



# Knowledge Conclave

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# Ganga: Everyone lives downstream





## Highly polluted stretches

Kanpur to Varanasi and Dakshineshwar to Uluberia are the dirtiest

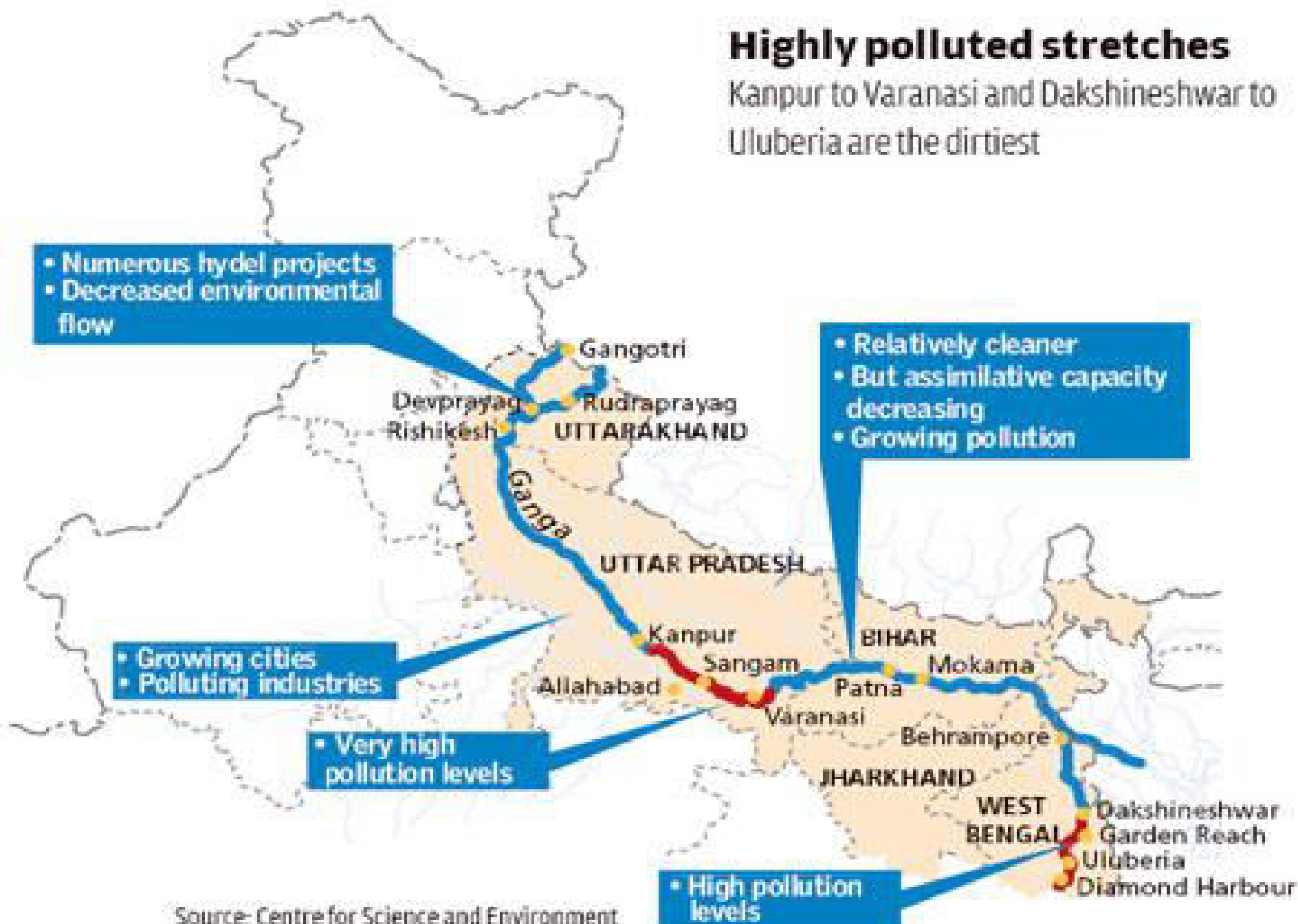
- Numerous hydel projects
- Decreased environmental flow

