



Forensic Analyses on A Compound Disaster and Its Impacts Following the 2008 Wenchuan Earthquake in China

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The 7.9 Mw Wenchuan Earthquake on May 12 in 2008 was one of the most devastating natural disasters in the 21st century and caused massive damages and vast disruptions in Western China. Our analysis takes a special look into the Wolong National Nature Reserve bear the epicenter, where long-term quantitative and qualitative data on socioeconomic and natural conditions have been collected from late 1990s to 2013. The Reserve is known internationally as the hometown of Giant Pandas and a tourism hotspot, where around 5000 ethnic minorities (e.g., Tibetan, Qiang) also reside. While the Reserve suffered lower level of immediate damages and mortalities relative to several nearby areas, the reconstruction and recovery process in the Reserve have been much slower, mainly due to recurrent flush floods, landslides, and debris flow that took place in every summer since 2008. The suddenly increased frequency and intensity of these secondary natural disasters has led to the formation of compound disaster in the Reserve. The reconstruction of the only road to outside will not be completed till at least 2016, and the livelihoods of the local communities are severely compromised, which has induced a resurrection of illegal logging and hunting in the Reserve.

Taking advantage of our longitudinal survey data of ~200 local households (on their income, expenditure, energy use, land use behaviors, and perceptions and attitudes toward disasters and polices) over a nine-year period before as well as one and several years after the earthquake and also our in-depth knowledge on the ecology and the institutional arrangements in the area, we conducted, in an interdisciplinary and comprehensive manner, a critical cause analysis to investigate the non-human and human drivers behind the predicament that the Reserve is facing currently. We identified a series of proximate and root causes at various spatial and temporal scales and institutional levels. The results were exchanged with various local stakeholders and their feedback was collected. Our case contribute to the expanding examples of forensic disaster investigations and prove that such studies can provide important insights into how fewer people may be adversely impacted and wiser investments and choices may be made when comparable events take place somewhere else.