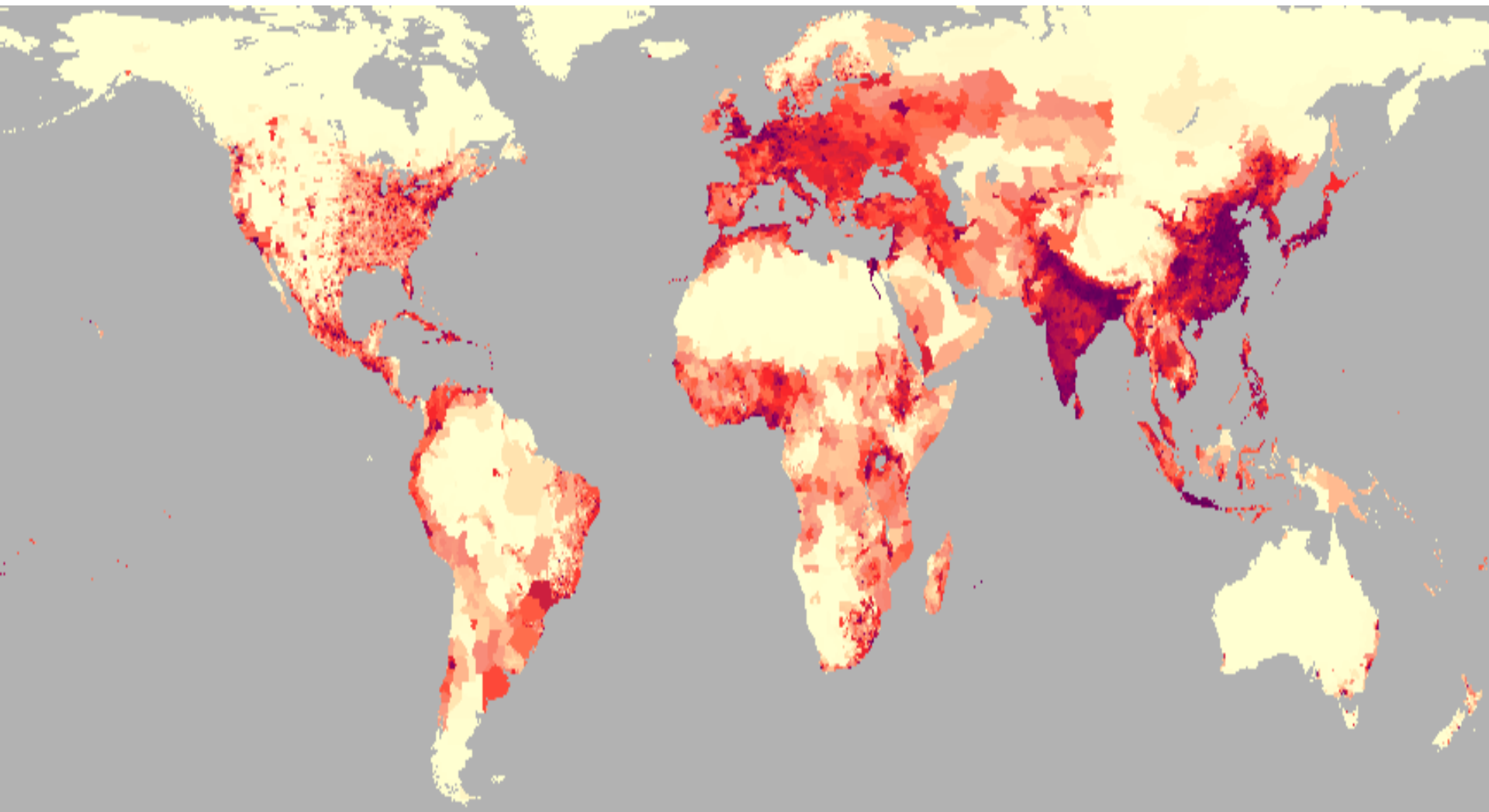


Mumbai City Flood Risk Vulnerability

Rajiv Mishra

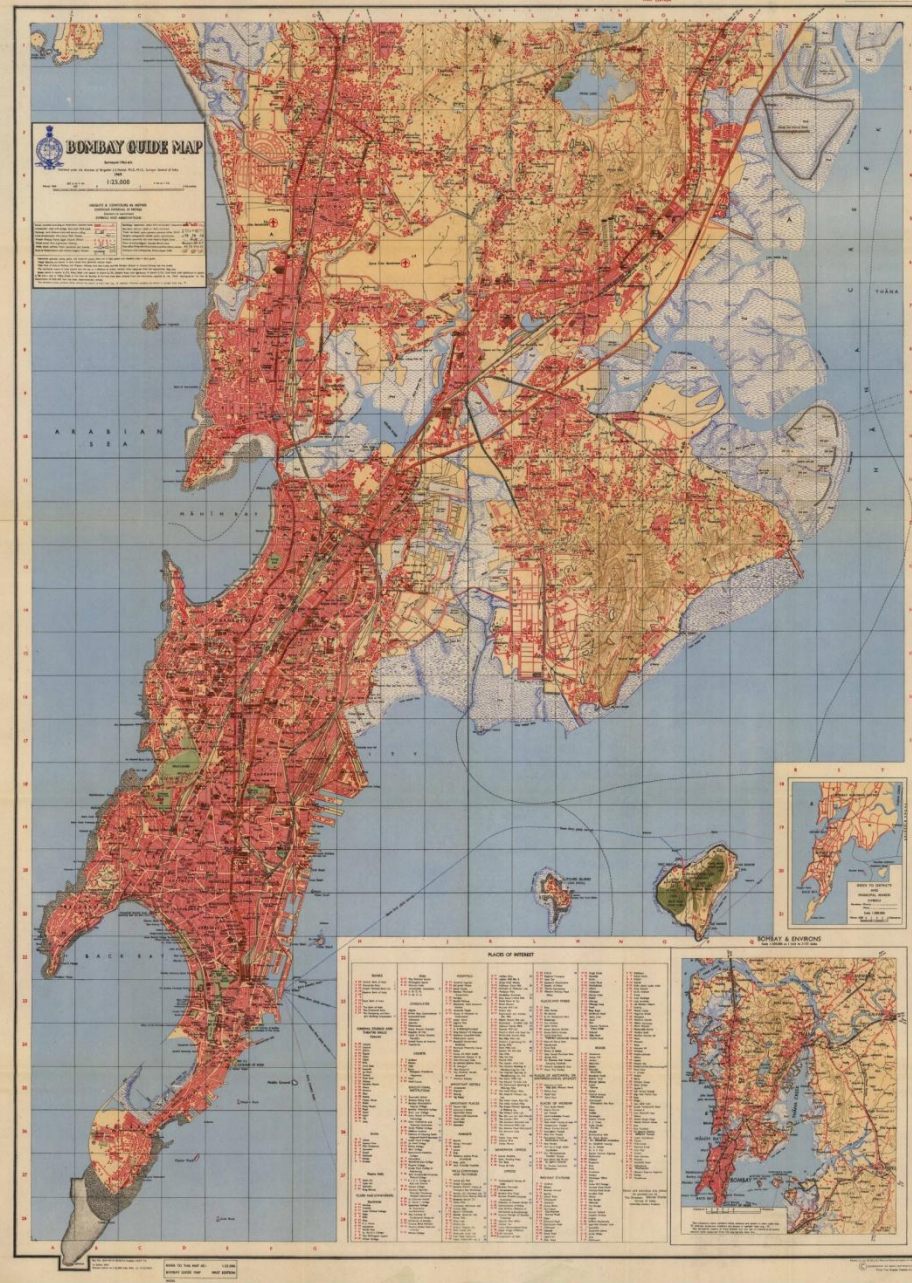
