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Assessing Citizens' Communication Behaviour towards Na-Tech Risk Information Disclosure in the Japanese Context

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Active community involvement in disaster risk management is widely acknowledged as one of the key factors for effective disaster risk reduction. The contribution of effective disaster risk communication to disaster risk reduction has been explicitly emphasised by academics and practitioners alike, over the past few decades. It is essential to create new and multiply existing information exchange channels among institutional organisations and citizens. Furthermore, information pertaining to disaster risks is recommended to be publicly disclosed in order to allow for comprehensive and informed choices. In sum, transparency and dissemination of information seem to create favourable conditions for sustainable community-based disaster risk management since they encourage trust-building and participation (Figueroa, 2013; Pandey & Okazaki, 2012; Klinke & Renn, 2010). By extending such processes to the local people and adequately informing them about the potential risks, a higher level of disaster preparedness throughout the community can be attained.

The discussion around the contribution of risk communication in disaster risk management gains specific importance in consideration of large-scale complex disasters, in particular technological accidents triggered by a natural hazard (Na-Tech). Some of the most affected people in such disasters are the ones less prepared for the risks they are subject to, due to fact that key information remains undisclosed. The citizens' 'right-to-know' and the governments and industries' 'duty-to-disclose' have been identified as fundamental aspects for disaster risk reduction (Baram, 1984). Moreover, the UN's Sendai Framework for Disaster Risk Reduction recognises the establishment of open risk information and communication channels as one of its top priorities (UNISDR, 2015).

However, effective risk communication is not defined arbitrarily by the organisational side of disaster risk management, but in fact, it is inseparable from the communities' actual demand concerning the subject. It is the citizens themselves that should define the content and amount of disaster risk information they wish to know (Klinke & Renn, 2010). Of course, coordinated actions from both sides need to be made in order to overcome certain cultural, technical and socio-economic barriers. This has proven to be a global challenge for developed and developing countries alike. Japan as a matter of fact, seems to be slightly lagging behind the EU and US in terms of promoting risk communication (Ikeda, 2013), in spite of notable previous efforts. Nonetheless, the Japanese stance on disaster risk information disclosure has been put under question from the 'bottom-up' through a surge in citizen activism after the Great East Japan Earthquake in 2011 and the subsequent Fukushima accident (Figueroa, 2013). Thus, a question arises: to what extent Japanese citizens demand Na-Tech risk information to be disclosed?

This study ventures to assess whether this 'appetite' for risk information disclosure and risk communication exists, as well as to understand the communicative behaviour patterns and perceived challenges in the Japanese context through the prism of the Situational Theory of Problem Solving (STOPS) proposed by

(Kim & Grunig, 2011). In this interpretative framework (Figure 1), the issue at hand is translated as a meta-problem stemming from the lack of risk information regarding potential Na-Tech accidents. Problem Recognition refers to an individual's perception towards the problem of inaccessible information and the solution to it, Involvement Recognition denotes the perceived connection between an individual and the problematic situation, while Constraint Recognition states the individual's perception regarding the obstacles that limit their ability to take action. In this vein, Japan's unique sociocultural context is examined as a particular constraining factor. These consist of the defining factors of an individual's Situational Motivation in Problem Solving. Along with Referent Criteria, which involve an individual's previously acquired or subjective knowledge, experiences and expectations, Situational Motivation determines an individual's engagement in Communicative Action as a means to seek out information to resolve the problematic situation. In turn, this communicative behaviour is categorised in three types of actions: information acquisition, information selection and information transmission.

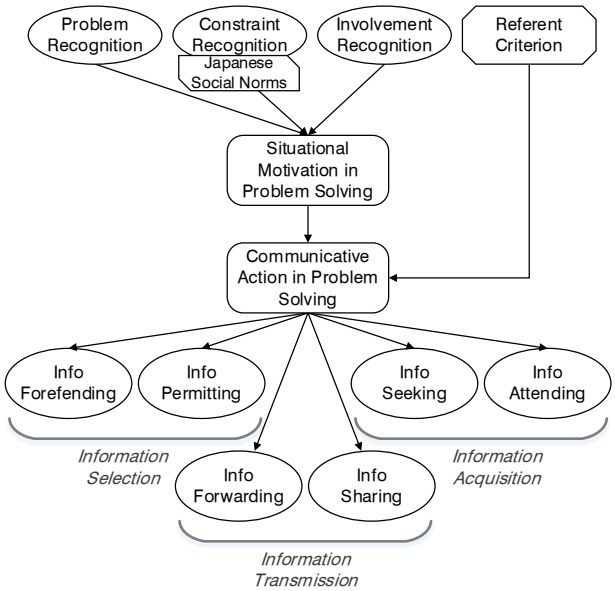

Figure 1. Conceptual Model of Situational Theory of Problem Solving (adapted from Kim and Grunig, 2011)

Additionally, this study investigates the citizens' Organisational Trust (Grunig & Grunig, 2001) in government institutions and in industrial companies alike, as well as the degree of influence from Conspiracy theories, in an attempt to comprehensively approach the issue of risk communication. For the purposes of collecting data to validate the model's hypotheses, a household questionnaire survey is carried out in two urban locations near industrial complexes along the coast of Osaka Bay: Higashinada Ward, Kobe and Sakai-Senboku area.

The contribution of this research project is two-fold. On the one hand, the target is to evaluate the suitability of the STOPS in risk communication analysis for complex disasters and also within the Japanese sociocultural environment. On the other hand, it aims to investigate the interdependencies between risk communication and the right of public access to risk information. The study results will set the basis for policy guidelines to improve information dissemination and encourage community participation.

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