

26/7 and it's Aftermath

Arvind Adarkar & Tapati Mukhopadhyay

Post 26/7 is Mumbai the same? This day unprecedented 944 cms of rain marooned the city. The deluge paralysed the city bringing everything to standstill. Even the floods refused to recede for five days. What was on display was the indomitable spirit of Mumbaiers. They were the only ones wading through the chest deep waters for kilometers to be with their dear ones. All means of communications and transport had ceased to exist. Disaster managers were nowhere in sight. Police, home guards, politicians and bureaucrats were conspicuous by their absence. It looked like managers of the city had conceded the defeat and refused to stir out from their safe domains.

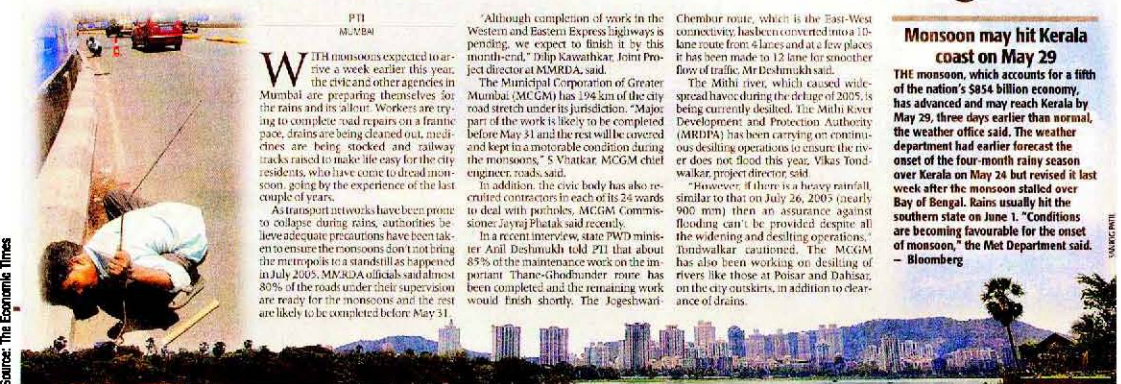
About 1000 human lives were lost due to flooding and landslides. Further 160 have succumbed to various diseases in the aftermath of this tragedy. More than 1200 buffalos, 15000 goats and sheep perished. 52 local trains completely damaged. 4000 taxies, 12000 rickshaws were extensively

damaged, many of the remaining needed overhauling. This would have an impact on city's public transport and would cause hardships to people for a long time to come. It has been reported that 350000 passengers will remain affected per day in the peak hours. Similarly about 90000 bus passengers, 16000 taxi and 36000 rickshaw users will be affected per day in peak hours. Thus about 50 lakhs of city commuters will continue to suffer in their daily up and down journey to their workplace.

According to report received from the field staff of the revenue department and published by Times of India dated 3rd of August 2005, the damage caused by the floods in Mumbai, Thane and Raigad district was 10000 crores and rest of Maharashtra was 5000 crores.

This is not the first time Mumbai had faced a calamity. 1943 blasts in the docks, 1993 communal riots and the serial bomb blasts are still

Civic officials remain calm as rain clouds gather



PTI
MUMBAI

WITH monsoons expected to arrive a week earlier this year, the civic and other agencies in Mumbai are preparing themselves for the rains and its after-effects. Workers are trying to complete road repairs on a frantic pace, drains are being cleared out, medicines are being stocked and railway tracks raised to make it easy for the city residents, who have come to dread monsoon, going by the experience of the last couple of years.

As transport networks have been prone to collapse during rains, authorities believe adequate precautions have been taken to ensure the monsoons don't bring the metropolis to a standstill as happened in July 2005. MMRDA officials said almost 80% of the roads under their supervision are ready for the monsoons and the rest are likely to be completed before May 31.

"Although completion of work in the Western and Eastern Express highways is pending, we expect to finish it by this month-end," Dilip Kawthekar, Joint Project director at MMRDA, said.

The Municipal Corporation of Greater Mumbai (MCGM) has 194 km of the city road stretch under its jurisdiction. "Major part of the work is likely to be completed before May 31 and the rest will be covered and kept in a motorable condition during the monsoons," S. Vhatkar, MCGM chief engineer, roads, said.

In addition, the civic body has also recruited contractors in each of its 24 wards to deal with potholes, MCGM Commissioner Jayant Phatak said recently.

