



Planning the City, Demarcating the Watershed: Vision, Politics and Rules in the Development of the Mumbai Water Supply System

BHARAT PUNJABI
INSTITUTE ON MUNICIPAL FINANCE AND
GOVERNANCE
MUNK SCHOOL OF GLOBAL AFFAIRS
UNIVERSITY OF TORONTO

IMFG
Institute on Municipal
Finance & Governance

at the

**MUNK
SCHOOL
OF
GLOBAL
AFFAIRS**



UNIVERSITY OF
TORONTO



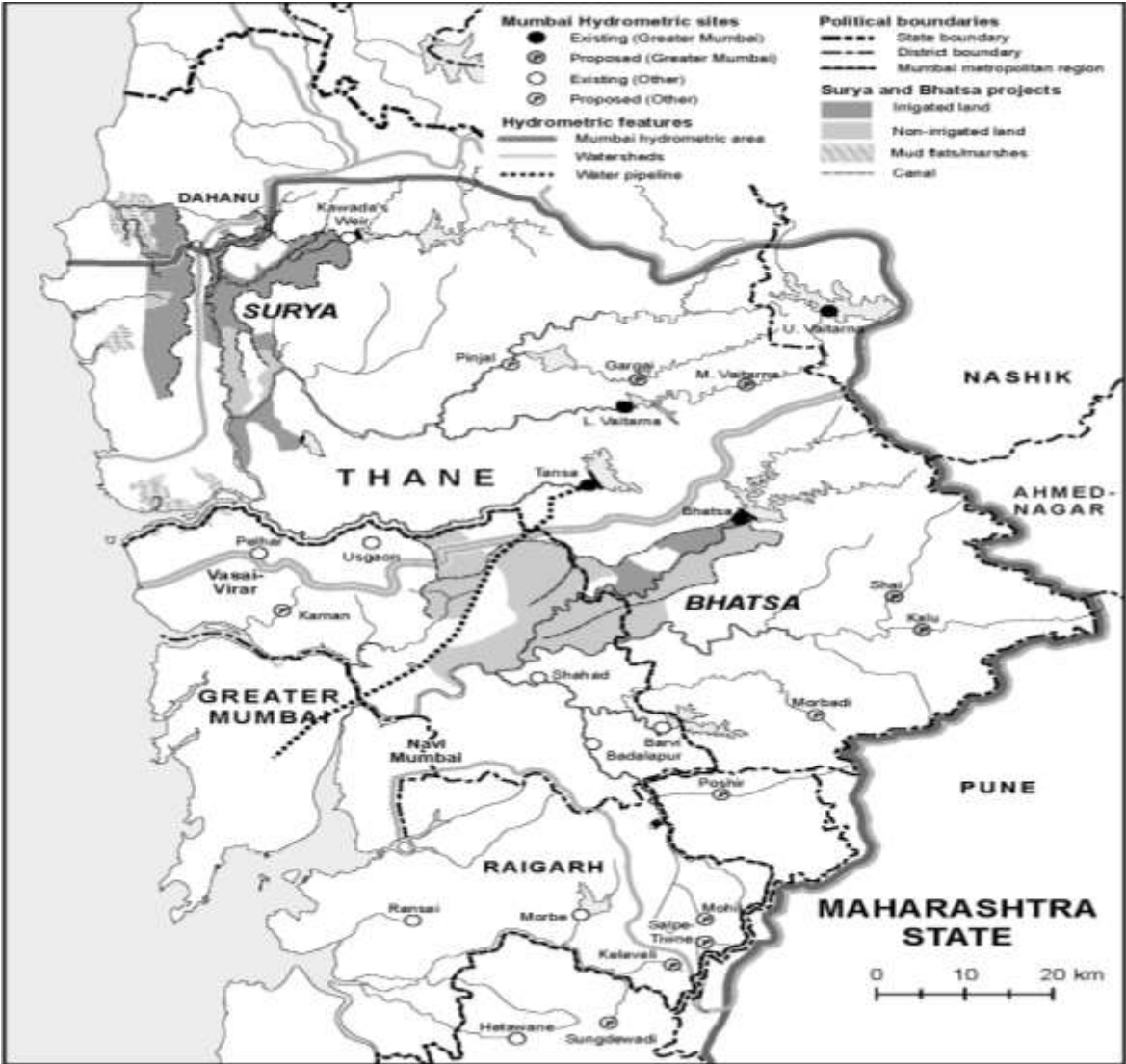
Why Mumbai? Why Water?