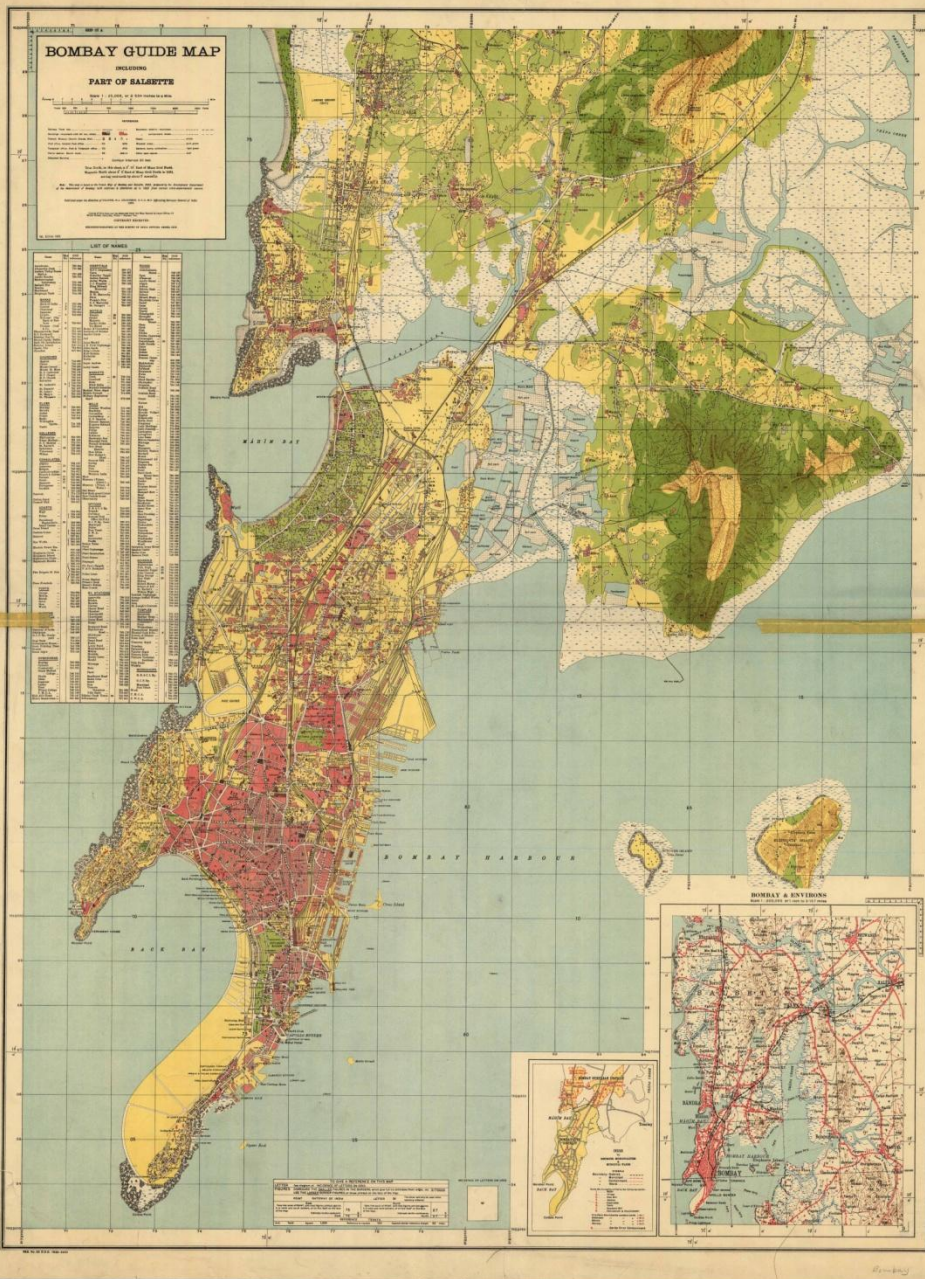
Professor and Principal,
Sir J.J. College of Architecture,
Mumbai, India



