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Landscape, livelihoods and risk: A study of community vulnerability to landslide events in a dynamic mountain environment.

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Landslide events represent one of the most destructive geological processes, often resulting in major loss of life and economic damage. Globally, data suggest that the number of landslide disasters and landslide related fatalities are increasing with time, a trend largely ascribed to human and social factors rather than to changes in physical systems. This pattern of landslide occurrence has been observed within the dynamic mountain environment of Nepal which lies in a tectonically active zone characterised by high relative relief, differential uplift and intense and prolonged monsoon rainfall. In addition to the physical characteristics, Nepal is classified as a low-income developing country and a low human development nation where only relatively recently are efforts being made to enhance rural access and infrastructure. This raises a series of questions regarding community risk and vulnerability to landslides, which at present are poorly understood.

The research presented takes an interdisciplinary approach to analysing landslide risk and vulnerability within the dynamic mountain environment of Central Nepal. Using a range of data collection techniques to identify the terrain units at risk, the research investigates the social and physical factors influencing the human occupancy of landslide prone areas. This includes exploring how physical risks are perceived and understood by local people, and how people and communities respond both immediately and in the long term to landslide hazard and risk.

The findings to date highlight the impact of rural access and infrastructure projects in rural Nepal. Within the three case study communities, a clear transition has been seen over time in the settlement pattern, rural livelihoods and thus the occupation

of landslide prone areas. In addition, the underlying causes of vulnerability and how people perceive and respond to landslide risk is seen to vary across each community reflecting individual and household circumstances. While the study clearly illustrates the complexities associated with investigating vulnerability, the findings highlight the need for vulnerability assessment within risk analysis, particularly within the context of rural infrastructure development.