In a recent interview, state PWD minister Anil Deshmukh told PTI that about 85% of the maintenance work on the important Thane-Chandivder route has been completed and the remaining work would finish shortly. The Jogeshwari-

Chembur route, which is the East-West connectivity, has been converted into a 10-lane route from 4 lanes and at a few places it has been made to 12 lane for smoother flow of traffic, Mr Deshmukh said.

The Mithi river, which caused widespread havoc during the deluge of 2005, is being currently desilted. The Mithi River Development and Protection Authority (MRDPA) has been carrying on continuous desilting operations to ensure the river does not flood this year, Vikas Tondwalkar, project director, said.

"However, if there is a heavy rainfall, similar to that on July 26, 2005 (nearly 900 mm) then no assurance against flooding can be provided despite all the widening and desilting operations," Tondwalkar cautioned. The MCGM has also been working on desilting of rivers like those at Pesar and Dahisar, on the city outskirts, in addition to clearance of drains.

Monsoon may hit Kerala coast on May 29

THE monsoon, which accounts for a fifth of the nation's \$854 billion economy, has advanced and may reach Kerala by May 29, three days earlier than normal, the weather office said. The weather department had earlier forecast the onset of the four-month rainy season over Kerala on May 24 but revised it last week after the monsoon stalled over Bay of Bengal. Rains usually hit the southern state on June 1. "Conditions are becoming favourable for the onset of monsoon," the Met Department said.

— Bloomberg

remembered by people. But the recent tragedy has surpassed in magnitude the earlier ones and posted a danger signal in a way that you can ill afford to ignore it. It has put a question mark on the development and the issue of sustainability of the city itself.

The city has been so badly mauled that it is taking time to recover from this tragedy. In a situation like this it is likely that the accusations will be hurled thick and fast and convenient punching bags will also be found. But it is extremely necessary to take an objective view and look at this tragedy.

Was the tragedy the act of God or was it man made? The cloud cover over Mumbai was 15 kms. Thick that day and was not moving. As a result there was a cloudburst. In five hours from 1.30 to 6.30 many of the suburbs were under six feet of water. One can certainly dub the rains of magnitude of 944 cms as act of God and shy away from the responsibility of disaster management, though the fact remains that it is at this sort of juncture that the crisis needs to be managed. The rains that followed were 149 cms., far less in

magnitude, with six km. thick cloud cover with movement towards north. It really exposed the shortcomings of the planners and greed of politicians as well as real estate developers.

Mumbai's growth has been phenomenal. From 1660 to 1960 in 300 years, population of the city grew by 40 lakhs but that in next forty years grew by 80 lakhs. Last five years may have added another 7 to 8 lakhs.

How is the population distribution? In the earlier years, the density graph was highest at the city's southern end i. e. B ward and gradually sloped down towards suburbs i. e. R ward of Borivali and M ward of Mulund. It gave way later to graph rising at Bandra(H), Andheri(K) and Borivali(R). This graph now threatens to run almost parallel to baseline with latest spurt in building activity in the island city on mill lands and redevelopment of cessed structures which are consuming FSI of 7 to 8. In suburbs the building activity has become pronounced because of TDR (Transfer of Development Rights). The city now has 70% population staying in suburbs as against just 33% in 1961. In the early years the western suburbs

■ US environmental agency chief Stephen L Johnson talks about Cuyahoga river success story

'Mithi cleaning a tough job, but possible'

EXPRESS NEWS SERVICE
MARCH 29

THE visit of US Environmental Protection Agency (EPA) administrator Stephen L. Johnson to Mithi river to familiarise himself with its clean-up process on Thursday afternoon has left the acting agencies in a positive mood.

This, after Johnson narrated the success story of Cuyahoga river in the state of Ohio which was severely polluted like the Mithi, and got cleaned up 36 years ago resulting in the formation of the Clean Water Act that prompted the cleaning of

hundreds of other rivers, lakes and streams in the country.

After a 10-minute presentation from MMRDA officials on the completion of Mithi Phase I and beginning of Phase II, Johnson visited two spots, one along the Bandra-Kurla Complex (BKC) bridge and the other at the inauguration point at BKC.

"Restoring the Mithi is a tough job considering the variety of pollutants it contains, but it is possible to clean it up just like we handled Cuyahoga which is now an American Heritage River," he said, "At one point Cuyahoga was so polluted with petroleum prod-



Stephen L. Johnson of Environmental Protection Agency visited sites along Mithi river on Thursday—Vasant Prabhu

ucts that it affected the drinking water of countless communities, and finally, one night it was ignited into flames. That's when the na-

tion came together and its consciousness rose to support environmental regulations."

