

Role of Urban Local Bodies in Disaster Management in Uttar Pradesh

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India is one of the world's major theaters of disasters both natural and human made. Floods, droughts cyclones, and earthquakes pound it end to end every year. Communal riots, conflicts, fires, epidemics, and other disasters compound the country's chronic troubles. The social and economic progress achieved over decades by the people, and advances in physical development, can be significantly devastated and degraded by disasters. Urbanization, industrialization, globalization and liberalization of economy all have influenced human life. People are tend to live in disaster prone areas due to severe stress on land, high prices of land, and construction of buildings, poverty, migration and non-regulation of urban housing construction. Even, the natural protection measures are neglected to pave the way for economic development. The government of India through its National Crisis Management Committee has been making efforts to meet the exigencies as arisen by natural disasters. It is, however, experienced that all these efforts and contingency plans concentrate on the post disaster situation. A half backed approach is adopted for preventing the occurrence of disasters. There is need for fundamental change in national disaster policy itself. The community has to be associated at all levels of planning and implementation of the disaster management programme.

Situation Analysis

The Indian subcontinent is vulnerable to droughts, floods, cyclones and earthquakes. Land slides, avalanche and forest fires also occur frequently. Among the 32 states and Union Territories in the country, 22 are multi-disaster prone. About 40 million hectares of land in the country has been identified as flood prone and on an average 18.6 million hectare of land is flooded annually. About 57 per cent of area of the country is vulnerable

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to seismic activity. About 18 per cent of country's total area is drought prone, approximately 50 million people are annually affected by droughts and about 68 per cent of total sown area of the country is drought prone. India has a long coastline of 8040 km. which is exposed to tropical cyclones arising in the Bay of Bengal, the Arabian Sea and Indian Sea. The Indian Ocean is one of the six major cyclonic prone regions of the globe (Jain, 2004:61). The coromandal coastline is more cyclone prone, with 80 per cent of the total cyclones generated in this region. Risk to the existing housing stock in various states and union-territories had been estimated by Expert Group Set up by the Ministry of Urban Affairs and Employment, Government of India. About 3.9 million houses are susceptible to earthquakes of very high intensity, about 20 million houses are susceptible to damage due to winds and about 9.3 million houses are susceptible to damage due to floods. Besides the risk of earth quakes, cyclones and floods, the kutcha houses built from clay, mud, unburnt bricks, and blocks and random stone in mud, mortar and burnt bricks built in mud mortar are liable to very high damage and destruction under heavy rains. (Jain, 2004:61). Some 49 per cent of the total housing stock is liable to very high damage from natural hazards, while about 1 per cent of the total housing stock gets destroyed every year. It is to be noted that in earth quake, 80 per cent of the casualties are due to collapsing buildings. Brick and stone buildings without proper support are liable to collapse. Non-engineered buildings continue to be built in the areas prone to natural disasters. Unemployment, poverty backwardness, migration from rural areas and increasing price of land and construction, million of people are occupying disaster prone areas. Thus about 6 per cent increase in disaster affected population has been reported.

According to the World Bank assessment, the natural disasters alone costed India whopping amount of \$13 billion during 1986-2001, depleting 2 per cent of the GDP and 12 per cent of national revenue. Compared to the loss of \$13.4 billion during 1981-95 and \$2.9 billion during 1965-80, the present swelling in the volume of losses is certainly frightening and demands urgent attention of development planners (Kishore K. Singh, 2004:349). The dilapidated and poorly built houses in urban areas increase the risks of disasters. Lack of tenurial rights over the urban space and shortage of housing facilities for all have forced to urban poor to live in the most unsafe environment. There has been an increase in the number of natural disasters over the past years, and with it, increasing losses on account of urbanization and population growth. In 2001 alone, natural disasters of medium to high

range caused at least 25,000 deaths around the world and accounted economic losses of around \$36 billion. Natural disasters are not confined by political boundaries. They affect both developing and developed countries. Since 1991, two third of the victims of natural disasters were from developing nations while just 2 per cent were from highly developed nations. Those living in developing countries and especially those with limited resources tend to be more adversely affected (Government of India, 2003: 189). The Indian sub-continent is highly prone to natural disasters. Floods, droughts, cyclones and earthquakes are a recurrent phenomenon in India. Between 1988 and 1997 disaster Killed 5116 people and affected 24-79 million every year (Table 1).

Table - 1
Damage Due to Natural Disasters in India

Year	People Affected (lakh)	Houses & Buildings Damaged	Amount of Property Damage/Loss (Rs. crore)
1985	595.6	2449878	40.6
1986	550.0	204927	30.74
1987	483.4	2919380	20.57
1988	101.5	242533	40.63
1989	30.1	782340	20.41
1990	31.7	1019930	10.71
1991	342.7	1190109	10.90
1992	190.9	570969	20.05
1993	262.4	1529916	50.80
1994	235.3	1051223	10.85
1995	543.5	2088355	40.73
1996	549.9	2376693	50.43
1997	443.9	1103549	N.A.
1998	521.7	1563405	0.72
1999	501.7	3104064	1020.97
2000	594.34	2736355	800.00
2001	788.19	846878	12000.00

Source: Annual Reports, NDM Division, Ministry of Agriculture, Government of India, Delhi.

