* Gujarat rivers remain highly polluted.

- Increasing pollution in Gujarat rivers
  - ↳ Sabarmati, Mahisagar, Narmada, Vishwamitri & Bhadar.
  - ↳ Sabarmati among the most polluted rivers in the country (as per MoEF)
  - ↳ 20 rivers in critically polluted category
- Gujarat
  - ↳ 4th in Top 5 States with highly polluted rivers
- Reasons:
  - unchecked flow of untreated industrial effluents
  - Lackadaisical approach of authorities.
- Treated & untreated effluents
  - ↳ released into estuary of Mahisagar & Gulf of Cambay.
  - ↳ violating guidelines of CPCB
- If Chemical O_2 demand (COD) > 25 mg/l
  - ↳ then should not be released.
  - ↳ COD indicates organic pollutant load
- Most rivers in Gujarat have 700-1000 mg/l of COD levels.

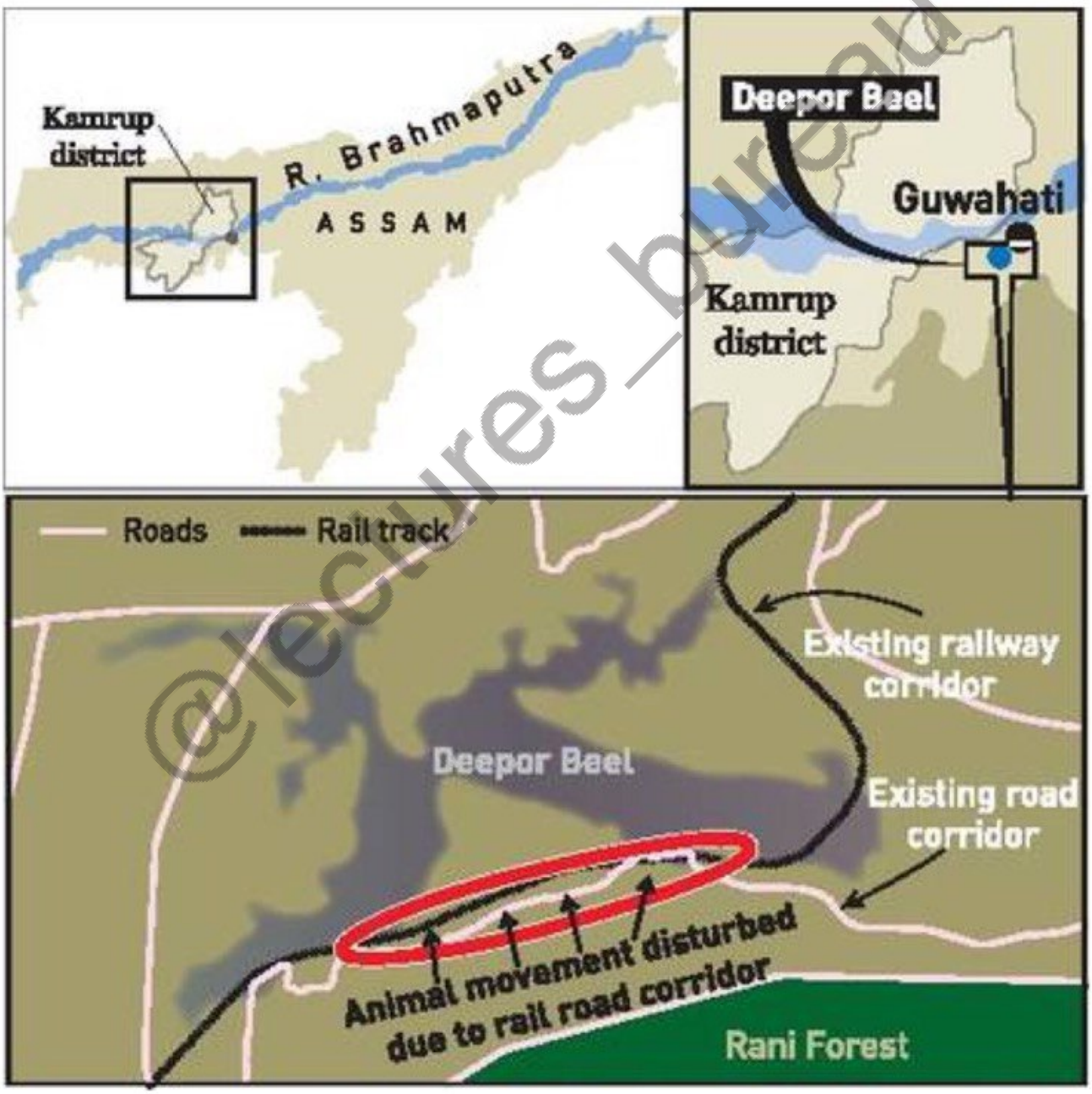
- Dissolved O_2 (DO) levels
  - ↳ indicates health of a river
  - ↳ Perennial rivers like Mahisagar should be in 6–8 mg/l range
  - ↳ but it is < 2.9 mg/l.
- Gujarat Govt proposal
  - ↳ ₹2300 crore project
  - ↳ for a deep sea effluent disposal pipeline
  - ↳ Cater to 4500 industrial units

* Sambhar Lake needs faster restoration

- Sambhar Salt Lake in Rajasthan
  - country's largest inland saline body.
  - A wetland of 'international importance' under the Ramsar Convention.
- Recent study notes:
  - Shrinking lake & more barren lands
  - Degradation of soil and water quality.
  - Increase in settlement, vegetation cover, salt pan encroachments.
  - Sambhar is being choked by illegal salt extraction
  - Drying up of the seasonal rivers
  - Thus decline in the population of migratory birds to the lake.