Looking at the encroach-

About EPA

The US Environmental Protection Agency was established in 1970 to consolidate in one agency a variety of federal research, monitoring, standard-setting and enforcement activities to ensure environmental protection. Their achievements include cleaning of Cuyahoga and Thames in London.

ments and settlements that still exist along the river, he said the state was same in Ohio. "People would dump waste into the river and industries would let out pollutants just like they do it in the Mithi. But in such cases, the key is to change the mindset, which should be a part of the revamp plan," said Johnson, although he did agree that Mithi was much bigger a river and considering that the Cuyahoga did not have to deal with seasonal swells caused by the monsoon.

"But it is certainly possible to clean the river through community partnerships—collaborations, by getting the public, business involved with the government and local civic agencies. A strong system of regulation and enforcement can accelerate environment progress," he said. And all this with a note of looking forward to further collaborations, added Johnson.

recorded the growth which was far in excess of eastern suburbs but in the recent years Kurla and Mulund are growing at faster pace. According to the latest statistics provided by Ms Pratima Joshi in Maharashtra Times dated 21st Aug 2005, population density of Kurla in 1981 was 17161 per sq. km. In 1991 the figure reached 45775 and by now should be around 70000 persons per sq. kms. The statistics beyond doubt establishes further densification of the city.

The growth of city has led to a feverish building activity which accommodates elites in the luxury housing and also higher middle income group which borrows the institutional finance that is now available at lower interest rates. The non availability of affordable housing has led to proliferation of informal housing where shelter is sought by lower income strata of middle class and urban poor who have poor income levels because they have been working in the informal sector. All said and done this has resulted in more and more ground coverage which has resulted in shrinkage of open spaces. The open spaces around the buildings are also concreted leaving no scope for water to be absorbed. This creates a surface runoff of a magnitude which is not containable anymore in the storm water drains. This causes flooding of the area. The water cannot escape to the sea as natural routes are non existant any more because of the change in the natural landscape.

The s. w. drains in the Island city are below roads but not so in the suburbs compounding the problems. The problems become acute when the heavy rains are accompanied by high tide and/or chokage of drains by plastic bags.

It must be remembered that island city did not always suffer so badly. 163 cms of rains generally does not cause flooding in island city of Mumbai. It is rain over 300 mm. in six hours that causes flooding as the records show. (reference table no.1) Another cause is peculiar topography of island city. The central portion of the city is sunk

because of the reclamation of areas between seven islands, like basin which results in accumulation of water. Britishers tried to take care of this by constructing storm water drains. They prove ineffective when heavy rains coincide with high tide. The mumbai rains because the s. w. drains are underground. Access to the drains is well guarded by heavy grills which prevents the entry of plastic bags. This indicates that the s. w. drains in the suburbs also need to be underground and well guarded from the entry of any extraneous solid waste matter. This calls for undertaking a major S.W.D. project. The possibility of connecting stormwater drains to the sewerage system also needs to be explored as has been done in N. York as it will make a substantial volume available for runoff or temporary storage of surface water till the high tide in the sea ebbs off. Alternatively it is also true that by connecting the stormwater drain and sewer you are also running a risk of choking your sewers by plastic waste. In either case discipline is the key word and must be adhered to. The island city also escaped the wrath of nature because of the open spaces that prevail in the island city. The maidans, Azad, cross, oval, the gymkhanas and the stadiums, the racecourse. The central Mumbai also abounds in such open spaces. The study of this mill district revealed that open spaces of generous size were scattered all over Central Mumbai. The textile mills had FSI of 0.5 which meant that minimum 50% of the plot area was open. The textile mills also had ponds on their plots. All these effectively allow the absorption of water and also act as holding ponds if the sea is having a high tide. By now it is a well known fact that there is a well orchastrated move to develop mill lands and racecourse land. The State Government has thrown open to real estate developers the redevelopment of cessed structures with a capless FSI. Adoption of corrupt practices by developers in collusion with beraucrats and politicians is leading to use of extremely high FSI of 7 to 8. In one case FSI consumed was 11. Add to this the TDR which now is being allowed to use in the city. To illustrate

this point further one can look at the stretch from Haji Ali to Tardeo and Nana chowk. This area has witnessed the development of Shripati Tower, the tallest building in Mumbai and Crossroads, the shopping mall. Ten further towers, three out of which are forty five storey high and one sixty storey high are presently under construction. There is no impact assesment study carried out. There are no plans for augmentation of infrastructure in this area. This scenario, if replicated in the city all over as is being planned, will invite a tragedy of the kind that was witnessed on 26/7.

