

**Introduction to Urban Planning**  
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**Indian Institute of Technology, Roorkee**

**Lecture - 25**  
**Public Health and Urban Planning- III**

Welcome to the course introduction to urban planning. In today's session we will continue with our exploration on public health and cities. In the last session, we saw World Health Organization report and then we looked at certain cases from London, Paris and New York. And we saw how the responses vary with time place and people. Today we will see Indian cases, particularly Mumbai and Surat.

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**Coverage**

- ① Bombay Plague (1896-1897)  
Planning legislation and urban reforms
- ② Surat Plague of 1994  
Urban reforms to control and keep the city healthy and safe thereafter.

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Accordingly, we will cover Bombay plague which happened during that 1896-1897. We will review the conditions and responses at that time are look at initiation of planning legislation in the country and the urban reforms that took place. Then we will look at Surat plague of 1994. And also look at the relevant urban reforms that were taken to control and keep the city healthy and safe there after.

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### Learning outcomes

- ① Compare the Indian context with the global changes with the help of Bombay and Surat Plague Case.
- ② Review employment of the country in transforming the health conditions of our cities through urban reforms.
- ③ List key events, key interventions and review Indian context.

The expected learning outcomes after completion of the session, you should be able to compare the Indian context with global changes with the help of Bombay and Surat plague case studies. You should be able to review our journey as a country in bringing changes in the health conditions of our cities through urban reforms. You should be able to list key events, key interventions and review them with our own context temporarily.

Like we started seeing that health is just not the matter of disease, infrastructure, finances, human resource, the staff and the associated number with it. Rather also, it reflects our housing condition, hygiene, socio-economic divide, power, legislation, vulnerability, emotions, trauma, affordability, law and order, governance, leadership and attitude.

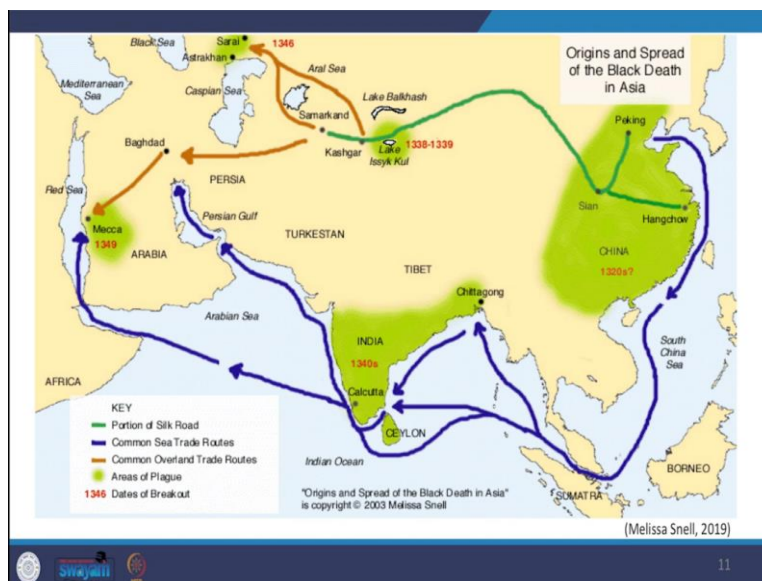
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## Bombay Plague (1896-1897)

We will look at the Bombay plague which happened during 1896-97. We will look at it because it was transformative time for us. Experienced during this time was key in our planning and health history for the development of planning legislation and many urban planning interventions regarding health in our country. The publication by the science wire and the health history suggests that Bombay plague reached India via naval trade routes in September 1896.

It was the bubonic plague, which we touched upon in our previous class. It was suggested to be originated in the Chinese mainland during the early 19th century. The ruling Queen dynasty.

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At that time was by some account reluctant to quarantined patientce. Since it meant separating them from their families and doing so conflict with their ethical teaching.

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**Bombay Plague (1896-97)**

- Bombay Plague happed during 1896-1897.



- The plague spread across the Chinese mainland for almost a century and eventually spread southeast, reaching the port cities by 1894 and killing more than 70,000 people on its way.

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The plague spread across the Chinese mainland for almost a century and eventually spread South East reaching the port cities by 1894 and killing more than 70,000 people on its way. You may see how cities have been always vulnerable on account of its attribute of connectivity. We had seen from conference writing that how people reacted to epidemic ranged widely according to the time, place and the social condition of those who had to live through them.

Professor Dossal in her writing published 1999 tells that as a result of death and the exodus of the panic stricken people were just moving out of the city.

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## Bombay Plague (1896-97)

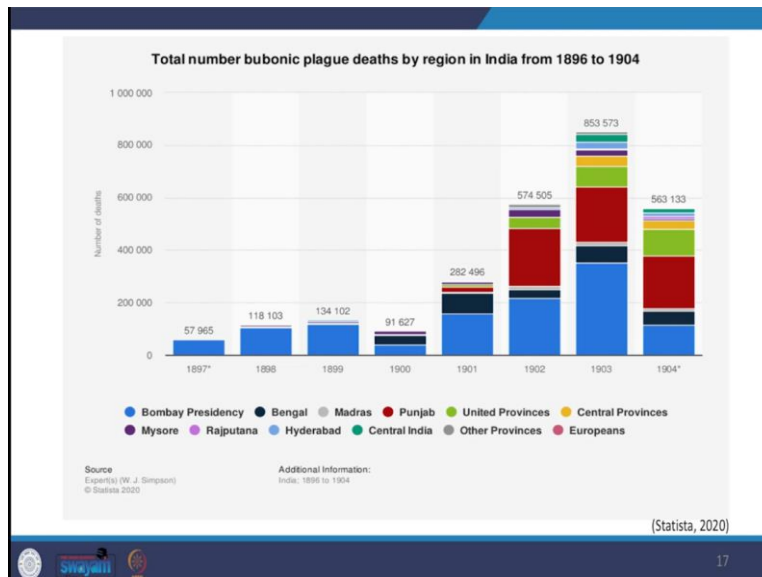
- More than 5 lacs of the city's inhabitants died.
- Approximately **20 to 30 %** of its millworkers, fled the city, crippling Bombay's commercial and industrial activities, including the cotton mill.
- Case of Yellow fever in Philadelphia in **1793**.
- Here we see that the mill workers fled the city and it disturbed the commercial and the industrial activities.
- The city's terrible housing conditions aided the spread of the disease.
- The Death rates In working-class neighborhoods climbed as high as **12.5 %**.
- So we see, high death rate and again effecting the working class the most.



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The city's population of more than 8 lakhs was reduced to half. More than 5 lakhs of the city's inhabitants including approximately 20 to 30% of its male workers fled the city, crippling Bombay's commercial or industrial activities, including the cotton mill. So, we may recollect that we saw in case of yellow fever in Philadelphia in 1793, the well to do left at the first threat of it. Here we see that the millworkers fled the city and it disturbed the commercial and industrial activities.

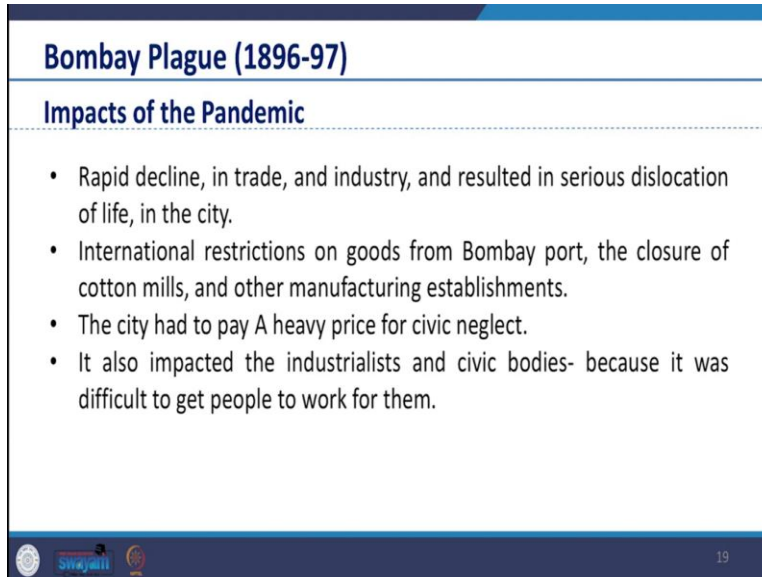
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The city's terrible housing conditions aided the spread of the disease. The death rate in working class neighbourhoods climbed as high as 12.5%. So, we see high death rate and again affecting the working class the most.

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**Bombay Plague (1896-97)**

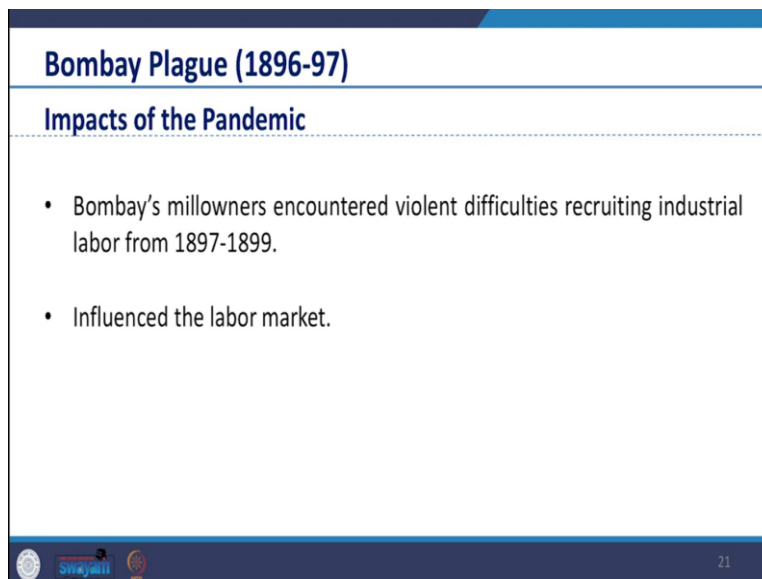
**Impacts of the Pandemic**

- Rapid decline, in trade, and industry, and resulted in serious dislocation of life, in the city.
- International restrictions on goods from Bombay port, the closure of cotton mills, and other manufacturing establishments.
- The city had to pay A heavy price for civic neglect.
- It also impacted the industrialists and civic bodies- because it was difficult to get people to work for them.

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There was rapid decline in trade and industry and resulted in serious dislocation of life in the city. Because of there was international restriction on goods from Bombay port, the closure of cotton mills and other manufacturing establishments. The city had to pay a heavy prize for civic neglect. So, we see how it impacted the economy and harshly damaged the quality of life for the people. And because of that, it also impacted the industrialist and civic bodies because it was difficult to get people to work for them.