The changing topography due to environmental degradation has also increased the vulnerability of the country. In 1988, 11.2 per cent of total land area was flood prone, but in 1998 floods inundated 37 per cent geographical area. Three major disasters that India have experienced in the recent past are the super cyclone in Orissa (1999), earthquake in Gujarat (2001) and Tsunami (2004) in Tamil Nadu, Pondicherry, Andman Nikobar Islands and parts of other southern states. Frequent disasters lead to erosion of development gains and restricted options threatened by hazards.

The continent of Asia is particularly vulnerable to disasters strikes. Between the years 1991 to 2000 Asia has accounted for 83 per cent of the population affected by disasters globally. Within Asia, 24 per cent of deaths due to disasters occur in India, on account of its size population and vulnerability. Floods and high winds account for 60 per cent of all disasters in India. Many parts of the Indian sub-continent are susceptible to different types of disasters owing to the unique topography and climatic characteristics. About 54 per cent of the sub continent's landmass is vulnerable to earthquakes while about 4 crore hectares is vulnerable to periodic floods. The country has suffered four major earthquakes in the span of last 50 years along-with a series of moderate intensity earthquakes that have occurred at regular intervals. Since 1988, six earth quakes have struck different parts of the country. Tsunami in India killed 10749 persons while \$1068 million loss or damage to properties was reported.

Table - 2
Major Earthquakes in India

Date	Location	Magnitude
August 21, 1988	Bihar-Nepal Boarder	6.4
October 20, 1991	Uttarkashi, Uttar Pradesh	6.6
September 30, 1993	Latur-Osmanabad, Maharastra	6.3
May 22, 1997	Jabalpur, Madhya Pradesh	6.0
March 29, 1999	Chamoli, Uttar Pradesh	6.9
January 26, 2001	Bhuj, Gujarat	7.7

Source; Indian Metrological Department and US Geological Survey

Disaster led to enormous economic losses that are both immediate as well as long term in nature and demand additional revenues. In the recent earthquakes in Gujarat more than 14000 lives were lost, ten lakh houses were damaged and the asset loss had been to be worth Rs. 15000 crore (Government of India, 2003: 191).

In the state of Uttar Pradesh flood damages have been heavy and increasing, both dimensionally and impact wise. The eastern Uttar Pradesh is flood prone area and witnesses' regular floods, causing severe losses to crops, cattle, human lives and properties.

Table - 3
**Average and Maximum Flood Impacts and Losses in Uttar Pradesh
(1953-1990)**

Particular	Yearly Average	Maximum Impact/Loss	Year
Area Affected (M.ha.)	2.33	7.34	1978
Population Affected (Million)	8.73	30.35	1980
Damage to crops (mna)	1.34	5.20	1979
Value of Crops Damaged (Rs. Crore)	149.39	967	1985
Houses Damaged (000')	316	1923	1980
Value of Houses Damaged (Rs. Crore)	37	255	1982
Cattle Lost (No.)	1746	7430	1978
Human Lives Lost (No.)	275	1309	1980
Damage to Crops, Houses and Public Utilities (Rs. Crore)	256	2401	1985

Source: Dameja, M.D. Director PCC, CWC, New Delhi

Table - 4
Damage by Floods/Landslides in U.P.

Year	Villages Affected	Population Affected (Lakhs)	Area Affected (Lakh hac.)	Cropped Area Affected (Lakh ha.)	Houses Destroyed or Damaged (No.)	Human Lives Lost	Animal Lives Lost
1997	2248	10.21	3.85	1.55	5000	102	114
1998	15617	122.67	25.23	14.12	384896	1356	3385
1999	629	1.84	0.38	0.37	1023	17	9
2000	5802	63.9	7.84	4.72	40706	453	997

Source: Relief Commission, U.P.

Even droughts adversely affect to the farmers in Bundelkhand and eastern Uttar Pradesh. The typical courses of floods are well known viz. heavy precipitation, rising river bed levels, inadequate capacity of water courses to contain high flood flows the cutting of hill sides for development works, reckless construction of buildings and settlements in vulnerable areas, landslides, poor drainage etc.

