

**GIS BASED APPLICATION ON FLOOD RISK MANAGEMENT
SPECIAL REFERENCE OF DIVISIONAL SECRETARIAT, ISLAND NORTH
(KAYTS) IN JAFFNA DISTRICT**

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Recent studies have proven the variety of ways in which geospatial information contributes to disaster and risk management (DRM) practices. Geospatial information and associated technologies also play a central part in new methods for assessing costs of DRM itself and disaster related damages and losses. However, determining the economic value of geospatial information in DRM remains an understudied topic.

This research project proposes an innovative method for determining this value. Systematic elements designed for this purpose provides a template to table and geospatial information, by applying a 'Participatory and Appreciative Planning Approach' (PAPA). The research area has multiple hazards that has encounter problem in dealing with typically insufficient data and also large amount of the data required the format of spatial, attribute & temporal which methodology and tool will facilitate the systematic collection. Study area which affects as multi hazards in annually is selected to illustrate the application of this risk assessment. The specific geo-information application on hazard, Vulnerability, Capacity and risk are analyzed. Specific geo-physical hazards were assessed such as flood affected at village level.

The findings illustrate the steps needed for the risk assessment, which has calculated by the numerical formula which has identified and categorized the potential of the hazards in the particular divisional secretariat area. The difference of degree of the risk to visualize due to risk factor it as potential flood hazard due to human activities being and also lack of nonstructural mitigation measure. It is a complex and dynamic relationship which has yet to be adequately understood and addressed. The researcher discusses the potential benefit of disaster risk management process. Implement and evaluate to overcome current limitation of the triangle stake holders such as beneficiaries, users & decision makers. Finally recommended the GIS based applications on risk assessment and that assessment result incorporated with development activities in the particular area that will towards to make disaster resilient capacity at the planning, implementation, monitoring and evaluation of the total solution to effective decision making.