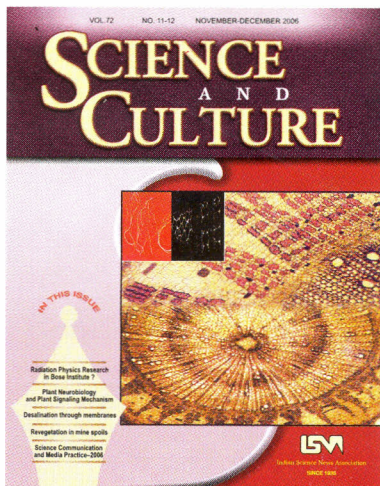


## SEVERE RAINS AND FLOODS MANAGEMENT NEEDS REVISION



The grim situations prevailed in several states of the country due to severe rains followed by catastrophic floods during August and September, 2006, again proved how helpless we are and fragile our administration could be in mitigating matters at the time of an utter emergency. Many of the places of Gujrat,

Maharashtra and Goa were submerged, and several places of Andhra Pradesh went under water, more than twenty feet deep, wrecked by ravagingly water flow.

Krishna, Godavari, Penganga, Wardha, Tapi, Girna and many other rivers flouted up over several meters than their usual normal danger levels. The situation was vulnerable in Nanded, Yavatmal and Jalgaon districts. Rajera – Adilabad National Highway completely submerged, disrupting road traffics. The situation of Oadganon, Arot, Saroot, Halasti, Pipri, Satara, Karad, Kobahpur, Navada and Mahabaleswar faced utter distress. Incessant rain continued in coastal regions of Andhra and Telengana, too; the situation went beyond control. East Godavari, West Godavari and Khamman districts were dislocated completely. Rains, followed by flood worsened Vadrachalam, Rajmundry and Doelswaram. Observers claimed that the situation of Gujrat was the worst. Surat was completely washed away by the floods of Tapti river. The water levels of Narmada, Purna and Sabarmati rivers went up the danger level flooding highly populated areas. Heavy current and eddies complicated relief works. However, 200,000 people could be shifted to safer places with the help of armymen and NGOs. But the scenario became grim when thousands of cu-secs of water was discharged from Ukai dam. Meanwhile, the high tide in the coastal region of the state during the full moon (*Rakhi*

*Purnima*) created backflow of flood water added salt to the wound. According to weather experts, such catastrophic rains and flood over vast areas of the country had never happened in memorable time.

In this case three major aspects have been identified : one, highly populated areas, particularly cities have been affected due to lack of proper drainage, resulting long standing water logging; two, spur of floods in the areas which were never affected earlier with so much vulnerability; three, lack of proper coordination between the administration and the agencies, including NGO, for rendering relief and rehabilitation activities. The later is most important in the light of social safety and their aspiration, which remain underlooked, and require intricate planning. It may be added, disaster, in terms of social science, is getting more relevance during the past twentyfive years. The most widely cited definition of the term as defined by US weather expert Fritz reads, an event, concentrated in time and space, in which a society, or a relatively self-sufficient subdivision of a society undergoes severe danger and incurs such losses to its members and physical appearances that the social structure is disrupted and the fulfilment of all or some of the essential functions of the society is prevented. The definition demands adverse impacts on public health, safety and property loss. The demands of a small scale, slow-on set disaster may be such that affect social units can respond on their own, without assistance from larger institutions such as government. By contrast, a large scale, and rapid-onset disaster is likely to also require a timely and coordinated response by many public and private sector organizations to minimize damage and destruction and restore the community to routine functioning. Such coordinated responses may be problematize both because of magnitude and unexpected nature of the disasters, as we recently witnessed, demands, and because of the organization that are requested to respond lack sufficient training and practice.

Another point is that because the societies with complex patterns of organization for nonroutine events like disasters, an assessment of preparedness and response activities require an understanding of complex demands these social units face, the task they perform and the manner in which they mobilize resources. This is an important issue, which is normally overlooked by both governments and other agencies in mitigating various aspects related to disaster management. In this connection we can remember what Francis Bacon (1561–1626), English philosopher and an author, once said ; "We can command nature only by obeying her laws". In the matters of mitigation pertaining to natural disaster management this is to be considered.

