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Disaster Management

16.1 Causes of disasters

(I) NATURAL CAUSES

- Our country is afflicted with umpteen number of calamities during a year, and this has become a recurring feature. These can be natural (earthquakes or cyclones) or man-made (droughts, floods, fires, accidents or epidemics). While it is a curse for our people, it is also a shame for the country, for not being able to address at least those calamities that are under human control like floods, droughts and epidemics. All these take a big toll on human lives, livestock and cause an incalculable loss of property which the poor rural folks build straw by straw like a bird builds its nest, leaving behind a tale of sorrows and miseries. In our cunningness, we call these calamities as “Wish of God” and in their ignorance the rural populace also think it so. Floods and droughts speak of our failures to manage our water resources as discussed in Chapter 15. We must learn from the tiny bird, that makes its nest for the ensuing winter or the rainy season to protect itself and its offsprings. But we have failed to do so for our people.
- So also epidemics, that call for hygiene, cleanliness and health care. But this too is a neglected area. Today our whole country stinks. Look at the dirt, filth and garbage and open lavatories in every nook and corner of our great country, in every city even in the metropolises, not to talk of villages. Even the government offices stink. Occurrence of epidemics or other kinds of sicknesses under such conditions of living is a natural consequence and not a matter of surprise.
- Cyclones may be difficult to tame but a balance of ecology, a care for environment, afforestation and other disciplines can mitigate their fury and destruction to some extent. For this the whole human race around the globe must make combined efforts. We take care of our obligations and others take care of theirs.

- Earthquakes, tsunamis indeed are a natural phenomenon and no one can stop their occurrences, nevertheless prevention can mitigate their catastrophic consequences to a great extent. My Engineering Handbook provides some useful clues. After all, Japan which falls under a high seismic zone stands tall and strong. Our country is relatively safe, except for a few high seismic zones and that too have been identified. We have also been able to assess the likely magnitudes of these occurrences at such locations and can take precautions to mitigate their catastrophic effects. We can use such areas for irrigation and keep habitation low as far as possible. We can construct buildings, structures, dams and bridges commensurate with the intensities of the possible future earthquakes. We also possess ability and expertise to design such structures and buildings which could be least affected during such occurrences. Reliance Petrochemical plant at Hazira in Gujarat that was able to withstand a severe earthquake of about 8.1 magnitude on 26th Jan. 2001, is a testimony of the foresight of Ambani's and capability of our engineers in designing the plant to withstand an earthquake of such a high intensity.

(II) LACK OF TRAINING AND EDUCATION

- Lack of training and education to the rescue staff can also aggravate the situation in the hour of need. Like in case of fire fighting, if the staff is lacking the knowledge of fire fighting techniques or the kind of quenching medium to be used for a particular kind of fire, they may fail to take the situation under control and that can be catastrophic. For example, water is ineffective and even dangerous for extinguishing petroleum fires, electrical fires or fires from certain chemicals and call for insulating foam, powder, sand or other mediums to extinguishing the same. Sometimes they may be unaware of this fact (fire in a chemical factory at Okhla, New Delhi in April, 2002 is a case in sight).
- Fire disasters are on the rise, most of them occurring due to short circuits. The recent being in an exhibition ground at Meerut (April, 2006) killing and wounding several hundred innocent visitors. This too was a consequence of illiteracy, poor work culture and lack of sincerity that is inculcated in our people (Section 10.3). The wiring work is usually carried out by petty electricians, most of them illiterate and casual at work. They may leave the wires loose and uncovered. It may cause sparking when energized and that can be catastrophic. Usually one will check all vital details, decor and other arrangements

be it a wedding ceremony or any other function or an exhibition. Wiring work is usually overlooked being a petty job. It is considered enough if the lights are on.

We may blame organisers, local authorities and project in-charges and even punish them but the real culprit is the electrician who we ignore. The same is true of fires due to short circuits in offices, shops, buildings and elsewhere.

