

DISASTER MANAGEMENT AND RECOVERY SOLUTIONS (A WEB GIS APPROACH)

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Sri Lanka has experienced serious natural disasters including the floods and landslides recently and the tartaric tsunami in December 2004, which brought in great hardship to live and caused dreadful damage to the properties of people, economy and environment. According to the Department of Social Services, nearly three hundred thousand families are affected annually by any forms of natural disaster during last twenty years. About 50% of the above have been caused by the flood and landslide disasters. In 2003 and 2008 the government has spent over three thousand seven hundred million rupees for flood relief activities.

Unavailability of proper institutional arrangement, preparedness and response plan, and proper disaster information communication system in the country has led to the severity of the impact. Currently, several government organizations and projects are already engaged in the field of disaster management. However, all these organization still seem to be work in isolation, sometimes loosely linked but leaving many gaps. Therefore, unnecessary time and financial loss is unavoidable. Outcome of such repeating activities are also not good but if there was a strong conglomerate among all those organizations, outcome of the process will be more effective. As disasters (earthquakes, floods hurricanes etc.) are usually spatial events therefore all phases of disaster management depend on data from a variety of sources. So, Geographical Information System (GIS) as a tool to collect, store, model, analyze and display large amount of spatially information layers, supports all aspects of disaster management.

The WebGIS based disaster management system developed through this research study meant to be used as a standard data collection system amongst key players, which stores the collected data in a regularly updated centralized database. The ability of this tool for gathering relevant data through all of governmental departments, organizations and input this data in a GIS as an appropriate tool to process and analyze it, can help managers to make a better decision during and just after of a disaster. Further this system provides public and private sectors to access current and accurate information about disasters and government response.

The system provides population information of given area, information about properties, buildings and physical infrastructure, details of institutions who involve in disaster mitigation and geographical information about the area. Thus, it plays an important role in disaster mitigation. The system mainly focuses on post disaster activities which generally include damage assessment and relief works. Further, this information can be made available to donors, government authorities and nongovernmental organizations who involve specially in post disaster relief work.