

A Study on Tools towards Awareness-raising for Disaster Risk Preparedness and Building Resilience in Croatia

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This research aims to propose a tool to raise citizens' awareness and preparedness towards emergency cases through analysis of social survey results in Zagreb, Croatia. It also seeks a possible way to build a bridge between past experience and today's life regarding awareness-raising and preparedness. The City of Zagreb is located between Medvednica Mountain and the Sava River, a tributary of the Danube River. In 1964, the city experienced a huge flood caused by heavy rainfall and the river bank breakage. Due to the characteristic of its location, a large amount of water was flowed into the city. The central part of Zagreb city was flooded and the deepest was about 1m. The city had to be suffered from extensive damages on many of its infrastructures and 17 casualties. From this bitter experience, drainage canal (Sava-Odra Canal) and retention dams/flood storage on mountain-rivers were constructed, and there have been no outstanding floods occurred since then. This paper deals with results from a social survey to 480 citizens in Zagreb held in 2011. The survey showed that most people know about the historical flood event in 1964, however, their preparedness seemed not enough and they want to know more about how to prepare and what to do in emergency cases such as flood and/or earthquakes. It was also observed from the result that dependency on mobile phone or internet was rather high, which may imply that they assume electricity or mobile phone line services are available even in any emergency cases. They may not have image that phone lines get malfunctioned or flooded on a phone line by a number of access at a time.

Another finding is experience of senior citizens or those who experienced a disaster has been less used in public arena. Their disaster experiences are brought down to younger generation only at individual base such as family. An interesting finding is the ratio of people who have preparation at home and that of people who think there might be another flood in 10 years time. Nearly the 75% think there might be a flood in Zagreb in 10 years time, but the ratio of their preparation at home or their knowledge about evacuation is not correlated. This region in Europe has had earthquakes in its history, and there is a nuclear power plant (NPP) located only about 30km away from Zagreb City, which has been another concern among people in Zagreb since the case of Fukushima Daiichi NPP. The municipality government of Zagreb City has made efforts having produced information leaflets for the case of four types of emergency – earthquake, flood, chemical materials, and radioactive materials. They have already been disseminated to citizens, yet, the leaflets are not fully recognized, and some university students do not know at all what to do in emergency case such as earthquake. This paper discusses the status of disaster risk reduction and preparedness in Zagreb based on findings from the social survey as well as if a computational tool, as way forward, can be effective enough for raising awareness and preparedness. Then, it proposes a holistic approach for further disaster risk reduction and building resilience in Zagreb with a hint of Education for Sustainable Development in the context of Croatia.