- Similarly most of our rail, road or air disasters too are a result of human errors, incompetent staff, lack of training, indiscipline, lack of safety equipment or lack of safety measures.

16.2 Mismanagement at site

Calamities in our country are a regular feature, but we are always caught unawares. We not only delay, we even fail to reach out to those in distress. While the whole nation has a lot of concern for them and rushes relief material from different parts of the country in cash and kind through local bodies, NGOs and even individually, government machinery is usually sluggish to respond. There is a lack of concerted effort and cohesion at site. Generally there is no systematic working, guidance and coordination of activities. Even aid from foreign countries in terms of rescue teams, medicines and equipment have to wait for formalities and guidance before their material is taken in stock and the relief operation starts. These issues always make headlines yet occur the next time. We lack training, discipline, a feel for others and management skills, also technique and modern equipment to tackle such disasters. In Gujarat earthquake their (foreign aid agencies') sniffer dogs and equipment capable of detecting life under debris were something new to our people.

- When such a situation arises everybody rushes to the scene with food, clothes and medicines. But despite the speed at which they rush the relief, it does not reach those in distress.
- Even the police protection at site indulges in looting the remains from the ruins or the dead and the injured. Generally people in distress hesitate to call their saviours for help for they know that these saviours may cook in the fire rather than extinguish it. In a conscientious set-up that we have in mind, such mean attitudes (people feasting on human sorrows and sufferings) will be shunned and become a culture of the past.
- We have come to know through the media and also some eyewitnesses that sophisticated kits and tents that were sent to us as

charity by some countries for the help of those in distress during Gujarat disaster, were taken away by the rescue officials themselves as their personal belongings. *They had not seen such kits before.*

- With the mismanagement at site, sometimes the donors feel cheated and insulted because of the callous attitude and harassment by the government rescue agencies in charge of the site.
- Many of the donors have since lost interest in sending help to the victims while earlier they were so much concerned, the major reason being misuse of their donations and many times these not reaching the needy.

16.3 A description of our rescue operations

[Example of Gujarat earthquake (2001)]

- Delay in reaching out to the victims.
- Inadequate, insufficient and outdated equipment
- Total chaos on all fronts, lack of guidance and coordination. Doctors were available but they didn't know what to do. They themselves were ill-equipped.
- The rescue doctors amputated over 30,000 limbs of healthy persons. The victims were rescued but maimed for life. Government, the rescue teams and the doctors may take pride for this feat. But such high number of amputations is enough to narrate its tale. Most of them now languish in great distress and agony of life and live like destitutes on the alms of others and curse this kind of woeful survival.
- The above reasons, lack of facilities and more importantly a lack of will and sincere efforts are cumulatively responsible for this man-befallen catastrophe. We are aghast how in the name of relief we have officially maimed and disabled thousands of helpless victims.
- Builders were caught and put behind the bars as if it will solve the problems and wipe off the blot.
- Government machinery made cash purchases. The bureaucracy once again had a field day in the name of relief. They bought even what was not needed at exorbitant prices and in some cases manifold of actual prices, polythene, GI sheets, tents etc. to mention a few. Open looting in the name of relief. We have witnessed similar incidents even earlier. To mention a few:

Bhopal gas tragedy (1984)

Lattur earthquake (Maharashtra) (1992)

Orissa cyclone (1999)

Chamoli earthquake (Uttaranchal) (1999) and

Perennial floods and droughts and other rescue packages year in and year out.

It painfully shows as if our system waits for a disaster to occur for their personal enrichments at the cost of those who are in pain and distress.

16.4 What can be done

(I) KIND OF RELIEF

- People of our country are kind-hearted and generous. They try to do as much as they can. But sometimes their method needs a change. We collect old clothes, utensils, tumblers, stale foodstuff, and odd cooking and kitchen material. This is generally unbecoming. We must first assess what is required to meet their immediate needs and collect material accordingly. In such cases, help of some NGOs should be taken so that work can be done on a cumulative basis to be more effective. NGOs by their experience may prepare a list of items which made into packets, can be distributed to the stranded and needy people. For instance, there may be many kinds of packets containing items like,

Ready food.