- Relatively cleaner
- But assimilative capacity decreasing
- Growing pollution

- Growing cities
- Polluting industries

- Very high pollution levels

- High pollution levels





# How polluted is the river?

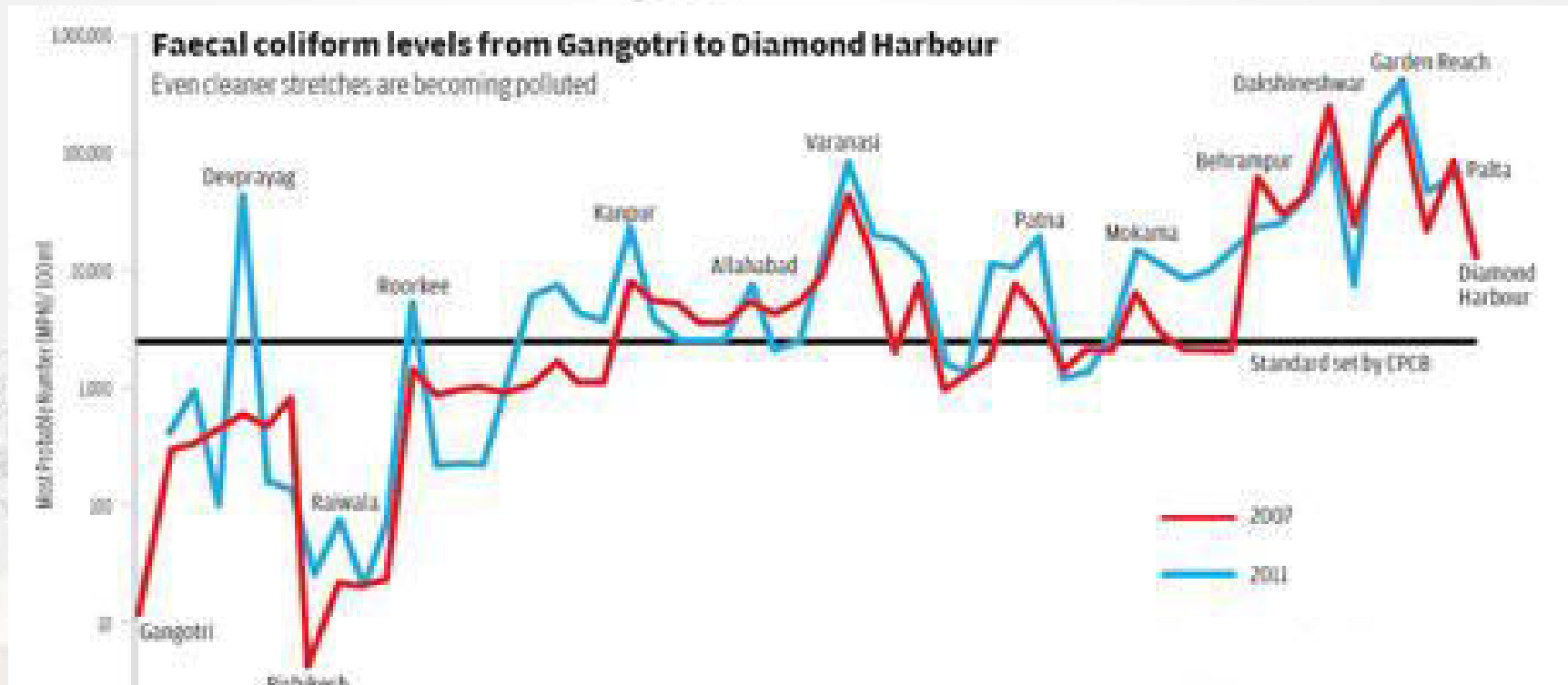
## State of pollution

How much wastewater states dump into the Ganga

States	Stretch (in km)	Number of drains	Waste water flow (in mld)
Uttarakhand	450	14	440
Uttar Pradesh	1,000	43	3,183
Bihar	405	25	580
West Bengal	520	34	1,179