* Deepor Beel breathes easy.

— Eco-sensitive zone notification of Deepor Beel Wildlife Sanctuary By MOEFCC



– Deepor Beel:

- Deepor Beel is one of the largest freshwater lakes in Assam.
- It is Assam's Ramsar Site and an Important Bird Area.

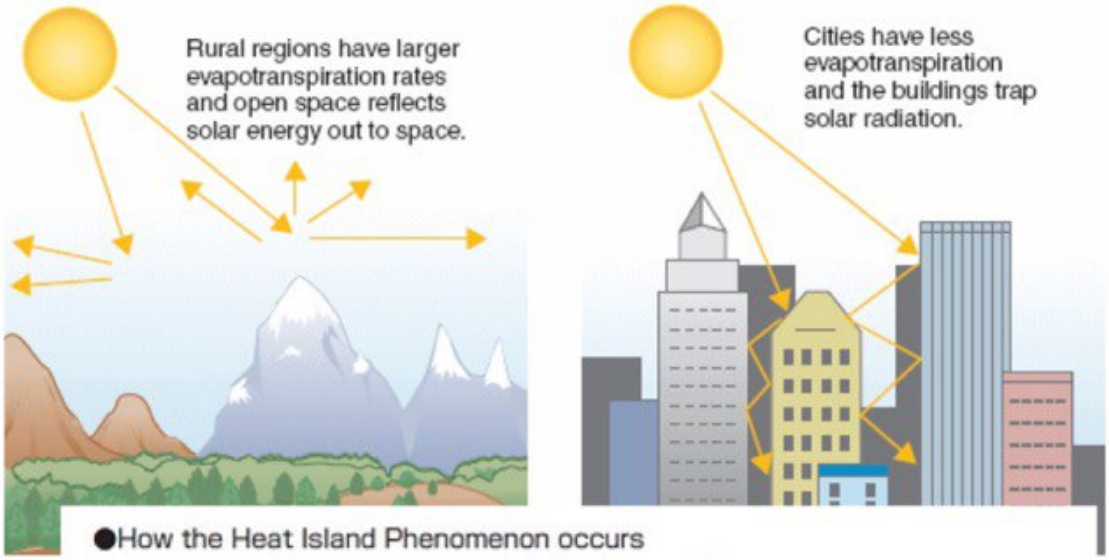
– Threats

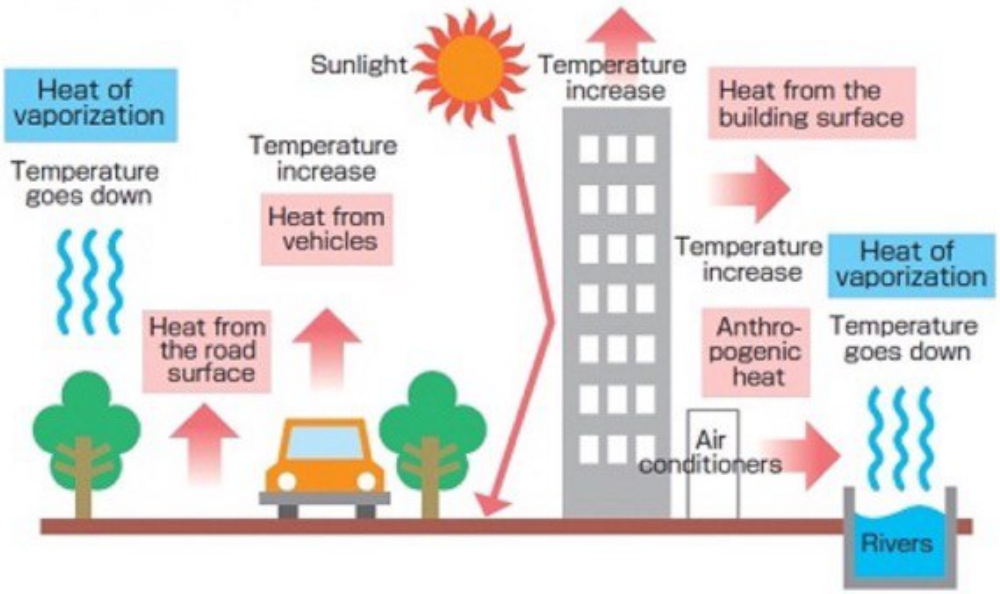
- Railway track which is set to be doubled and electrified.
- A garbage dump –> Deepor Beel has been used as a sponge for Guwahati's sewage
- Encroachment for human habitation
- Commercial units.