Grocery

Clothes-gents

Clothes-ladies

Clothes-children

Beddings and tents

Kitchen wares

Utensils

} As per the climate-
summer, winter or
rainy season

} It would be a good idea to make a list of items required for each such packet and accordingly the same be arranged from donors.

According to the needs of the people, the rescue teams can distribute these packets to them quickly (rather than as loose items).

- We recommend people to pay only in cash and not in kind, either to the rescue agencies directly or through some NGOs. To send household articles and old clothes is not becoming, neither does it serve the purpose. Arranging the relief material should be the duty of the state and we should assist them only physically and monetarily. (The problem as of now is that it is possible that the funds are

swindled off by the government agencies themselves and only little reach the victims. But *we* will inculcate good traits in our people to make them saviours not fratricides). If they need any other kind of assistance, the rescue team can always flash it through the media (radio and TV). Only the required items then be sent to the specified centres. We have witnessed loose items going waste, which is not good. It is also possible that many may not accept such gratis or take it kindly. For example in Gujarat earthquake, many of the victims were from affluent society. What is more essential in such cases is shelter (tents), beddings, food and medical aid. And all this must be organised by the state and not the public, because the rescue personnel know the requirements better.

- We must have separate cells for disaster management at all strategic locations in all states. The past events must provide us the guidelines for their likely recurrences, magnitudes, the potential areas, type of calamities and material and essential commodities required on such occasions. To work out these details scientifically based on earlier data is not a tough task. We can keep ready all the non-perishable items at all times and handy sources to arrange for the perishables (like food, water and medicines) at short notice. It is possible that many items and equipment required would vary from disaster to disaster. Like an earthquake site would require bulldozers, cranes and dumpers that may have to be arranged locally or requisitioned from nearby states. But sources must be known. In the age of IT all such centres can be networked with each other for exchange of information and for help in the hour of need. They shall also be in touch with the hospitals in the country.
- It should be possible to quickly reach the site and organise men and material to work in tandem for effective and meaningful rescue work. Presently, despite all efforts, we give a poor impression to all in the country, who watch (through media) the rescue teams working. Sometimes we also become a laughing stock in the eyes of the world. **We will lay emphasis on work experience, expertise and management skills for all those who handle such operations and more importantly a will and dedication to do so. It is a service to the mankind and those in distress.** A half-hearted approach or to do such jobs under compulsion will prove more disastrous than providing any relief.

(II) PREVENTION RATHER THAN CURE

- The most essential is to work closely on the causes of the various kinds of calamities noted above and then find out ways and means to avert the same wherever possible, where not, mitigate their effects. In this way, most disasters can be controlled to a great extent.
- Preventive measures — The collision of two trains near Mansar (Punjab) in Dec., 2004 is not only a case of human error but also callousness on part of railways towards safety measures. In the age of technological advances such man-caused disasters are deplorable. Application of sensor warning and auto-braking system can easily avert such disasters. Our railway network is massive and such safety measures are a pre-requisite irrespective of cost. In fact it must form a part of the basic cost of a rail project.
- A meticulous approach towards safety requirements, training and self discipline are the essential virtues that we must inculcate to mitigate initially and eliminate gradually such disasters as much as possible. **Our motto will be to address the causes first, wherever human efforts can control or at least mitigate that.** Like doing water management, we can control recurrence of floods, droughts and epidemics for all times as discussed in Chapter 15.

All this is possible. What we require is a prudent leadership. In our philosophies and blueprints to rebuild the nation, all such aspects will be taken care of and the city centres, that we have conceived, will be designed to take care of such effects and the people shall be assured of a reasonably safe place to live and work.