- Disparities of water access within Greater Mumbai and between cities in the metropolitan region
- Paradox of water shortage amid plenty in the region
- Greater Mumbai: Largest Municipal Corporation in the country with access to Central and State funds
- Huge resentment and conflict in the Mumbai countryside-in particular, Thane district
- The influence of colonial era laws and regulations poorly understood in the policy and social science literature on Mumbai.

Why Mumbai? Why Water? (contd.)

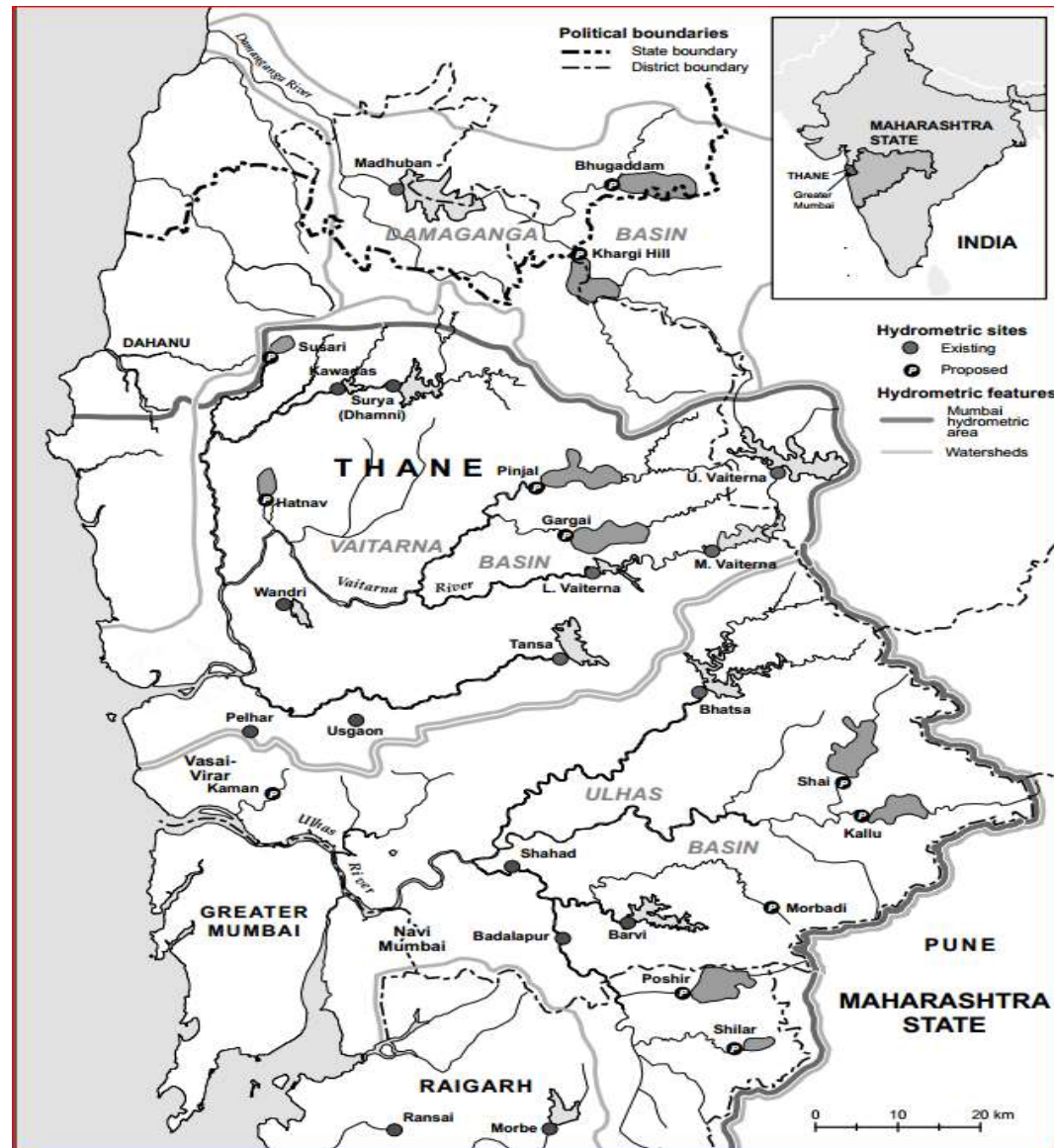
- Maximum average consumption is 200 litres per capita in Greater Mumbai
- Lower average consumption in the secondary towns and municipal council areas
- Only 18.5 of urban poor have access to piped water supply at home
- 92% of non slum homes have piped water
- Some areas within Greater Mumbai get 300-350 litres per capita
- Poor demand side management within Greater Mumbai
- Supply side response