Another reason why the island city did not suffer is that the island city is narrower in width and allows easy passage of water to sea. The land starts broadening from Bandra and Sion. (Sion in the local language meant boundary and seperated the main land mass from the island city by Mithi river meeting the sea and the Mahim creek which had mangroves. Over years the creek has been encroached by prominent real estate developers. The study needs to be carried and the geographical images need to be published with a review every year to bring to book those guilty of encroachment. This applies to the whole city. The ALMs must be strenghtend and along with local authorities must act as watchdogs of the open spaces, creeks, coastline, waterfronts, mangroves etc. The tree felling needs to be severely punished. The present Tree Authority has been inadequate and allegations of harbouring corruption have been made time and again.)

Since land mass in suburbs widens considerably the runoff of surface water is not facilitated. The island city had lot of tanks (such as Gowalia, Guildler, Nardulla to name a few) which were reclaimed but kept as open maidans and continued to act as sponges for absorbing water. The city planners could get away with this reclamation as the city had lots of open spaces which could allow this 'murder'. The suburbs have had townplanning schemes in certain areas but by and large the

development has been governed by the development plans of 1966 and 1991. The open spaces compared to city are woefully inadequate whereas they should have been far more and uniformly distributed as the distance for runoff to the sea had become much more. Can one mention the major open spaces in suburbs and extended suburbs like the ones in Island City? They are very few. The planners should have planned at least 20 shivaji parks in suburbs and extended suburbs. It may come as a shock to many that Municipal corporation has no planners. It is high time the MCGM appointed planners as shortly the work on third development plan will commence. Why this apathy towards the open space exist is very difficult to comprehend. One reason could be that the National Park and Aarey Colony were designated as no development zones. Central portion of north mumbai is higher in elavation compared to that in the city. The planners probably became complacent and did not provide for large chunks of open spaces in the eastern and western suburbs. The national park and Aarey colony are strategically placed between eastern and western suburbs. The decision to make them into a no development zone was a wise one. But it failed on two accounts. The forest cover in the area gave way to rampant construction activity by real estate developers or slumlords thus reducing the vital ground cover which could have absorbed and retained water. Also it is from this area three rivers namely Mithy, Dahisar and Poinsar originate. It may have also been thought that these rivers can be successfully used to carry the surface water run off. These rivers could have been utilized to carry off or store the runoff. They could have become useful waterfronts, beautified and available to the citizens for recreation. Instead they were used as backyard dumps converting river into a nullah and then in to gutter by encroaching on them by rich and poor alike.

Institute of Environmental Architecture of Rachana Sansad had set up a cell to study river Mithi and organise citizen's group to run an

awareness campaign. The study has thrown up some startling facts. The river originates in the north and flows for 16 kms before it reaches the Arabian sea at Mahim. This river has been a subject of study by Institute of Ocenography, NEERI and Maharashtra's Pollution Control Board. These studies as well as he information polated from other sources indicate that

- 1) 20000 encroachments and unauthorised constructions have been reported on the banks of Mithi river, according to Dr Chandrashekhar,chairperson MMRDA, narrowing it considerably and thereby affecting its waterholding capacity.
- 2) The river apart from being used as a dumpyard for solid waste ie subject to discharge of 3.5 million liters per day of drainage outflow.
- 3) The flow of river has been bodily shifted towards east in the area under the control of Airport authority and almost turned at right angle to join the original flow apart from restricting the width of riverbed by constucting concrete retaining walls. It also took the liberty to reclaim the holding pond in the vicinity.
- 4) The complex of Bandra-Kurla has come up on one such holding pond of 135 hectares.The result of all these arbitrary actions was that water overflow the river, knocked down the eastern boundary wall of the airport,entered Bail Bazaar and the other areas of Kurla and caused the havoc.
- 5) The river Mithi meets the sea at Mahim. The sealink connecting Worli and Bandra originates from here. The area has been reclaimed heavily. The reclamation has been ten times compared to what was earlier envisaged. As a result the mouth of river mithi has narrowed down.

The fate of the other two rivers has not been any different. On those fateful days not only rivers overflowed but water level of the flood rose by up to six feet in the suburbs causing destruction of

property and human life.

In the light of this it will be pertinent to suggest measures restoring the status of rivers, lakes, ponds, wells, revitalising them and giving them back to the city and the people as areas of recreation.

The builders lobby has been lobbying lately for release of salt pan lands for construction of buildings. The move must be scuttled. The saltpan lands should be included in the Coastal Regulation Zone no.1. All lands in CRZ 1 must be subjected to a intensive programme of cultivation of mangroves.

