

Monsoon in Mumbai



India's financial capital Mumbai was drenched by nearly a metre of rain in just one day in an unexpected and devastating monsoon deluge, writes **Director Deshmukh** of Maharashtra Fire & Emergency Service, who describes the emergency response

MUMBAI IN INDIA, the capital of Maharashtra state, is a city with a population of more than 15 million and is ever expanding. Built upon an island, space constraints have made it expand vertically rather than horizontally, leading to a very high density of population. The city of Mumbai is the nerve centre of India's economy.

Cloudburst

On the afternoon of July 26, 2005, a cloudburst suddenly filled the city with water, some areas were submerged up to roof height.

The sudden downpour took everyone in Mumbai by surprise. The electric train service, which is the lifeline of the city, had to be suspended when many trains stood in knee-deep water, leaving thousands of commuters stranded on the railway stations. These commuters had to wade home through several kilometres of water. Cars broke down on arterial roads, leading to

terrible traffic jams. A number of people had to abandon their vehicles.

Disruption of electricity, breakdown of telephone and mobile phone lines and stoppage of traffic brought the whole city to a halt.

The rain that started on the afternoon of July 26 poured three feet (over 91cm) onto the city – a record for any region in India so far. That day Mumbai bettered the record held since 1910 by Cherrapunji, the Indian town with the highest annual rainfall in the world.

Stranded travellers

The Government of Maharashtra declared public holidays on July 27 and 28, and the income tax department extended the last date for filing the annual income tax returns by a month.

Flights could not be operated for two days as water stagnated in Santa Cruz airport, and this affected many who were stranded in different parts of India and abroad. Millions of relatives

of the Mumbai-ites saw television reports of the flood but could not ascertain the well-being of the members of their families due to the breakdown of telephone lines.

When Mumbai, the commercial capital of

Name of brigade	number rescued	dead bodies recovered
Mumbai	5,500	82
State Fire Training Centre	79	00
Mira Bhaynder	45	7
New Mumbai	25	18
MIDC TTC fire station	1	00
Pimpri Chinchwad	425	00
Bhiwandi Nijampur	00	22
Dombivali	50	00
Kalyan	4398	50
Thane	00	50
MIDC Roha	40	00



India, came to a halt, it naturally affected business everywhere else in the country. The Surat-based diamond and textile industry, and the milk and milk products of Amul were affected. Bharat Petroleum Corporation had to stop the operations of its refinery in North-east Mumbai. Industrial units in towns like Kalyan and Bhiwandi had to shut down. Medicines in the pharmaceutical godowns were damaged due to the breakdown of electric supplies. Major companies have their godowns here and stock not only for Mumbai, but also for other parts of the country.

Insurance companies are now bracing themselves to face up to the huge claims they may have to satisfy.

The floods have also created problems of livelihood for thousands of poor people who have been living by a fragile system of daily wage. Also, the inundation of vast stretches of lands in the rice belt will throw the farmers and farm-labourers out of employment for a long time.

The rescue effort

Rescue work was a serious challenge as movement of vehicles through the knee-deep, sometimes even shoulder-deep, water posed problems. The Army had to be called out to assist the civil authorities, and more than 5,000 youths worked shoulder-to-shoulder with rescue workers to rescue people trapped by the water.

The sudden flood caused the death of more than 1,000 persons in Maharashtra. Many died due to sudden inundation and some due to electrocution caused by snapping high-tension wires. A rumour that the Powai Dam had developed a breach caused a stampede that killed 22 persons. In Saki Naka a hillock collapsed and its debris buried a number of houses, along with their inhabitants. The Fire Services removed 82 dead bodies. Figures shown in the table depict the massive rescue work carried out by various City Fire brigades in Maharashtra. The fire services in the state did a commendable job in spite of the enormity of the problem.

Post flood challenges

Once the flood had receded, the administration faced an even bigger challenge. With thousands of animal carcasses floating around in floodwaters, the spread of disease became a major threat. Hospitals in Mumbai and surrounding areas began to overflow with patients, many of whom had to be accommodated on the floor for want of beds. The spread of leptospirosis became a major cause of concern for the administration and experts were called from the National Leptospirosis Reference Centre in Andaman and the National Institute of Communicable Diseases in Delhi. Diseases, such

as gastroenteritis, viral fever and dengue fever also loomed large.

The state's health machinery utilised the services of television channels to create health awareness. Free medical camps were organised by the state health department as well as by the Red Cross. Many private organisations and NGOs also conducted various forms of health awareness drives. Construction activity in the city was stopped, so that the trucks could be used to remove debris and animal carcasses.

The future

The state of Maharashtra had thus far managed with independent fire brigades. Recently, these brigades have been integrated into a single department. Two months ago I assumed charge as the first Director of this newly constituted department. The state government is serious about re-organising Maharashtra Fire & Emergency Services. The following steps are planned as the first initiative:

- Fire Service Legislation with provision for adequate funds for Fire & Emergency Services;
- A well-planned and systematic Human Resource development policy;
- State of the art training facilities; and
- Safety education and mass awareness drives.

The flash flood in Mumbai struck suddenly and yet the government machinery rose up to face the extremely difficult challenge. All the same, the flood serves as a wake-up call. Coming at the heels of plans to develop Mumbai into 'India's Shanghai', the flood in Mumbai calls for a thorough brainstorming at all levels in order to further improve the city's infrastructure, urban planning and drainage systems.

Projections by experts in population-studies suggest that the society of the future will be predominantly urban based. The number of the megacities in the world is increasing and there is a rapid escalation of the world's urban populations. Protecting our cities against the onslaught of the sudden caprices of extreme weather will have to be one of the priority areas in planning. CRJ

■ *The heavier than usual monsoon has also affected other areas of India and has struck neighbouring Pakistan (see page 5). Floods in India's Gujarat state claimed at least 100 victims and left more than 65,000 people homeless. Transport links were badly affected and rescuers had to save over 300 passengers who were trapped in a train filled with floodwaters.*

Author

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Top: Free medical camps were organised. Centre: Emergency supplies were airlifted. Above: Roads were severely damaged