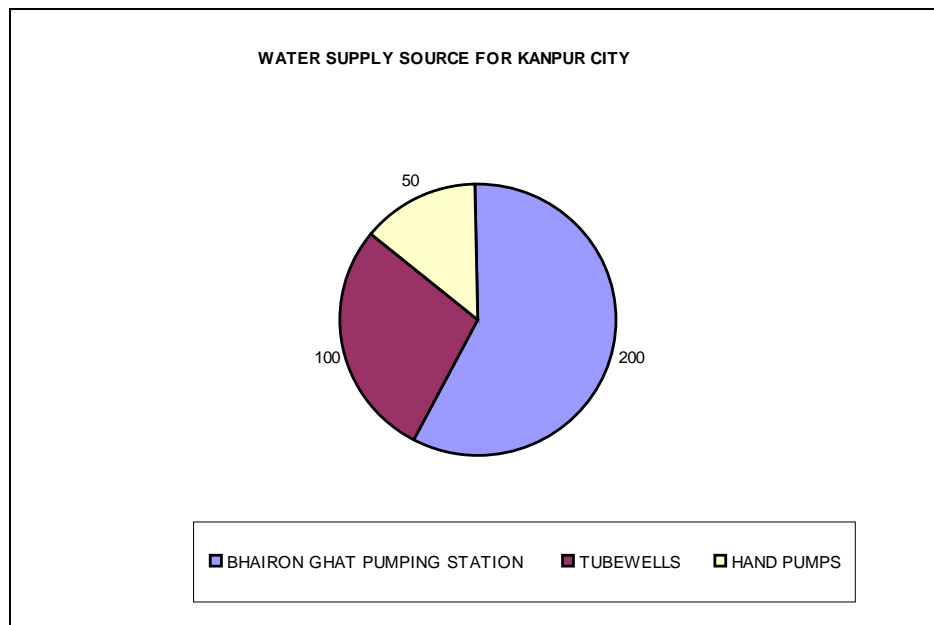


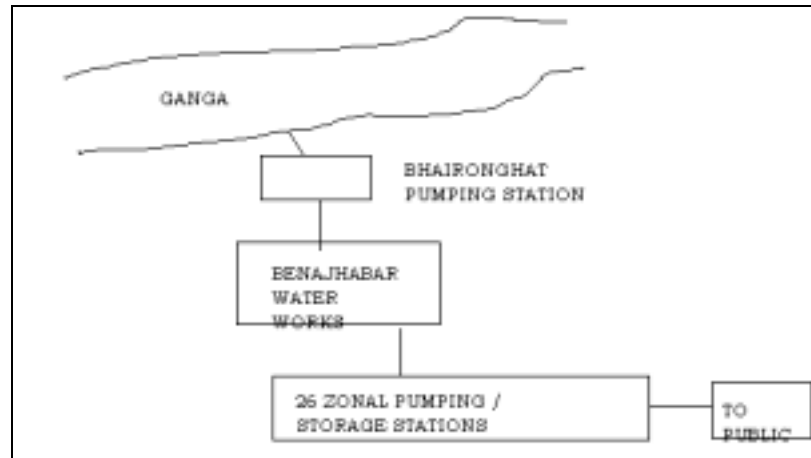
KANPUR CITY PROFILE: LIVING BY THE RIVER BUT STILL THIRSTY?

The ghats of Kanpur, once famous for holy dips and prayers, now lie deserted, as people have stopped bathing in the excessively polluted river. The current water crisis is a clear example of urban mismanagement and poor urban planning. The absence of storm water drains lead to flooding in the streets. At the same time, precious rainwater goes into sewage drains and flow into the already polluted river Ganga without recharging the area's groundwater. Rainwater harvesting is actually an ideal option in for the city to stem the plunging water levels; improve the quality of groundwater; reduce the load on the sewage treatment plant; and reduce flooding.

- **Population growth** – The town's population numbers nearly 3 million (2001 Census). Unofficial estimates place the population at over 4 million, with an average annual growth rate of 2.6 per cent.
- **Water crisis** – The water crises has occurred because the rivers are treated as a natural sewer, garbage depot and morgue. The consumer in the tail end suffers from erratic water supply, mainly due to old pipe line network and improper power supply.
- The 4000 handpumps, which deliver inferior quality water from shallow aquifers, are spread all over the city and cause hygiene problems.



