

FLOOD NOTIFICATION SYSTEM

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FLOOD NOTIFICATION SYSTEM

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by

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ABSTRACT

Floods occur in many countries every year and often cause great losses. How to monitor and notify flood management teams and people is the key problem for flood pre-disaster management. In Malaysia, flood disaster situation is still managed manually through multi-organization team according to standard operation procedure for disaster management. In current situation there is a delay in notifying those organizations that the situation is dangerous. The communication between those organizations is done manually, which generates a certain amount of risk in case of human error and of course its risky consequences. This study has developed a flood notification system that acts as a communication tool between disaster management organizations. The notification could be done through SMS and email.

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LIST OF ABBREVIATIONS

Acronym	Meaning
FNS	Flood Notification System
DO	Distinct Officer
DID	Department of Irrigation and Drainage Malaysia
UUM	University Utara Malaysia
MSF	Microsoft Solutions Framework
ASP	Active Server Pages
EOC	Emergency operation center
AML	Data manipulation language
ANN	artificial neural network
CEOS	Committee of Earth Observation Satellites
RS	Remote Sensing
GIS	Geographical Information Systems
ICT	Information and Communication Technology
GIT	Geo-information Technologies

CHAPTER 1

INTRODUCTION

Natural disasters are the outcome of many complex geophysical characteristics as well as the related social situation that are subjected to hazard. These natural disasters may be split into groups: hydro-meteorological, geophysical and biological disasters. Typically, dealing with disasters assumes three distinct phases: pre-disaster planning i.e. early warning and mitigation strategy, during disaster activities (responses) and post disaster (includes relief, rescue and rehabilitation) (Matar, 2005). A disaster management strategy may be divided into two sequential phases, namely, pre-disaster management and post-disaster management. In this scenario prior to a disaster, management activities are pre-disaster planning, and disaster prediction. A good disaster prediction technique plays a crucial role in an efficient mitigation of disasters such as flood (Mandal et al. 2005).

In Malaysia, disaster situation is managed manually through a multi-organizational team according to the standard operation procedure for disaster management produce by the Prime Ministry Department called 'Arahan MKN 20'(Noor Suziane, 2004). This study attempts to solve the problem of integration between the two flood emergency concerned departments: Department of Irrigation and Drainage (DID) and the District Office (DO) is responsible for monitoring water level and informing DO when the water level is dangerous and DO is responsible for setting up the emergency operation center (EOC) and informing the public. There is no automated communication between these two departments.

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