

Recent sediment-related disasters and their mitigation measures

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Several major tectonic lines and fracture zones run in Japan, and about 70% of the land area consists of mountains and hills. Accordingly, the fragile geologic structure generally is formed. Consequently, there are usually prone to occur landslides, slope failures, and debris flows when the torrential rains during the rainy season or the heavy rains by typhoon hit in Japan. As for the occurrences of sediment-related disasters for last 15 years, the casualty toll in 2004 and 2011 exceeded about 60 people and 80 people respectively. There were ten typhoon landing, which was quadruple of the yearly average, and was the Mid Niigata Prefecture Earthquake at the end of October in 2004. Moreover, 19 people were killed by the sediment-related disaster due to the Tohoku Pacific Ocean coast earthquake that occurred on March 11 in 2011, and the serious sediment disaster with 56 people of the dead and missing was caused by the heavy rain by Typhoon No.12 around the Kii peninsula at the beginning of September in the same year. It is required to transmit the disaster prevention information thoroughly to residents from peacetime to reduce the human sacrifices by sediment-related disasters. For this reason, the hazard map (area map for sediment disasters) is prepared, and the hazardous location of the sediment disasters is well-known and transmits to the residents, also is essential to evacuate voluntarily if the risk of the disasters are just approaching. Here, I would like to introduce the recent sediment-related disasters, the role of counter measures by using construction facilities such as check dams, and the evacuation systems.

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