It may sound uncharitable and harsh but it is a fact that the chief ministers have also been responsible directly for this disaster. Most of the plots gifted away by the chief ministers were part of areas which were low lying, marshy with mangroves. All these plots were huge holding ponds and would hold water till it was dispersed. Was this the reason why planners chose not to make provision for huge open spaces in the suburbs? It now stands to reason that the chief ministers must be stripped of these powers to allot lands. Alternatively, any grant of such land must be cleared after a due notice given, objections sought and public hearing conducted. Present chief minister needs to enlighten himself on the crisis that Mumbai faced. The urban planning policies of Maharashtra Government have been responsible for the dire strait the city finds itself in now. The chief minister refuses to learn lessons as is evident from his latest announcement saying that NDZ (No Development Zone) cannot permanently remain so. The builders lobby, after mill lands, is now eyeing the saltpan lands and lands in no development zone. The chief minister seems to be in a mood to oblige them. No wonder chief minister has been compared to Emperor Nero who is leading the city to its doom.

Table 1
The Major Flooding Areas in Mumbai

Year	Date of flooding	Total rainfall in the month in mm.	Highest rainfall in the 24 hours in mm.	Area flooded
1969	3, June	456.6	300.08	Flooded are Fort, GPO, Kalbadevi
1970	17, July	548.9	310.8	Round Temple, Grant Road
1973	11, June	365.8	301.7	Ambedkar Road, Parel, Naigaon, Dadar
1975	7, July	910.2	314.1	Mumbai Central
1977	17, July	1109.9	311.8	Colaba
1977	6, September	478.9	301.8	Kalbadevi
2005	26, July		944	Bandra-East, Andheri, Sakinaka, Marol, Kurla, Sharma Estate- Goregaon, Kandivali and Dahisar

Source: Times of India Archival Data

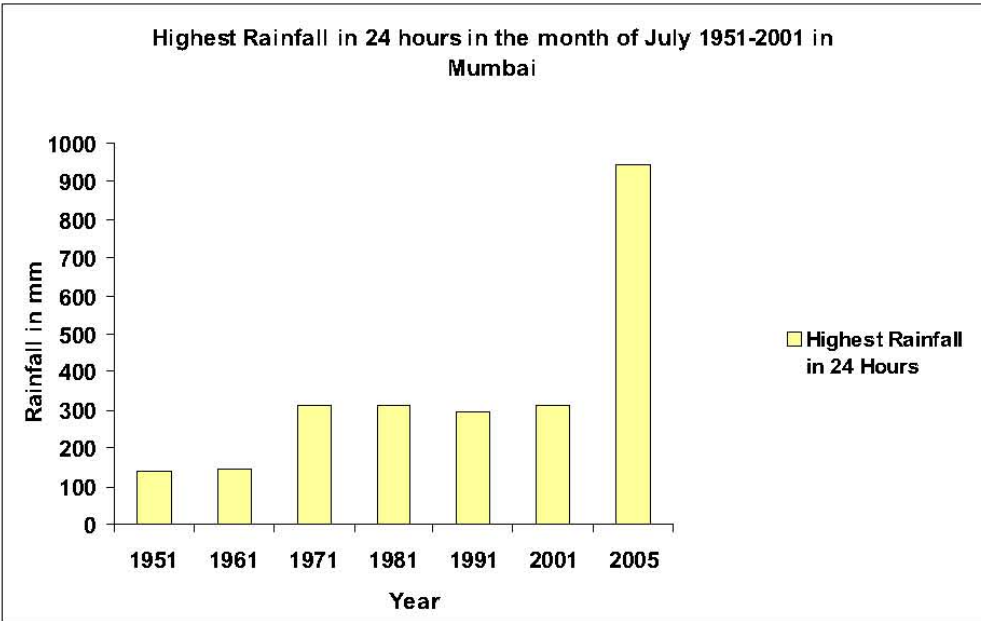
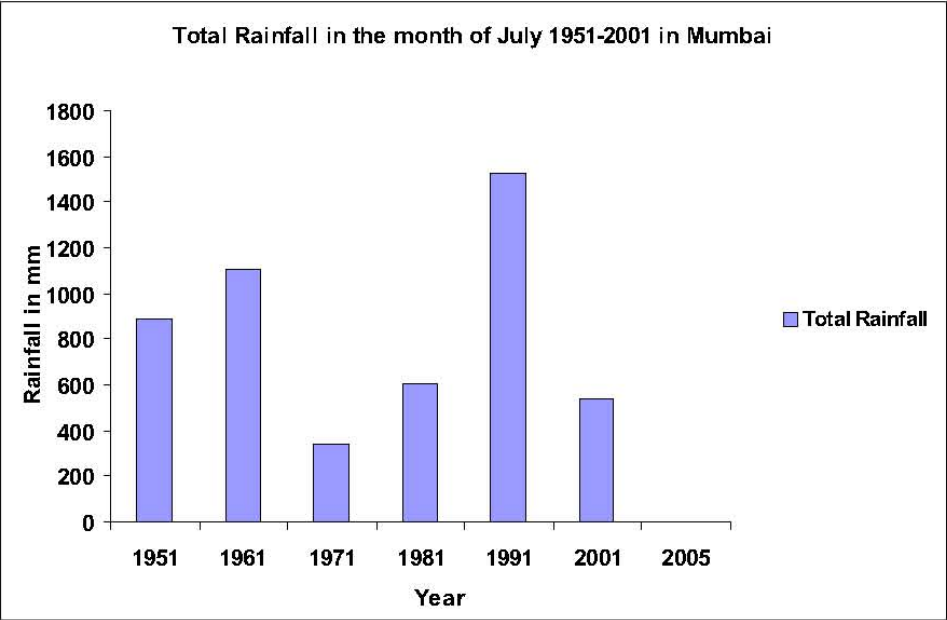
Table 2
Total rainfall in month of July in Mumbai - 1951 to 2001

