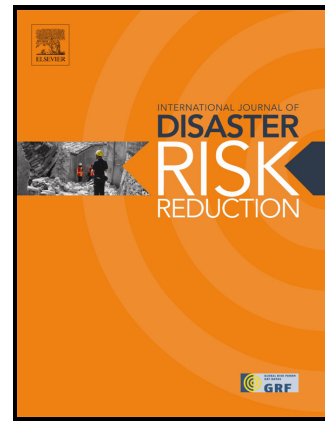


Author's Accepted Manuscript

Social capital and efficiency of earthquake waste management in Japan

Kiyomi Kawamoto, Karl Kim



www.elsevier.com/locate/ijdr

PII: S2212-4209(15)30107-2
DOI: <http://dx.doi.org/10.1016/j.ijdr.2015.10.003>
Reference: IJDRR280

To appear in: *International Journal of Disaster Risk Reduction*

Received date: 23 July 2015
Revised date: 9 October 2015
Accepted date: 9 October 2015

Cite this article as: Kiyomi Kawamoto and Karl Kim, Social capital and efficiency of earthquake waste management in Japan, *International Journal of Disaster Risk Reduction*, <http://dx.doi.org/10.1016/j.ijdr.2015.10.003>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Social Capital and Efficiency of Earthquake Waste Management in Japan

Kiyomi Kawamoto^{a*}, Karl Kim^b

^a *Regional Environmental Science, Regional Cooperation Course, Department of International and Regional Studies, Hakodate, Hokkaido University of Education, 1-2 Hachiman-chou, Hakodate city, Hokkaido 040-8567, Japan.*

^b *Department of Urban and Regional Planning and National Disaster Preparedness Training Center, University of Hawaii at Manoa, 828 Fort Street Mall, Suite 320, Honolulu, Hawaii 96813, USA.*

Abstract

This paper examines how Social Capital (SC) affects the efficiency of waste management by citizens during and after earthquake disasters in Japan. The behavior of citizens is critical to understanding waste management and SC is an important element of community resilience. SC reveals the strength of relationships and the structure of networks in a community. There is, however, limited understanding about how SC affects waste management and other recovery activities, and how it changes over time. The coastal cities of Iwate and Miyagi prefectures were among the most heavily damaged communities during the Great East Japan Earthquake (GEJE) in March of 2011. Residents of these communities experienced many challenges related to waste management and recovery from the disaster. A web survey was used to collect data on waste management activities. Data Envelopment Analysis (DEA) with a Malmquist Productivity Index was used to analyze the 520 valid responses. This study defines inputs based on community and individual resilience attributes, including SC. Outputs are defined by the level of waste management activities, including collection, separation and transportation. Efficiency of waste management improved by the quality change in citizen skills and knowledge of earthquake waste management. The effect of quality change was larger than the quantity change in the operation rate. The quality change of earthquake waste management improved throughout the disaster. While the quality change of waste management persisted over the longer term recovery period the operation rate, however, declined.

Keywords: earthquake waste management, social capital, efficiency, Malmquist index, Great East Japan Earthquake

* Corresponding author.

E-mail address: kawamoto.kiyomi@h.hokkyodai.ac.jp (K. Kawamoto)

Download English Version:

<https://daneshyari.com/en/article/7472649>

Download Persian Version:

<https://daneshyari.com/article/7472649>

[Daneshyari.com](https://daneshyari.com)