Source: Central Pollution Control Board, 2003

# Ganga's journey: Gangotri to Diamond Harbour



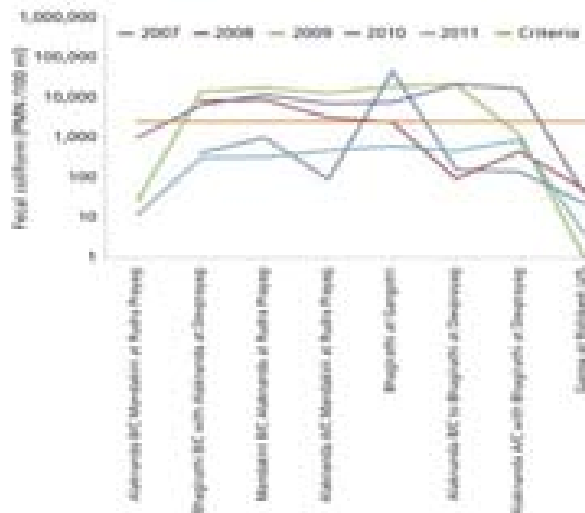
**Even the cleaner stretches are becoming polluted**

## Key problems

- The inadequate flow of water in the river, needed to dilute and assimilate waste
- The growing quantum of untreated sewage discharged from cities along the river
- The lack of enforcement against point-source pollution from industries discharging waste into the river

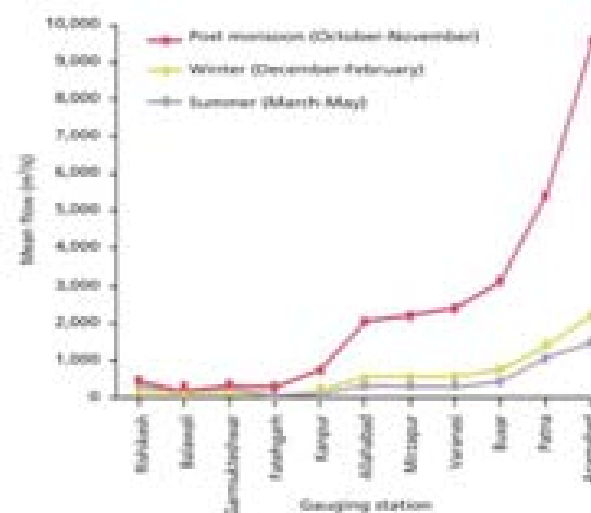
# Upper reaches – Need for dilution

**Graph: Annual trend of fecal coliform: the upper reaches**



Source: CPCB 2013, Pollution Assessment: River Ganga, Central Pollution Control Board, MoEF, July

**Graph: Seasonal mean discharge into the Ganga**



Source: CPCB 2013, Pollution Assessment: River Ganga, Central Pollution Control Board, MoEF, July

But the flow of the river has come down across years - Withdrawal from the river is much high – rivers lost its self cleansing property - hence pollution is inevitable



# The GAP

**Table: Sewage generation and treatment capacity created in the Ganga**

	<b>2009</b>	<b>2012</b>
Sewage generation (MLD)	2,638	2,723
Treatment capacity (MLD)	1,174	1,208
Gap (MLD)	1,464	1,514
<b>% gap: treated vs untreated</b>	<b>55</b>	<b>55</b>

Source: CPCB 2009 and 2013

**Even as we invest in sewage treatment capacity,  
the gap remains the same**

# Existing STPS – not working

**60 per cent of the installed capacity is utilised, and  
30 per cent of the plants are not even in operation**

Sewage generation – underestimated

**Official gap is 55 per cent whereas measured gap is  
80 per cent**

# Lack of connectivity

**Table: Connectivity for sewage treatment plants: UP cities**

City	Area of city (ha)	Area with sewerage (ha)	Un-sewered area (ha)	Un-sewered area (%)	Drains
Kanpur	25,810	7,558	18,252	71	37
Allahabad	9,510	2,013	7,397	78	57
Varanasi	10,058	1,635	8,432	84	23

