Damage Survey and Disaster Wastes on the 2005 Fukuoka-ken Seiho-oki Earthquake

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ABSTRACT

The 2005 Fukuoka-ken Seiho-oki earthquake caused seriously damage to residential area on slope at the Genkai Island, where located at where is the nearest inland from the epicenter. Fukuoka city was also severely damaged by earthquake. In this paper, we explore the earthquake related disaster waste in Fukuoka city and various types of disaster waste were categorized. The potential risk of disaster waste is also highlighted in this paper. Finally, disaster waste management framework is prepared and implementation procedures were also described.

KEY WORDS: Earthquake; disaster waste; island; damage survey; filling; debris; pollution.

INTRODUCTION

Disasters caused by earthquakes, floods, tsunamis, or volcanic eruptions impose serious damages to lives and infrastructures. They inevitably bring about huge amount of destructed, transported and/or thrown-away materials/wastes. When earthquake damage and related disaster-waste is considered, the waste is excessive and properly management immediately after the disaster is very tough job for administrations. There are many kinds of earthquake damage related disaster wastes and their quantities are usually very large in comparison to that of the ordinary disposal. Disaster wastes could be categorized by several different aspects. Earthquake damage related disaster waste can be classified as five categories, namely, 1) the scale (weight and size), 2) combustible or incombustible, 3) solid or liquid, 4) containing potential pollutants or not, and e) the mixture of them. They can be further divided into many types practically according to the treatment needed. On March 20, 2005, an earthquake of magnitude 7.0, which was named as the 2005 Fukuoka-ken Seiho-oki Earthquake, occurred at the northwest part of Fukuoka City. The earthquake epicenter was located about 10 km northwest of Fukuoka City and it particularly caused heavy damage to residential areas at the Genkai Island and Fukuoka City. In this paper, we report the investigation results of damage survey and disaster wastes produced by the 2005 Fukuoka-ken Seiho-oki Earthquake in Genkai Island and Fukuoka City, and present some discussion about the framework of disaster wastes management.

FUKUOKA CITY AND GENKAI ISLAND

Fukuoka City is located in northern Kyushu, the westernmost of Japan's four major islands. It lies in the heart of the Fukuoka Plains and is bordered on three sides by mountains, opening into the Sea of Genkai to the north (Fig 1).