On the basis of the Vulnerability Atlas prepared by Building Materials Promotion and Technology Council (BMPTC), Government of India, UNDP and Ministry of Home Affairs have identified 199 multi hazard prone districts in the country. These districts fall mainly in Gujarat, Orissa, Bihar, Tamil Nadu, West Bengal, Maharashtra, Delhi, Uttar Pradesh, Uttaranchal, Assam, Meghalaya and Sikkim. However, there are 125 most vulnerable districts falling in Gujarat, Orissa, Bihar, Tamil Nadu, West Bengal, Maharashtra, Delhi, Uttar Pradesh, Uttaranchal, Assam, Meghalaya and Sikkim. Out of 125 hazard prone districts of India, 13 districts fall in Uttar Pradesh. These districts are Bahraich, Balrampur, Bijnor, Badaun, Deoria, Ghazipur, Gonda, Gorakhpur, Rampur, Saharanpur, Santkabir Nagar, Sidharth Nagar and Sitapur (Government of India, Vulnerability Atlas).

Institutional Arrangements

India has an integrated administrative machinery for management of disasters at national, state, district and sub-district levels. However, the basic responsibility of undertaking rescue, relief and rehabilitation measures is that of state government concerned. The Central Government supplements the efforts of the states by providing financial and logistic support.

The Contingency Action Plan identifies initiatives required to be taken by various Central Ministries and Public Departments in the wake of natural disasters. Ministry of Home Affairs is the nodal Ministry for coordination of relief and response and overall natural disaster management, and the Department of Agriculture and Cooperation is the nodal Ministry for drought management. Other Ministries are assigned the responsibility of providing emergency support in case of disasters that fall in their purview as indicated in the table.

Table - 5
Ministries Responsive For Various Categories of Disasters

Disaster Type	Nodal Ministry
Natural Disaster & Management (Other than Drought)	Ministry of Home Affairs
Drought Relief	Ministry of Agriculture
Air Accidents	Ministry of Civil Aviation
Railway Accidents	Ministry of Railways
Chemical Disasters	Ministry of Environment & Forests
Biological Disasters	Ministry of Health
Nuclear Disasters	Department of Atomic Emergency

The following decision making and standing bodies are responsible for disaster management at the central level: (i) Union Cabinet (ii) Empowered Group of Ministers; (iii) National Crisis Management Committee, (iv) Crisis Management Group; (v) Technical Organizations; (vi) National Disaster Management Authority.

The responsibility to cope with natural disasters is essentially that of the state Government. The Chief Secretary of the state heads a state level committee which is in overall charge of the relief operations in the state and the Relief Commissioners who are in charge of the relief and rehabilitation measures in the wake of natural disasters in their states function under the overall direction and control of the state level Committee. In many states, Secretary, Department of Revenue is also in charge of relief (Government of India, 2003:195).

The district administration is the focal point for implementation of all governmental plans and activities. The administration of relief is the responsibility of the Collector/District Magistrate who exercises coordinating and supervising powers over all departments at the district level.

The 73rd and 74th constitutional amendments gave the status of 'Institutions of self government' to Panchayati Raj Institutions. The constitutional amendments also laid down necessary guidelines for the structure of their composition, powers, functions, devolution of finances, regular holding of elections and reservation of seats for weaker sections and women. These local bodies may be effective instruments in tackling disasters through early warning system, relief distribution, providing shelter to the victims, medical assistant etc. The Eleventh Finance Commission too paid detailed attention to the issue of disaster management and came out with a number of recommendations, including expenditure on restoration of infrastructure and other capital assets, capacity building. Training and education are crucial for mitigating disasters and also for disaster response. Training is an integral part of the capacity building as trained personnel respond much better to different disasters and appreciate, the multi sectoral and multi hazard prevention based approach to disaster management requires specific professional inputs. Similarly, preventive disaster management and development of a national ethos of prevention calls for awareness generation at all levels. Again, capacity building should not be limited to professionals and personnel involved in disaster management but should also focus on building the knowledge, attitude and skills of a community to cope with the effects of disasters.

Disaster Risk Management Programme:

United Nations Development Programme (UNDP) has been supporting various initiatives of the central and state governments to strengthen disaster management capacities for many a decade. UNDP has proposed to accelerate capacity building in disaster reduction and recovery activities at the national level and in some of the most vulnerable regions in the country through community based and gender sensitive approaches with two sub-national Networking Hubs. It is designed to assist the states in the country, which are most prone to natural disasters such as Gujarat, Orissa, Bihar, Tamil Nadu, West Bengal, Maharashtra, Delhi, Uttar Pradesh, Uttaranchal, Assam, Meghalaya and Sikkim. The thematic focus is on awareness generation and education, training and capacity development for mitigation and better preparedness in terms of disaster risk management and recovery at community, district and the state levels, and strengthening of state and district disaster management information centres for accurate and timely dissemination of warning. (UNDP: 9).

