Chapter 12

Information Processing for
Disaster Communications

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ABSTRACT

This chapter presents the issues on disaster communications. The Great East Japan Earthquake on March 11th, 2011 caused severe damage to the northern coast of the main island in Japan. We report our support activities in Iwate prefecture as well as our findings and experiences. We call disaster communications in this chapter: disaster communications. Following the requests from many organizations and groups of people, we started our support for the disaster area with a few of us in the department of Software and Information Science, Iwate Prefectural University ten days after the disaster. Through our support activities we came across an interesting issue concerning collaboration with people from heterogeneous backgrounds. Disagreements and distrust happened quite easily. We found that trust plays an important role in such communications. In our chapter, we introduce disaster communications as an area for research and practice as well as our trials on the recovery phase after the emergency response.

INTRODUCTION

In this chapter, we introduce the issues on disaster communications. The Great East Japan Earthquake and Tsunami on March 11th, 2011 caused severe damage to the northern coast of the main island in Japan. 15892 people died, 2576 are missing and 6152 are injured (National Police Agency of Japan, 2015). The disaster also caused more global problems due to the nuclear power plant incidents. Following the requests from many organizations and groups of people, we started our support for the disaster area with a few of us in the department of Software and Information Science, Iwate Prefectural University ten days after
the disaster. Our activities included collecting local information on requirements for IT equipment and internetworking services in the affected area as well as distributing IT equipment donated by industry. We got the information on such needs by communicating with people in the various local government entities and with a volunteer center in Iwate Prefecture. We also set up a mailing list with those people and sent a daily report on what we did. Most of our activities lasted for four and a half months from March to the end of July during the initial emergency response. By the end of July, most shelters were closed and the people moved to temporary housing constructed by local governments.

Through our support activities we came across an interesting issue concerning collaboration with people from heterogeneous backgrounds. Those people who worked on the disaster response came from different backgrounds and most of them were doing quite different tasks from what they usually did before the disaster. Disagreements and distrust happened quite easily. We call this problem disaster communications (Murayama, et. al., 2013). We found that trust plays an important role in such communications.

In our chapter, we introduce disaster communications as an area for research and practice as well as our trials on the recovery phase after the emergency response (Murayama, 2014) as follows:

1. Trust issues in disaster communications
2. Misinformation dissemination in disaster communications through SNS
3. Office environments suffering from Tsunami
4. Support for temporal housing and recovery housing
5. Observing recovery progress with live camera
6. Passing the disaster threat information from generation to generation

Finally the chapter discusses these issues with their potential for big data processing.

TRUST ISSUES IN DISASTER COMMUNICATIONS

Just after the Great East Japan Earthquake and Tsunami, industry in the Tokyo area wanted to provide the affected areas with PCs and printers, but did not know who would like to have them. Academic and industrial groups of engineers wanted to provide internet connection services but again did not know where the services were most needed. With requests from such organizations and groups of people, we started our support with a few of us in the department of Software and Information Science, Iwate Prefectural University ten days after the disaster. Our activities included collecting local information on requirements for IT equipment and internetworking services in the affected area as well as arranging to receive, store and manage incoming IT equipment. We got the information on such needs by communicating with people in the various local government entities and with a volunteer center in Iwate Prefecture. We also set up a mailing list with those people and sent a daily report on what we did.

Most of our activities lasted for four and a half months from March to the end of July during the initial emergency response. By the end of July, most shelters were closed and the people moved to temporary housing constructed by local governments. Gradually we went back to our normal work.

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