The Uttarakhand Tragedy of June 2013 – A Note

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Introductory Remarks

Natural hazards such as earthquakes, wind storms, floods, avalanches, landslides and tsunamis have unleashed enormous loss and destruction from times immemorial. The occurrence of such events has been increasing during the recent decades due to changes in the ecosystem. Whether a hazardous event causes a disaster or not, is dependent upon the capability of the affected populace to combat the hazard. Thus the same hazard may inflict a huge disaster on an underdeveloped and unprepared society, while for a developed, well organized society it may pass off as just another event. It is rightly said that while hazards are let loose by nature, disasters are a result of man's actions. The responsibility of tackling a disastrous event rests with disaster mitigation engineers, managers and planners. It is a matter of concern that the number of disasters and the extent of losses have been increasing over the decades, almost at an alarming rate. The majority of losses are caused by earthquakes, wind storms, floods, and landslides resulting from floods/earthquakes or from inherent weaknesses in the terrain. India is affected by all these hazards. Data on losses shows that Asia-Pacific region suffers a bulk of them due to natural hazards, which proves the above mentioned point about preparedness, or lack of it.

The state of Uttarakhand in northern India is prone to the occurrence of floods, earthquakes and landslides, and the disaster of June 2013, is a painful reminder of the remarks made above, though in this case it may be said that, the bursting of a glacial lake combined with heavy precipitation at an unexpected time of the year, caused a most unusual level of flooding to create a highly hazardous scenario. This note looks at the various aspects of the event.

1. About Uttarakhand

This newly formed state of India was carved out of Uttar Pradesh in the year 2001. The main rivers originating in the state are Ganga along with its major tributaries- Alaknanda, Mandakini ,Pinder, Bhagirathi and Yamuna with its tributary Tons, respectively. The mountain range which is part of the majestic Himalayas, is comparatively young in geological terms, and as such is still forming. The state is endowed with a tremendous tourist potential both religious as well as otherwise. There is great natural beauty and famous temples at Kedarnath and Badrinath. The State also has a large hydroelectric potential, still only partly tapped. The tourists that flock to the state annually, currently number nearly 28 million (the number having grown significantly over the last decade, besides the vehicles coming into the region having increased almost ten-fold). This is almost two-and-a-half times the population of the state which is of the order of 11 million. Thus tourism effects earnings of the populace in the touristic region as well as the economy of the state substantially, and could in the recent years have led to hurried and unplanned development.

1.1 Seismicity

The entire Himalayan region has been known to be seriously earthquake prone – much of it lying in the two highest seismic zones of India – zones IV and V – (map in Fig.1).Uttarakhand therefore faces a real risk of the occurrence of such a hazard, and, many earthquakes have occurred in the state in the past –the ones at Chamoli (1999) and Uttarkashi (1991) being two major recent events, besides other smaller occurrences too.

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