Year	Rainfall	Highest Rainfall in 24 Hours
1951	891.8	138.4
1961	1109.8	144.5
1971	346.1	310.9
1981	608.4	310.9
1991	1524.4	295.0
2001	534.5	311.84
2005		944

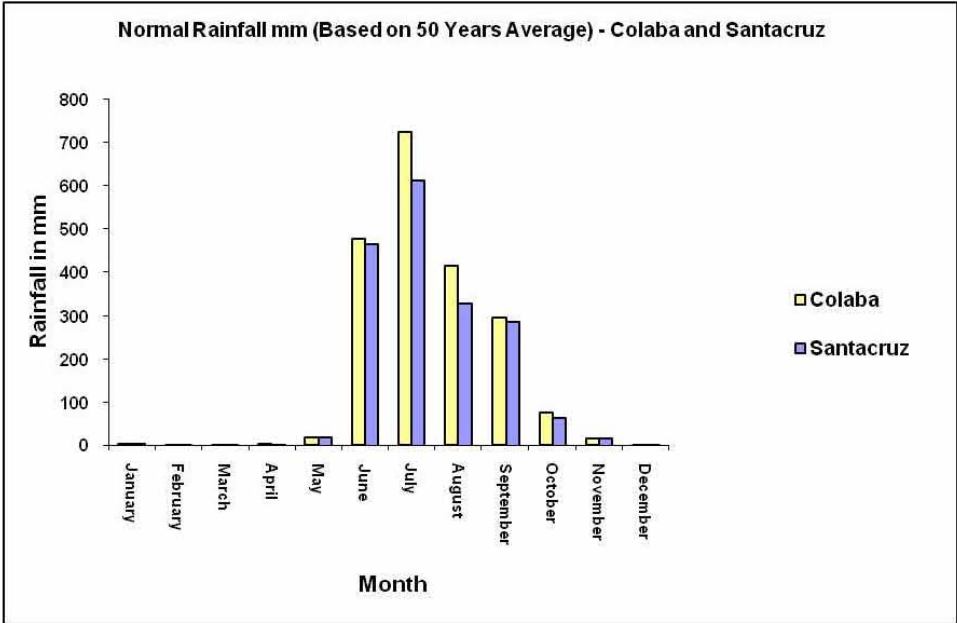
Table 3
General features of rainfall for the city and suburb of Mumbai
Rainfall at different Centres in BMR
Normal Rainfall mm (Based on 50 years averages)

Month	Colaba	Santacruz
January	3.1	4.1
February	1.3	2.0
March	0.8	1.5
April	2.5	1.5
May	17.3	18.3
June	476.0	464.8
July	725.9	613.4
August	414.8	328.9
September	295.7	286.0
October	75.7	64.5
November	15.7	17.5
December	0.8	2.3

Source: Gazetteer of Bombay District (1986) published in Draft Regional Plan for Bombay Metropolitan Region by BMRDA



GRAPHS © Author



Untreated Waste Is Killing Maharashtra's Major Rivers. Now Govt Has An Action Plan For 23 Of The Worst-Affected Stretches

BRINGING LIFE TO OUR RIVERS

Sunil Nair | TNN

Mumbai: Taking a leaf from the Mithi restoration plan, government has planned to undertake a clean-up of 23 of the most polluted river stretches in Maharashtra. Most of them are channels flowing through or along the fringes of urban centres such as Mumbai, Pune and Nagpur. They include rivers considered among the most sacred and life-sustaining in the region — the Godavari, Bhima and Krishna, which pass through ancient pilgrim towns and have the most fertile deltas.

