

City Water & Waste Profiles

Faridabad, Haryana

- **Money invested:** Rs 74.03 crore under YAP (September 2005)
- **Capacity created:** 115 mld (STPs)
- **Untreated waste:** 97-179 mld (53-67 per cent of waste generated)

Situated and expanding on both sides of the Delhi-Mathura National Highway, and at a distance of 25 km from the capital of the country, Faridabad is flanked by important cities like Delhi to its north and Agra to its east and is geographically hemmed in by the Aravalli hills trailing off towards its west. River Yamuna runs at a distance of 10 km from the city.

Faridabad sprawls for 187.20 sq km, and includes Ballabhgarh, Old Faridabad and Faridabad township within its municipal bounds. According to the 2001 census, it was home to 1.05 million people. The estimated population in 2006 was 1.27 million. The city has, therefore, seen a population growth of 107.5 per cent in a matter of just two decades, which implies a phenomenal average annual growth rate of 5 per cent. At this rate, the population is expected to grow to 1.47 million by 2011.

Monitoring

Majhawali, 42 km downstream of the Okhla barrage, is the first water quality check-point after Delhi. Although not located directly upstream or downstream of Faridabad, this is the only monitoring station of the MoEF which is used to assess pollution loads in Faridabad. Majhawali is located 1.5 km downstream of Yamuna's confluence with the Hindon river and 3 km downstream of the outfall of the Buria *nala*, commonly referred to as the Faridabad drain. This *nala* collects untreated waste from the Himatpur area in Faridabad and also treated effluent from one of the STPs. The rest of the city drains its waste through Gouchi drain with some of it getting into the Agra canal. While this waste flows into Yamuna the monitoring at Majhawali will never give an accurate picture of the water quality at Faridabad.

State of the river

HSPCB scientist for Faridabad region O P Dahiya agrees that Yamuna water is not suitable for bathing. But he blames this on the pollution load discharged from Delhi. Dahiya also feels that freshwater flow in the river is far below the required minimum. However, since HSPCB does not measure flow in the Faridabad stretch, there is no data to support his argument.

An analysis of the annual DO averages reported by NRCD at Majhawali show significant improvement in DO levels during 1996-2005. DO levels have risen from 0.5 mg/l in 1996 to 4.7 mg/l in 2005. However, the analysis also shows a sudden decline in DO levels from 8.43 mg/l in 2002 to 3.9 mg/l in 2003. It is only in 2005 that they recover to 4.7 mg/l. During 2003-2005 the water was therefore unfit for even bathing. The NRCD does not assign any reason for this.

Water supply

Faridabad — like Yamunanagar — meets its water demand solely from groundwater. But no one knows how much groundwater is extracted or consumed by the city. Data exists for the amount of groundwater supplied by the municipal corporation. The MCF, operates and maintains water supply infrastructure through a private operator while managing revenue collection. According to CDP, there are 420 deep tubewells, supplying water through a 910-km long network. NIUA found that the official water supply in Faridabad increased from 184 mld in 1998-1999 to 229 mld in 2003-2004.

However, there is another aspect, which is never accounted for in these calculations — the private groundwater extraction, which contributes hugely to the water supply. The NIUA in its survey found

that though 95 per cent of the population has water supply connections, only 43.22 per cent of 187,330 households have authorised connections. If we assume that the 29,700 slum dwellers are served by 180 stand posts and have no authorised connections, then the remaining 76,666 households may need to either tap municipal water illegally or extract groundwater. In other words, if these households require 140 lpcd water then the groundwater extraction would be a minimum of 42 mld.

Waste generation

What is certain is that the Yamuna is only a disposal medium for industrial and domestic waste. But the quantum is highly disputed. Officials of the Yamuna Pollution Control Unit of the PHED claim that wastewater flow in Faridabad is about 117 mld, including 'some industrial waste flow'. This argument is based on the fact that under YAP, 115 mld sewage treatment capacity had been installed.

But according to the CPCB's report on *Status of sewage treatment in India* the sewage generation is estimated to be 118 mld based on 140-lpcd water supply. CSE compared the wastewater data worked out by different agencies the MCF, NIUA and CPCB and found it to be in the range of 117-196 mld. The most recent estimates (for 2003-2004) by NIUA fix water use at 229 mld and waste at 183.2 mld. But if remaining demand is met by private groundwater supply, the waste generated would be 196 mld. Again no one knows.

Sewerage issues

According to MCF and the NIUA, 100 mld of sewage is collected and treated at STPs. Only 17 mld goes untreated. However, PHED that operates and maintains the STPs, says they function at 70-80 per cent of capacity. Executive engineer (PHED) V K Bathla says: "Not all the sewage enters sewers. Some of it is discharged into nearby storm water drains." On an average, 75 per cent or 86 mld of the 115 mld installed capacity is utilised. In other words, unused capacity is 29 mld

Even after laying 23.60 km of sewerage under YAP, the MCF admitted during the NIUA survey that 70.5 per cent of the population and 40 per cent of the area is unsewered. This includes 10.23 per cent of the population living in slums, which are not connected. The CDP puts this at 50 per cent with total network coverage of 638 km.

Sewage treatment capacity

Under YAP, an STP capacity of 115 mld was created at a cost of Rs 37.05 crore, at a unit cost of Rs 32.22 lakh per mld. For Zone I, a 20 mld STP was constructed near village Badshahpur. Sewage from the SPS at sector 33 is being conveyed to this STP. It covers 32 sq km of the northern part of Faridabad between sectors 21 to 47 and today caters to a population of 2.66 lakh. The 45 mld STP near village Mirzapur in Zone II treats the sewage from sectors 1 to 21, old Faridabad and Ballabgarh an area of 70 sq km with a population of 4.67 lakh. The 50 mld STP is located at Pratapgarh for the treatment purposes of Zone III. Apart from the domestic sewage from the New Industrial (NIT) area, Dabua and Jawahar colonies, sector 23, 24 and 25 which have a population of 5 lakh, the STP receives treated industrial effluent from the 7 mld Common Effluent Treatment Plant (CETP).

TABLE 4.6: Investment in Faridabad

Funding programme (Capital investments for Yamuna clean up)	Rs crore
YAP-I	66.14 ¹
YAP extended	7.89 ¹
YAP-II (allocation)	9.28+(28/6)=13.95 ²
CETPs	3.8 ³
JNNURM (sewerage / river conservation)	490.4 ⁴
Total	582.18

Note: Under YAP-II, Rs 28 crore has been earmarked for public participation, institutional capacity building and preparation of detailed project reports for YAP-III in six towns

Sources:

1. Anon 2005, 'MIS report of programmes under National River Conservation Plan, Vol II', MoEF, New Delhi, November, *mimeo*
2. Anon 2006, 'Note on Yamuna Action Plan project phase-II, Public Health Engineering Department, Faridabad, *mimeo*
3. Anon 2006, 'Performance status of common effluent treatment plants in India', CPCB, New Delhi
4. Anon 2006, 'City Development Plan-Faridabad', Municipal Corporation Faridabad and CRISIL, October, *mimeo*