Mumbai Hydrometric Area



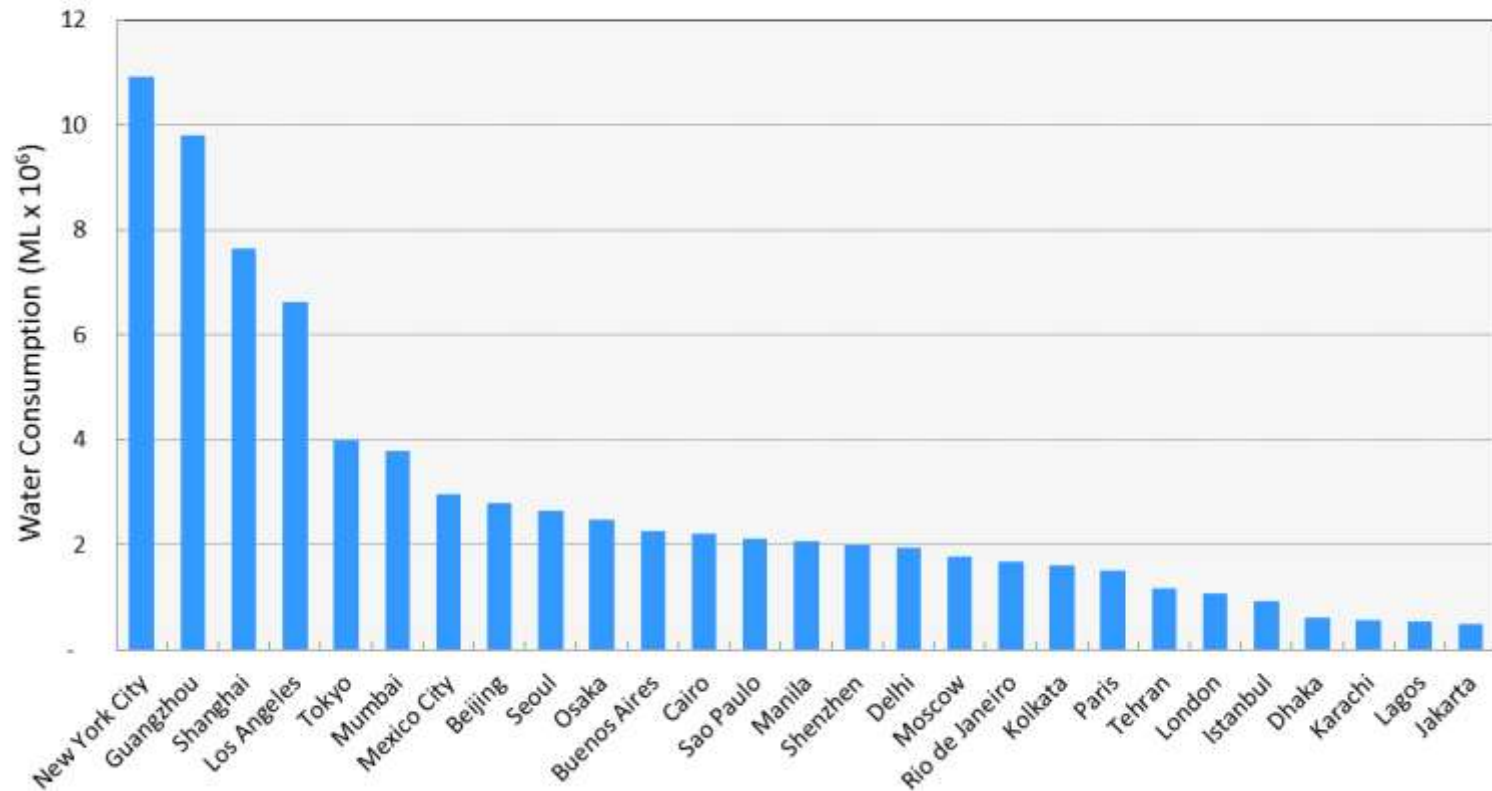
Getting busy!