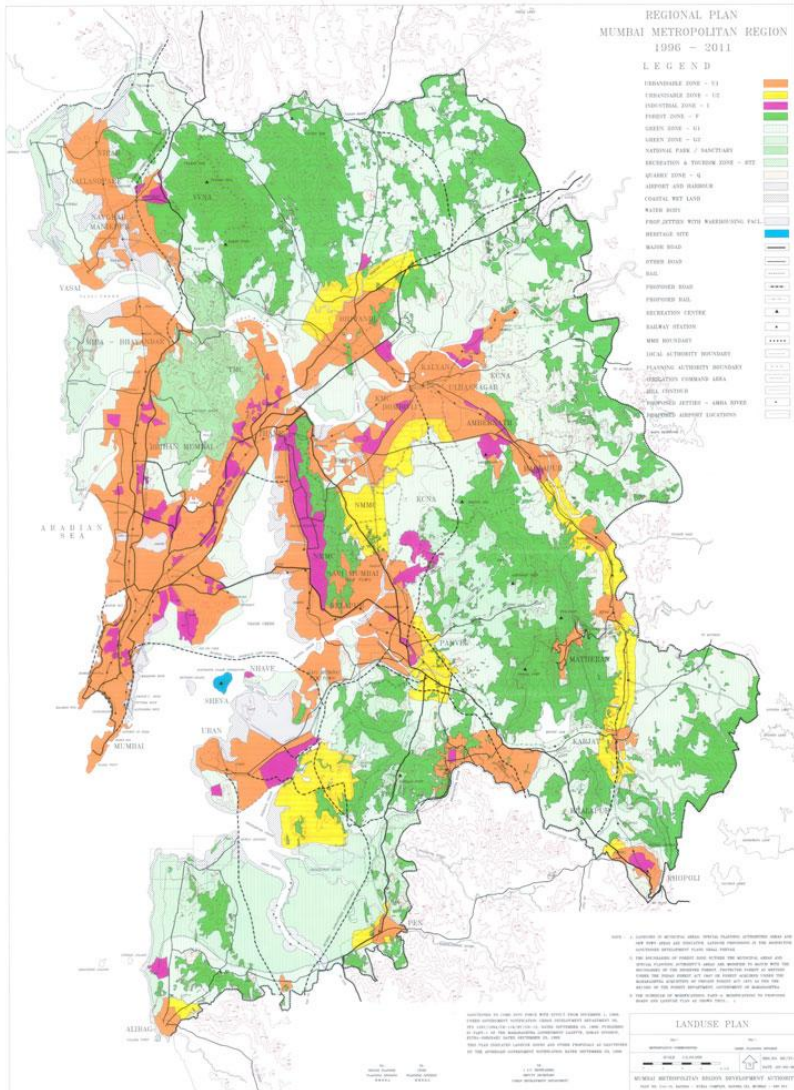
Planning Policies Post Independence

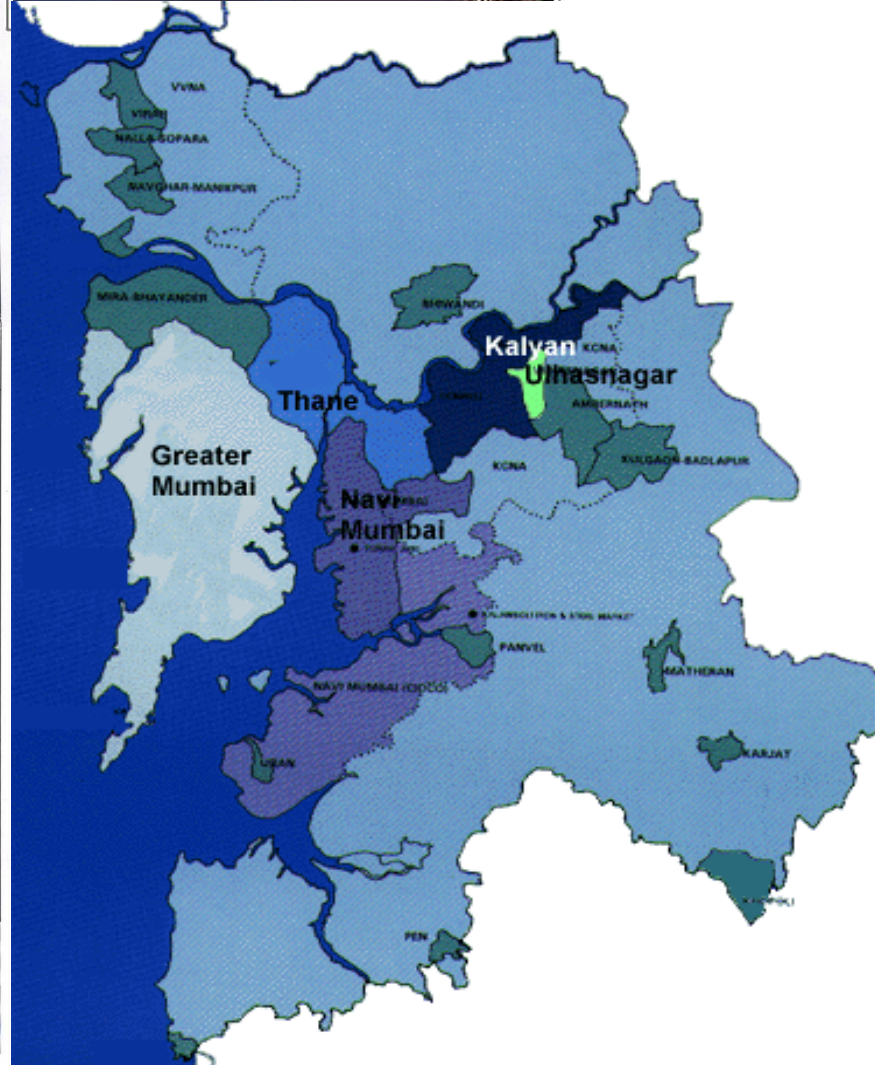
Making of Mumbai





