting of developing countries where disaster impacts are often most severe. This study, therefore, aimed to investigate the preparedness of a population in a post-disaster recovery scenario in a developing country.

A mixed method research design with a household questionnaire survey (n=306) followed by a follow-up qualitative study driven by semi-structured interviews (n=11) was adopted to conduct this study. The outcomes of the study include 1) development of a conceptual model predicting earthquake hazard preparedness after reviewing the existing theories and models applied in the setting of natural hazards 2) empirical validation of the proposed conceptual model predictions by analysing quantitative data collected through household survey conducted in two villages in Dhading district, of central Nepal. 3) identification of factors and processes underlying people's decisions related to recovery efforts and preparedness to future events in a post-disaster context derived by developing a hierarchical value map from the qualitative interview data.

The quantitative findings from the survey data justify the capability of the proposed model to assess the interaction of individual, community and institutional factors to predict household's intentions to prepare in a post-disaster recovery scenario. Furthermore, the qualitative findings support the quantitative findings and provide evidence for the influence of socio-cultural values of Nepalese society on household preparedness decision-making during post-disaster recovery. The qualitative findings also provide evidence of additional predictors those need to be considered in future modelling of preparedness. Further, the qualitative findings show that people's preparedness decisions and recovery efforts are influenced by

personal beliefs, community efforts, and community and institutional collaborations during the post-disaster recovery period.

Understanding of population preparedness in a post-disaster recovery is limited in both developed and developing countries. Thus this research makes a significant contribution to the body of knowledge on population preparedness in the post-disaster context in a developing country. The findings further contribute to any future study on developing theoretical foundations for the preparedness of populations in both developed and developing countries. The application of the outcomes of this study is evident as it is already cited for its theoretical, and methodological rigour.

Acknowledgement

This thesis would not have been possible without the participation of communities in Dhading. I extend my thanks to those participants who volunteered to participate in the research process despite facing the challenges and demands imposed by the Gorkha earthquake in 2015.

I am greatly indebted to my supervision panel: Professor David Johnston, Professor Douglas Paton, Doctor Raj Prasanna and Doctor Sam McColl for their excellent mentoring, support and patience.

I extend my gratitude to the Department of Disaster Management Section, Ministry of Home Affairs for their support in the research process. I am grateful to NZAID scholarship without which this project would not have been possible. My thanks extend to FOCUS Nepal and survey assistants who contributed to facilitate the process of data collection.

I am grateful to the Joint Centre for Disaster Research for providing me with a conducive environment for conducting this research. I want to extend my thanks to expert colleagues of JCDR and University IT services and library facilities and staffs.

I dedicate this thesis to my family for their unconditional support and encouragement throughout the research process.

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