Why do we need an aftershock forest for seismic disaster mitigation?

*Naoshi Hirata[1], Reo Kimura[2]

1. Earthquake Research Institute, the University of Tokyo, 2. University of Hyogo

Hazard and risk modelers are targeting several vastly different stakeholders or stakeholder in their model results: the scientific community, governmental institutions, engineers and the larger technical community, and finally the public.

Aftershock forecasting is one of the most successfully modeled in the scientific community but not well implemented in society. The 2016 Kumamoto Earthquakes were associated with many strong earthquakes. The largest quake with a magnitude (M) 7.3 occurred on April 16, 2016, which was 28hours after the M6.5 earthquake. The aftershock forecast issued by Japan Metrological Agency (JMA) immediately after the M6.5 event said very high probability, 3,000 times as high as usual probability. However this information might bring safety information for public because the name of “an aftershock” was misunderstood by public so that a coming quake would be smaller than the previous one. As a result, JMA has stopped issuing probabilistic aftershock forecast in a week after the strong event, but just says that there will be a strong ground motion and advises people to prepare the strong motion.

We will discuss how we should communicate such risk information to reduce natural disasters.

Keywords: Kumamoto Earthquake, Aftershock, Hazard forecast

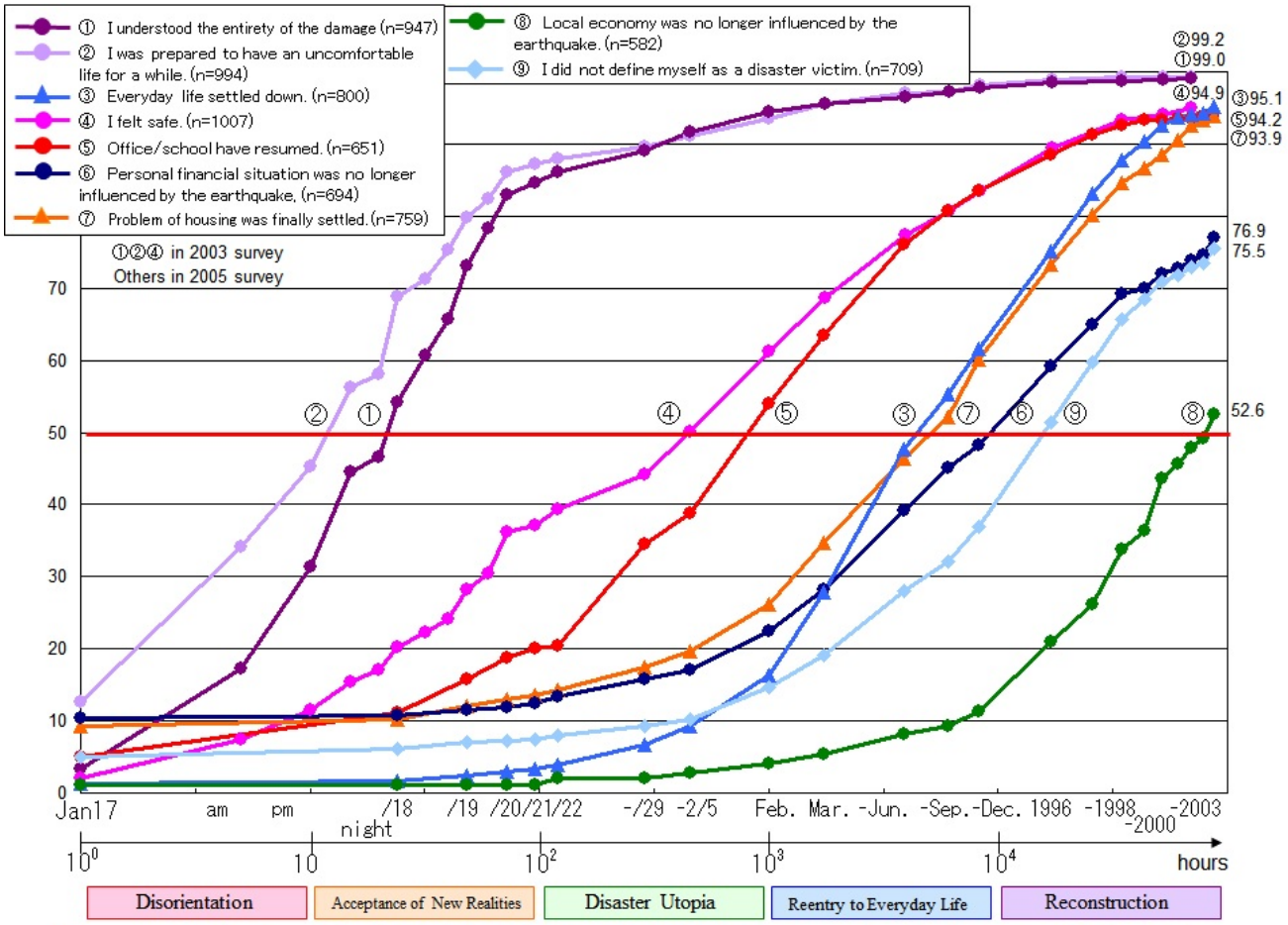
Improvement of people's disaster image and awareness through disaster knowledge and lessons learned from social surveys –the 1995 Hanshin-Awaji(Kobe)EQ to the 2016 Kumamoto EQ

*Reo Kimura[1], Shoji Ohtomo[2], Naoshi Hirata[3], Keiko Tamura[4], Munenari Inoguchi[5], Haruo Hayashi[6]

1. University of Hyogo, 2. Konan Women's University, 3. University of Tokyo, 4. Niigata University, 5. Shizuoka University, 6. National Research Institute for Earth Science and Disaster Resilience

In this study, How can knowledge and lessons on victims' behavior and disaster recovery process after disaster occurred, which were clarified from reliable social surveys such as random sampled surveys, improve people’s capacity for imagination for disaster and awareness that disasters affect everyone (to be aware that natural disasters are common and think about what to do when it happens to you). The target disasters for the survey were the 1995 Great Hanshin-Awaji(Kobe) Earthquake, the 2004 Mid-Niiga Earthquake, the 2007 Chuetsu-oki Earthquake, the 2011 East Japan Great Earthquake and the 2016 Kumamoto Earthquake.
In this study, we are focuses on the results of the survey to the victims of the Kumamoto earthquake that was carried out in the fall of 2016 as a flash report. We compare the result of the survey of Kumamoto Earthquake with other surveys about Changing in the Victims’ residence after the disaster and life recovery process using recovery calendar method. Moreover, we also propose ways of risk communication between experts and citizens such as how these results of surveys contribute to improving people’s capacity for imagination for disaster and awareness that disasters affect everyone.

Keywords: awareness that disasters affect everyone, random sampled social survey, life recovery process, housing reconstruction, “life recovery calendar” method



Recovery Calendar (the 1995 Hanshin-Awaji(Kobe) EQ Survey in Jan./2003 and Jan./2005)

Environmental Progression: Extremes, Energy, and the Rate of Change

*Shawn Hanson Veldey[1]

1. Metropolitan State University

As extreme climatic events increasingly dominate the global news cycle, there is a growing need to understand their origins and impacts. A debate rages over whether weather events are the result of climate change or simply occur in its context. The introduction to 'environmental progression' is an attempt to tackle these contradictions through an interconnected understanding of physical systems over time. Misunderstandings of cycles and equilibrium have led to a misguided view of the progression of our physical universe. If mankind is to address the challenges brought about by a changing world, we must first understand and accept the change we are addressing.

Keywords: Environmental Progression, Global Environmental Change, Global Climate Change