Eastern and Western India have been suggested as the preferred locations of the two Networking Hubs for disaster risk management and they are strategically located. UNDP intends to support national and state efforts in disaster management with emphasis on the most hazard prone districts by strengthening the capacities of the communities, local self governments and district's to deal with future disasters. The comprehensive disaster risk management programme in the selected 125 most vulnerable districts falling in Gujarat, Orissa, Bihar, Tamil Nadu, West Bengal, Maharashtra, Delhi, Uttar Pradesh, Uttaranchal, Assam, Meghalaya and Sikkim in two phases is under implementation. The programme components include: (UNDP: 6).

1. Development of state and district disaster management plans
2. Development of disasters risk management and response plans at village/ward/Gram Panchayat, Block/Urban Local Body levels
3. Construction of Disaster Management Teams and Committees at all levels with adequate representation of women in all Committees and Team (village/ward/Gram Panchayat/Block/ULB's, District and State).
4. Capacity building of Disaster Management Teams at all levels viz. first aid, shelter, management, water and sanitation, reuse and evacuation etc.

5. Capacity building in cyclone and earthquakes resistant features for houses in disaster prone districts, training in retrofitting, and construction of technology demonstration units
6. Integration of disaster management plans with development plans of local self governments.

Disaster Risk Management can be addressed in three ways : structural measures, non-structural measures and establishing communication networks. Structural measures would reduce the impact of disasters and non-structural measures would enhance the management skills and improve capacities of the community, local self governments, urban local bodies and the state authorities to prepare, prevent and respond effectively to disasters. Non-structural measures are more important and include vulnerability mapping, risk assessment analysis, hazard zoning, inventory of resources to meet the emergency etc.