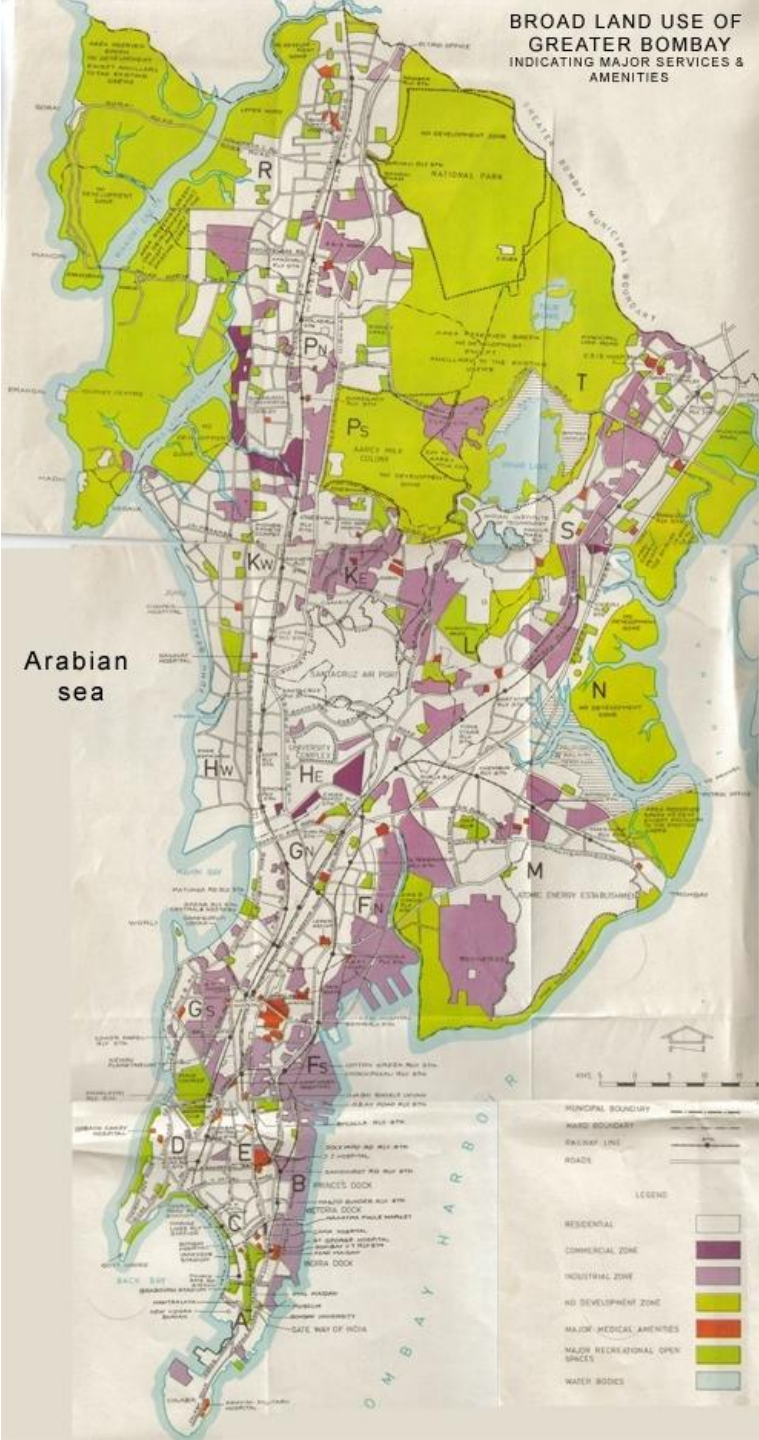
Making of a Global City - Mumbai



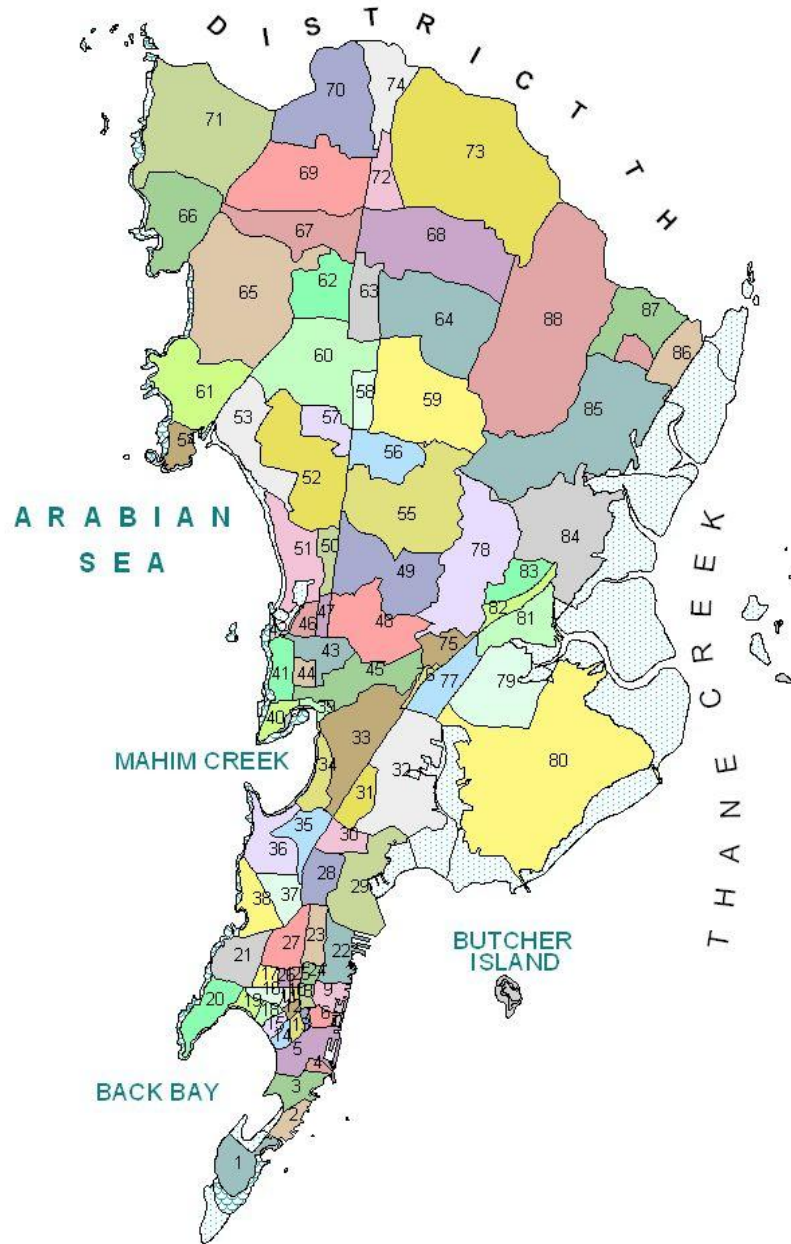




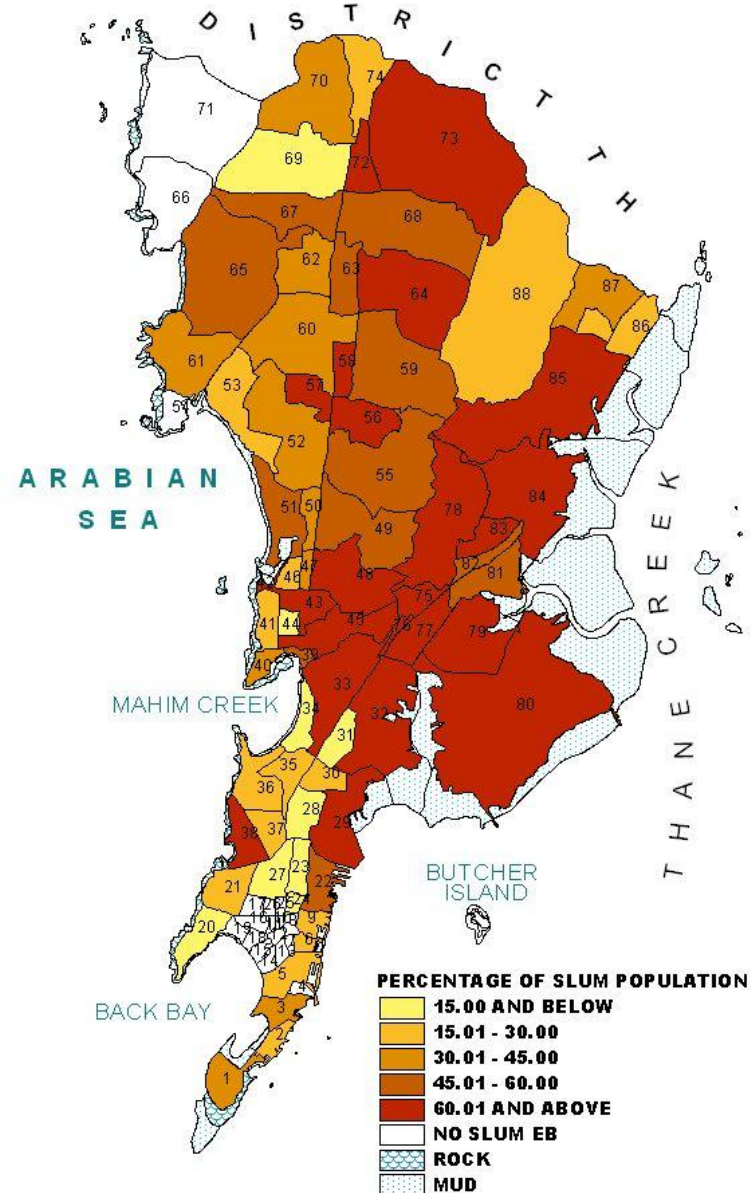
