



A Study on the Development of Loss Functions for the Road Facilities using Inundation Area in South Korea

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Abnormal climate due to global warming is increasing the frequency and intensity of natural disasters such as flood, typhoon and heavy rainfall.

In order to protect the lives and property of the people from disasters, it is necessary to prepare countermeasures by estimating and analyzing the extent of the damage according to increase in frequency of disasters and the tendency to become large in size.

In this study, loss functions of road facilities were developed utilizing the data for damage on the road facilities of the National Disaster Management System and inundation trace map in order to estimate the extent of damage on road facilities, which are social infrastructure used for movement of the recovery equipment and the evacuation of people in the event of a disaster.

The loss functions were developed in the nonlinear regression equation to estimate the damages due to the inundation area and the road area within the inundation area through the analysis of the correlation between the factors to the past damage information.

It is expected that the loss functions for road facilities will be used as a basic data for measures to reduce disasters and of assistance to support the decision making.

Keywords: Loss Function, Road Facilities, Inundation Trace

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