DEVELOPMENT OF A RISK MAP BASED SOC INFORMATION PROVIDING PLATFORM SETUP TECHNOLOGY

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Abstract

The rapid quantitative development of construction industry caused by past economic development has created a demand for a mass quantity of SOC facilities and high-rise buildings. However, such development of construction industry was lacking in the accompanied growth of technological competitiveness and cause problems such as poor construction and accelerated aging of the SOC facilities. Especially, the collapse of large structures such as Seongsu Bridge or Sampoong Department Store in the 1990's and caused enormous personal injury, economic loss and social impacts. Furthermore, environmental disaster due to climate change and the increasing intensity and frequency of natural disaster is a serious threat to the safety of SOC facilities.

Currently, the management of SOC facilities and the recovery system during disaster are being operated by different government agency. The exchange of information by each regional unit does not performed systematically as maintenance of facilities are also performed periodically according to the independent plan and the necessity of each agency. Our country also utilized a scientific database for data management policies such as disaster vulnerability monitoring, forecasting/warning announcement delivery using advanced information technology. However, there is a weak scientific and efficient disaster prevention system and the lack of specialized personnel and budget issues. To respond with the increase of disaster due to climate change, the planned integrated disaster prevention system and the integrated management of SOC facilities are absolutely necessary to respond to a rapidly changing environment, such as climate change and integrated SOC facilities for post event disaster recovery, counter measures and safety management system is needed.

This study is to improve the existing disaster management and to develop a system setting IT based as a goal for advanced preventive, integrated disaster and maintenance system according to climate change and to improve the safety of the general public as well as the management of the SOC through the facility RISK MAP level on the ability to respond to main facilities that may cause direct damages.

Furthermore, this study is to prepare a priority standard considering social infrastructure facilities and industrial asset values of the SOC facilities, to develop a module to manage database efficiently integrated with the management operations by selecting the evaluation items while developing a RISK information proliferation system based on a high reliability communication network and GIS based RISK information system using such database.

Keyword: SOC facilities, Disaster, Climate change, RISK information, GIS