

## Improvement of Emergency Response Preparedness for Natural Disasters using Mobile Phone Application

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Rescue work during a disaster is highly affected due to lack of real time information available for rescuers, victims and decision makers. During rescue operations, availability of real-time information on a portable device would prove useful for collecting important data. In present research work, an application has been proposed which has been developed and tested as a GIS-based mobile application on the Android platform with disaster specific software modules. This mobile application is expected to be useful for disaster management teams during the rescue operations for better co-ordination and information exchange. A formal interview and discussions with officials from NDRF (National Disaster Response Force, Govt, of India) helped form an understanding, envisage requirements for the application. The application titled “BhuNak” (Bhu: Sanskrit word meaning Earth; Nak short for *Naksha* meaning map) exhibits Emergency/Distress Call, Reporting System, Disaster Alerts and Geovisualization as its key features. The application allows field data reporting, sending geo-location SMS, viewing and retrieving weather and location information on the mobile device. The application has been tested for usability, time consumption and accuracy in different field and network availability conditions. BhuNak also has facilities of offline saving of dataset and sending it when communication links are available. Functionalities of the application are designed to successfully address all the phases of disaster. All the data shared between Victims and Rescuers are being saved in central server for data analysis. Decision maker can act as per the situation, can set the priorities and send real time messages and information to rescuers, victims and other agencies like hospitals, police NGOs etc.

Keywords: Disaster Management, Mobile Technology, GIS, Offline data sharing, Geovisualization

**BhuNak Mobile Application**