Disasters produce a range of impacts, characterised as direct, secondary or disaster-induced, and indirect effects. Direct impacts include deaths, injuries, and physical damage and destructions that are caused by the impact of the disaster agent itself. Recently, scientists are giving importance to secondary disasters impact, such as hazardous material release, rapid land erosion, permanent water logging over vast areas, bringing down banks of rivers, etc., in the case severe rains and floods, as well as wide spreading environmental pollution resulting

from flooding. A distinction can also be made between direct and secondary impacts and direct losses resulting from such disasters. Those losses include "ripple effects" resulting from disruptions in the flow of goods and services, unemployment, business interruptions, and decline in level of economical activity and productivity. True, the "Game Theory" on the occurrences of disasters, both natural and technological, cannot be forecast before hand. However, in many cases ushering in of disasters may be predicted by time and space rules. For instance, from long experience man knows the geographical areas where severe storms, hurricanes, severe rains and flood can occur on time basis, and may be depicted well in advance. The modern science and technology can predict their exact locations also. The hazards are well defined and commonly characterised by four temporal stages : mitigation, preparedness, response and recovery.

Mitigation measures include land-use regulations that reduce hazard exposure and building codes and

construction practices designed to ensure that structures resist the physical impacts created by hazards, such as severe rains and surging water flow. Emergency preparedness activities include actions undertaken before disaster impact that enable social units to respond actively when disaster does strike. Organizational preparedness comprises emergency response plans, train employees for hazard dealing services, acquiring needed equipments on time scale. It also includes emergency supply of food, rescue and rehabilitation facilities, which are very important to combat 'ripple effects' in particular. An emergency plan is also needed for household storing food, drinking water and medical kits, battery powered radio on hand for easy communications between administration and communities affected by hazards.

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Two major aspects need to be kept in mind pertaining to disaster management : one, mainstream approaches characterise disasters as suddenly occurring disruptions, originating from either natural and technological sources, in which demands of the social system exceed the resources or capabilities possessed by the social system. Two because the societies with complex patterns of organizations for nonroutine events like disasters, an assessment of preparedness and response

activities require an understanding of complex demands these social units face the tasks they perform and the manner in which they mobilize resources. There are various other aspects which should also be considered.

For disaster management, related to severe rains and flood, the following measures should be taken into accounts :

1. Topographical mapping of pre and post disaster regions should be made on time basis. The former will describe the places, like rivers and streams, dams, populated areas, agricultural lands, high ways, etc., where prevalence of crises are expected to occur due to severe rains, flood and heavily run-off. Such maps should indicate the vulnerability of the crises on time and space basis and be distributed among volunteers, NGOs and government administration connected with disaster management well in advance for creating adequate manpower and logistics planning to tackle crises.

The later, that is post disaster mapping, will provide a profile of damages caused due to disasters. Such maps may help the government to plan future measures both technical and organizational.

2. It is seen that during natural disasters, such as severe rains, flood and storm rural folks and slum dwellers are affected most. Lack of planning and proper execution of the same become a bar for extending rescue and relief activities to them. In many cases their socio-economic attitudes and taboos hinder their participation in such activities, too. For the former activities, meaningful coordination should be set up with the disaster management groups, such the government and NGOs. For the latter, activists with dedication can be trained and drilled to eradicate the problems. This should be a regular and routine performance.

3. *Panchayets* can play a big role in disaster management groups of their own relevant to rural areas. They can create units with the students, teachers and interested people of their localities and train them for disaster activities by experts, and can directly be involved in disaster management. Particularly, in disasterprone areas such an effort can be as third line of defence besides government and NGOs.

These units may be entrusted with topographical studies, such as land profile of the vulnerable areas, natural and artificial drainage and their maintenance, water retaining capacity of soils, water logging spots, run-off, fragile river banks and land slide points. Such studies can provide valuable scenario of disaster prone regions to *Panchayets* for necessary actions to tackle pre and post disaster problems. It may be added that this venture may be very much useful, particularly to student folks ; firstly,

it will provide training for team work and secondly, the experience they gain thereby may motivate them to select their formal education further in various streams, such as earth sciences, sociology etc.

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4. During crises, *Panchayets* and other local governments can use volunteers to handle manual and electronic communication system to help rapid actions in rescue and relief activities. They can also be used for emergency household food stocking and emergency medicine.

5. Two important aspects during postdisaster period are very much neglected or simply overlooked so far : physical settlements and economical settlements. Victims, particularly the downtrodden, should be provided with at least housing to enable them to retain their minimum social and emotional values. For economical settlement, they should be helped, so that they can revive back their lost avenues of settling normal livelihood, or for proper training to take up new vocation otherwise. This is of course, is a difficult job, done mostly by government funds, and in many cases jointly by government and funds from international agencies. Unfortunately, due to lack of proper planning and misappropriations of funds and relief materials, the objectives are not met as expected. Such a set back may be tackled if monitored by groups of impartial people set up by activists or NGOs.

Considering the complexities of the problems, it is imperative that disaster management should be reviewed and revised from time to time and approaches to its execution be planned accordingly.

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