**BROAD LAND USE OF
GREATER BOMBAY
INDICATING MAJOR SERVICES &
AMENITIES**



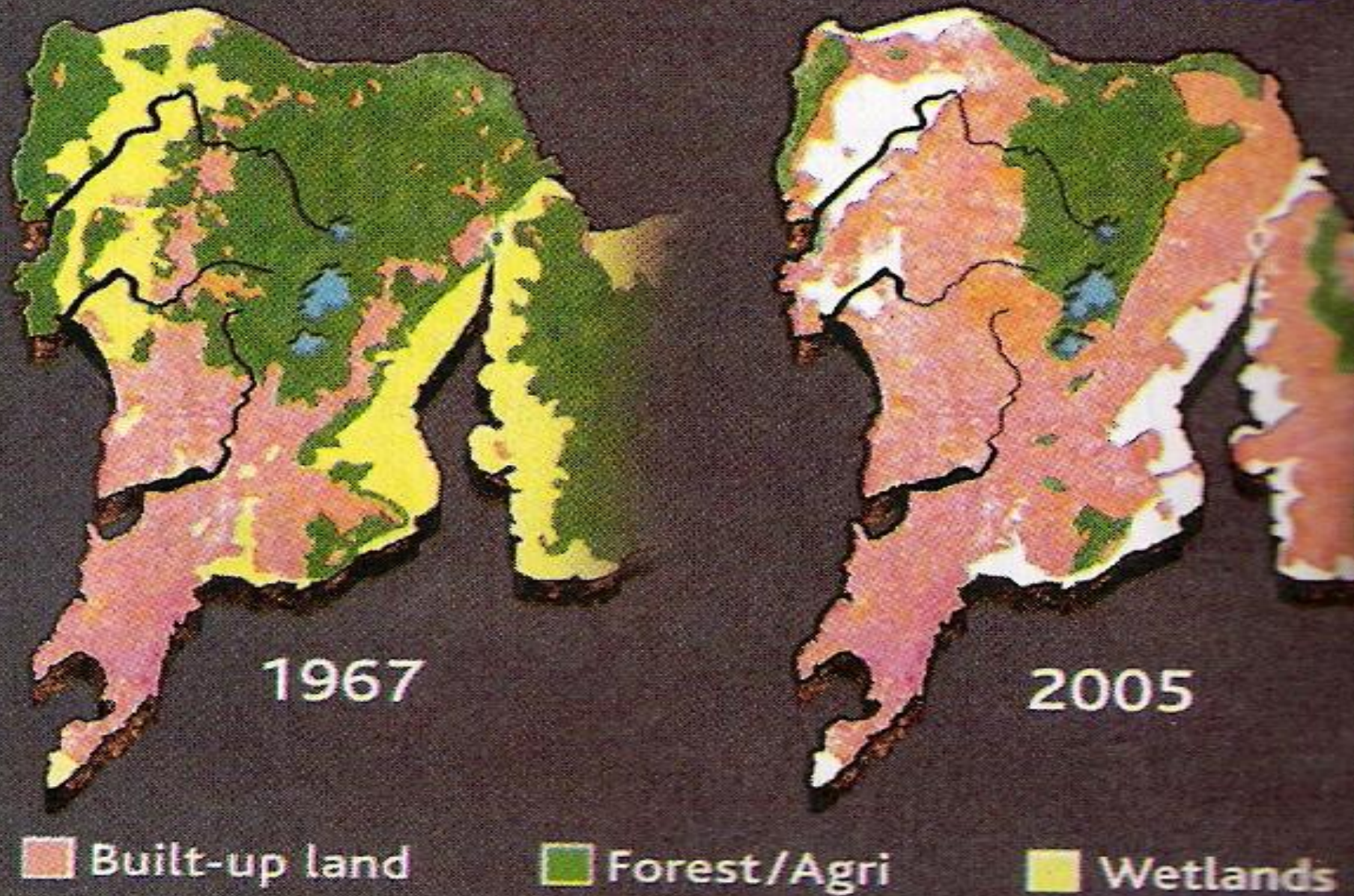
GREATER MUMBAI MUNICIPAL CORPORATI (SECTIONS)