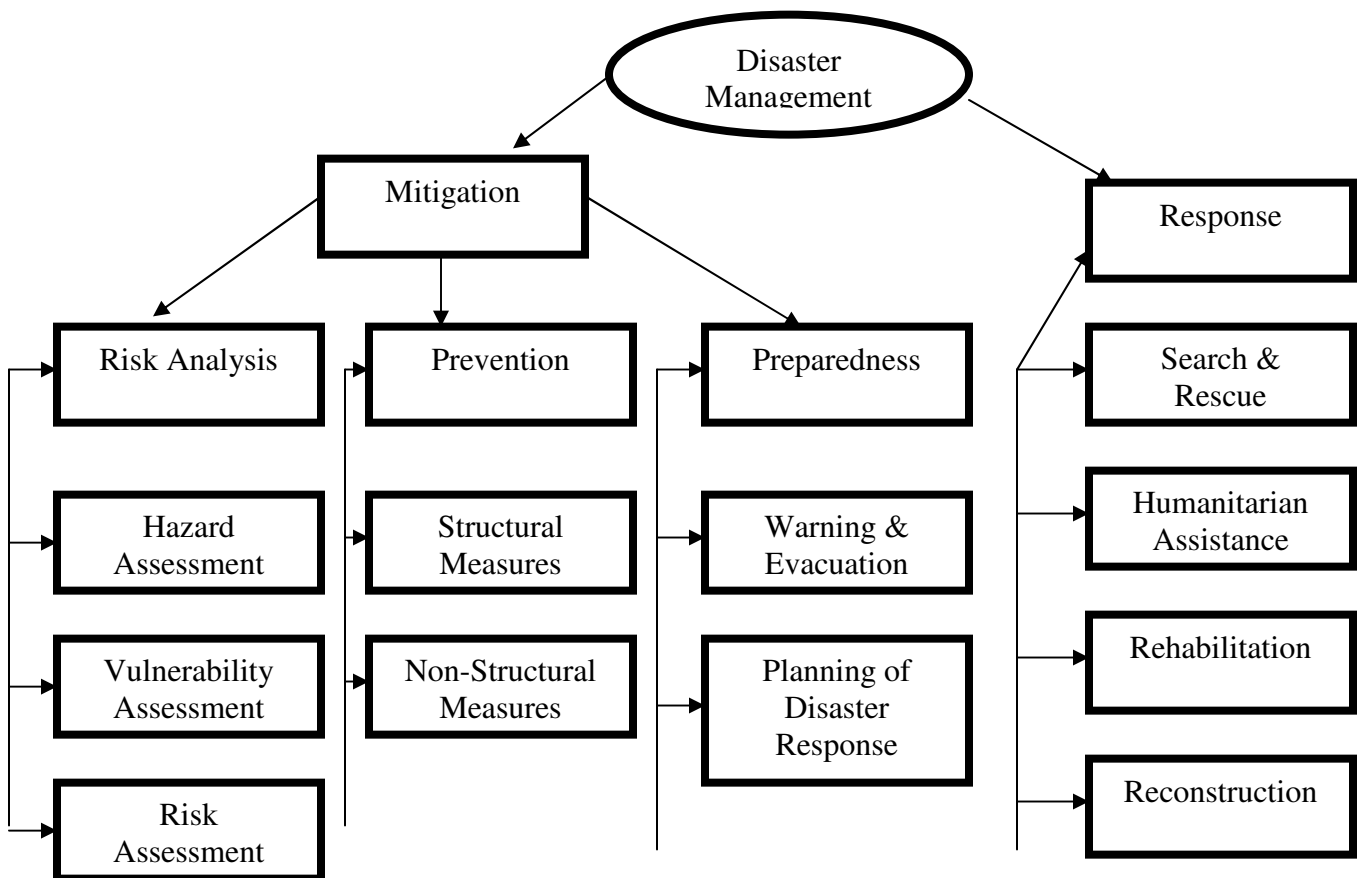
Disaster Response

The dynamics and machinery of urban development are complex. Therefore, careful attention is needed to find the best opportunities and effective routes to introduce safety measures. Many authorities fail to recognize the rich range of measures that need to be adopted and integrated into a viable and affordable programme. The expanding scale of urban pressures, problems, and risks in India is a daunting challenge. However, India has certain assets that many countries envy when it comes to reducing urban risks. There is strong and increasing government commitment to disaster protection, a vibrant civil societies network which provides base of community participation, and high share of private sector in humanitarian aid to disaster's victims and reconstructions of disaster affected areas. However, there is lack of coordination and integrated approach for disaster response.

Chart - 1 denotes elements of disaster management. There are mainly three elements of disaster mitigation viz. risk management, prevention and preparedness. Chart - 2 shows functional structure of natural disaster mitigation. The main three elements are rehabilitation, prevention and response. In responsive measures, relief, medical aid, shelter, food rescue, warning, evacuation, assessment of vulnerability and risks, public awareness, capacity building for livelihoods restoration etc. are included.