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**Bombay Plague (1896-97)**

**Impacts of the Pandemic**

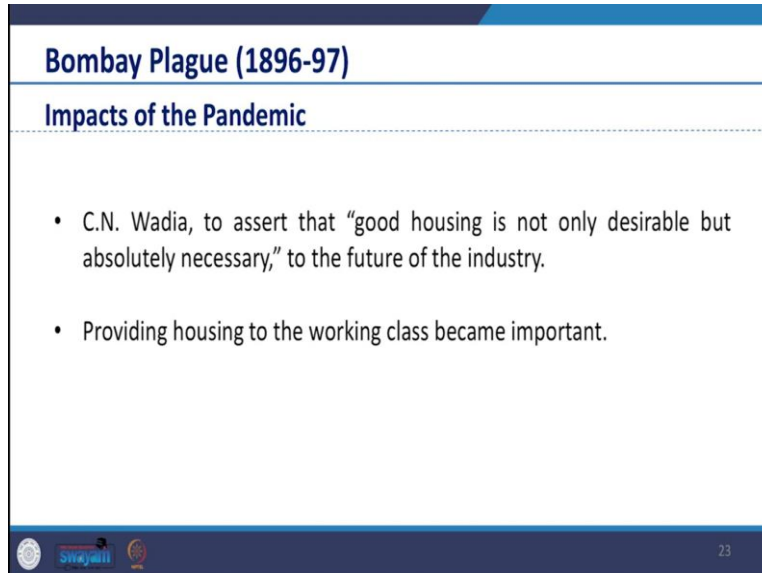
- Bombay's millowners encountered violent difficulties recruiting industrial labor from 1897-1899.
- Influenced the labor market.

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Bombay's mill owners encountered violent difficulties recruiting the industrial labourers from 1897 to 1899. As many workers had fled the city. So, we see it also influenced the labour market.

You will connected with the current situation also what you had witnessed in the past one year. For the next two decades, Bombay's mill owners regularly discussed the conditions of millworkers housing which led some mill owners such as C.N. Wadia.

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**Bombay Plague (1896-97)**

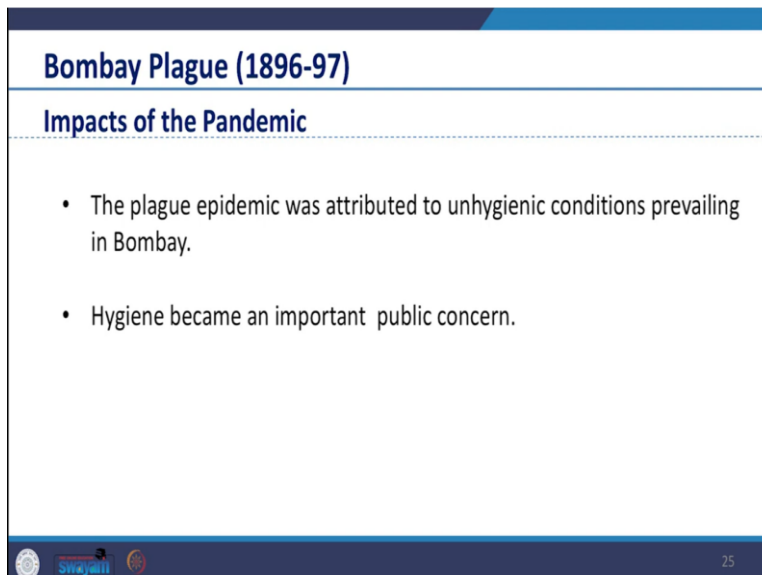
**Impacts of the Pandemic**

- C.N. Wadia, to assert that “good housing is not only desirable but absolutely necessary,” to the future of the industry.
- Providing housing to the working class became important.

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To assert that good housing is not only desirable, but absolutely necessary to future of the industry. So, we see here how providing housing to the working class became important.

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**Bombay Plague (1896-97)**

**Impacts of the Pandemic**

- The plague epidemic was attributed to unhygienic conditions prevailing in Bombay.
- Hygiene became an important public concern.

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The plague epidemic was attributed to unhygienic conditions prevailing in Bombay. We see hygiene became an important public concern.

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**Bombay Plague (1896-97)**

**Impacts of the Pandemic**

- It compelled the Bombay Government, the Bombay Municipal Corporation, as well as public-minded citizens to look closely into civic matters.
- Such as the cleaning of streets, disposal of sewerage, inadequate and poorly ventilated housing and modes of transport.
- The Municipality had to take actions to ensure these environments.

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It compels the Bombay government, the Bombay Municipal Corporation, as well as public minded citizens to look closely into civic matters such as cleaning of streets, disposal of sewerage, inadequate and poorly ventilated housing and modes of transport. The municipality had to take actions to ensure these environments. As per dosis publication on 6th October at 96 municipal commissioner of Bombay city P.C Snow ordered all persons suspected to have the plague to be removed to the hospitals and segregated from the rest of the population.

Segregation was believed to be the most effective way of containing the epidemic. The epidemic diseases act of March 1897, gave additional powers to the Civic authorities to detain and segregate plague suspects, inspect, disinfect, evacuated and even demolished dwellings suspected of being contaminated. So, we see how the art came in and additional powers were given to this civic bodies. And the decisions were tough once.

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**Bombay Plague (1896-97)**

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**Pandemic Law Enforcement**

- Fairs and pilgrimages were stopped.
- Road and rail travelers detained for inspection.

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Fairs and pilgrimages were stopped and road and rail travelers detained for inspection. In short government officials were empowered to act decisively and contain the disease. We see different actions which were taken which also involves power distribution and political willingness. Professor Dossal documents that while some left the city.

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**Bombay Plague (1896-97)**

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**Pandemic Law Enforcement**

- Some left the city, others tried to hide family members and friends from being detected by the plague inspection committees.
- Municipal vans which carried patients to the Arthur Road Hospital, at Byculla, were often stoned by persons who feared being taken to hospitals.
- It was seen as an act which defiled and caused the loss of caste status and even death.”

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Others tried to hide family members and friends from being detected by the plague inspection committees. Municipal vans, which carried patients to the Arthur road hospital at Byculla were often stoned by persons who feared being taken to hospitals. It was seen as an act which defiled and cause the loss of caste status and even death.

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## Bombay Plague (1896-97)

### Pandemic Law Enforcement

- To protest against the high-handedness of civic officials a number of hartals or strikes were called by fruit and vegetable vendors.
- Important among the protests were those of mill workers who in late October 1896 protested at the forcible carrying away of two women mill workers from the Jacob Sassoon Mill because they were suspected of having contracted the plague.
- The workers threatened to destroy the hospital and free the patients who they said were 'victims not of the plague but of high-handedness of the plague inspection committee.'
- The police had to be called in to restore order.

There were a lot of protests to protest against the high handedness of civic officials. A number of hartals or strikes were called by fruit and vegetable vendors. Important among the protests were those of millworkers who in late October 1896, protested at the forcible carrying of a of two women male workers from the Jacob Sassoon mill because they were suspected of having contracted the plague.

The workers threatened to destroy the hospital and free the patients who they said were victims not of the plague but of high handedness of the plague inspection Committee. The police had to be called in to restore order. You can see the emotional stress the class struggle, different vulnerability and the challenges the urban governance was expected to handle.

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**Bombay Plague (1896-97)**

**Pandemic Law Enforcement**

- A more serious threat, came from the Julahas or weavers from north India.
- They resented the manner in which a house search team led by G.R. Gilder, an officer in the plague department had entered a Julaha home and suspecting a twenty year old girl to have plague ordered physical examination and removal to hospital.
- Which led to altercation and riots .

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So, as per the record we see a more serious threat came from Julahas has or the weavers from North India. They resented the manner in which a house search team led by G.R Gilder, an officer in plague department had entered a Julaha her home and suspecting a 20 year old girl to plague ordered physical examination and removal to hospital which led to altercation and riots.

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**Bombay Plague (1896-97)**

**Pandemic Law Enforcement**

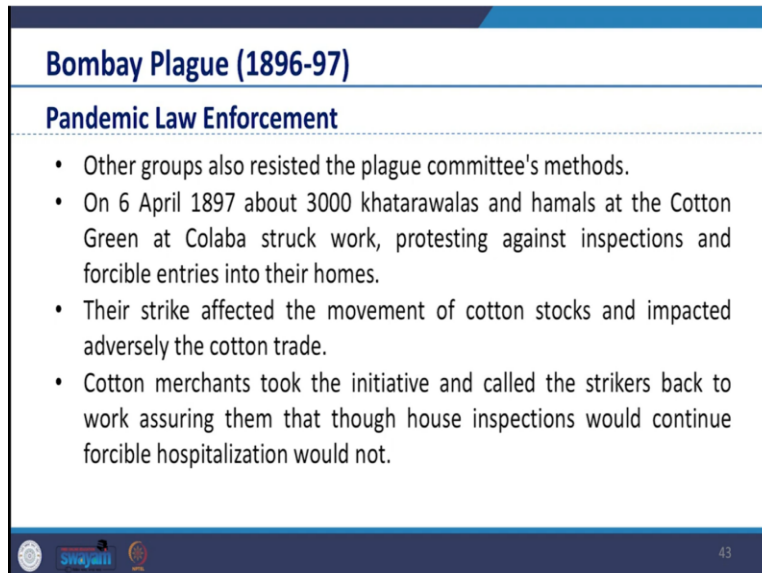
- The police opened fire but rioting which had begun in Bellasis Road, spread to near by Duncan road, Babula Tank, Grant Road and Parel.
- It also spread to Foras and Falkland roads and on to Bandra where butchers refused to supply meat.
- So serious was the threat to law and order that the Bombay Government ordered the military, naval and volunteer forces to supplement the efforts of the police force.
- 247 men were arrested for rioting, of whom 205 were sentenced to various terms of imprisonment while others were discharged for want of identification.

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The police opened fire but rioting which had begun in the Bellasis roads spread to nearby Duncan Road, Babula tank, Grant road and perell. It also spread to forests and fault land roads and only Bandra where butchers refused to supply meat. So, serious was the threat to law and order that the Bombay government ordered the military, naval and volunteer forces to supplement the efforts of the police force. 247 men were arrested for rioting of whom 205 were

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**Bombay Plague (1896-97)**

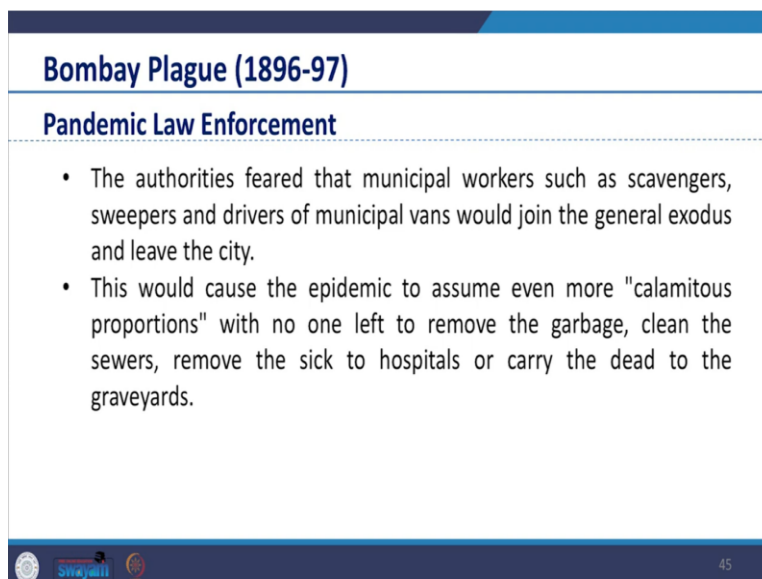
**Pandemic Law Enforcement**

- Other groups also resisted the plague committee's methods.
- On 6 April 1897 about 3000 khatarawalas and hamals at the Cotton Green at Colaba struck work, protesting against inspections and forcible entries into their homes.
- Their strike affected the movement of cotton stocks and impacted adversely the cotton trade.
- Cotton merchants took the initiative and called the strikers back to work assuring them that though house inspections would continue forcible hospitalization would not.