- Scale of Displacement with **new projects**
- 11 in the next decade



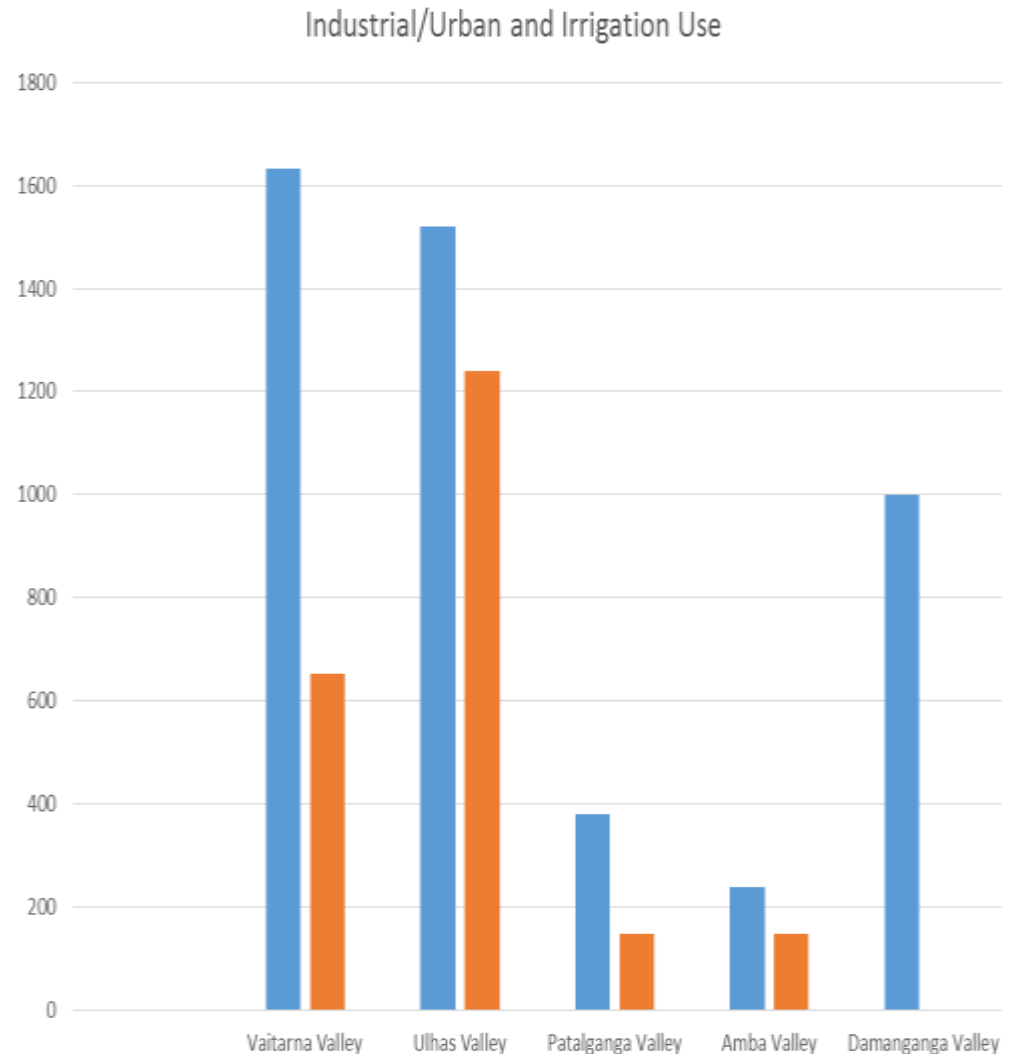
Background on water in Mumbai

Total water consumption in megacities -- 2011



Inter-sectoral Shares: Open Basins

- Vaitarna Valley includes dams that are major sources for Great Mumbai city and the fastest growing peri urban region
- Greatest differential in agricultural and industrial consumption in the Vaitarna Valley. More discontent in this Valley. Surya project in this Valley
- Allocation from new dams in the Damanganga Valley in Gujarat in this decade and next
