One state, I was told, prepared a ‘contingency plan’ to deal with flood situations. The plan, kept secret under the outdated Official Secrets Act, aroused the curiosity of a friend of mine who is an eminent person in the field of disaster management. Using his own channels he obtained a copy of the plan and it boiled down to just one sentence: CALL THE ARMY.

Mr. B Someshwar Rao

1. The above incident amply sums up the situation at the national level as far as disaster management is concerned. Despite the best of efforts by the army to mitigate natural disasters, there is an urgent need for greater involvement by the various other organisations.

Threat Perception Analysis

2. The development of safety instruments/equipment and a security infrastructure to cope with events/accidents leading to large-scale disasters in the public domain need to be based on a ‘threat perception analysis’ in order to optimise resources. The threat perception analysis is a wider subject and encompasses theoretical modelling of perceived threats, evaluation of different scenarios, impact assessment of the entire event in general, and the counter/control measures needed in terms of types of organisations, equipment and infrastructure. The effect of such large scale disasters on human health and psyche of the common public must need to be studied in greater depth and detail. Though some data is being generated and projections are being made at individual level, yet a well-concerted and well-directed R&D that covers all these issues is lacking at national level.
Availability of a GIS (Geographical Information Systems)-Based Emergency Preparedness and Response System

3. Modern emergency preparedness and response systems depend largely on GIS for ensuring effective and prompt response. At present, response plans are based on the data collected from census and conventional maps. They do not have GIS-based data bases and digitised maps of appropriate scale, which are required to make full use of the software tools available for impact assessment and decision-making for the management of emergencies. The state governments, assisted by MHA, need to take expeditious initiatives for completing this task.

Role of the Police, Civil Defence and Home Guards in Handling National Emergencies

4. In any type of disaster, the community will be the first to respond, but by and large the community is an unskilled force for specialized emergencies. Therefore, skilled ‘first responders’ will generally be the fire service personnel, the police force and medical professionals as well as the NDRF, which is being specially trained for such situations.

5. In the context of large-scale disasters, the involvement of civil defence personnel and home guards is usually considered highly desirable.

Strengthening the Disaster Management Communication Infrastructure

6. A reliable communication infrastructure is one of the key elements in any response mechanism. Presently, the DM communication linkage from the district to the state headquarters and then to the national level (including linkages with DAE with regard to a nuclear emergency) is neither dedicated nor adequate. There is a need to strengthen the same at the district and state levels. The creation of a dedicated National Disaster Communication Network (NDCN) is on the anvil at NDMA as a part of the mitigation project. It is an important requirement because public networks like landline telephones and mobile or cellular phones are the first to collapse due to a sudden increase in traffic in the event of an emergency and needs to be expedited.

Role of NGOs

7. Emerging trends in managing natural/manmade disasters have highlighted the role of NGOs as one of the most effective alternate means of achieving an efficient communication link
between the disaster management agencies and the affected community. Voluntary organisations played a major work in the relief operations in Gujarat and Orissa Cyclones. Many different types of NGOs are already working at the grass root level. In typical disaster situations they can be of help in preparedness, relief and rescue, rehabilitation and reconstruction and also in monitoring and feedback. The NGOs should be incorporated from the planning stage of the disaster relief operation. Their involvement in joint exercises is also advisable.

The Community

8. Recent trends have revealed that the community as an institution in itself is emerging as the most powerful in the entire mechanism of disaster management. In the event of disasters, the community, if well aware of the preventive actions it is required to take, can substantially reduce the damage caused by the disaster. Awareness and training of the community is particularly useful in areas that are prone to frequent disasters. In a mature and responsible management system, where power is in the hands of the people and democratically elected institutions, relief operations, day to day running of civic services, providing medical assistance, etc., can be done best by local bodies. If Panchayats are brought to the centre stage and entrusted with the responsibilities they deserve, relief and rescue operations could be much more effective, beneficial and speedier. Decentralised and democratic disaster management may prove beneficial in other ways too. If the people are enabled to face a crisis situation they will also learn to use this ability to better their daily lives.

Preparedness

9. Preparedness measures such as training of role players including the community, development of advanced forecasting systems, effective communications and above all a well networked institutional structure involving the government organisations, the armed forces and the NGOs would greatly contribute to the overall disaster management of the region. A change in approach from rescue and relief to preparedness is urgently required.

10. Preparedness means a readiness to cope with disasters or similar emergencies, which cannot be avoided. It focuses on plans to respond to disaster threat or occurrence. It takes into account emergency needs and identifies the resources to meet these needs. Preparedness also involves preparation of well-designed plans to structure the entire post disaster response and
familiarising the stakeholders particularly the community through training and simulation exercises. Preparedness has to be supported by the necessary legislation.

**Co-ordination**

11. Co-ordination is an intrinsic ingredient of all phases of the disaster management cycle. It is essential to synergise the potential of all agencies likely to be involved in rescue, relief and rehabilitation phases of a disaster. The onus for co-ordination rests upon the nodal agency controlling the particular phase of the disaster management cycle. This underlying principle of co-ordination needs to be understood by all agencies involved.

12. The most important element is "inclination" and "consciousness" on the part of the civil administration at the state and local levels to get serious about disaster management. Since the civil administration often likes to stand aside and watch whenever the armed forces step in to handle a disaster, the armed forces must not allow this to happen. The civil administration must be involved at all stages and in every possible way.

