“Building” Resilience to Earthquakes: A Story of Traditional and Modern Architectural Knowledge in Nepal

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Communities in the Kathmandu valley of Nepal have dealt with earthquake disasters since time immemorial. The written records of such earthquakes are found since 1223 AD. The frequency of major earthquakes in Nepal is between 75-100 years. As a result of these extreme perturbations, residents have adapted their residential and public architecture in ways that increase resilience to both large and small tremors; flexible construction of mud, brick and timber limit the failure of buildings as well as increase the reusability of materials. The same concept has been found in the settlement planning where hierarchy of open community spaces are observed and most of them still remain intact to their shape and size. Over the past one hundred and fifty years however, building technology has been increasingly shaped by global and western influences; the use of the non-local building materials and technologies including cement mortar, metal sections and solid concrete has arguably led to increase building failure and consequently injury, mortality and limited capacity for rebuilding and other aspects of social economic recovery. The research is based on 2 years of community collaboration and data collection in the Patan, one of heritage sites and medieval city in Kathmandu valley. The main argument of the analysis is that the participation of local people with long histories and knowledge of earthquakes is a key variable in the resilience of Nepalese communities to these natural disasters.