- Dams in the Damanganga valley to be linked with dams in the Vaitarna Valley



The Central Role of Water Institutions

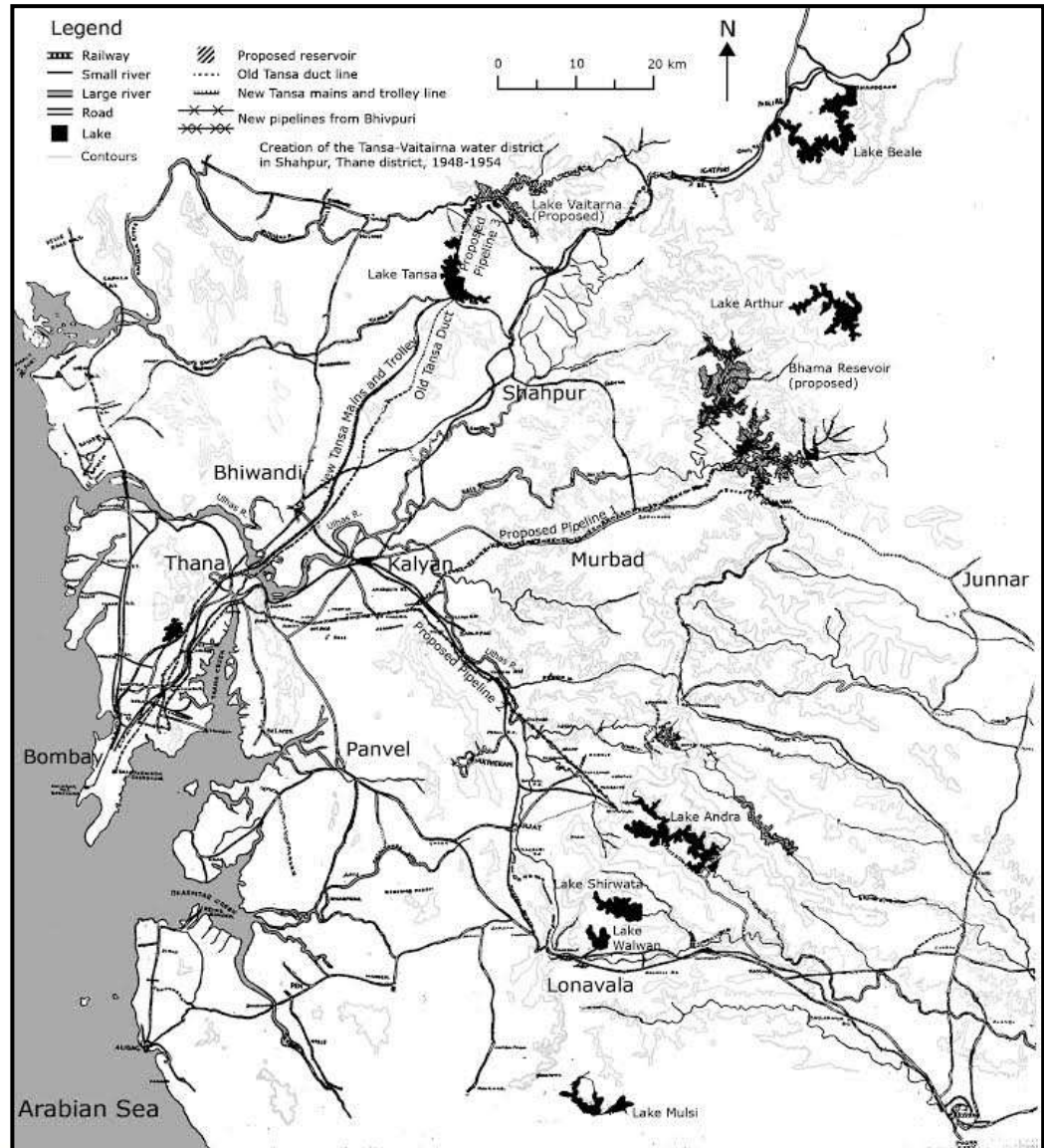
- Rules and institutions matter in building regional resilience
- Rules that disproportionately favour one institutional actor over others will lead to inefficient outcomes.
- Better water resource planning needs institutional co-ordination and better rules between water districts, villages and cities
- Economic and Environmental History takes institutions in the South Asian context seriously.
- Human Geography..... (Gandy, 2008). How does Mumbai access water?