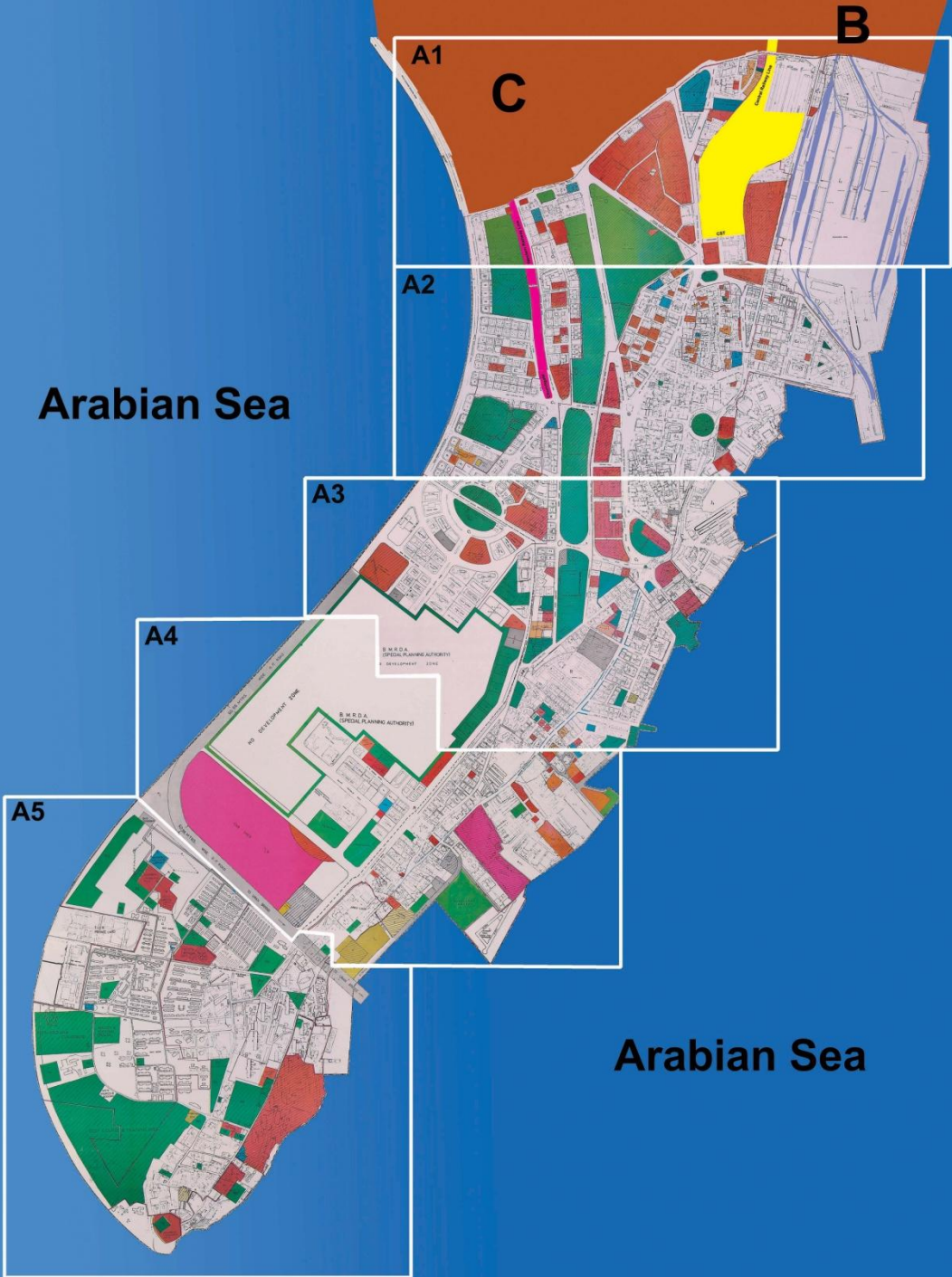


GREATER MUMBAI MUNICIPAL CORPORATION PERCENTAGE OF SLUM POPULATION TO TOTAL POPULATION 2001 (SECTIONS)

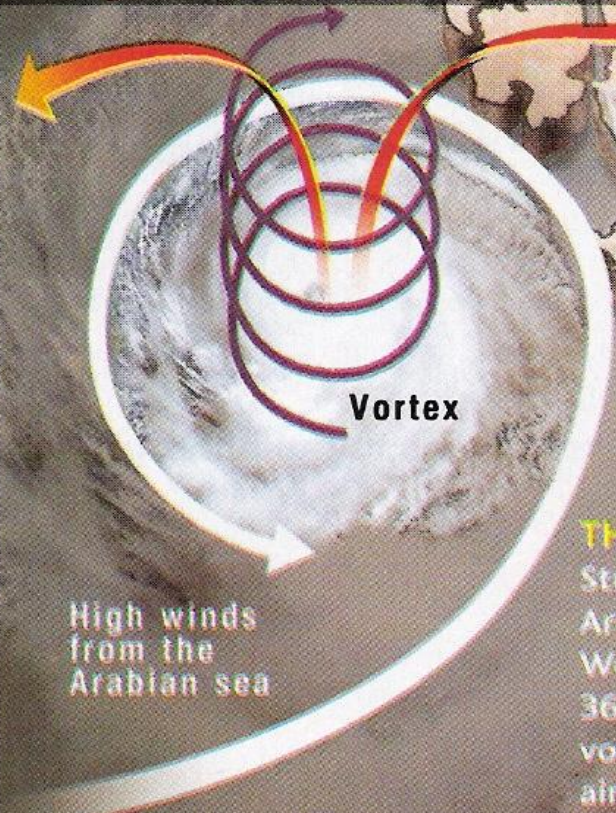


HOW THE CITY HAS CHANGED





MAJOR FLOODED AREAS



Vortex

High winds from the Arabian sea

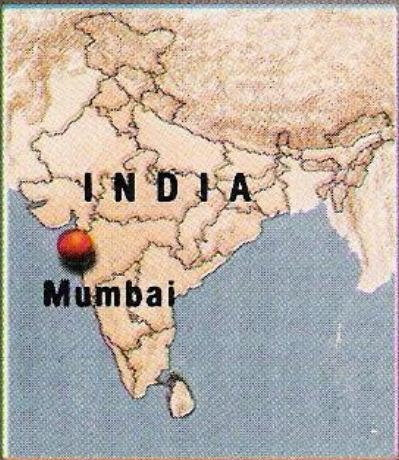
THE VORTEX

Strong winds from the Arabian sea strikes the Western Ghats, turns 360 degrees to form the vortex which lifts the air high, resulting in heavy rains