The focus is on cleaning up water sources that are fast deteriorating due to untreated domestic waste and industrial effluents. Today, the streams flowing past bathing ghats in several towns of Maharashtra are considered even unfit to use for washing; waterborne diseases are spreading through mofussil areas, especially among sections who fetch water from a river bank for domestic use. "Our focus will be on 23 stretches where BOD (biological oxygen demand) level is more than six," said Maharashtra Pollution Control Board secretary Sanjay Khandare. "We will start with maybe one or two projects like, say, Pune or the Baseline creek and then go on to the rest."

The BOD level which Khandare refers to, indicates oxygen content needed to keep alive aquatic life. Higher the BOD, greater the pollution — BOD of drinking water, for instance, should be less than 1 mg/litre. Along stretches of the Godavari and Tapi in Nashik, Thane creek near Mumbai, and Bhima in Pune, BOD has touched 10 or more (see table), wiping out fresh water fish and algae.

There are over 150 types of fish found in the major rivers of Maharashtra including varieties of carp and catfish, but marine life is now mainly restricted to waterways upstream or downstream from an urban agglomeration. For instance, the 1,450-km-long Godavari —



BENDING IT LIKE THANE This stretch at Kalwa has seen improvements in pollution control this year

the longest river in the Peninsula — rises in the Western Ghats and flows across the Deccan into the Bay of Bengal; as sewage discharge is heavy in industrial and residential clusters at Nashik, Kopergaon and Nanded, the Godavari's waters in these areas is neither potable nor conducive for micro-organisms. Further downstream though, as pollutants disperse, the river returns to life.

The statewide clean-up is expected to involve several agencies with funds coming from the Jawaharlal Nehru National Urban Renewal Mission, a scheme aimed at improving the urban quality of life under which up to 90% of expenses are provided by the centre. "Funds will be available, the main thing is getting municipal corporations, industries, etc. to come together," said Khandare. The re-vamp would have to include construction of sewage treatment plants, relocation of industries and homes, and laying of drainage networks.

Environmentalists, however, say the project is a tough ask considering river action plans in India have a history of failure. "Every river in the country today is a dying river — because cleaning them up is an involved process, it calls for discipline on the part of municipal bodies," says Shyam Asolekar, head of Centre for Environmental Science and Engineering at IIT, Bombay. Ideally, he says, they need site-specific solutions which may range from diverting drainages to managing solid waste disposal. "Even human settlements have to be moved and provided sanitation facilities."

Debi Goenka from the Bombay Environment Action Group is more pessimistic: "There is frankly no precedent in our country. I don't think the Ganga or Yamuna Action Plans have worked."

To assess the extent of water pollution in urban areas, MPCB is studying samples collected from 45 rivers and three creeks through a programme funded by the centre. Data from the monitoring stations indicate rise or fall in oxygen

levels on a monthly, quarterly or bi-annual basis. In Pune and Nashik — as figures show — civic amenities have failed to keep pace with rising populations and therefore quantity of untreated waste spewed into the water has shot up to alarming levels. On the other hand, in rivers and creeks around Mumbai, pollution has de-

creased though not significantly.

Next, all the data will be compiled and put out in a 'Health of Rivers' report. Based on subsequent talks between the pollution control board, water resources and civic agencies, sites for the clean-up work will be short-listed, said officials.

MAHARASHTRA'S MOST POLLUTED

Stretches where biological oxygen demand (BOD)* is more than 6 mg/l

River Spot	BOD level in Apr '07	BOD level in Oct '07
Bhima Band Garden, Pune	11.4	28.6
Bhima Pargaon, Pune	5.6	16.8
Godavari Ramkund, Nashik	6.3	12.0
Tapi Nashik	6.5	12.0
Girna Jalgaon	8.0	10.0
Creek linked to Ulhas river estuary Thane	11.0	10.0
Mithi creek Mahim, Mumbai	19.0	9.0
Baseline creek Thane	10.0	7.8
Kalu river Kalyan	11.4	4.2

*BOD level determines how fast biological organisms use up oxygen in a body of water. Moderately polluted rivers have a BOD in the range of 2-8 mg. Source: MPCB

Twist in the Mithi tale: Oxygen level on the rise

Sunil Nair | TNN

Mumbai: They have spent more than Rs 250 crore to clean up the 17-km stretch, scooped out over two lakh cubic metres of silt from the riverbed, and blasted away an equal volume of rock. Nearly a thousand commercial units including scrap yards and fuel recycling workshops spewing toxic waste into the stream were shifted. Now finally after all the dredging, desilting and demolishing, the gains from an unprecedented river clean-up project in Maharashtra are beginning to show.

