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TITLE OF DIPLOMA THESIS:

Time dimension in decision making during natural hazards' occurrence

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ABSTRACT

Over the past decade, destructive natural disasters, among them earthquakes, tsunamis, wildfires and hurricanes, have caused serious damages to the environment, the social construction and economic development worldwide. With respect to the constant increase of climate change, urbanization and global population, natural disasters tend to occur more frequently than ever, while being responsible for enormous environmental, societal and economic impacts. Today, it is required that decision-makers respond to the challenges of natural disasters within a short period of time. While natural disasters are currently occurring in a rapid and unpredictable way, decision-makers have to face a series of difficulties in order to respond properly to emergency situations. Currently, the main difficulties refer to the collection and processing of large amounts of data for the prediction and observation of natural phenomena, the proper coordination of all the parties involved in Disaster Management and the lack of proper planning regarding the particular characteristics of each natural disaster. Thus, it is of utmost importance to examine the time-response for decision-making available to the decision-makers, while dealing with a crisis situation. Specifically, both a qualitative and mathematical approach have been developed in order to assess the available time-response for decision-making in Disaster Management. Time-response is assessed regarding the main characteristics of natural disasters while taking into account the hazard interactions. In the case of large-scale earthquakes, floods and wildfires, time-response for decision-making is considered to be inadequate and may adversely affect the measures taken for disaster response, thus enhancing the imminent impact of natural disasters.

KEYWORDS

Natural disasters, time response for decision making, hazard interactions, decision making