Arabian sea

MITHI RIVER

The construction of the Bandra-Kurla business complex close to the Mahim creek choked the river, causing flooding of the area



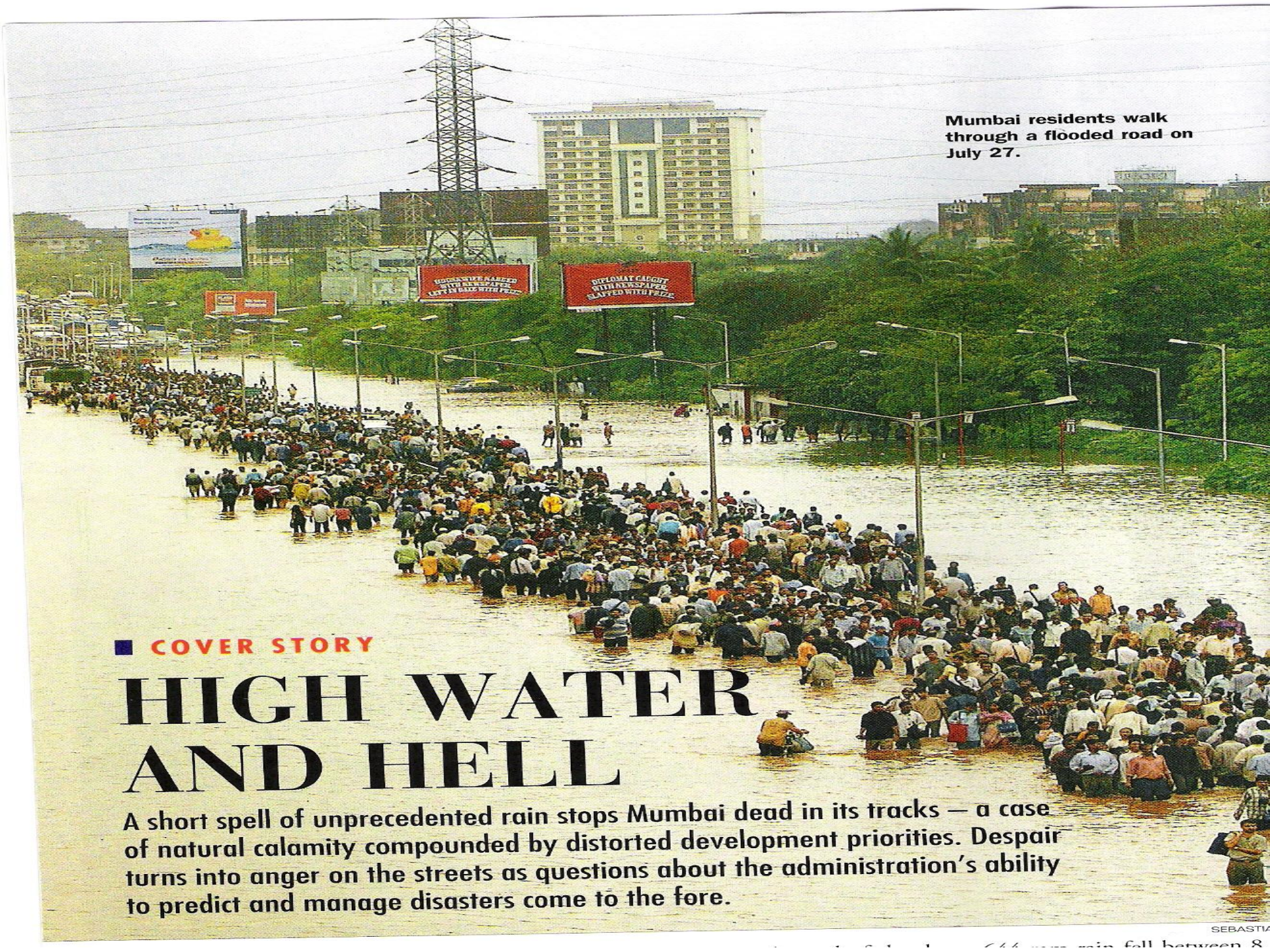
- Borivili
- Kandivli
- Malad
- Goregaon

- Bhandup
- Sakinaka
- Andheri
- Santa Cruz
- Bandra
- Kurla
- Sion
- Mahim
- Ghatkopar
- Chembur