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**Bombay Plague (1896-97)**

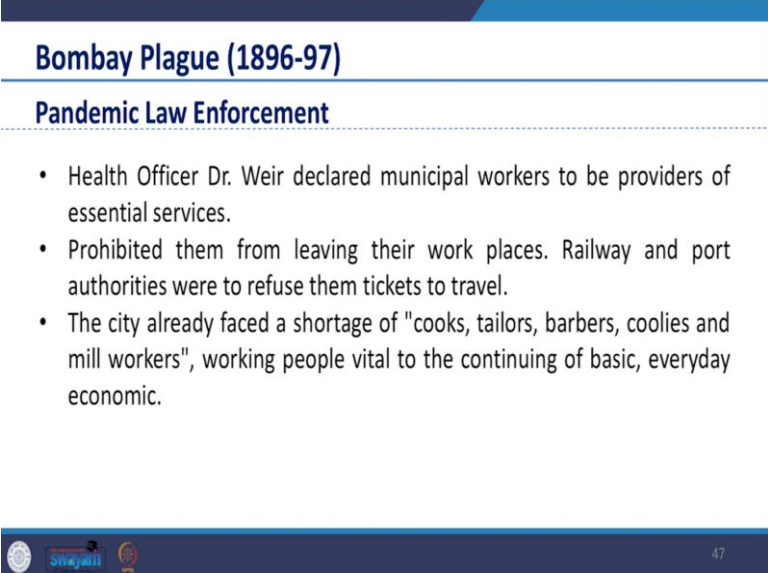
**Pandemic Law Enforcement**

- The authorities feared that municipal workers such as scavengers, sweepers and drivers of municipal vans would join the general exodus and leave the city.
- This would cause the epidemic to assume even more "calamitous proportions" with no one left to remove the garbage, clean the sewers, remove the sick to hospitals or carry the dead to the graveyards.

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The authorities feared that municipal workers such as scavengers, sweepers and drivers of municipal vans would join the general exodus and they would also leave the city. This would cause the epidemic to assume even more calamitous proportions with no one left to remove the garbage clean the sewers remove the sick to hospitals or carry the dead to the graveyards.

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**Bombay Plague (1896-97)**

**Pandemic Law Enforcement**

- Health Officer Dr. Weir declared municipal workers to be providers of essential services.
- Prohibited them from leaving their work places. Railway and port authorities were to refuse them tickets to travel.
- The city already faced a shortage of "cooks, tailors, barbers, coolies and mill workers", working people vital to the continuing of basic, everyday economic.

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To prevent the nightmare from worsening health officer declared municipal workers to be providers of essential services and prohibited them from leaving their workplace. Railway and port authorities were to refuse them tickets to travel. If necessary they were to be detained by force. The city already faced a shortage of cooks, tailors, barbers, coolies, and mill workers, working people vital to continue of the basic everyday economic.

You see how critical was the service of these people that it affected the health and economic status and the working of the city in totality.

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**Bombay Plague (1896-97)**

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**Public Health and City Condition**

- Kidambi writes that “Colonial authorities grew increasingly concerned about the public health posed by the filth housing condition of the city’s labour classes.”
- The inadequate sanitary condition in the dwellings of the inhabited by the poor were perceived as the primary cause for the spread of the epidemic in the city.

(Kidambi, 2001)



50

Kidambi writes that colonial authorities grew increasingly concerned about the public health posed by the filth housing condition of the city's labour classes. The inadequate sanitary condition in the dwellings of the inhabited by the poor were perceived as the primary cause for the spread of epidemic in the city. Finding solution to the problems of overcrowding and insanitary housing became a matter of critical importance. If Bombay as a city had to fulfill it is royal agenda.


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**Bombay Plague (1896-97)**

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**Public Health and City Condition**

- One of the major consequence of the concern was the formation of the City Improvement trust in 1898.
- The express intension of clearing the city of its insanitary areas and mitigating the problems caused by the terrible living condition of the poor.



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One of the major consequence, this one is important for us to relate of concern was formation of the city improvement trust in 1898. The Express intension of clearing the city of its insanitary areas and mitigating the problems caused by the terrible living condition of the poor.

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## Bombay Plague (1896-97)

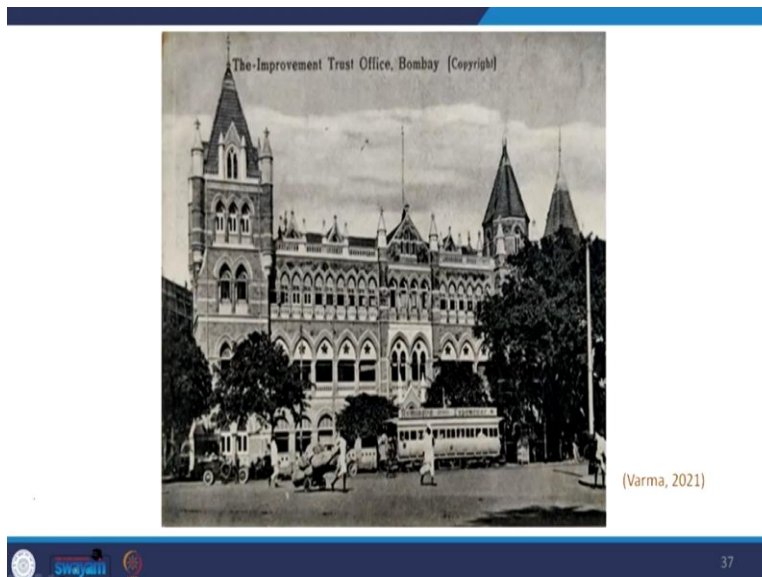
### Public Health and City Condition

- Dossal writes that “To deal with the crisis caused by the bubonic plague, a supra- municipal body known as the Bombay City Improvement Trust was established on 9 November 1898.”
- During the first decade of its existence the BCIT undertook thirty-three projects.

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Dossal writes that to deal with crisis caused by the bubonic plague a supra municipal body known as Bombay city improvement trust was established on 9th November 1898. During the first decade of its existence, the BCIT undertook 33 projects.

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In this image, we can see the picture of the office building of BCIT as per the publication in the planning perspective in 2013.

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## Bombay Plague (1896-97)

### City Improvement Trust

- Bombay City Improvement Trust, eventually inspired the establishment of similar trusts in other Indian cities.
- Initially in Calcutta (1911), in Kanpur (1919), Lahore (1936), and Delhi (1937).

(Datta, 2013)



Bombay city improvement trust, eventually inspired the establishment of similar trust in other Indian cities. Initially in Kolkata, in 1911, then also notably in Kanpur in 1919, Lahore in 1936 and Delhi in 1937. So, we see the original planning legislation in Indian context.

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## Bombay Plague (1896-97)

### City Improvement Trust

Kidambi writes that "These problems were sought to be dealt with an ambitious scheme that would reorder the Bombay built environment."

The Bombay improvement trust was entrusted with:

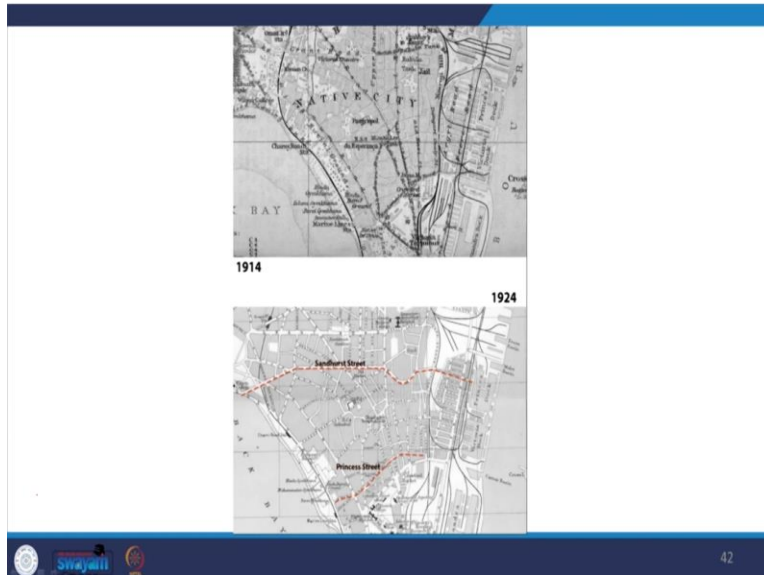
- 1) The work of making new streets.
- 2) Opening out crowded locality.
- 3) Reclaiming land from the sea to provide room for expansion of the city and the construction of the sanitary dwelling for the poor.



Kidambi writes that these problems were sought to be dealt with an ambitious scheme that would reorder the Bombay built environment. The Bombay improvement trust was entrusted with the work of making new streets, opening out the crowded locality, reclaiming land from the sea to provide room for expansion of the city and construction of the sanitary dwelling for the poor.

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In this image, you can see how streets were reorganized and how the crowded locality were opened up.

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**Bombay Plague (1896-97)**

**City Improvement Trust**

“Trust was not only suppose to carry these work urgently but also to provide for future development of the city to enhance its image as a center of imperial political and commercial power”.

(Kidambi, 2001)

Trust was not only supposed to carry these works urgently, but also to provide for future development of the city to enhance its image as a center of imperial political and commercial power.


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**Bombay Plague (1896-97)**

**City Improvement Trust**

“This intervention by state in the sphere of urban development through creation of a special agency devoted solely to civic infrastructure was the first attempt of its kind in colonial India”.

(Kidambi, 2001)



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The intervention by the state in the sphere of urban development through creation of a special agency devoted solely to civic infrastructure was the first attempt of its kind in colonial India.


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**Bombay Plague (1896-97)**

**City Improvement Trust**

Dossal narrated agenda was “The decongestion of over-crowded parts of the Indian town, the better ventilation and cleaning up of the unsanitary areas, as well as the provision of additional housing for the poor and the police force”.

(Dossal, 1999)



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Dossal narrated in her writing agenda was the decondition of overcrowded parts of Indian town, the better ventilation and cleaning up of the unsanitary areas, as well as provision of additional housing for the poor and the police force.

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**Bombay Plague (1896-97)**

**City Improvement Trust**

- Additional housing and police force show growing fear of lawlessness on the part of Bombay's authorities.
- The spread of nationalism and extremist politics in the country coupled with an increasing number of industrial strikes since the 1890s had raised doubts about the state's ability to deal with political strife.

(Dossal, 1999)

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Additional housing and the police force show growing fear of lawlessness on the part of Bombay's authority. So, the way you heard before what kind of situation was there so you see how that the police force also came in here. The spread of nationalism and extremist politics in the country, coupled with increasing number of industrial strikes since 1890 had raised doubt about the states ability to deal with the political strife.