I. Historical Background on water sources for Mumbai

- Largest urban water supply network in Asia serving 22 million people
- Largest city is Greater Mumbai, population 14 million
- First dam outside city boundaries in the 1890's in Thane district
- Hydroelectric dams built by the Tatas in Lonavala in 1919 (Raigad district)
- Successive projects until the 1930s
- Two more dams planned in the hinterland district of Thane in 1940s and 1950s
- Multipurpose dams in the 1970s

Key moment in the 1940's: Demarcating the watershed.

- NV Modak versus Claude Inglis.
- Inglis favoured Lonavala. Modak favoured Tansa-Vaitarna area



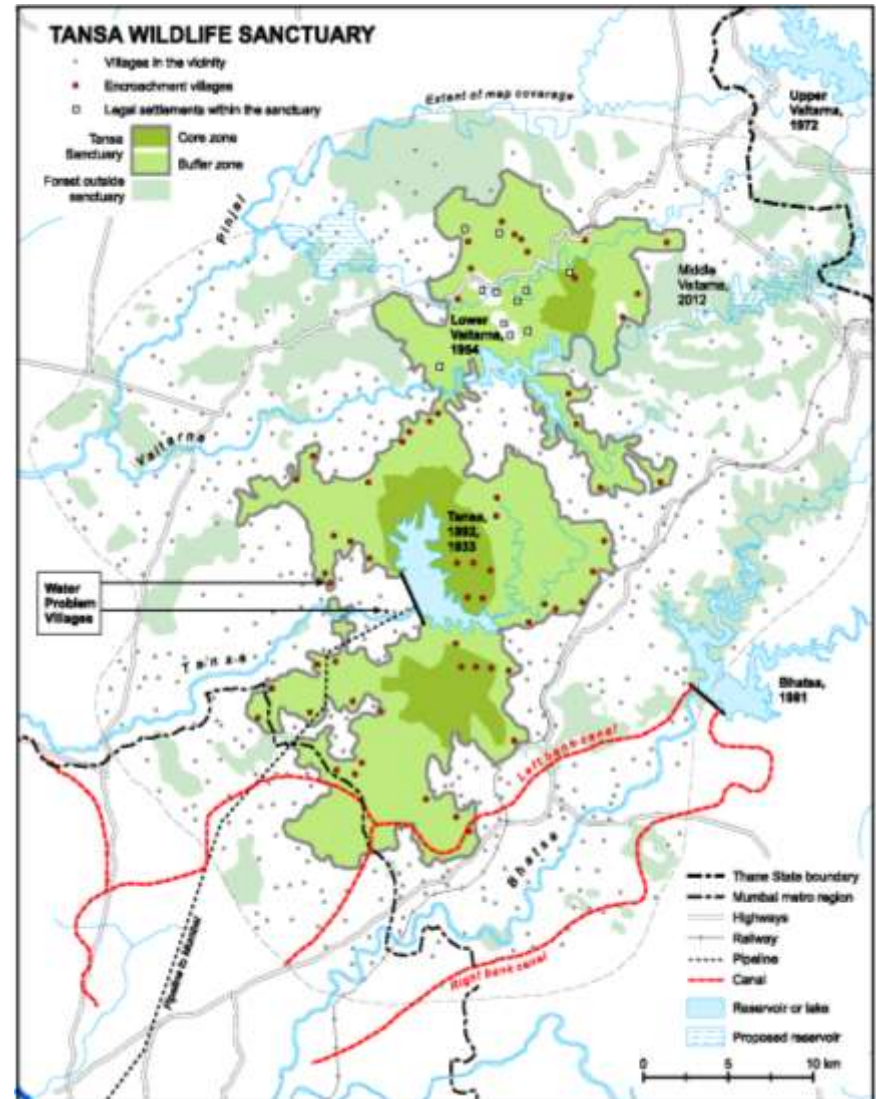
Tansa-Vaitarna(T-V)Water District: History Matters

