Analysis of Deathly Road Accidents in Novrooz Holidays of Year 2007 with Climatic Approach

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Introduction

Road accident is one of the most important causes of mortality in the world and in Iran. About 24000 people lose their life in road accidents. Several environmental factors have great influences on road accidents that the share of climatic factors such as sliding areas, snow, fog and freezing is more. Different researchers have studied the relation between climatic conditions and road accidents and found significant relations between road accidents and climatic parameters. Noroooz holiday in Iran starts from 21 march and continues for about two weeks. In this period, travel of people increases and consequently increases the road accidents. This study tries to analyze and study the effect of climatic factors on 1756 deathly accidents occurred during the 20-days of Norooz holiday in 2008 in the roads with heavy traffic.

Research Methodology

Two different data sets were used in this study including the accident data obtained from Police database for the under study period, the statistics showed that during this time, 1756 deathly accident occurred in the main roads of Iran. The collected data covers province name, police station name, day and hour of accident occurrence and the likes. The second data set; include the data of 140 meteorology stations for all climatic parameters such as precipitation, temperature, humidity and so on. Then the distance of accident points based on km were specified on the axes. Also meteorology data for all the stations after being controlled and prepared were entered in to GIS soft ware.

Discussion and Results

The analysis of climatic conditions in this period reveals that in the 25th, 26th and 29th of Iranian month of Esfand (15, 16 and 19 March) and also 8th, 10th and 14th of Iranian month of Farvardin (28 and 30 March and 3 April) adverse climatic conditions were dominated in most parts of Iran. The analysis of the occurred accidents showed that most of them happened in the first 20Km from the origin between 15 o’clock up to 18 o’clock of local time. In the next step, with respect to the frequency of accident in different days, it was cleared that the number of accidents in the days of 29th Iranian month of Esfand (20 March) and 8th, 9th, 13th and 14th of Iranian month of Farvardin (28 and 29 March 3 and 6 April) has significantly increased. Therefore, it can be concluded that this increase,
except for the days that the number of journeys were increased, was mainly due to the bad climatic conditions in the country.

**Conclusion**

The result of this study indicates that there is a significant relation between climatic conditions and road accidents in Iran especially during travelling by privet cars. The ability of GIS for analyzing the spatial aspects of accidents with combining descriptive data helps to the evaluation of any point of the country for risk analysis evaluation. The method used in this study can be used in other similar studies and it is clear that the accurate analysis of road accidents in Iran requires a powerful online database in order to decrease mortality rate caused by road accidents.

**Keywords:** Road Accident, Climate, Norooz holidays, Road, Iran.

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