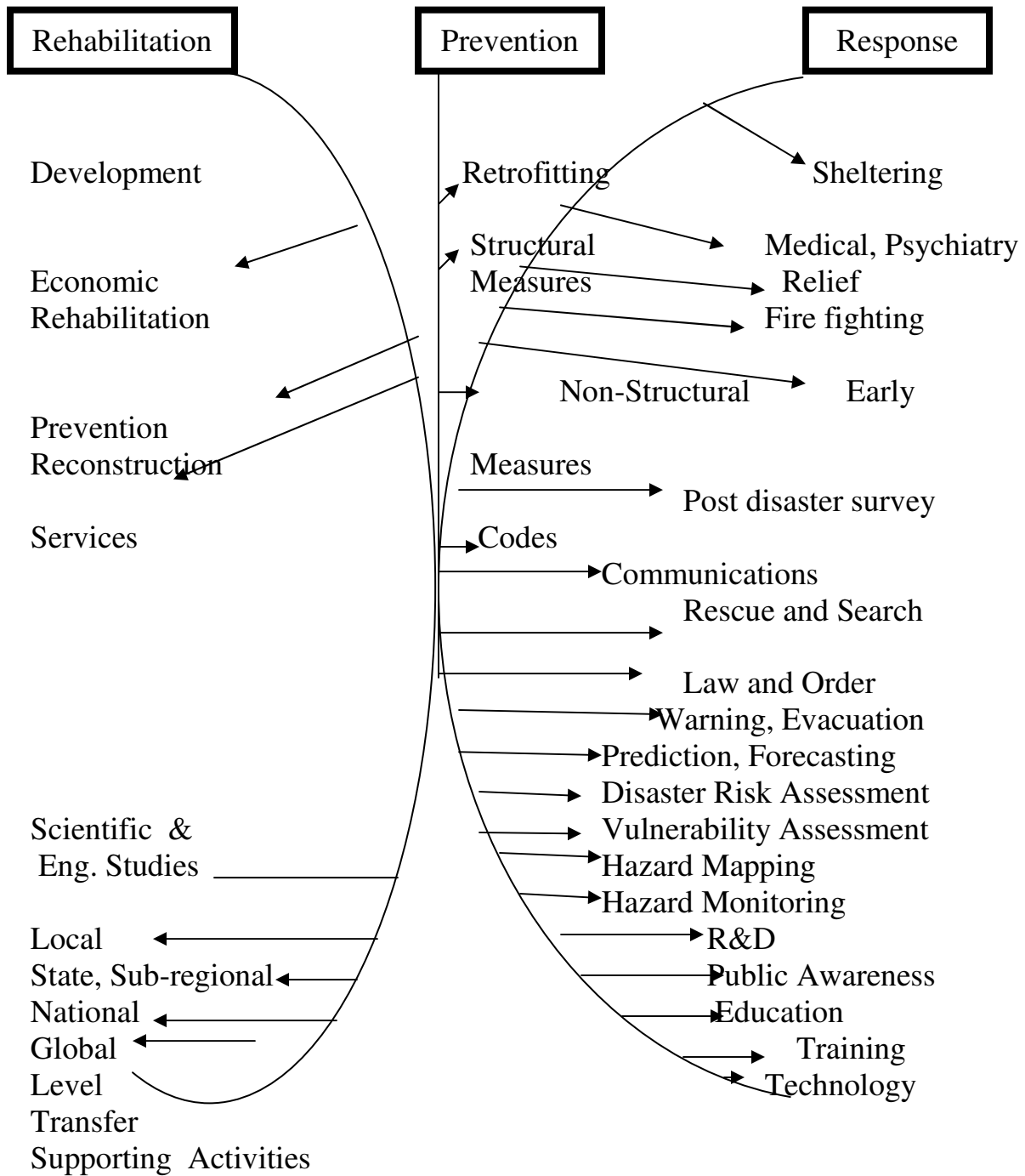
Chart - I

Main Elements of Disaster Management



Source: Arya, A.S. (2004)

Chart - 2: Functional Structure of Natural Disaster Mitigation



Source: Arya, A.S. (2004)

Disasters are the ultimate test of emergency response capability. The ability to effectively deal with disasters is becoming relevant because of the increasing risk factors. Increase in population density (Quarantell, 1981), population shifts and increasing technology are some of the important factors for increasing risks, leading to disasters. As areas become more densely populated, there are more potential victims when a disaster strikes. National disasters such as earthquakes, hurricanes, cyclones, Tsunami, and floods tend to result in greater losses due to densely populated areas in India. Another reason for increasing disaster losses are that population density in disaster prone areas is increasing. The increasing settlements development in high risk areas is the cause of concern. The pattern of settlement in high risk areas is reflected in the increasing mortality ratio in India. In the process of setting high risk areas, natural protection against environmental threats is removed. In India, the vegetative coverage and forests were destroyed in coastal areas for promoting shrimp farming, business tourism and housing colonies. This lead to damage of natural protection against hurricanes, and Tsunami and ultimately Tsunami affected to the large population in coastal areas in southern states recently. The vulnerability of people living in high risk areas is increasing because the habitations are often unaware of potential risks and how to deal with them. Even, the prices of land for house construction in high risk areas are lower which attract people for housing construction, even without proper approval of housing structures. People are living in structures that are not designed to resist the forces of local hazards. In India, earthquakes have affected severely due to lack of good design technology and inadequate earthquake resistance housing and building structures. The new technology is also adding to the list of disaster agents at an ever increasing rate. A large quantity of hazardous chemicals, wastes, bio-medical wastes, and dumping adds proliferation of high risk office buildings and hotels that subject their inhabitants to fire threats not experienced before. The society is also becoming more dependent on technology and specialization, making more vulnerable to disaster (Quarantell, 1985). Our dependence on computers is introducing a new form of disaster vulnerability (Drabek 1986: 375).

In the context of ever increasing risks of disaster losses, it is imperative to deal with these catastrophes with full preparedness and planning. In disasters there are often conditions that may make the

traditional division of labour and resources, characteristics of routine emergency management, unsuitable for disaster response (Heide, E.A.)

1. Disaster may put demands on organizations, requiring them to make internal changes in structure and delegation of responsibilities;
2. Disasters may create demands that exceed the capacities of single organizations, requiring them to share tasks and resources with other organizations that use unfamiliar procedures;
3. Disaster may attract the participation of organization and individual volunteers who usually do not respond to emergencies;
4. Disasters may cross jurisdictional boundaries, resulting in multiple organizations being faced with overlapping responsibilities;
5. Disasters may create new tasks for which no organization has traditional responsibility;
6. Disasters may render unusable the normal tools and facilities used in emergency response;
7. Disasters may result in the spontaneous formation of new organizations that did not exist before.

The typical response to a disaster includes multiple independent organizations from the private sector as well as from agencies of city, country, state, region and district governments. Disasters do not need to cover large geographical areas in order to cross multiple levels of government responsibility. However, disaster management is the only responsibility of government. Community based organizations and NGOs have to play a critical role in disaster management. Disasters are characterized by great uncertainty. Often the character and extent of damage and the secondary threats are not immediately apparent and therefore the necessary counter measures not undertaken. Disasters often create the need for different organizations to share resources. Therefore, coordination of multi organizational task accomplishment is required. The needs such as fuel and maintenance for vehicles, sanitary facilities, food, shelter and rest facilities, relief and replacement, personnel and emergency message, contact arrangement also are to be included in the logistic support of an organization responding to a disaster (Kallsan 1983:28). In contrast to daily emergencies, disasters often call for large scale search and rescue operations. An important security task in disasters is keeping unauthorized persons out of the disaster area in order to prevent looting and decrease congestion hampering rescue efforts, and to prevent persons from being injured in the wreckage. Moreover, mass handling of the dead creates problems that may

not have been faced in routine emergencies. Handling the dead poses different problems in disasters. The other tasks that are important in disaster response are:

1. Warning and communicating with the public
2. Shelter and feeding of displaced persons
3. Evacuating neighbourhoods
4. Evacuating hospitals, prisons, nursing homes and psychiatric facilities
5. Coordinating volunteers
6. Acquiring and allocating unusual resources
7. Dealing with mass arrival carcasses
8. Dealing with livestock or family pets that had to be left behind or sheltered (Drabek, 1986:116)
9. Procedures for condemning damaged buildings
10. Disposing of unclaimed valuable and merchandise found in the rubble at the scene (Moore, 1958:85)
11. Control of air traffic (Drabek, 1981: 179)
12. Disposing of large amounts of donations
13. Controlling emergency vehicle traffic in order to avoid blockage of routes by emergency vehicles
14. Checking the hospitals, nursing homes and day care centres that may need assistance
15. Prioritizing of utility sources delivery

Adequate communication is a recurring challenge in disaster response. The importance of communication is its ability to get people to work together on a common task or toward a common goal to coordinate. It is the process by which each person understands that how his individual efforts intermesh with those of others. The information is required for need assessment and rescue operations. The most crucial types of information that need to be shared are related to (Brunacini, 1985:54):

- a) An ongoing assessment of what the disaster situation is and what disaster counter measures need to be undertaken;
- b) An ongoing determination of what resources are needed to undertake the counters measure. What resources are presently available and how they can be obtained;
- c) A determination of the priority of needed disaster counter measures;

- d) A determination of what persons and organizations will be responsible for the various tasks necessary to accomplish the counter measures (Sorensen, 1985:32)

Computers are not only useful for sharing and analyzing disaster information, but also for sharing it. The internet facility may provide strong base for efficient communications in the following measures (Wohlworth, 1987; Carroll 1983; Carroll, 1985, Wallace 1985).

1. Sharing and collecting information about what agencies have responded and what resources they have dispatched.
2. Locating and specifying procedures for obtaining special disaster resources;
3. Sharing information about the location, scope, and character of the disaster and damage that has resulted;
4. Sharing information about the status of transportation routes facilities, docking and landing sites;
5. Generating and sharing predictions about weather and other expected conditions;
6. Obtaining information on how to deal with a specific hazardous chemical;
7. General electronic mail.

Thus, it is clear that the communication and equipments and procedures used by most emergency agencies are established primarily to deal with information flow within the organization. Disasters care for inter agency communication also. To some extent, it can be facilitated by the availability of inter-agency radio networks. However, the critical information requirements of the various organizations involved in disaster response need to be mutually understood and the responsibility for gathering and disseminating it needs to be made clear.

Significantly, disasters pose problems for resource management. A prerequisite to effective and efficient resource management is an accurate system for overall analysis of the disaster situation and the available resources (Dynes 1974; 77; Quarantelli, 1983:68). Overall, need, assessment, involves two major processes: (1) situation analysis; and (2) resource analysis. Situation analysis is the collection of information about the extent and character of the disaster itself and problems that have to be tackled. While resource analysis involves the collection of information

about the resources needed to be handled. The source allocation of disaster resources depends on the task priorities already decided for the response of disaster.

In contrast to most routine emergencies, efficient response in disaster requires procedures for triage and casualty distribution. Triage has been called the key stone to mass casualty management (Bowers, 1960:59). The technique for assigning priorities for treatment of the injured when resources are limited is called triage. Generally, attention is given first to those with the most urgent conditions and to those who are the most salvageable (Silverstein, 1984:8). The triage is beneficial in disaster response due to the facts: (i) triage separates out those who need rapid medical care to some life or lives, (ii) by separating out the minor injuries; triage reduces the urgent burden on medical facilities and organizations, (iii) by providing for the equitable and rationale distribution of casualties among the available hospitals. Triage reduces the burden on each to a manageable level, often even to non-disaster level. In order to distribute casualties rationally among the hospitals, capacity assessment of the existing hospitals, dispensaries and clinics need to be examined.

It is to be noted that convincing the public to evacuate areas threatened by impending disaster is often challenging one (McLuckie, 1970:2). In disasters, communication with the public assumes new dimensions not present in routine emergencies. Warning can be one of the most important types of disaster communication allowing the recipients to avoid the threat altogether or to significantly lessen its effects. However, people are often reluctant to evacuate the premises stricken by disaster (Quarantell, 1972:67). There are a number of reasons why persons hesitate to evacuate in the face of threatening disaster. They may not be convinced that they are actually at risk, they may wish to stay and protect their property, or they may want to assure the safety of other family members and property before leaving (Perry 1985; 60; Drabek, 1986:84). Those living in disaster threatened areas are more likely to evacuate if they are encouraged by invitations from relatives and friends outside.

In the impact area people prefer to seek shelter with friends or relatives rather than at public shelters. Importantly, the process of warning is complicated since it requires the accomplishment of a number of tasks. Jammed telephone lines and circuits as well as traffic congestion, make the process more difficult.