- Watershed reserved in the 1950's for meeting future water demand from Mumbai by NV Modak.
- Riparian Rights mattered
- Anxieties over future of Bombay in the 1950`s- will it go to Gujarat or Maharashtra ?
- Five reservoirs- main source for Greater Mumbai
- Tribal Population promised water
- Decentralization of water provision for domestic use in villages in the water district

T-V Water District

Enclosures and the burden of history:

- Struggle around forest land
- Water for domestic use.
- More than 125 villages affected by water issues



Case Study: Reasons for failure of decentralization

- Fragmentation: Hydrometric boundaries do not coincide with metropolitan boundaries. Urban entities that own dams will not take responsibility for rural water demand
- Naive presumptions on how decentralization could work
- Frequent clashes between organizations over land. Conservation boundaries do not coincide with watershed boundaries
- Low revenues of local governments
- Poverty
- Enclosures
- State Govt. rules water disputes in favour of Greater Mumbai
- NGO's and social movements completely ignored. Neglect of stakeholders
- Authoritarian governance

Protests in the T-V Water district

CEO dP habitat

April - 06

HH44

DNA, BOMBAY, 20 APR 2006

They could dry up your tap

Tansa farmers threaten to cut water supply if the BMC doesn't give them promised jobs, water

Soubhik Mitra, reporter

Valves supplying drinking water to Mumbai for the past century might just be closed now. Nearly 5,000 farmers scattered across 82 villages around the Tansa water reserve near Shahpur are camping on the streets for justice. Natives threaten that if the government fails to respond to their demands, they will simply shut the valves used to manoeuvre water supply.

United under the banner of Kunbi Sena, the local political outfit, natives are protesting that promises made by the BMC be fulfilled before water pipes are laid on their fields.

On Monday, natives camped outside the main gate of the Tansa water reserve to protest against the injustice. "Rich people living in Mumbai have bought water from our neighbourhood. Today we buy water from tankers," says Sandip Gunde, a native from Aigam. After coming to know of the protest, the civic body locked the gates.

When DP Kalyaje, hydraulic engineer, BMC was told about the matter, he said, "We are discussing it with the municipal commissioner. I cannot comment unless we find a solution".

elsewhere

What irks villagers most is that the civic body had promised jobs to one person from each house. "The first pipeline was laid in 1922. Thereafter, they acquired our lands thrice. Several years have passed and neither have we got jobs nor do we have water," says Vishwanath Patil, Kunbi Sena chief. This was the fifth protest by the people. On earlier occasions, the BMC had promised them a quick

Why they are angry

Promises
The BMC promised the farmers jobs and water in lieu of their lands.

Connection
The BMC is asking villagers for Rs 1 lakh for a water connection

Agitation
This is the fifth protest by villagers



follow-up every time a protest happened. It also promised them free water.

"Today when we ask them for a water connection, we are asked to deposit Rs 1 lakh. If we had that much money, what is the need to protest?" said another villager. This time, locals have

threatened they will block the road unless government takes cognisance of the matter. Vinila Patil, who participated in the protest said, "We walk four to five kms every day to collect water but people sitting miles away get it at home just because they are rich. Is this fair?"

Case Study:

Whither rules in the T-V Water district?