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**Bombay Plague (1896-97)**

**City Improvement Trust**

- Mass mobilization in politics had come to stay. Experience of dealing with plague victims too had made officials more sensitive to class divisions.
- Conflicts which had earlier been seen in terms of religious, ethnic and communitarian divides, were increasingly being seen in class term.

(Dossal, 1999)

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Mass mobilization and politics had come to stay experience of dealing with plague victims to had made officials more sensitive to the class divisions. Conflicts which had earlier been seen in terms of religious ethnic communitarian divides were increasingly being seen in class term.

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**Bombay Plague (1896-97)**

**City Improvement Trust**

- Financial constraints and the decision to turn to the Government of India for aid led to a review in 1907-8 of the work done by the Improvement Trust over a period of a decade.
- All efforts were praised by the trust but need for comprehensive , harmonious and futuristic plan was for the development of Bombay Town and Island was also realized.

(Dossal, 1999)

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Financial constraints and the decision to turn to the Government of India for aid led to review in 1907 and 8 of the work done by the improvement trust over a period of decades. So, you also see the financial problems coming in. All efforts were praised by the trust, but there was need for comprehensive, harmonious and futuristic plan for development of Bombay town and Island and this need was also realized at this time.

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**Bombay Plague (1896-97)**

**City Improvement Trust**

- Shortage of housing had meant increase in rents and making the Mumbai city more expensive to live in than London.
- Middle and poorer class of persons were reduced to great straits in their endeavor to house themselves at a reasonable rate within reach of their daily objective.
- Health and the aligned interventions also created problem of affordability of housing.
- Quoting from prof Dossal The poor had to pay anything from Rs. 3.5 to Rs. 5 for a small apartment per month (the monthly salary of a dock or mill worker in this period was about Rs. 20/ per month.

(Dossal, 1999)

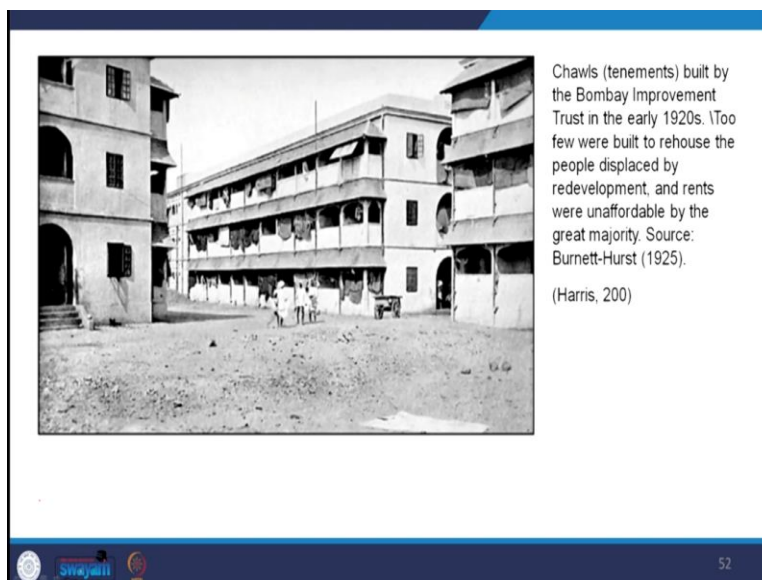
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Highlighted by Professor Dossal, we see that shortage of housing had meant increase in rents and making the Mumbai city more expensive to live in than London. Middle and poorer class of person were reduced to great straits in there endeavor to house themselves at a reasonable rates

within reach of their daily objectives. So, you see the middle class and the poor were being drifted away and away from the city.

Health and the aligned interventions also created problems of affordability of housing. Quoting from Professor Dossels writing the poor had to pay anything from rupees 3.5 to rupees 5 for a small apartment per month. The monthly salary of a dock or a mill worker in this period was about rupees 20 per month. Shortage of housing had meant that rent had risen considerably and threatened if check to make Bombay a more expensive city to live in than London.

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In this image, you can see the Chawls built by Bombay improvement trust in early 1920. Very few were built to rehouse the people displaced by redevelopment rents were unaffordable by the great majority.

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**Bombay Plague (1896-97)**

**City Improvement Trust**

- The environment was of Crisis management.
- There was need for long term planning to meet the needs of the city.
- There was urgent need of housing was required not only for the sethias and industrialists of Bombay but also for the middle classes and the poor and also there was need for improved transport.
- There was concern for class in the plans put forward by government. If we reflect upon what we saw in history segment also.
- No longer could government could ignore the quality of life of the poor, as the neglect to could be life threatening for all.

(Dossal, 1999)

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The environment was of crisis management. There was need for long term planning to meet the needs of the city, there was urgent need of housing required not only for the sethias and industrialist of Bombay but also for the middle classes and the poor. And also there was need for improved transport. There was concern for the class in the plans put forward by the government. If we reflect upon what we saw in history segment also, these kind of issues were raised.

No longer could government ignore the quality of life of the poor, as the neglect could be life threatening for all.

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**Bombay Plague (1896-97)**

**City Improvement Trust**

- Large numbers of industrial workers in India's leading industrial city could simply not be ignored.
- Forums representing their interests were still tenuous for it was the interests of the colonial government, of landlords, businessmen and industrialists which were protected by bodies such as the Municipal Corporation, the City Improvement Trust, the Millworkers' Association, the Railway Boards and the Chamber of Commerce.
- The focus in 1907- 8 was to plan in a coordinated manner taking into account the needs of the city for the next twenty years .

(Dossal, 1999)

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Large numbers of industrial workers in India leading industrial city could simply not be ignored. Forums representing their interest was still tenuous for it was the interest of colonial government of landlords, businessman and its industrialists which were protected by bodies such as municipal Corporation, the city improvement trust, the mill owners Association, the railway boards and the Chamber of Commerce.

The focus in 1907-8 was to plan in a coordinated manner taking into account the needs of the city for the next 20 years. So, you can see how the long term planning things are coming into picture here.

**(Refer Slide Time: 21:37)**

**Bombay Plague (1896-97)**

**City Improvement Trust**

- In this period reclamation of additional land from the sea was seen as one solution.
- Proposals for reclaiming land at the Back Bay proposed earlier in the 1860s were once again taken up for consideration.
- Improved transport especially, suburban railway lines would enable large numbers of middle and lower classes of persons to shift their residence to Mahim woods or even further north into the neighbouring island of Salsette.

(Dossal, 1999)

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In this period, reclamation of additional land from the sea was seen as one solution. Proposals for reclamation land at the bay back proposed earlier in 1860s were once again taken up for consideration. Improved transport specially suburban railway lines could enable large number of middle and lower class of persons to shift their residence to the Mahim woods or even further north into the neighbourhoods island of Salsette.

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**Bombay Plague (1896-97)**

**City Improvement Trust**

- This would reduce congestion in the city itself and make available housing at lower rates and in better and healthier surroundings.
- Important in Governor Sydenham Clarke's future plans for Bombay was the need to keep the island divided into natural areas.
- "Harmonious" planning was not about the integration of classes and occupational groups, but rather a conscious effort to keep them distant and separate in clearly identifiable localities.
- Distance would protect them from each other.

(Dossal, 1999)

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This would reduce congestion in the city itself and make available housing at lower rates and in better and healthier surroundings. Important in Governor Clarke's further plan for Bombay was the need to keep the island divided into natural areas. A further development would take place according to class and occupation. And the divisions sought as far as possible be localized, that is remained separate.

Harmonious planning was not about integration of class and occupational groups, but rather a conscious effort to keep them distant and separate and clearly identifiable localities. Distance would protect them from each other. So, we see how health is a complex and interlinked aspect. It varies with community, economy and politics. It reflects a state as well as impact our housing, socio economic condition and questions the power legislation raises concern of vulnerability, emotions, trauma, affordability, law and order and governance.

We see that the working class was impacted the most and at the same time, their services was also crucial to keep the city functioning. So, we saw formation of CIT and spatial planning, sanitation, transportation and housing interventions. However, the working class was placed and segregated at a distance place in the new plan, acknowledging addressing classes and occupational divide in the plan was yet to happen.

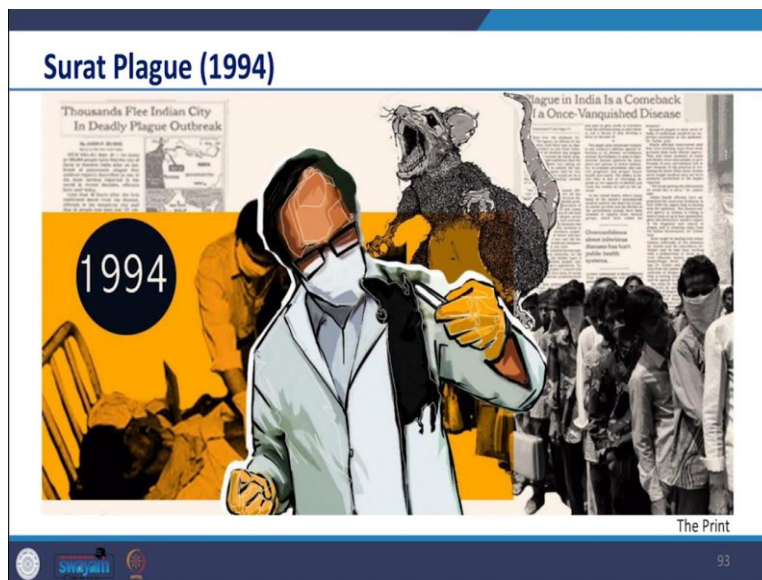
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## Surat Plague(1994)

Now, let us look at the other case study Surat. We will read through the narratives of another case, plague that happened in Surat in aftermath of floods in 1994.

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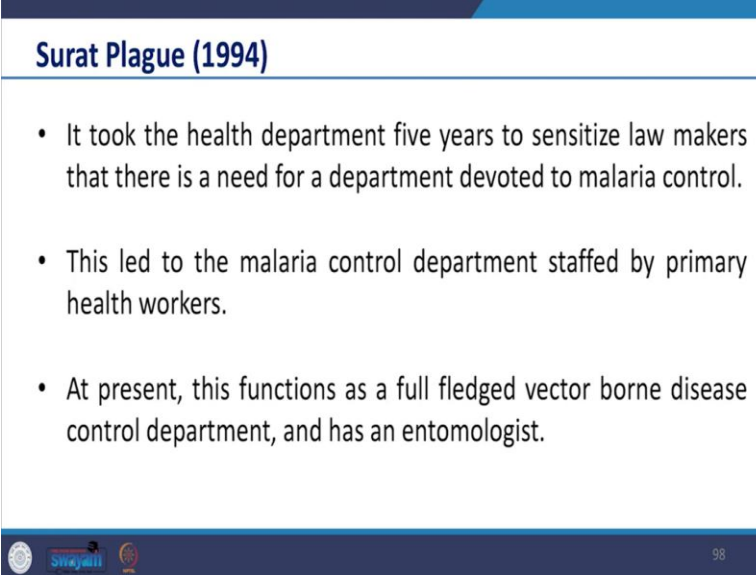


Through this particular case, we learn about yet another aspect amidst politics, financial problems, poor management in affected planning, behavioural aspect and numerous other shortcomings the side of governance and manage your expertise and urban reforms in such crisis. Surat was prone to filariasis in 1950s introduction of underground drainage in 1958 reduce the transmission of the disease.