Source: UP government 2010, Presentation made at the meeting of the Executive Committee of the State Ganga River Conservation Authority, Lucknow, *mimeo*

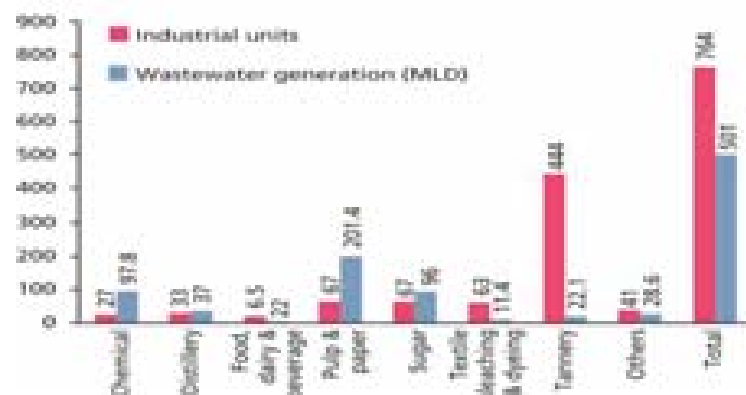
**The STP is first built, but the drains to intercept sewage do not get completed and the river continues to be polluted**

# Lack of fund with the cities

- Cost of STP is Rs 1-1.25 crore/MLD
- O& M cost is Rs. 0.60 to Rs 3 per kl, but can increase for tertiary treatment

# Industrial pollution

**Graph: Sector-specific industrial wastewater generation**



Source: CPCB 2013, Pollution Assessment: River Ganga, Central Pollution Control Board, MoEF, July

**Table: CPCB action against industries polluting the Ganga in UP**

Action	No of industries
Direction under Section 5 of Environment Protection Act, 1986	142
Directions under Section 18 (1) (b) of Water Act 1974	12
Letter issued for ensuring compliance	25
Action under process	191
<b>Total</b>	<b>370</b>
Found closed during inspection	11
No action required	23

Source: CPCB 2013, Pollution Assessment: River Ganga, Central Pollution Control Board, MoEF, July

# What did the government do?

- In 1986, the government had launched the first phase of Ganga Action Plan (GAP-I) to protect the country's largest river basin
- It selected stretches of the river along 25 cities in Uttar Pradesh, Bihar and West Bengal
- In 1993, GAP-II was initiated which included the river's tributaries—the Yamuna, Gomti, Damodar and the Mahanadi.
- On February 20, 2009, the Union government gave the Ganga the status of a National River and re-launched GAP with a reconstituted National Ganga River Basin Authority. The re-launched GAP took into account the entire river basin and emphasised the river's need to have adequate water to maintain its ecological flow
- TILL DATE **Rs.950 CRORES** HAVE BEEN SPENT ON GAP
- The present government says that Ganga cleaning is a priority for them – they created separate ministry to look after the river development and rejuvenation of the river
- New government allotted Rs. 20,000 crores for cleaning the river by 2019