- Local water rights very important
- **Prior appropriation:** first come, first served. This also favours Gr. Mumbai over other towns and villages in the metropolitan region
- Ownership of reservoirs influence rules and rights of use
- Maharashtra Water Resource Regulatory Authority (MWRRA) as an independent regulator constrained by State policy
- State Policy: Priority of use(urban, industrial and agricultural) has changed twice over the past decade and a half at the state level

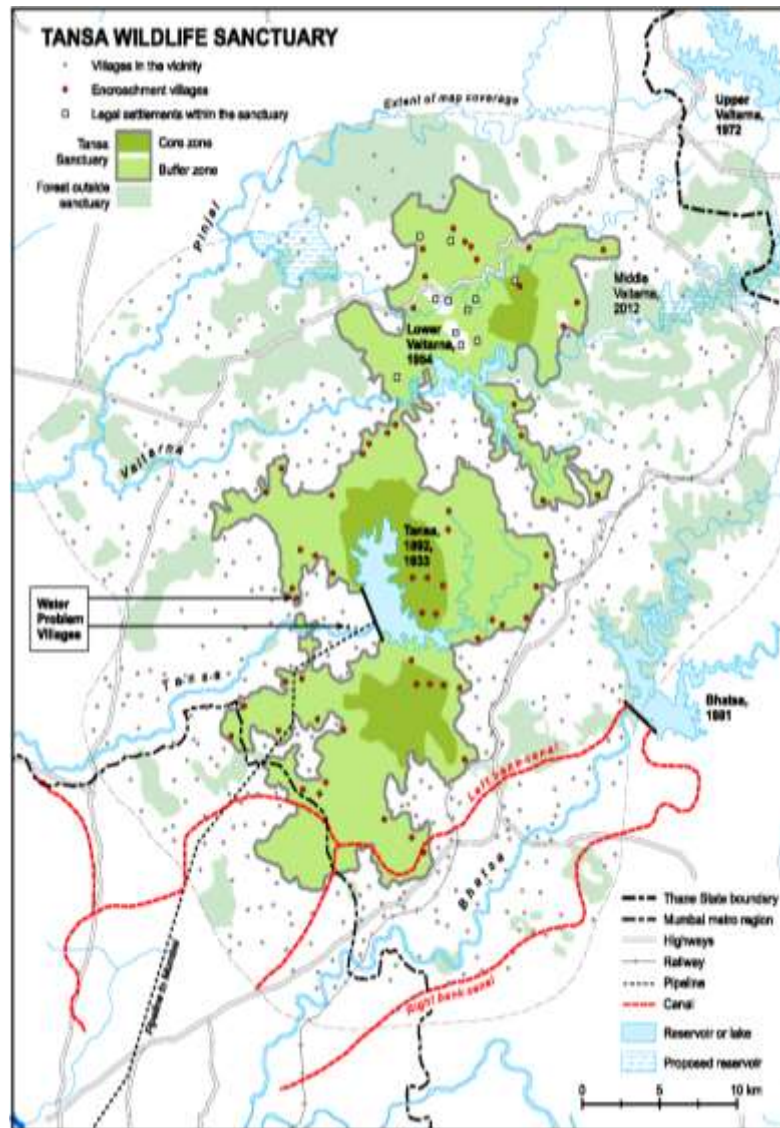
A Smoking gun ! By law of the BrihanMumbai Municipal Act

“The Municipal Commissioner of Mumbai may supply water from a municipal water-work to any local Authority or person without [Greater Mumbai] on such terms as to payment and as to the period and conditions of supply as shall be, either generally or specially approved by the corporation.”

(BMC Act 1988)

Regional water governance and case study: Elinor Ostrom's design principles?

- Centralization of decision making with the state ministry, so decentralization a huge failure in water provision
- Boundaries of water planning for the Mumbai region do not coincide with metropolitan boundaries - lack of transparency on actual water storage in the region
- Absence of a monitoring system and impartial regulator for the region
- Overestimation of demand from agriculture. Policy hasn't kept pace with economic change
- Urban areas writing rules that favour itself obvious, but the coercion involved demands an explanation



VI. Conclusion: Potential Co-operation in building regional resilience faces the burden of history?

- 1966 drought- sufficient water availability has hindered the development of a long term strategy towards resilience
- Importance of a regional water council
- Urban and rural stakeholders participate in such a regional water council.
- Balance the rights of Greater Mumbai which has senior water rights with those of other cities and rural communities
- The power of the city over the water resources in the T-V water district and the rest of hydrometric area is written in rules that were crafted for another time

THANK YOU