The humid climate of Surat is conducive for mosquito breeding, even with a drop in the density of kolaks mosquito. The transmission of disease continued for which the Surat principle Corporation implemented the novel National filariasis control program. The year 1993 saw the worst incidence of malaria in Surat. At that time, more than 50,000 to 52,000 positive cases of malaria occurred in an ill.

When the population was only around 14 lakhs. Thus you can see how high the incidences were. There was no separate malaria control department established in the Municipal Corporation till 1985 when it was funded by government of India.

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**Surat Plague (1994)**

- It took the health department five years to sensitize law makers that there is a need for a department devoted to malaria control.
- This led to the malaria control department staffed by primary health workers.
- At present, this functions as a full fledged vector borne disease control department, and has an entomologist.

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We also see that it took nearly five years to sensitize lawmaker that there is a need for department devoted to malaria control. This led to malaria control department staffed by primary health workers. At present this function is a full fledged vector borne disease control department and has an entomologist. The development and strengthening of the health and vector born disease department of Surat municipal Corporation and has the capacity of surat municipal Corporation to anticipate disease outbreaks and its readiness to deal with it.

**(Refer Slide Time: 26:15)**

## Surat Plague (1994)

- Scholars record that Surat used to suffer from several seasonal epidemics in addition to malaria, like with typhoid, jaundice, gastroenteritis and influenza before plague.
- Water borne diseases had the highest reported cases.
- The Health Department of the SMC had a separate wings for epidemic control, filariasis and malaria control, leprosy control, vaccination, and so on.



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Scholars record that Surat used to suffer from several seasonal epidemics in addition to malaria like with typhoid, jaundice, gastroenteritis and influenza before plague. Water borne diseases had the highest reported cases. The health department of Surat Municipal Corporation had a separate wings for epidemic control, filariasis and malaria control, leprosy control, vaccination and so on.

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## Surat Plague (1994)

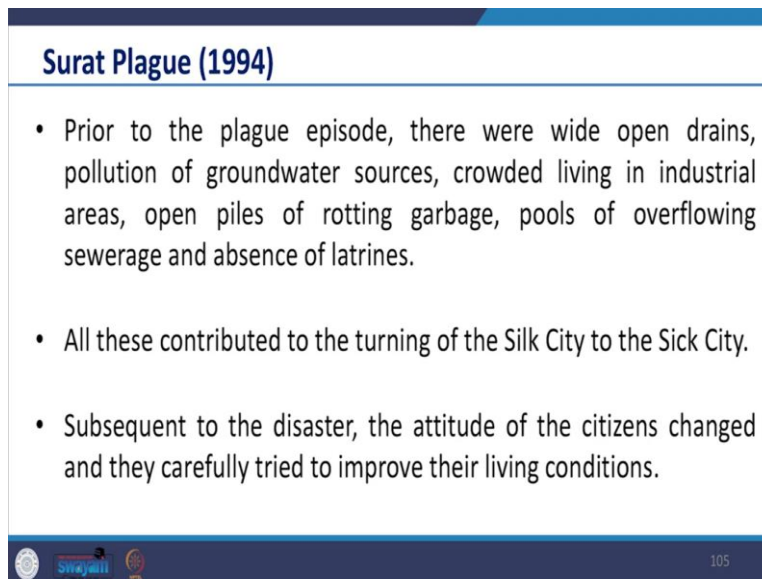
- However, the functioning of the Health Department could not cope during the plague period.
- In the pre-plague days, SMC's health infrastructure was inadequate and also suffered from various limitations like inadequate medical and paramedical personnel, irregular supply of medicines and so on.



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However, the functioning of health department could not cope during the plague period. So, the plague which we are talking about the health department could not cope up with that and pre plague days SMC's health infrastructure was inadequate and also suffered from previous limitations like inadequate medical and paramedical personnel, irregular supply of medicines and so on.

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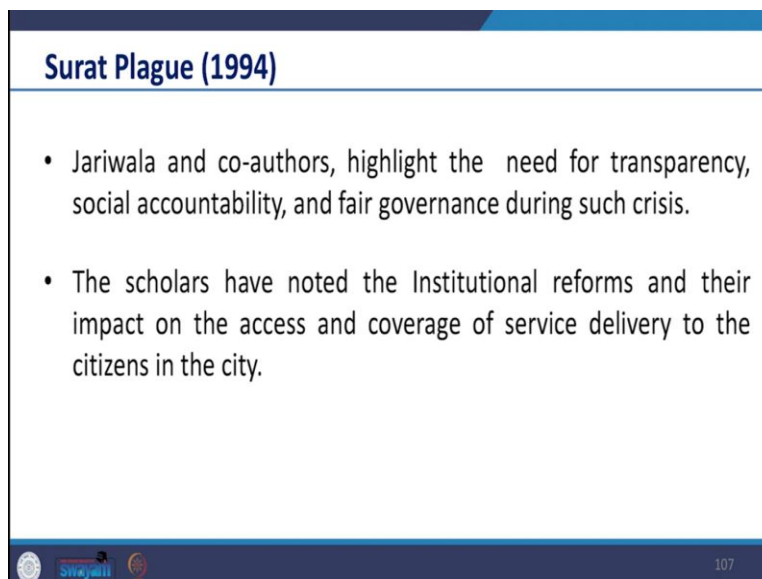
### Surat Plague (1994)

- Prior to the plague episode, there were wide open drains, pollution of groundwater sources, crowded living in industrial areas, open piles of rotting garbage, pools of overflowing sewerage and absence of latrines.
- All these contributed to the turning of the Silk City to the Sick City.
- Subsequent to the disaster, the attitude of the citizens changed and they carefully tried to improve their living conditions.

105

Prior to the plague episode, there were wide open drains, pollution of groundwater sources crowded living in industrial areas, open piles of rotting garbage, pools of overflowing sewerage and absence of latrines. All these contributed to turning of Silk City to a Sick City. Subsequent to the disaster, the attitude of the citizens changed and they carefully try to improve their living conditions.

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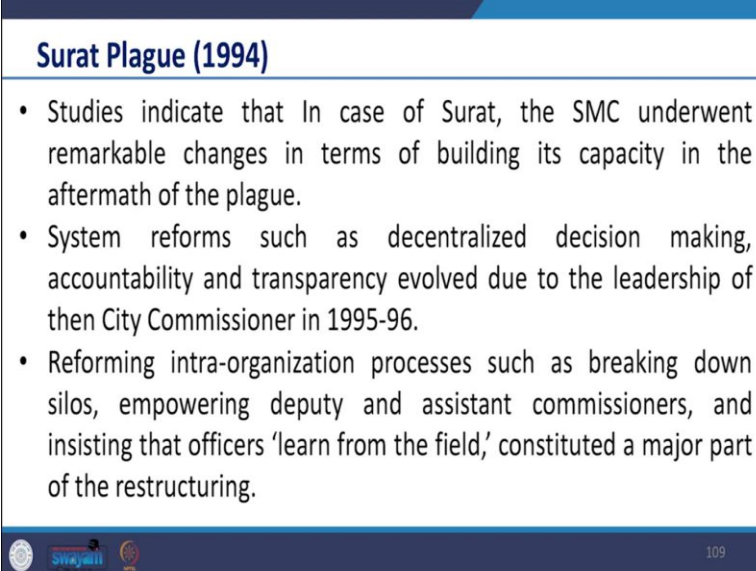
### Surat Plague (1994)

- Jariwala and co-authors, highlight the need for transparency, social accountability, and fair governance during such crisis.
- The scholars have noted the Institutional reforms and their impact on the access and coverage of service delivery to the citizens in the city.

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Jariwala and co authors highlight the need for transparency, social accountability and fair governance during such crisis. The scholars have noted that institutional reforms and their impact on access and coverage of service delivery to this edition in the city is critical.

**(Refer Slide Time: 27:58)**



**Surat Plague (1994)**

- Studies indicate that In case of Surat, the SMC underwent remarkable changes in terms of building its capacity in the aftermath of the plague.
- System reforms such as decentralized decision making, accountability and transparency evolved due to the leadership of then City Commissioner in 1995-96.
- Reforming intra-organization processes such as breaking down silos, empowering deputy and assistant commissioners, and insisting that officers 'learn from the field,' constituted a major part of the restructuring.

109

Studies indicate that in case of surat, the SMC underwent remarkable changes in terms of building its capacity in the aftermath of the plague. System reforms such as decentralized decision making, accountability and transparency evolved due to the leadership of City Commissioner in 1995-96, reforming intra organization process such as big down of silos, empowering deputy and assistant commissioner.

And insisting that officers learn from the field constituted a major part of restructuring. Due to these reforms into agencies coordination was strengthened within the system. So, we see how strong leadership? Change in the structure of decision making and bothering people inter governmental co-ordination and field presence of the urban authority was instrumental in controlling and improving the situation.

Scholars also report that after the plague the health indicators improved due to the strengthening of health infrastructure revival of work ethics among health workers, meticulously planned disease monitoring system and extensive sanitation drive.

**(Refer Slide Time: 29:20)**

## Surat Plague (1994)

- In 1991, there were six urban health centers which increased to 47 urban health centers by now.
- The health department also strengthened its Vector Borne Disease Control Department and water supply department to curb the water borne diseases and carry out regular water testing.



And 1991, there were six Urban Health Centers, which increased to nearly 47 Urban Health Centers by now. Likewise, the health department also strengthened its Vector Borne Disease Control Department, water supply department to curb the waterborne disease and carry out regular water testing. So, we see how the health infrastructure improvement was focused and also the required work for it was targeted.

And in addition, the monitoring system was also developed and drive mode adopted which helped in controlling and improving the situation of the city in such a crisis.

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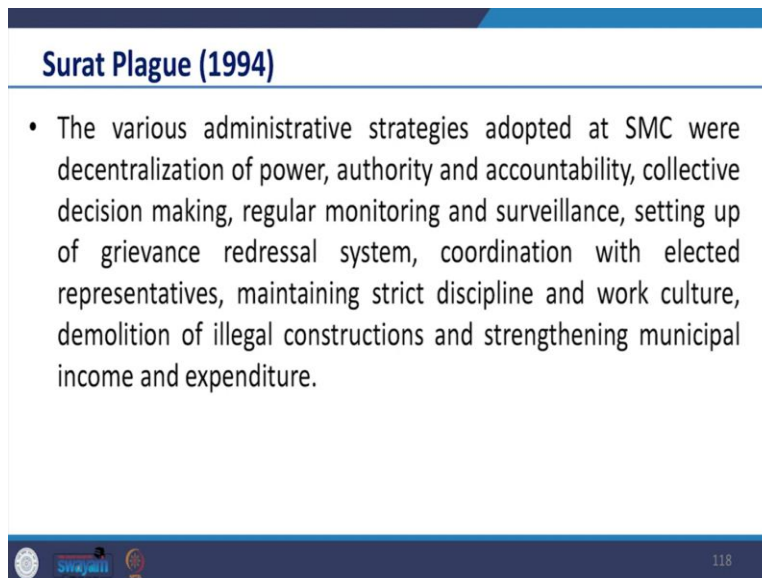
## Surat Plague (1994)

Transformation of governance in SMC involved three building blocks, namely:

- Capacity Development and System Level Reforms.
- Attitudinal Change.
- New Initiatives and Innovations.

