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## Flood preparedness a necessity

**I**t has been a grim monsoon, with floods ravaging vast areas of the country and leaving behind crops destroyed and lives shattered. In June, the very first month of the monsoon, torrential downpour hit Kerala, Karnataka, Andhra Pradesh, and Maharashtra. By early July, Gujarat, West Bengal, and Orissa were reeling from excessive rain and consequent flooding. Then, hundreds of thousands of people had to flee their homes, while hundreds lost their lives in Bihar, Uttar Pradesh, and Assam after incessant rains led to rivers overflowing their banks. Media reports spoke of the deployment of the armed forces to evacuate large numbers of people in Assam, where water levels in the Brahmaputra and its tributaries touched dangerous limits. What is most worrying is that bouts of such exceptionally heavy rain are happening year after year. It was in 2005 that Mumbai was deluged following record rainfall on a single day. According to a report from the Indian Meteorological Department (IMD), Indian scientists have found that extreme rainfall events over central India had more than doubled in half a century. The World Meteorological Organisation observed last month that the Intergovernmental Panel on Climate Change had found a rising global trend in extreme events, including of heavy precipitation, over the last 50 years and projected that such events could become more frequent.

'Forewarned is forearmed', goes the saying, and this country, the world's second most populous and with a large proportion of its people desperately poor, must prepare as best as it can to cope with this new trend of heavy rains and floods. Several steps are, in fact, being taken. The IMD has been promised a major upgradation of its observational network, which should help improve the ability to forecast episodes of unusually heavy rain at least a day or two in advance. The Indian Space Research Organisation is creating a digital database with detailed terrain information that can be used for hazard zonation and damage assessment. The space agency is also acquiring an aircraft that will be equipped with an airborne radar so that imageries of disaster-hit areas can be quickly acquired and used to supplement information from earth-viewing satellites. A National Disaster Management Authority has been established and similar bodies are to be set up at the State level too to enhance preparedness and provide a coordinated response in the event of a calamity. But it is most important to make sure that all these measures come together properly in order to improve resilience and enable an effective relief operation when catastrophes strike.