Urbanization in Uttar Pradesh

Uttar Pradesh is the most populous state in the country which accounts for 16.4 per cent of the country's population. It is also the fourth largest state in geographical area covering 9 per cent of the country's geographical area. The pace of urbanization has been lower in the state. The level of urbanization has been reported lower than most of the other states. In 2001, 20.78 per cent population of the state was found living in urban areas. During 1991-2001, urban population grew by 2.84 per cent per annum (Table 6).

Table - 6
Trends of Urbanization in Uttar Pradesh

Census year	No. of UA's and Towns	Total Urban Population	Percentage of Urban Population	Decadal Growth	Annual Growth
1901	349	5223025	11.20	-	-
1911	350	4720939	10.26	-9.61	-1.01
1921	367	4728727	10.61	0.16	0.02
1931	375	5354962	11.28	13.24	1.24
1941	385	6749767	12.52	26.06	2.31
1951	410	8225068	13.65	21.86	2.31
1961	215	8983900	12.81	9.23	0.88
1971	256	11653740	13.90	29.72	2.60
1981	598	18749979	17.83	60.89	4.76
1991	631	25971891	19.68	38.52	3.26
2001	670	34512624	20.78	32.88	2.84

Source: Census of India, 2001, Uttar Pradesh

As per census, there are 670 towns and cities in the state. Most of the towns and cities are categorized as class IVth and Class IIIrd having population in between 10,000 to 50,000. However, urban population is concentrated in large towns and cities (Table 7).

Table - 7
Class-wise Population of Towns in U.P. (2001)

Class	No. of Towns/UA's	Population
Class I (100,000+)	55	21452407
Class II (50,000-99,999)	51	3434532
Class III (20,000-49,999)	171	4970212
Class IV (10,000-19,999)	253	3585898
Class V (5,000-9,999)	130	1025967
Class VI (Less than 5,000)	10	43613
Total	670	34512629

Source: Census of India, 2001, Uttar Pradesh

There are 628 local bodies, as per information available. There are 12 Municipal Corporations, 194 Nagar Palika Parishads, and 422 Nagar Panchayats. However, the details of these local bodies are not available. As per information available for 623 local bodies in U.P. about 40 per cent urban population is found concentrated in Nagar Palika Parishad while Municipal Corporations comprises of about 37 per cent population. There are about 34162 officials and 9159 elected representatives (Table 8).

Table - 8
Urban Local Bodies in U.P.

Local Body	Number	Geographical Area (sq. km.)	Population (2001)	Officials	Elected Representatives
Municipal Corporations	11	138.24 (26.86)	128245 (36.83)	16086	820
Nagar Palika Parishad	195	2017.65 (39.26)	13867538 (39.86)	14406	4881
Nagar Panchayat	417	1741.40 (33.88)	8009423 (23.21)	3670	3458
Total	623	5139.29 (100.00)	34729411 (100.00)	34162	9159

Source: Directorate of Urban Local Bodies, U.P.

The 74th Amendment Act of the Constitution opened a new chapter in the process of decentralized governance. The Uttar Pradesh Local Self Government Laws (Amendment) Act, 1994 was passed in May, 1994. The changes in relation to the Conformity Act were mainly in composition of municipalities, reservation, election process, functional domain, and devolution of powers and finances. Besides the civic services functions, municipalities being local governments also perform several statutory and regulatory roles which strictly do not fall within their own functional domain but fall within the functional domain of state government. In the state all the functions as envisaged by the Twelfth Schedule are being performed by urban local bodies except the functions as enumerated at item No.1, 2, 3 and 7 of twelfth Schedule. Significantly, the state has formulated a strategy of introducing innovative Policy and legislative changes and implementing multifaceted institutional and financial capability building reforms for urban local bodies.

Disaster response and preparedness is most effective when it is built in to development programmes. In long run, disaster mitigation could be implemented at nominal cost by incorporating them into development programmes. The expenditure on disaster mitigation would reduce the potential losses that disaster cause. Significantly, urban planning urgently begs fundamental conceptual change, with a need for locating urban disaster management strategies in a holistic framework embracing issues like poverty, provision of institutional support for informal sector activities, over urbanization, environmental degradation and unchecked consumerism etc. A sound, effective and people centric urban disaster management strategy can emerge only in the context of a truly sustainable, and people centric development paradigm. Disaster management and mitigation be organized around local recovery efforts. In an integrated disaster risk management approach, activities from structural interventions to community based disaster management, which reduces hazard and vulnerability, should be coordinated. It is imperative to orient and train development agencies to integrate disaster risk management into the national and local planning process, thus mainstreaming disaster reduction into development collaboration among the stakeholders is a critical strategy in disaster reduction. It enhances complements the respective capabilities of concerned sectors and organizations in the pursuit of development objectives

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