We see that transformation of governance in SMC involves three building blocks, namely; capacity development and system level reforms, attitudinal change, new initiatives and innovations. As the capacity development as part of the capacity development meaning training the people along with an enabling environment created supporting environment which played mutually reinforcing role in the institution reform in the city.

**(Refer Slide Time: 30:36)**



**Surat Plague (1994)**

- The various administrative strategies adopted at SMC were decentralization of power, authority and accountability, collective decision making, regular monitoring and surveillance, setting up of grievance redressal system, coordination with elected representatives, maintaining strict discipline and work culture, demolition of illegal constructions and strengthening municipal income and expenditure.

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The various administrative strategies adopted by the SMC were decentralization of power, authority and accountability, collective decision making, regular monitoring and surveillance, setting up of grievance redressal system, coordination with elected representatives, maintaining strict discipline and work culture, demolishing of illegal constructions and strengthening municipal income and expenditure.

**(Refer Slide Time: 31:05)**

## Surat Plague (1994)

- Decentralized governance with the city system.
- **Mandatory field visits** : Top officials had to spend minimum of five hours every day in the field as to expose them to the hardships of field work and make them more considerate and humane. The concept was named AC to DC. From air conditioning environment to daily chores.



120

Decentralized governance with the city system. Mandatory field visit top official had to spend minimum 5 hours every day in the field. As to expose them to the hardship of the field work and make them more concentrate and human. The concept was named as AC to DC which meant from air conditioning environment the daily chores. Surat Muncpal Commissioner Mr. S.R Rao appointed on third may 1995 had taken major initiative in city cleanliness, system reforms, road widening demolishing of illegal constructions and so on.

**(Refer Slide Time: 31:48)**

## Surat Plague (1994)

The results brought by then leadership of Rao brought:

- Increase in sanitation coverage from **63% to 96.5%**.
- Increase in daily garbage collection to **98%** to total garbage collection.
- Achieved **97%** in tax arrears recoveries.



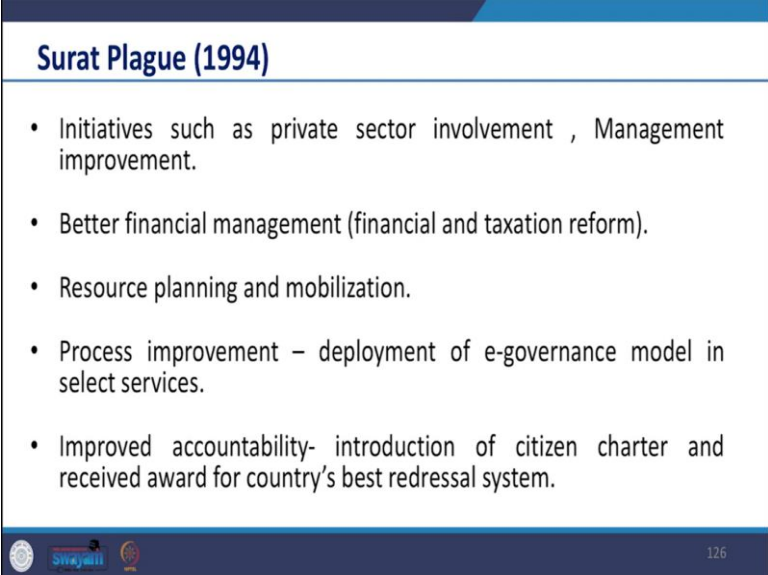
123

The result brought by then leadership of Rao, we see that there was increase in sanitation coverage from 63 to 96% increase in daily garbage collection from 98% of the garbage collection and achieve 97% of tax areas recoveries. Further we see there was a lot of initiation of



motivating community to undertake specific behaviour pattern. So, we did talk about this a concern of attitude related to hygiene proved to be effective in containing outbreaks of infectious disease.

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**Surat Plague (1994)**

- Initiatives such as private sector involvement , Management improvement.
- Better financial management (financial and taxation reform).
- Resource planning and mobilization.
- Process improvement – deployment of e-governance model in select services.
- Improved accountability- introduction of citizen charter and received award for country's best redressal system.

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Initiatives such as private sector involvement, management improvement, better financial management, financial and taxation reform, resource planning and mobilization process improvements such as deployment of a governance model in the select services. Improved accountability like introduction of citizen charter and it received award for countrys best redressal system and Surat with received abroad for countries.

Surat received award for countrys best redressal system. The structure of SMC was amended from a rigid vertical hierarchy to a more interactive, horizontal structure. They also created posts for specific public health responsibilities and regular monitoring.

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### Surat Plague (1994)

- Surat has one of the most comprehensive and effective urban health systems that integrate national and state level health programs with local initiatives.
- Related with Sexually Transmitted Disease (STD) , AIDS, Reproductive and Child Health and Integrated Child Disease Surveillance (ICDS) programs, PPTCT (Prevention of parent to child transmission) which are upgraded maternity home.
- Urban Health Centers were converted to Integrated Counseling and Testing Center (ICTC).
- The Project won the award for excellence in the year 2008-09 for STI (Sexually Transmitted Infection) clinics as well as award for special initiatives for HIV counseling and testing in STI clinics.



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Now Surat has one of the most comprehensive and effective Urban Health System that integrate national and state level health programs with local initiatives. You can see initiatives related to sexually transmitted disease STD, AIDS, reproductive and child health an integrated child disease surveillance program you also see prevention of parent child transmission, PPTCT, which are upgraded maternity home.

You also find urban health centers were converted to integrated counseling and testing centers. The project won the award for excellence in the year 2008-09 for sexually transmitted infection clinics as well as award for specific initiatives for HIV counseling and testing in STI clinics.

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### Surat Plague (1994)

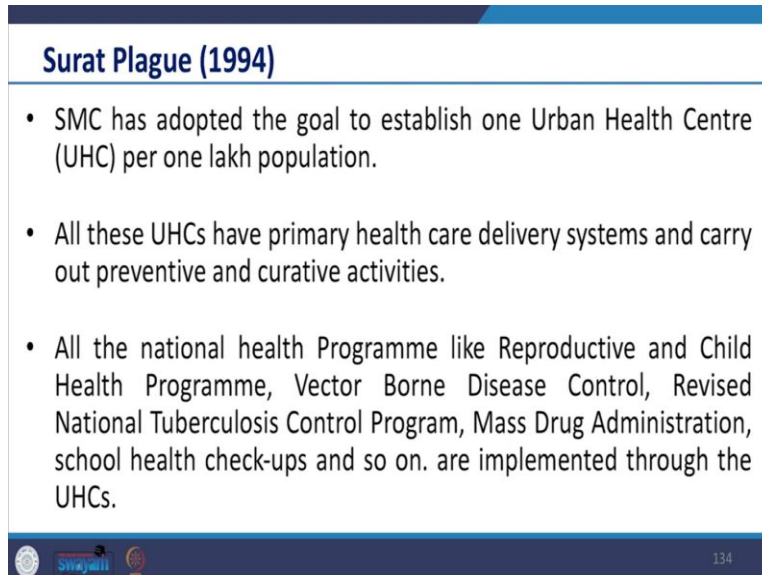
- A public health professional stated that SMC has established STD clinics with a counselor in every urban health center and also established HIV testing centers.
- SMC has invested in the disease surveillance system of the city.
- SMC is the only corporation that funds the vector borne disease control department from its own budget.



132

Public health professional stated that SMC had established STD clinics with the counselor and every urban health center and also established as HIV testing centers. SMC has invested in disease surveillance system of the city. SMC is only corporation that finds the vector borne disease control department from its own budget.

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**Surat Plague (1994)**

- SMC has adopted the goal to establish one Urban Health Centre (UHC) per one lakh population.
- All these UHCs have primary health care delivery systems and carry out preventive and curative activities.
- All the national health Programme like Reproductive and Child Health Programme, Vector Borne Disease Control, Revised National Tuberculosis Control Program, Mass Drug Administration, school health check-ups and so on. are implemented through the UHCs.

134

SMC has adopted the goal to establish one Urban Health Center for 1 lakh population. All these urban health centers have primary health care delivery system and carry out preventive and curative activities. All the national health programs like reproductive and child health program, vector borne disease control, revised national tuberculosis control program, mass Drug Administration, school health checkups and so on are implemented through Urban Health Centers.

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**Surat Plague (1994)**

- Design prototype has been prepared for urban health centers standardize the facilities and reduce the cost and time taken in design development.
- A public health mapping exercise commenced in 1995 for plotting health-related data.
- Parameters included quality of drinking water, leakage of water pipes and occurrence of major diseases.

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We also see design prototypes has been prepared for Urban Health Centers to standardize the facilities and to reduce the cost and time in the process. Public Health mapping exercise commenced in 1995 for plotting the health related data. Parameters included quality of drinking water, leakage of water pipes and at occurrence of major disease.

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**Surat Plague (1994)**

- For documentation and mapping purposes, SMC has developed a network of over 200 surveillance centers that includes municipal hospitals, urban health centers, major hospitals and private medical practitioners.
- This exercise helped the city officials to predict the trends as well as focal points of epidemics in the city.

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For documentation and mapping purposes, SMC had developed a network of over 2007 center that included municipal hospitals, Urban Health Centers, major hospitals and private medical practitioner. This exercise helped the city officials to predict the trend as well as focal point of epidemics in the city.

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## Surat Plague (1994)

- Post plague, rapid cleaning was undertaken by SMC.
- A major drive was launched for slum improvement and solid waste management in the city.
- Micro level planning was introduced for uniform distribution of resources, manpower, machinery and finances.
- The sanitary activities were contracted out to private agencies.
- Privatization initiatives included hiring of private vehicles with driver for garbage collection, cleaning of roads, employing private sweepers for transporting municipal refuse from collection points to disposal points.



Post plague, rapid cleaning was undertaken by SMC. A major drivers launched by slum improvement and solid waste management in the city. Micro level planning was introduced for uniform distribution of resources, manpower machinery and finances. The sanitary activities were contracted out to private agencies. Privatization initiatives included hiring of private vehicles with drivers for garbage collection, cleaning of roads, employing private sweepers for transporting municipal refuse from collection point to disposal points.

The projects were done under JNNRUM the biomedical waste management project was started in 2003 and the door to door garbage collection was commissioned in 2005. This has resulted in improved service delivery at the local level and has improved accountability. The SMC and the private practitioners entered into the public private partnership in 1995 after the plague. Such partnership also helped in managing the health care delivery system of the city. The partnership was need based and a long time one.

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### Surat Plague (1994)

- Public private partnership was developed even for data management and health surveillance system. Now it has increased to include more private practitioners empanelled with SMC.
- As per the publication : the Major hospitals partnered were the Civil hospital, SMIMER hospital and Maskati hospital for this initiative.
- Eleven trust hospitals were also part of this system of data sharing.
- They constitute a part of the passive disease surveillance system.

Public private partnership was developed even for data management and health surveillance system. Now it has increased to include more private practitioner impaneled with SMC. As per the publication, the major hospitals partnered with Civil hospitals, SMIMER hospital and Maskati hospital for this initiative. Eleven trust hospitals were also part of the system of data sharing they constituted a part of the passive disease surveillance system. The partnership between SMC and private doctors evolves with time.

