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BEHAVIOR PATTERNS IN MAJOR DISASTERS

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Many factors have an influence on people's behavior in a disaster, either at the time or during recovery process: age and gender, marital status, children, education, social networks, native to area or not, disaster experience, awareness of hazard and preparedness. All these affect the level of risk, the probability of casualty and the capacity to recover.

During disasters, every second can be decisive but most people are unable to think clearly, and their decision-making is often illogical and irrational, or at best sub-optimal. There is evidence from previous disasters, notably the 2004 Indian Ocean tsunami, that foreign visitors have much greater difficulty than national in responding appropriately and evacuating in time. There is also evidence that more women die than men, for example in the 1991 Bangladesh cyclone, the 1995 Great Hanshin-Awaji Earthquake, the 2005 Kashmir Pakistan earthquake and the 2009 L'Aquila earthquake. Although building quality is the most significant factor in the number of fatalities in sudden impact disasters such as earthquakes, this fact alone does not account for the large gender differences in casualty rates. (Mehta, 2007 and Alexander, 2013)

In Japan after the Great East Japan Earthquake (GEJE) and tsunami in 2011 the majority of deaths were caused by the tsunami that was much larger than had been anticipated and prepared for. Survival was largely determined by timely evacuation. Evacuation procedures are highly developed in Japan and people are drilled in evacuation from childhood. There is evidence that the vast majority of nationals evacuated successfully but that many evacuation centers were overwhelmed by the unprecedented size of the waves. The casualty rates amongst foreigners were as high as predicted by other similar events, but exceptionally, more men died than women. (Koyama et al, 2012)

This paper reports recent research at Kyoto University to document evacuation after the 2011 event. A survey in Natori and Sendai cities and of students in Kyoto University questioned people's evacuation behavior and level of preparedness. One of the aspects studied is the difference between what people say they will do in a disaster and what they actually do in a real event. For example, in Japan many respondents said that they would run to a safe place, but in fact many people went home, often into danger, to seek and care for family members. People's assessment of risk and their actual reactions will be tested against a set of factors including, level of understanding and preparedness, gender, country of origin, dependent children or elderly relatives etc.

How people respond to the crisis and how they decide these issues will have important implications for government policy at a national and local level, since they determine, in part at least, how much government aid is needed and for how long. Different cultures and different places respond differently to disasters. One of the key aims of the study is to learn from the 2011 event to produce better evacuation guidelines for Japan and other countries facing tsunami risk.

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