ANTHROPOGENIC SEDIMENTATION AND EARTHQUAKE DISASTER

Tsunemasa SHIKI[1] & Makoto MUSASHINO[2]
[1]15-8, Kohata, Uji, Japan; shikit@mbox.kyoto-inet.or.jp
[2]Kyoto Kyoiku University, Fushimi, Kyoto, Japan

Earthquakes are natural phenomena. However, earthquake disasters are social phenomena. The violence or the mildness of the damage caused by disasters depends on the ground-making anthropogenic sedimentary process together with the natural processes of the specific area. Striking examples are exhibited by the gigantic damages (Hanshin-Awaji Earthquake Disaster) induced by the South Hyogo Earthquake (so-called Kobe Earthquake). Kobe City had been called "Kobe City Company" because of the "wonderful" planning and development. For example, the Rokko Island and Port Island of great scale were made of the materials transported very successfully through dry river by damp trucks and using a very long belt conveyor without any environmental damage to the surrounding residential quarters. Wild liquefaction occurred, however, in the islands induced by the earthquake. The wharfs, for example, were broken and the Kobe Port lost its role for several months.

Liquefaction of the anthropogenic sedimentary ground, including artificially varied valleys in hills and mountains, happened at a lot of places in Kobe and its neighboring cities also. One of the marked instances was the slump and break of the artificial basement of the Water-Supply Institute of Nishinomiya City, which resulted in the death of

34 people who lived on the down side of the valley. It is well known now that warning and estimation of very large damage by possible great earthquake, given by seismologists, had been ignored or only insufficiently considered by the city government and developers. And, it seems that the record and fact of the earth banking was lost and forgotten in the case of the Water-supply Institute of the Nishinomiya City. It must be strongly noted that anthropogenic sedimentation can make up the serious causative factor of heavy disasters.