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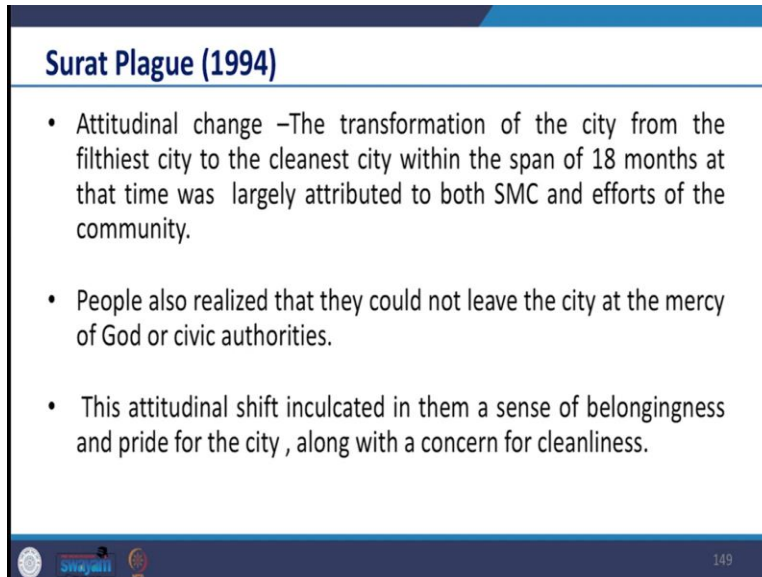
### Surat Plague (1994)

- E – Governance Reforms SMC has been applying information technology systems and applications in past years for improving operational efficiency and increasing ease of interaction with citizens.
- There are city civic centers, m-governance, information kiosk, SMC helpline and a public health engineering MIS system.
- M-governance initiatives include the launch and use of a smartphone app and getting grievances through WhatsApp.

We also see E-governance reforms SMC has been applying Information Technology system and application in past years for improving operational efficiency and increasing ease of interaction with the citizen. There are cities civic centers, M - governance information kiosk, SMC helpline

and public health engineering MIS system. M - governance initiative includes the launch and use of smartphone apps and getting grievances through WhatsApp. We also see that a lot of initiatives were taken for attitudinal change.

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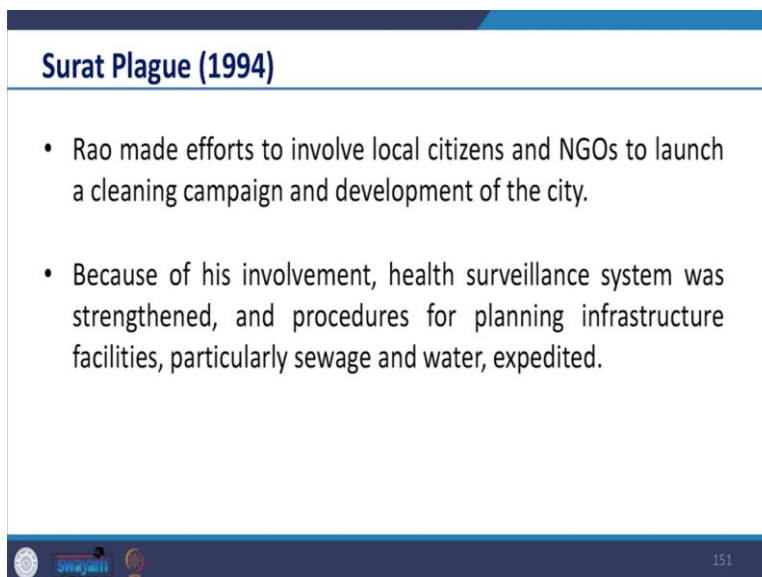


### Surat Plague (1994)

- Attitudinal change –The transformation of the city from the filthiest city to the cleanest city within the span of 18 months at that time was largely attributed to both SMC and efforts of the community.
- People also realized that they could not leave the city at the mercy of God or civic authorities.
- This attitudinal shift inculcated in them a sense of belongingness and pride for the city , along with a concern for cleanliness.

The transformation of the city from the filthiest city to the cleanest city within the span of 18 months at that time was largely attributed to both SMC and efforts of the community. People also realize that they could not leave the city at the mercy of God or civic authorities. This attitudinal shift inculcated in them a sense of belongingness and pride for the city, along with a concern for cleanliness.

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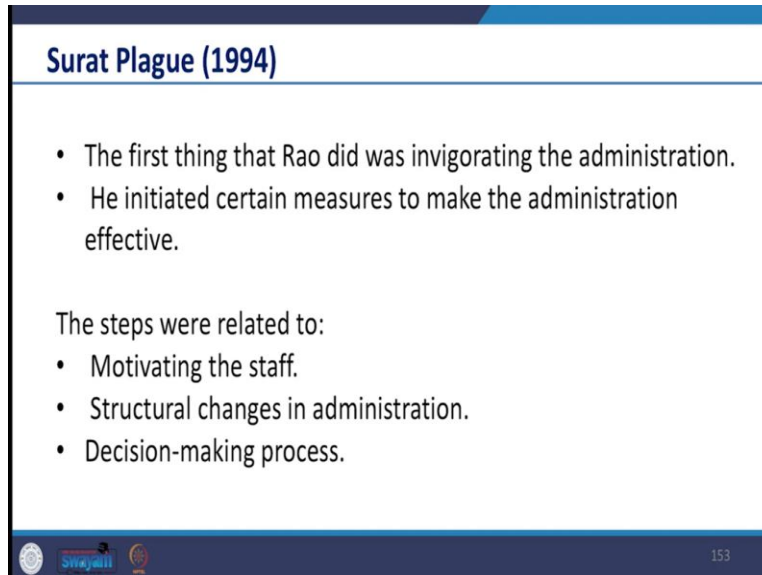


### Surat Plague (1994)

- Rao made efforts to involve local citizens and NGOs to launch a cleaning campaign and development of the city.
- Because of his involvement, health surveillance system was strengthened, and procedures for planning infrastructure facilities, particularly sewage and water, expedited.

Rao made efforts to involve local citizens and NGOs to launch cleaning campaign and development of the city. Because of his involvement health surveillance system was strengthened and procedures for planning infrastructure facilities, particularly sewage water expedited.

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**Surat Plague (1994)**

- The first thing that Rao did was invigorating the administration.
- He initiated certain measures to make the administration effective.

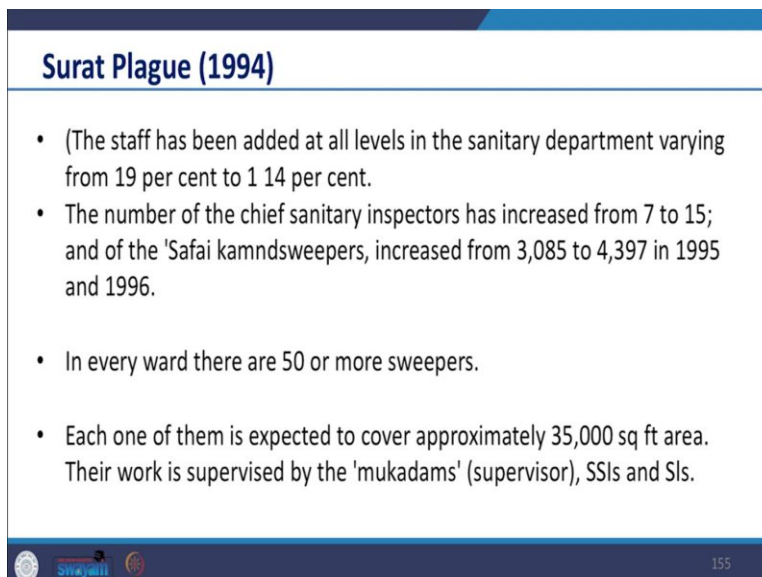
The steps were related to:

- Motivating the staff.
- Structural changes in administration.
- Decision-making process.

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The first thing that Rao did was invigorating the administration. He initiated certain measures to make the administration effective such as motivating the staff, structural changes in administration and decision making process. The staff has been added at all levels in the sanitary department varying from 19% to 114%.

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**Surat Plague (1994)**

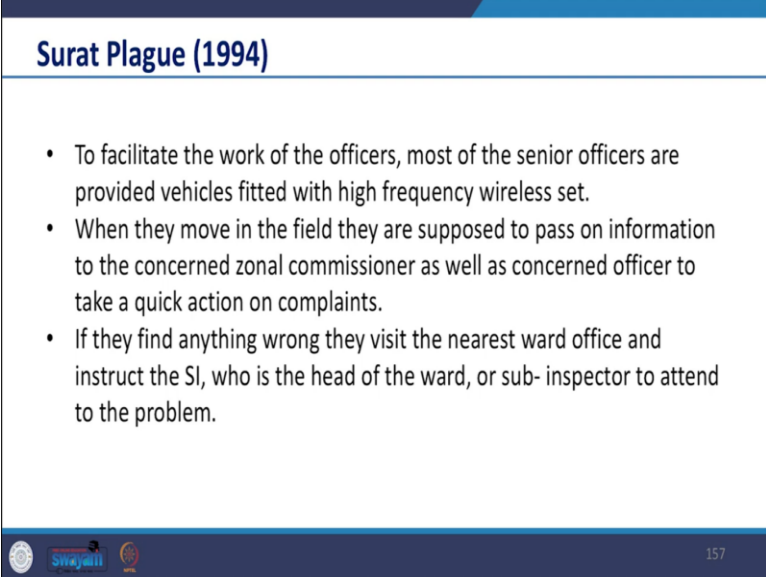
- (The staff has been added at all levels in the sanitary department varying from 19 per cent to 114 per cent.
- The number of the chief sanitary inspectors has increased from 7 to 15; and of the 'Safai kamndswEEPERS, increased from 3,085 to 4,397 in 1995 and 1996.
- In every ward there are 50 or more sweepers.
- Each one of them is expected to cover approximately 35,000 sq ft area. Their work is supervised by the 'mukadams' (supervisor), SSIs and SIs.

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The number of Chief sanitary inspectors had increased from 7 to 15 and the Safai Khurram Chari, the sweeper increased from 3000 more than 3000 to nearly 4397 from 1995 to 1996. In every Ward there were 50 or more sweepers. Each one of them was expected to cover approximately 35,000 square feet area. Their work was supervised by muckadams supervisor SSIs and SIs.

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**Surat Plague (1994)**

- To facilitate the work of the officers, most of the senior officers are provided vehicles fitted with high frequency wireless set.
- When they move in the field they are supposed to pass on information to the concerned zonal commissioner as well as concerned officer to take a quick action on complaints.
- If they find anything wrong they visit the nearest ward office and instruct the SI, who is the head of the ward, or sub- inspector to attend to the problem.

157

To facilitate the work of the officer most of the senior officers were provided vehicle fitted with high frequency wireless set. When they moved in the field they were supposed to pass on information to the constant zonal Commissioner as well as concerned officer to take a quick action on complaint. If they find anything wrong, they would visit the nearest ward office and instruct the SI who was the head of the ward or sub inspector to attend to the problem.