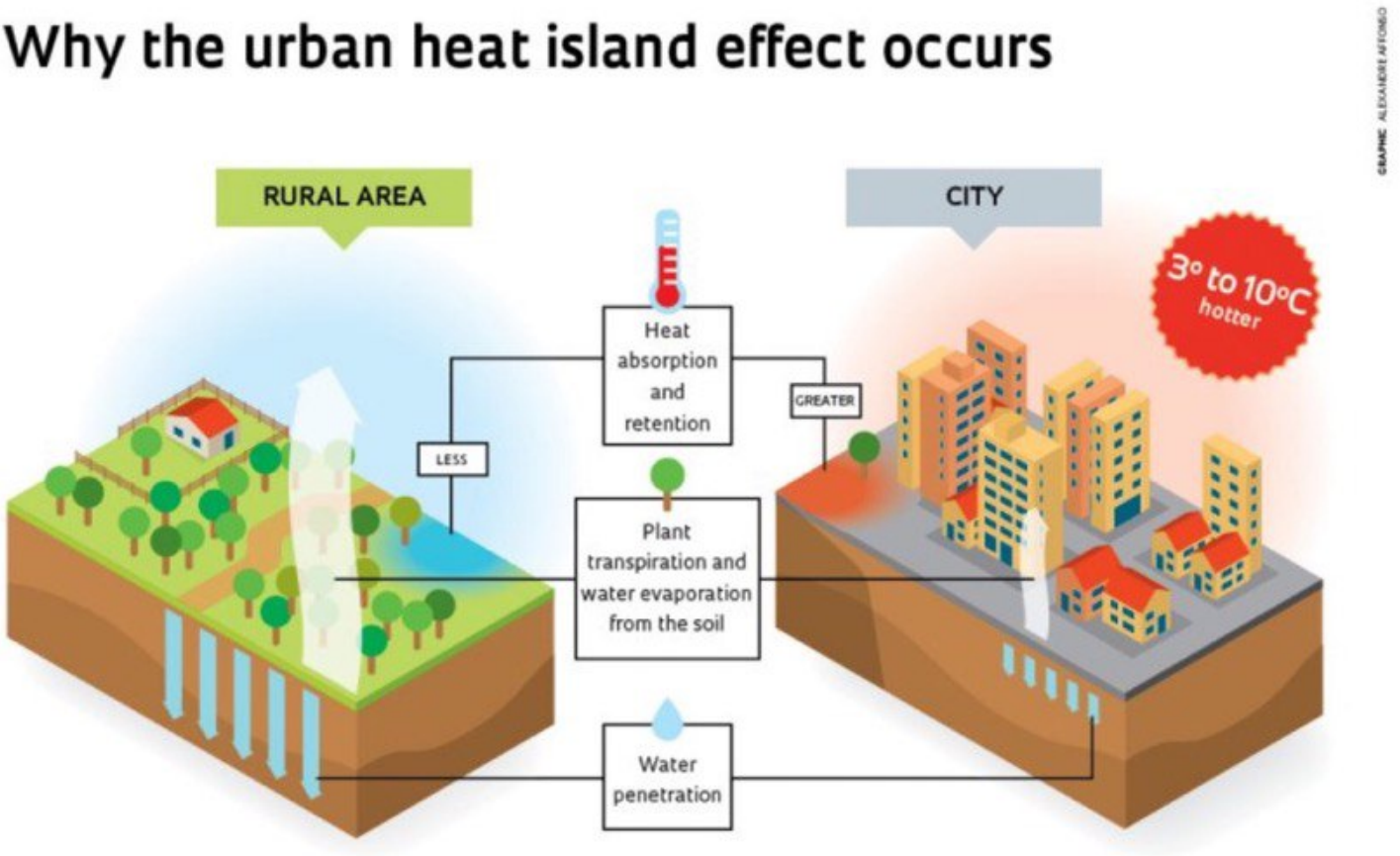
Mumbai lost 40% green cover .

Urban Heat Island effect:

- The **extreme heat** that one experiences while strolling through any urban landscape
- It is a micro-climatic phenomenon.
- The **urban area experiences warmer conditions** than its surrounding regions.







Causes of Urban Heat Island effect–

- Tall buildings , concrete, asphalt.
- Waste heat from energy use like ACs
- Land-use area & Population density

Between 1991 and 2018, Mumbai lost:

Open land (barren spaces)	81%
Green cover (forests & scrublands)	40%
Water bodies (lakes, ponds, floodplains).	30%

Negative aspects : Increases in

Built-up area (areas developed upon)	66%
Avg temperature rise across 27 years.	2° C

Urban Heat Island effect in Mumbai

=(Declining green cover +increase in built-up land for infra)

Reducing Urban Heat Island effect

- Installing green roofs on urban buildings- help cities regain some of the cooling and evaporative effects
- Paint treatments that reflect light to combat the heat island effect
- Roof sprinkling
- Urban forestry & trees.
- Rainwater harvesting