



Application of Mobile GIS and SDI for Emergency Management

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Emergency management requires precise and reliable information about the current situation of emergency, existing sources and facilities, while more than 80% of this information has spatial component or location. Considering the urgent and time sensitive nature of emergency situations, it is necessary to collect and use spatial information of the current state of the emergency within the minimum waste of time. This will be achieved if in the context of a collaborative effort, each of the parties involved in emergency management, takes responsibilities for collecting some parts of spatial information required for emergency management and sharing them to be accessible for wider emergency management community (Mansourian *et al.*, 2004). In this regard, Spatial Data Infrastructure (SDI) is an appropriate framework to facilitate such collaboration in spatial data collection and sharing. Mansourian (2005) showed the improvement of emergency management by developing an SDI conceptual Model and web-based GIS to facilitate spatial information management.

Based on SDI framework for emergency management, field data collection and real time updating of Emergency Operation Center (EOC) on current emergency situation can be highly improved using Mobile GIS. Mobile GIS can also improve in-field decision-making for emergency workers. Meanwhile, in order to use mobile GIS for emergency management, it is necessary to expand the developed SDI conceptual model to support Mobile GIS applications (Mansourian, 2005).

This paper aims to address the role of Mobile GIS and SDI as an integrated framework for facilitating emergency management by improving field data collection and in-field

decision-making.