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## Surat Plague (1994)

In order to avoid red-tape and delay, direct communications between the departments and zones have been encouraged.

- "In the past as and when an officer of one zone wanted a particular machine, truck or something else from the other zone, he had to write to the concerned zonal officer with a request.
- The latter would supply the material after seeking permission from the commissioner. Such procedures used to take sometimes two to three days.
- Now, one zonal officer can directly talk on phone to the other zonal officer or other officer and can procure the machine or get work done", a senior officer said.

In order to avoid red tape and delay direct communication between the departments and zone have been encountered. In past as in when an officer of one zone wanted a particular machine, truck or something else from the other zone he had to write to the consent zonal officer with request. The latter would supply the material and so on. So, it used to take time. Now one zonal officer can directly talk on phone to other zonal officer or other officer.

And can procure the machine or get work done at the earliest. The commissioner advise that the order demand on the telephone should be executed without delay. Though watertight division among the departments have been reduced. We, each officer from the zonal officer to makadam is made solely responsible for a particular area and related work hence, nobody could shrink responsibility.

The SMC began paving the internal roads of slum with quota stones so as to facilitate cleaning. By 1997, 75% of the slums were paved with rough quota stones.

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## Surat Plague (1994)

- The SMC launched a programme of construction of toilets in slum areas in early 1995. By the end of 1996, 40 toilet complexes were constructed through two NGOs: Sulabha and Paryavaran.
- They function on the basis of 'pay and use' principle.
- The women and children under 12 years may use it without payment whereas males are required to pay Rs 15 per month or 50 paise per use.



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The SMC launched a program of construction of toilet and slums in early 1995. By the end of 1996, 40 toilets complexes were constructed through support of NGOs; Sulabha and Paryavaran. They functioned on the basis of pay and use principle the woman and children under 12 years, were allowed to use it without payment, whereas male had to pay rupees 15 per months and 50 paisa per use and so on. Intervention also included road widening and demolition of unauthorized construction.

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## Surat Plague (1994)

- There were negative feedback for the poor. Twenty-four slums and around 3,200 dwellings have also fallen victim to the construction of the new Surat. They have been removed from their settlements as they were "obstacles in widening the roads". This is not the first time that the slums have been removed.

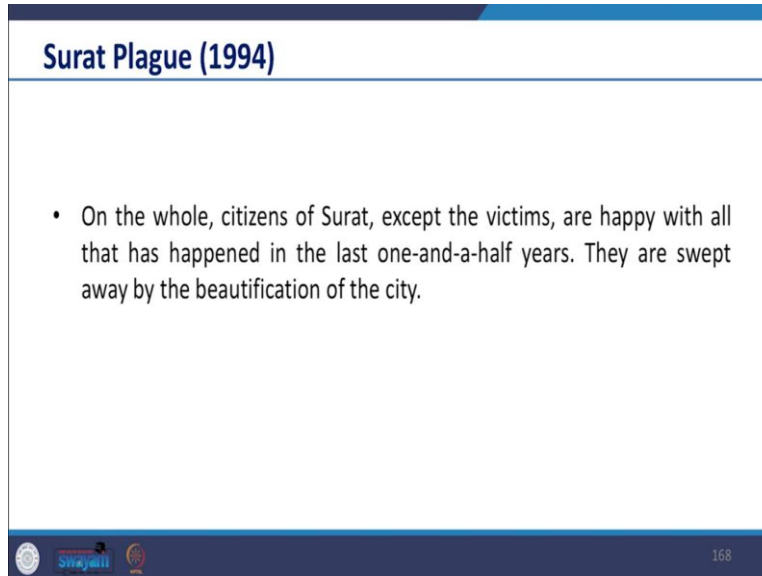


166

There were negative feedback for the poor. 24 slums and around 3200 dwellings have also fallen victim to the construction of the new Surat. They have been removed from this settlement and as

they were obstacles to the widening of the roads. This is not the first time that the slums have been removed.

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The slide is titled "Surat Plague (1994)" in a blue header. Below the title, there is a single bullet point: "On the whole, citizens of Surat, except the victims, are happy with all that has happened in the last one-and-a-half years. They are swept away by the beautification of the city." The slide has a dark blue footer containing logos for "Swachh" and "Surat" on the left, and the number "168" on the right.

So, on the whole this edition of surat, except for the victims were happy with all that had happened in the last one and half years. They made the city beautiful. So, we see health is one of the major concern of urban planning and is much influenced by the State of the city from its environment, housing infrastructure, state, socio-economic status, affordability, its attitudes, its finances, governance, leadership.

And the support of each worker working for the city and its people including the one cleaning the street are important.

**(Refer Slide Time: 43:26)**

## Summary

Summarizing, we saw today, Bombay plague of 1896-1897.

**(Refer Slide Time: 43:34)**

**Summarizing**

- 1 We saw Bombay Plague (1896-1897)  
We heard the narratives of the socio-economic situation and the complex problem we faced.  
We looked at Bombay City Improvement Trust and the projects done by them
- 2 We saw the case of Surat Plague of 1994  
We review the conditions and the Urban reforms to control and keep the city healthy and safe thereafter.

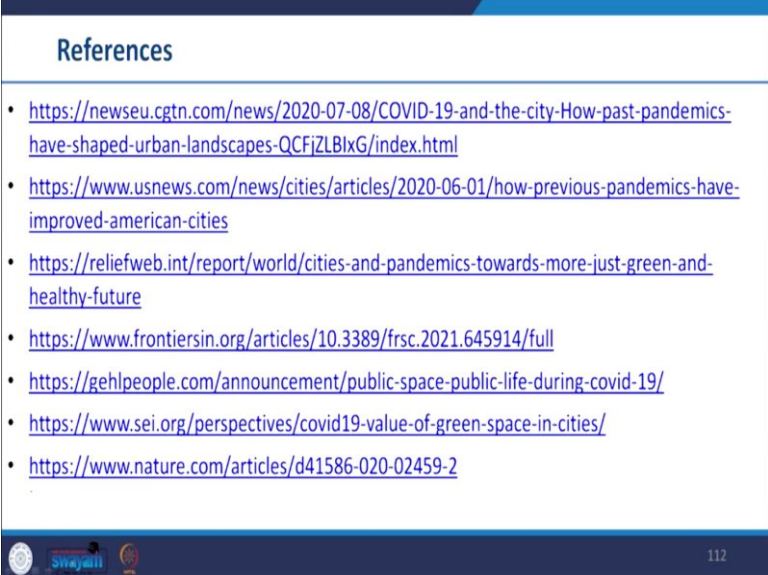
111

We heard the narratives of the socio economic situation and the complex problem we faced. We looked at Bombay city improvement trust and the projects done by them. Range of problems, we were able to solve certain level of problem. But then still, we were unable to understand the new kind of problems we were creating. But you can see how the two are interconnected the might cause the health issues and the urban planning may also help you to resolve the health issue.

We saw the case of Surat 1994, we reviewed the conditions and the urban reforms to control and keep the city healthy and safe. There after we saw that how our industry learning developed from

just the spatial planning to the details of urban reforms the governance and leadership and how the structure has to be.

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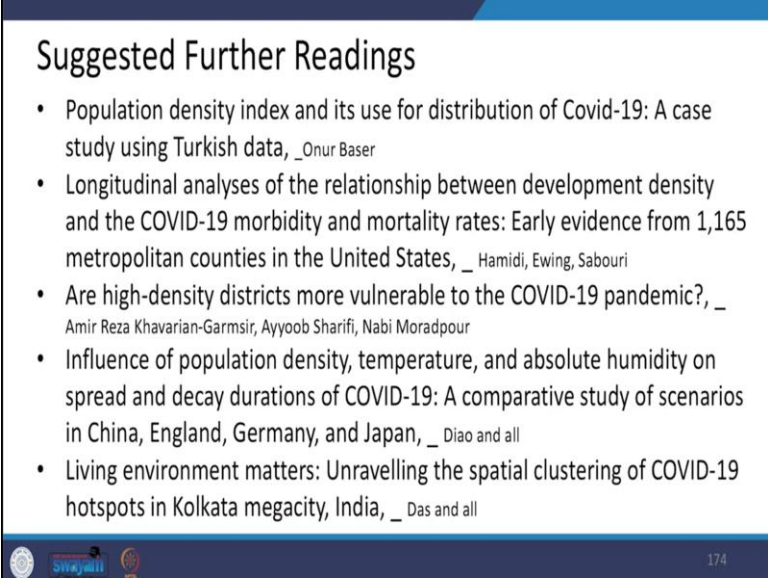
**References**

- <https://newseu.cgtn.com/news/2020-07-08/COVID-19-and-the-city-How-past-pandemics-have-shaped-urban-landscapes-QCFjZLBxG/index.html>
- <https://www.usnews.com/news/cities/articles/2020-06-01/how-previous-pandemics-have-improved-american-cities>
- <https://reliefweb.int/report/world/cities-and-pandemics-towards-more-just-green-and-healthy-future>
- <https://www.frontiersin.org/articles/10.3389/frsc.2021.645914/full>
- <https://gehlpeople.com/announcement/public-space-public-life-during-covid-19/>
- <https://www.sei.org/perspectives/covid19-value-of-green-space-in-cities/>
- <https://www.nature.com/articles/d41586-020-02459-2>

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Following are the references taken for this particular section. These examples case examples have been very limited as for the scope and the time of the session you may find other suggested readings here if you want to explore more you can go through them.

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**Suggested Further Readings**


- Population density index and its use for distribution of Covid-19: A case study using Turkish data, \_Onur Baser
- Longitudinal analyses of the relationship between development density and the COVID-19 morbidity and mortality rates: Early evidence from 1,165 metropolitan counties in the United States, \_ Hamidi, Ewing, Sabouri
- Are high-density districts more vulnerable to the COVID-19 pandemic?, \_ Amir Reza Khavarian-Garmsir, Ayyoob Sharifi, Nabi Moradpour
- Influence of population density, temperature, and absolute humidity on spread and decay durations of COVID-19: A comparative study of scenarios in China, England, Germany, and Japan, \_ Diao and all
- Living environment matters: Unravelling the spatial clustering of COVID-19 hotspots in Kolkata megacity, India, \_ Das and all

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As well as we have enlisted the watch the movies.

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## Suggested Readings




Cities and Pandemics:  
Towards a More Just,  
Green and Healthy Future



ORF  
global  
POLITICS




Public Space  
& Public Life  
during  
COVID 19



BBC Culture: The man who created Paris  
<https://www.bbc.com/culture/article/20160126-how-a-modern-city-was-born>

Hausmann's 19th-Century Paris: A Model Of Sustainability  
<https://worldcrunch.com/culture-society/hausmanns-19th-century-paris-a-model-of-sustainability-1/>


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And other videos documentary which you can watch here.


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 Please feel free to ask Questions.

Let us know about any Concerns you have . 

 Do share your Opinions, Experiences and Suggestions.

Looking forward to Interacting and   
 Co-learning with you while exploring Cities and  
 Urban Planning. 


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Please feel free to ask questions. Let us know about any concerns. You have do share your opinions, experiences and suggestions, looking forward to interacting and co-learning with you while exploring cities and urban planning. Thank you.