13. **Outdated Approach.** Disaster reduction has long been considered an engineering subject and university departments dealing with it are usually part of their civil engineering faculty as seen in Gorakhpur University. As the original concept of disaster at the commencement of the previous century was of famine, disaster management has traditionally been under the Union Agriculture Ministry and this continues even today. The time has come; perhaps, to create a separate department to deal with disaster mitigation and management which needs a multi-disciplinary approach ranging from engineering to social psychology. Though, the University of Pune has been the most pro-active in this regard and has designed academic curriculum to be implemented as a certificate/diploma course. Though, various affiliated colleges are teaching and conducting seminars on DM but much needs to be done at the national level.

**Creating a Pool of Radiological Safety Officers (RSOs) at the National Level for Nuclear Disasters**

14. An RSO is a trained and qualified radiation protection professional who is certified by the AERB for assisting in the area of radiological protection.
15. A nationwide capability for utilisation of the services of a large number of RSOs for managing both RDD related scenarios and large-scale nuclear disasters must be considered on priority. At present, no formal system exists in this regard.

Institutions for Education, Knowledge Management, Public Awareness and Training for Nuclear Disaster Situations

16. At present, practically no education is imparted at any level on nuclear/radiological emergencies in the national educational system. It goes against one of the basic concepts of good emergency response, which envisages that the culture of preparedness has to be imbibed right from childhood in all sections of the society. The basics of radiation, radioactivity and the use of nuclear radiation in day-to-day life (with its beneficial aspects) should be taught in schools and colleges. Once people are sensitised about this subject, it will help in removing prejudices/misconceptions of the general public about nuclear radiation/programmes and they will treat a nuclear/radiological emergency like any other type of natural or man-made emergency.

Alternate Sources of Food, Water and Hygiene Facilities

17. Another important requirement is to identify alternate sources of food, water and also to provide proper hygiene facilities. Because of the assembly of a large number of persons at the emergency shelters, poor hygiene facilities may lead to the spread of diseases, including epidemics. Thus, in addition to providing good hygiene facilities, good medical care with adequate stock of medicines, must be made available in all areas of possible emergencies/disasters.

Sheltering

18. Certain emergency scenarios envisage a sheltering requirement for a large number of people. Normally, community centres, schools, colleges, religious places, marriage halls, etc., are chosen for this purpose. These places need to be identified by SDMAs/DDMAs during a non-emergency period, with assistance from DRDO, because DRDO is premiere Research and Development organisation of the country.
Emergency Management Structure

19. The Government of India has identified DAE as the nodal agency for providing the necessary technical inputs to the national or local authorities for responding to any nuclear or radiological emergency in the public domain. The Ministry of Home Affairs (MHA) is the nodal ministry in such emergencies. For this purpose, a Crisis Management Group (CMG) has been functioning since 1987 at DAE. This Group is chaired by the Additional Secretary, DAE, and has on board expert members from different units of DAE and AERB. Each member has an alternate member and CMG is backed by resource agencies of various units of DAE. These resource agencies are expected to provide advice and assistance in the areas of radiation protection and measurement, medical assistance to persons exposed to high radiation doses, communication support, seismological inputs and help in the dissemination of information to the public. In the event of any nuclear/radiological emergency in the public domain, CMG must be immediately activated and it coordinates with the local authority in the affected area and all the concerning authorities at the centre (NCMC/NEC/NDMA) must ensure that the necessary technical inputs are available to respond to the nuclear/radiological emergency.

Actions by the Army

20. The Army on its part needs to recognise the need for formalised training in disaster management. Steps should be taken to ensure that some specialised equipment required for disaster relief is procured through appropriate funds and located at units, which are in or near disaster prone areas. A greater amount of interaction with the concerned civil authorities during the preparatory stage would help in further reduction in reaction time thereby ensuring better Disaster Mitigation.

21. Given the situation as it currently exists, the Army will continue to be a key player in the field of Disaster Management in our country. There is an urgent need to bring awareness in the Army regarding the need for developing speedy organisational response for efficient and timely management of disasters. A suitable doctrine also needs to be evolved for the employment of the Army in Disaster Management. Necessary steps also need to be taken to synergise the resources of the Centre, States and the Armed Forces in general, and the Army in particular, during disasters.
Function of Armed Forces in Disaster Management

22. The armed forces of any country are probably the best organised and managed to provide support to a full range of public services such as public works, communications, transport, health and emergency medical services, rescue and support activities. They can react quickly and respond rapidly in a fully self-contained, self-sufficient and highly mobile fashion. Military personnel are well trained in the individual skills necessary to perform their professional and functional activities and are practical in collaboration and co-ordinated action under an integrated/flexible management system. Thus, there is enormous potential inherent in the armed forces to serve as an additional instrument for the effective delivery of emergency assistance.

23. The history of the Armed Forces is replete with examples, wherein our troops have performed tirelessly, almost as if it were at a self-actualisation level, when called upon to provide relief amid succour to communities distressed by severe disasters. In a developing country like ours, where reforms are still at a nascent stage, the necessity of 'quick response' will inevitably, in the near future, continue to involve the Army as an agency of first resort. The more cataclysmic the event, the more this will be true, simply because the local response entities themselves, become unwitting victims of the disaster. A balanced involvement of all agencies will manifest, only once we as a nation completely refine and upgrade continuously our civil response mechanism in line with the Government's pro-active policies on disaster management. Whether that occurs or not, the Armed Forces will always remain prepared, for a prompt and effective response to any form of disaster.