- **Drinking Water Status** – The city exploits both surface water (75 per cent) and groundwater sources (25 per cent). The Ganga River and the Lower Ganga Canal constitute the surface water sources. The tapping of groundwater is most common in industrial areas.

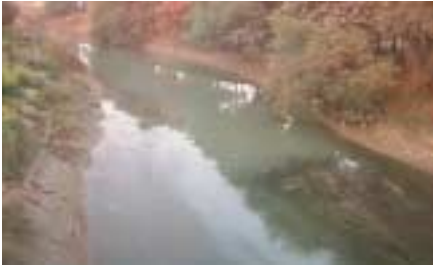


- While looking at the pictures one can surely imagine about the quality of water!



Washing of cloths

- The river Pandu flows near the southern part of the city. This river, which is free from pollution before entering the city, gets completely polluted by industrial effluents and domestic sewage.



River Pandu before entering city



Mixing of effluents to the river Pandu

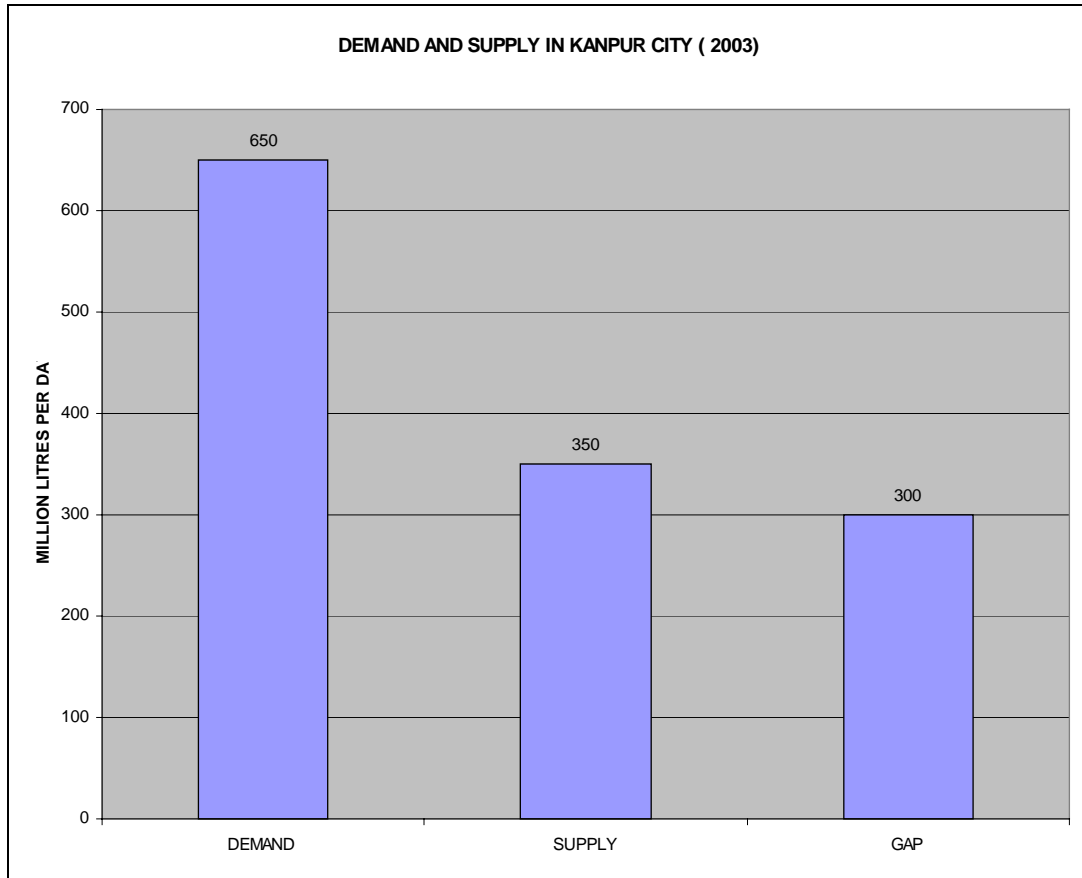
- **Water Logging-Wastage Of Precious Resource!**



The heavy rains during the months of July and August caused widespread water logging problems in various parts of Kanpur City, especially in the southern parts between G.T. Road and the Pandu River.

- **Need & Supply Gap**

The city has an installed water supply capacity of 300 mld (for 17 lakhs population), with an average daily rate of 176 lpcd water supply.



