Spatial Visualize Information System for Effective Disaster Management in Sri Lanka

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Researchers, Practitioners and professionals in disaster Management sector have identified the limited accessibility to unavailability of timely &amp; well maintained information system as a critical issue for decision making, particularly in emergency response situations. This paper investigates the potential of using spatially visualized information system using Google-Earth platform as a tool for decision making for disaster preparedness, emergency response and recovery in Flood, Tsunami and Human conflict scenarios respectively.

The well defined information system in Google-Earth platform opens a new path to visualize the categorized quantitative and qualitative data effectively. All available geo-referenced data for Sri Lanka were marked in Google-Earth platform as points, lines and polygons in 2D and 3D where it is necessary. Space based information such as Satellite images, Global Positioning System data and the information received from satellite communication could be incorporated with this system in real time. This system also incorporates the statistical graphs, tables, photographs, videos and is equipped for real-time updating of database management system. The system has been fine tuned by tallying the projection, coordinate system and colour variations to validate at the field level.

Results show the flexibility of using this system to identify Risk, Vulnerabilities and affected communities with area calculations, navigation and the use of effective visual information. Email file transfer method in Keyhole Mark-up Language (KML) file format, multi user accessibility, web based applications and stand-alone applications by use of laptop or personal computer can trigger the temporal validation of this system in disaster situations, particularly in Emergencies. Well managed information system on Google-Earth platform could be used as effective tool for information modelling, analysis and quantitative measurements. It emphasizes the potential use of such a system as a tool for effective decision making process in disaster management in Sri Lanka.