UTTAR PRADESH

**KANPUR**

TALES OF TWO

# POLLUTED CITIES

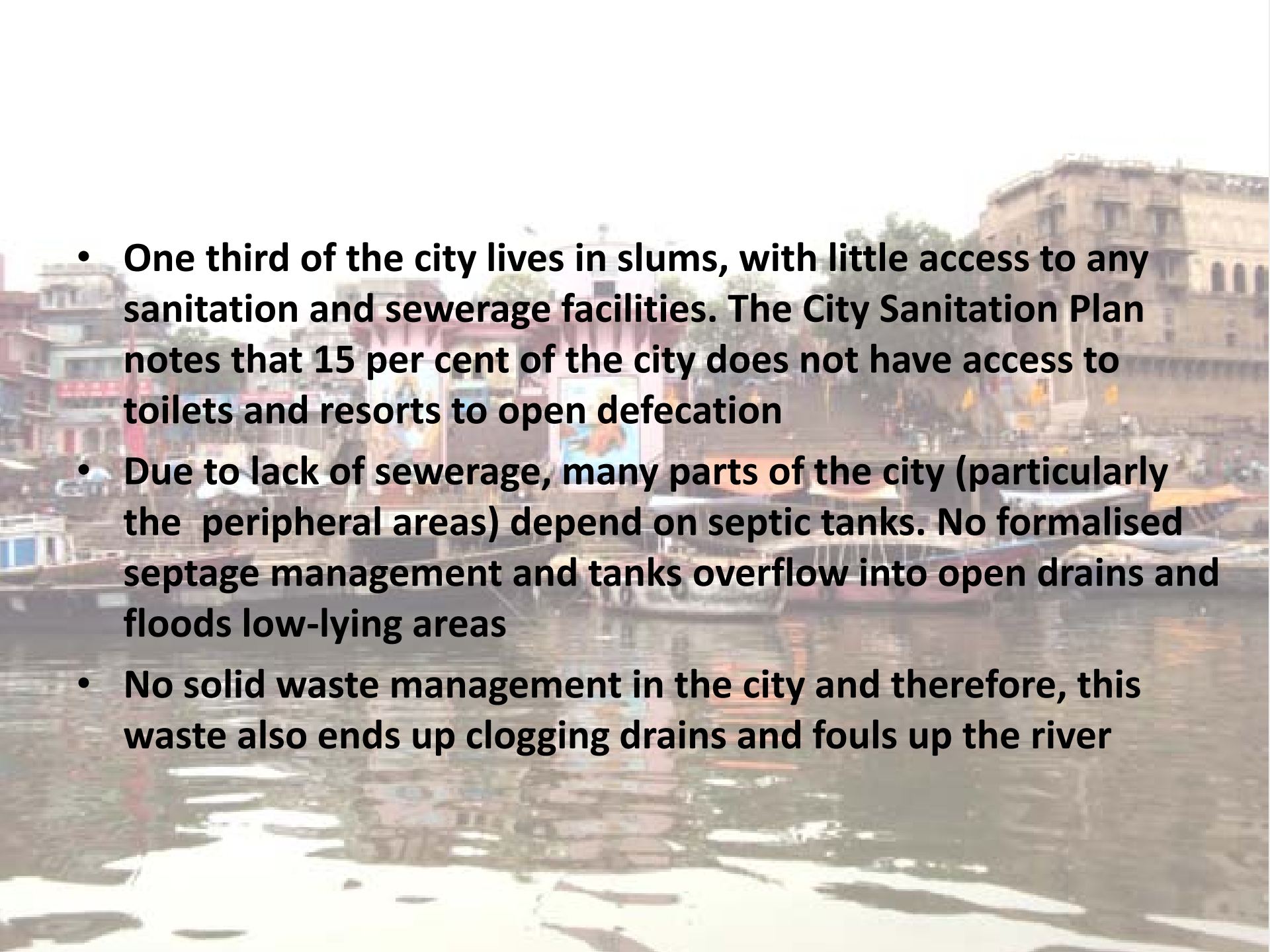


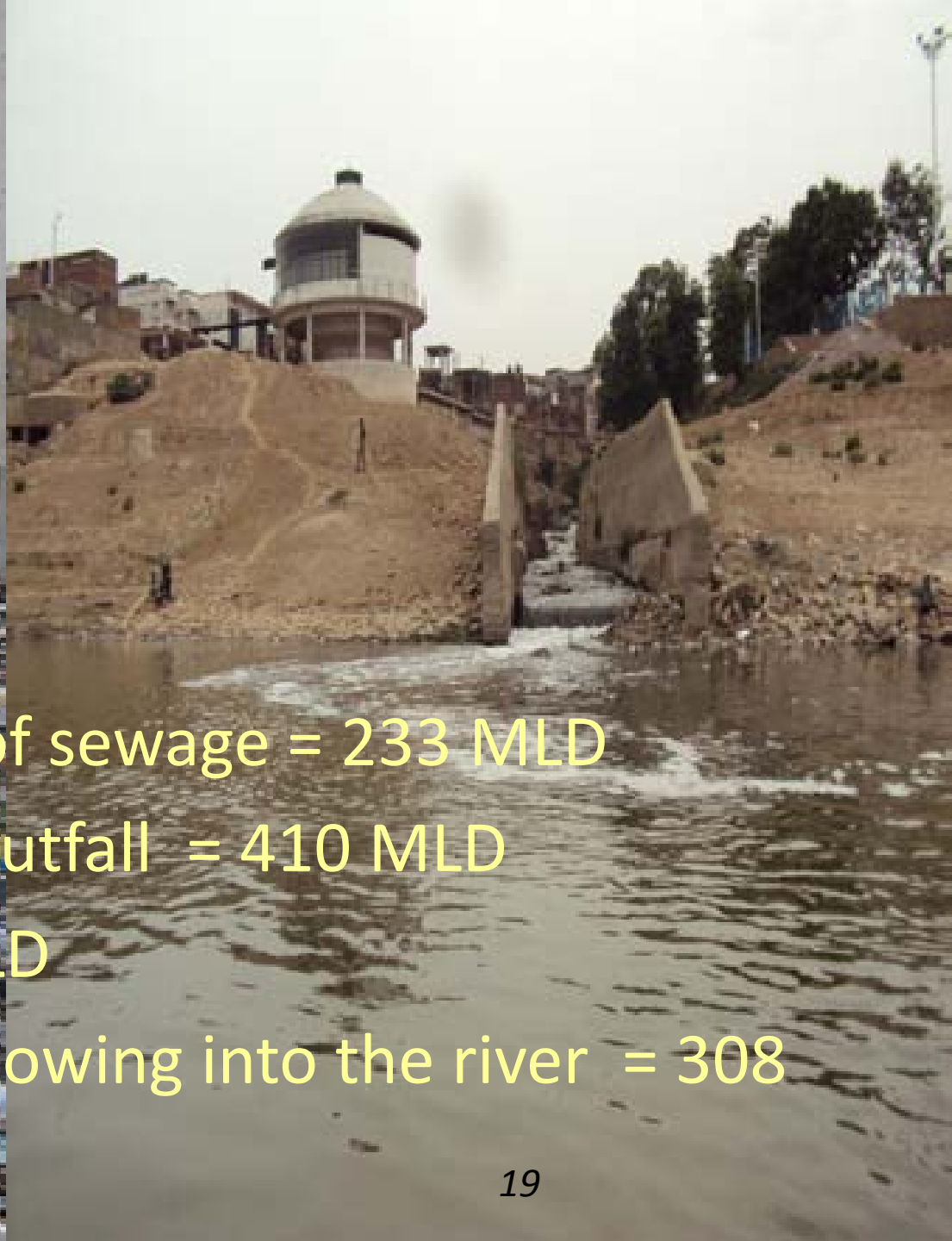
**Sisamau nala –  
largest open  
drain in Kanpur  
adds 544, 980  
kg/day of BOD  
load to the  
river**







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- **One third of the city lives in slums, with little access to any sanitation and sewerage facilities. The City Sanitation Plan notes that 15 per cent of the city does not have access to toilets and resorts to open defecation**
  - **Due to lack of sewerage, many parts of the city (particularly the peripheral areas) depend on septic tanks. No formalised septage management and tanks overflow into open drains and floods low-lying areas**
  - **No solid waste management in the city and therefore, this waste also ends up clogging drains and fouls up the river**



Official generation of sewage = 233 MLD

Measured sewage outfall = 410 MLD

Treatment = 102 MLD

Untreated sewage flowing into the river = 308  
MLD

# Let the river flow

- If we don't clean the Ganga we will be the biggest losers—a generation will lose something as valuable and precious as rivers

**This we say is completely unacceptable**