

### 3. Basic Research on the Separation and Treatment of Disaster Waste - Segregation Characteristics of Soil Mixed Wastes due to Sieving Machine Mechanism -

Yuya Shimizu, Hiroomi Habuchi, Ryosuke Imai, Junichiro Shioiri

Reports indicate the potential for large-scale earthquakes and tsunami hazards in the near future, such as the Tonankai earthquake. Since any such disaster would generate significant volumes of disaster waste, improving the recycling rates for such waste is an important issue. Soil-mixed wastes are inevitably generated from such disasters, and efficient segregation of such wastes will be required to effectively recycle such wastes as materials.

In this research, the authors applied disaster waste models to evaluate the segregation characteristics of three types of trommel and a vibration sieving machine used in actual segregation work. Four types of disaster waste models with two types of water content and fine-grained fraction content were prepared for these experiments. These experiments sought to clarify the relationships between the characteristics of the machines and the qualities of soil-mixed wastes. The results show that segregation efficiency is determined by equipment configuration and specific segregating mechanism.

**Key words:** disaster waste, soil mixed wastes, sieving machine, segregation characteristics, material recovery