Thane creek

Areas worst affected by rain



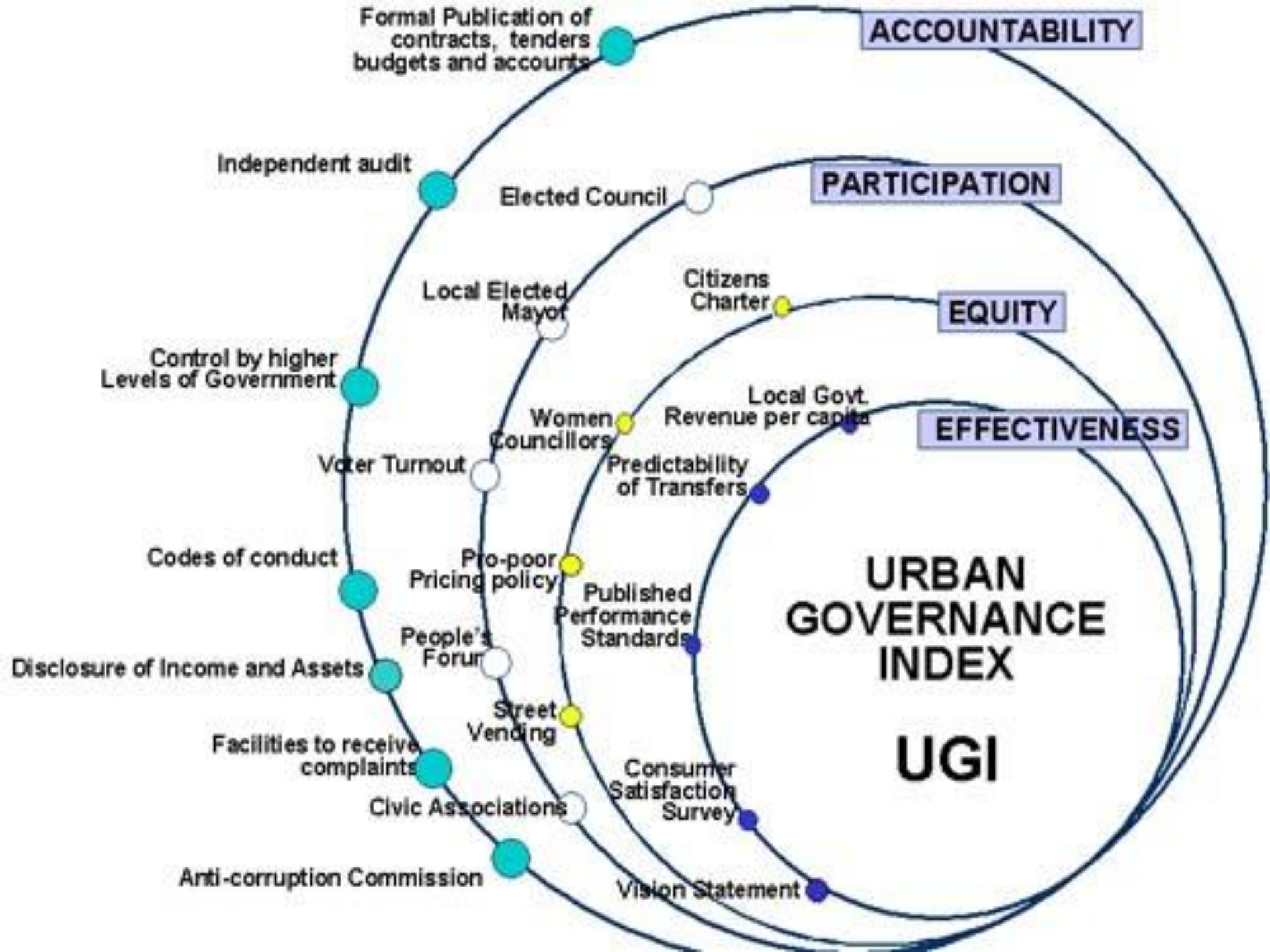


Mumbai residents walk through a flooded road on July 27.

■ COVER STORY

HIGH WATER AND HELL

A short spell of unprecedented rain stops Mumbai dead in its tracks — a case of natural calamity compounded by distorted development priorities. Despair turns into anger on the streets as questions about the administration's ability to predict and manage disasters come to the fore.



First We Kill the Architects

I have been asked to help design a city. I am flattered. In the past, this was the job of emperors and kings. Of course, today, things are a bit more complicated. Having benefited from a New York City public school education and 65 years of life, and with the peace of mind necessary for clear thought that I have now, living on my farms, where I raise my own vegetables and fish, I recommend the following. — *Danny Lyon*

1

First we kill the architects.



2

Then we burn the malls. (Following Alexander's example, we spare the bookstores and movie theaters, as he spared Pindar's house and library when he burned Thebes.)



3

Tax breaks and cash incentives for all small businesses willing to build on the ashes or set up shop in the downtowns.



4

Bicycle use to be encouraged.



5

Only electric-powered vehicles allowed. (Many cities in China have already banned motorcycles. Only electric ones are allowed.)



6

Leave the World Trade Center excavation exactly as it is and use the space as a freshwater pond, planted with pink, white and yellow water lilies. Stock it with bass, sunnies, fat-head minnows and turtles. Fishing for children under 12 only. (The fresh water can be piped in underground from Beckman's Swamp, which is buried under the streets just to the east.) A small statue of Voltaire shall be installed there, too.

7

Ten percent of all city space shall be open land where you can "touch the dirt." If there is not enough room, we can demolish the banks and turn them into fields of native grasses and flowers. One-quarter of open space shall be for growing vegetables.



8

Pets allowed in all buildings.



9

Cellphone police with sashes embroidered with the words "Cellphone Police."



10

Tax incentives and cash awards up to \$10,000 for each person brought over from the Other Side. Any citizen who befriends a criminal, prostitute or drug addict and/or pusher, and through that friendship, example, employment or encouragement makes that person into a useful and nonpredatory citizen, shall receive that amount. There is no limit on the number of people you can bring over from the Other Side, nor the amount you can earn in this socially beneficial program. Good luck.

Danny Lyon is a photographer whose books include "The Destruction of Lower Manhattan," and whose work is the subject of an exhibition at the Whitney Museum of American Art through November. This essay is included in the book "Block by Block: Jane Jacobs and the Future of New York," to be published this month by the Municipal Art Society and Princeton Architectural Press in conjunction with an exhibition opening at the society on Sept. 25.

The Future Way

- **“Sustainable development of human settlements combines economic development, social development and environmental protection, with full respect for all human rights and fundamental freedoms, including the right to development, and offers a means of achieving the world of greater stability and peace, built on ethical and spiritual vision**
-
- Preamble to “The Habitat Agenda”, United Nations



Thinking
long term

Pro business
Approach

Open transparent
system

Being flexible
and responsive

Working
as one

**THINKING
LONG
TERM**

- **To have a farsighted Plan to meet the immediate and long term financial, commercial aspects by removing all constraints to have *quality built environment.***



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**PRO
BUSINESS
APPROACH**

➤ **The Authorities need to work hand-in-hand with the private sector in urban renewal and development**



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**OPEN
TRANSPARENT
SYSTEM**

➤ **That is by encouraging public participation in the planning and implementation process.**

12345

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BEING FLEXIBLE AND RESPONSIVE

- **To the changing needs and circumstances as the growing affluence has led to greater aspirations and demands accordingly it is required that any planning provides for *review of development strategy from time to time.***



Thinking
long term

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Working
as one

**WORKING
AS ONE**

- **All governmental authorities, agencies not only within Mumbai but also around the city i.e. MMR (Mumbai Metropolitan Region) must adopt a shared vision that overrides the interest of individual authorities.**

12345

Thinking long term Pro business Approach Open transparent system Being flexible and responsive Working as one

The *five planning aspects* mentioned here may sound utopian, but with the positive belief in the concept it is possible.

We sincerely hope that this joint collaborative Workshop of SPA Delhi, MCGM & Kyoto University GCOE project as planned will not only be narrative but with participation all of you - experts in the field, authorities and the profession will certainly be a step towards achieving the goal of making the city of *Mumbai a great place to live.*

Thank you ! Rajiv R.Mishra, Architect & Planner