According to data collected by testing water samples through the April 2005-October 2007 period, pollution levels in the Mithi have dipped significantly, touching a new low in October 2007.

The surface water in the Mahim creek — where the Mithi meets the sea — is tested by the Maharashtra Pollution Control Board (MPCB) as part of centrally-funded pro-

grammes known as the Global Environment Monitoring System (GEMS) and Monitoring of Indian Natural Aquatic Resources (MINARS). From a death-affirming 34 on the BOD (biological oxygen demand) scale in April 2005 — more the BOD, greater the contamination — the water here now indicates a slightly higher than moderate pollu-

STRAIGHT FROM THE LAB

tion level of nine. It may still not be sufficient to sustain marine biodiversity, but between April and October 2007, oxygen levels at the mouth of the river have distinctly improved.

"There are a set of reasons for it," says Vikas Tondwalkar, head of the Mithi River Development Authority. "Less untreated sewage is now flowing in. Also, the Mithi's flushing capacity has increased because we widened the course

and deepened it by removing rocky outcrops on the bed. So flow has improved."

The restoration was taken up after the deluge of 2005 when the banks of the river overflowed, flooding the north-west suburbs and destroying life and property. Two years later, the course has widened and deepened and embankments have been raised. The water still contains pesticides, heavy metal traces and faecal matter, but the challenge has narrowed down to plugging open drains flowing in from settlements which are not covered by the city's underground drainage network.

"Currently, the drainage system covers only 60% of the city. That needs to be tackled," says Tondwalkar.

Experts say the time is right for an independent assessment of the work. "I am not sure about MPCB data. I think it needs more investigation," says environmentalist Debi Goenka.



WHERE IT ALL BEGAN Once described as a nullah, the Mithi is now a role model for pollution control

Mention Mithi, and quiet goes the Central govt



Another Monsoon's Drawing Near, But Central Aid For Mithi Clean-Up Is Far From Coming

Our Political Bureau
MUMBAI

THE Maharashtra government's sluggish performance in carrying out urban reforms has hit Mumbai where it should hurt the most. The Centre has not yet approved a Mithi river development and protection plan proposed by the state government under the Jawaharlal Nehru National Urban Renewal Mission (JNURM). A blocked Mithi was a major cause of the devastating floods in Mumbai in July 2005.

The Centre has made it clear that unless certain drastic reforms are not carried out, many of Mumbai's infrastructure projects may not get assistance under JNURM. Around 450 people had lost their lives in the July 2005 floods in Mumbai, and a blocked Mithi had been blamed for it. Yet, almost two years since the terrible deluge that brought Mumbai to a complete halt for more than three days, neither the Centre nor the state government have shown a sense of urgency in putting this crucial project on track.

Far from sanctioning the project, the Centre has actually trimmed the project outlay from the initial Rs 1,298 crore to Rs 706 crore, charged former BJP MP Kirit Somaiya on Monday. Mr Somaiya, who had filed a PIL before the Bombay High Court after 26/7, against the state government's neglect of the Mithi river, said

the river continues to remain in its pre-July 2005 condition. "If it rains on the same scale as in July 2005, the river could get flooded again," Mr Somaiya said.

The state government had submitted the Mithi project, along with other JNURM proposals, to the Centre in January 2006. The Centre, however, rejected the proposal and directed the state government to get a technical feasibility study done by the Nagpur-based National Environmental Engineering and Research Institute (NEERI). In September 2006, NEERI submitted its feasibility study to the MMRDA, which is the nodal agency for the project. Earlier this month, the MMRDA submitted a fresh proposal to the Centre, but it has not been approved so far.

Mr Somaiya charged that the MMRDA has not done its bit in cleaning the river. The BMC and the MMRDA are doing the river cleaning work in two phases, of which the first has been completed. Mr Somaiya said while the BMC, ruled by the Shiv Sena-BJP alliance, has been desilting the river, the MMRDA has not contributed so far to the work. "This is what the Comptroller and Auditor General of India has pointed out in its report on floods. The CAG has maintained that the MMRDA does not have any data on desilting of Mithi river. The MMRDA's role in Mithi project has to be investigated," Mr Somaiya said.