The city has installed capacity of water supply of 300 mld (for 17 lakhs population) with average daily rate of supply of 176 lpcd.

- **Condition In South Kanpur-More Alarming!**
The South Kanpur faces more water crisis

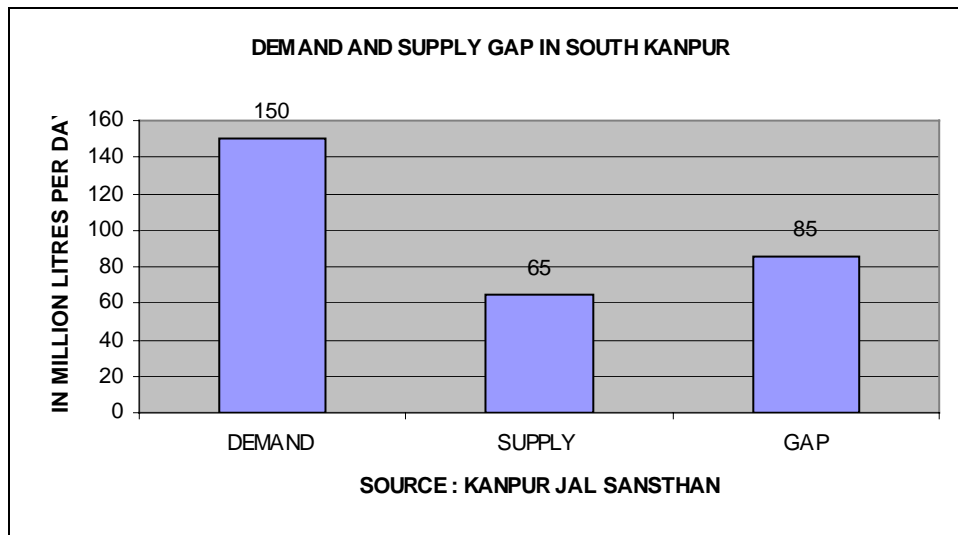
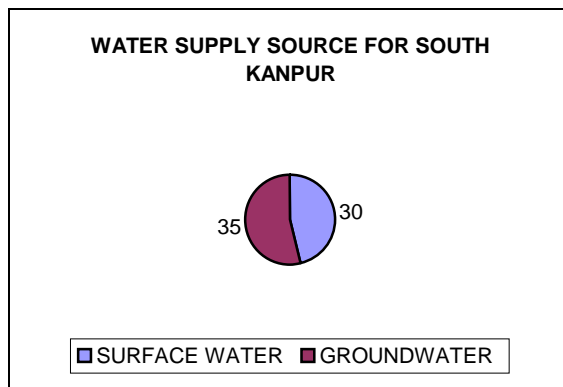


Figure 1

Water Supply Requirement: 150 MLD. Present share of Water Supply from Benajhaber water works to south region: 30 MLD. Deficit in Water Supply requirement: 120 MLD.



Water Supply from existing Tubewells: 35 MLD.
Shortfall of Water Supply: 85 MLD.

Residents of south Kanpur seem destined to bear the brunt for some more time with the delay in making the much-hyped pumping station at Gujaini operational. Kanpur Jal Sansthan (KJS) claims that the station would bring down the demand considerably. At present, the southern parts are getting somewhere between 65 to 70 mld. The frightening crisis is welling up, despite the Kanpur Municipal Corporation having made a provision of Rs 1 crore in the annual budget to tackle the problem.

- **Water Tariff-How Much Do You Pay?** – KJS produced water at Rs 4.70 per KL, which it sells at 3.90 per KL for domestic purposes. The electricity charges comes to 9 crores, in which 50 per cent is recovered from the money

collected. This amounts to a loss of Rs 3 to 5 crores annually for the department.

- **Ganga Moves Away From Kanpur** – The river has shifted its course over a period of time, and KJS spends 2 crores for dredging the river. Similarly, the pumping station at Bhairon Ghat is not consistent in water supply due to a power crisis and the absence of dredging. In fact, daily, about 14 hours of dredging is required to feed the Bhairon Ghat pumping station 200 mld water every day. But nowadays, the employees are running the dredgers for only three to four hours, which only compounds the crisis.
- **Water pumping station and sewage disposal station adjacent to each other -**



The main water supply intake at the Bhairon ghat pumping station is located in the proximate down stream of Ranighat nallah where other minor streams discharge sewage into the channel.

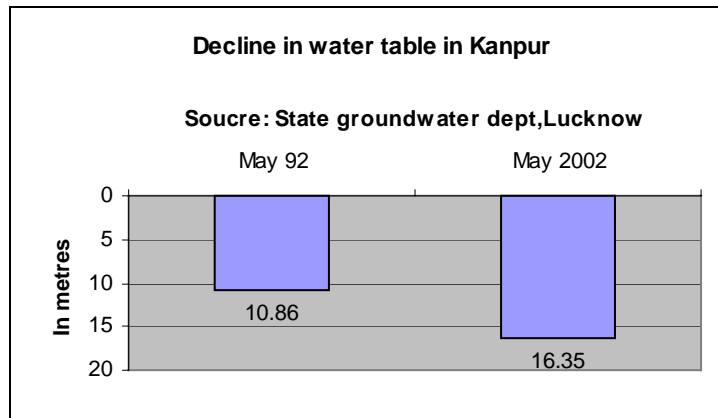
These pipes drain raw sewage and the waste water from the TB hospital into the dredged channel.



This is of great concern as the water source gets contaminated and becomes a potential source of epidemics. Leakage and intrusion of sewage and other contaminated effluent into the distribution system is a common problem in the city, affecting the drinking water quality at the receiving end. Due to heavy silting in the supply canal, raw water does not reach the tanks for treatment at the Benajhabar water works.

The drains meeting the raw water source in the dredged channel

Drinking Underground Water Or Sewage Or Metals?



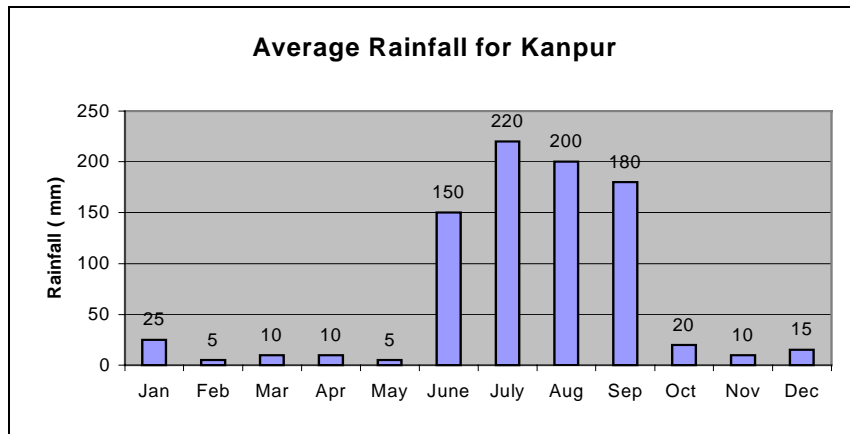
According to R S Sinha, Hydrogeologist, Groundwater Department, Lucknow, the water level in Kanpur has declined by 5.49m in the last 10 years. The fresh water is underlain by a saline belt at a depth of 200 to 300m below the ground level. Borewells are therefore drilled upto 400 mts in order to extract fresh water. In addition, chemical substances including manganese, chromium, nitrate and fluoride have been found in the groundwater on the banks of the river Ganga. Increasing pollution of the Ganga has also polluted aquifers supplying groundwater.

- Ganga Action Plan Claims-70%Ganga Is Cleaned-Really?** - Various schemes like tapping of drains through interception and diversion, sewage treatment plants, effluent treatment plant, electric crematoria, public lavatories etc were executed with an investment of approx.. Rs. 670 million under GAP in Kanpur. After completion of GAP-I, Central government came out with a report in 1995,making tall claims about the success of GAP. The report said that Ganga had been cleaned 70 %. But the study conducted by IIT Kanpur and Eco friends reports that pollution is increased after GAP.

Fed-Up with False Promises of Quality Water Supply? RWH Will Help

For successful RAIN WATER HARVESTING initiatives, it is essential to examine the rainfall pattern and the city's climate.





Rainwater harvesting campaign Source: IIT Kanpur

- With an annual average rainfall of 821 mm, and spread over an area of 829 sq. km, if Kanpur harvests even 5 per cent of its rainfall, the city will be able to secure 932 MLD of fresh water.
- **Notification:** Noting the alarming depletion of groundwater in the state, the Uttar Pradesh government has made rainwater harvesting mandatory for all buildings larger than 300 sq mts in area across several cities in UP, including in Kanpur.