

City Water & Waste Profiles

Mathura, Uttar Pradesh

- **Money invested:** Rs 24.183 crore under YAP (Sept 2005)
- **Capacity created:** 28 mld (STPs)
- **Untreated waste:** 30 mld (60 per cent of waste generated)

The city of

Mathura is located approximately 50 km north of Agra, and 150 km south of Delhi. It is the administrative centre of Mathura district of Uttar Pradesh. During the ancient period, this was an economic hub, located at the junction of some relatively important caravan routes. Stretching for a distance of 6 km along the river Yamuna, the town, and its twin city Vrindavan, are important pilgrim centres where thousands of devotees perform holy dips in the river on an average day.

There are mainly two agencies involved in the water supply production and distribution for the city of Mathura, the Uttar Pradesh Jal Nigam (UPJN) which is responsible for construction and production and Nagar Palika Parishad, which is responsible for distribution, operation and maintenance of the schemes handed over to them by UPJN.

Monitoring

The NRCD monitors river water quality in Mathura at two locations — upstream at Vrindavan near Chirharanghat (138 km from Okhla barrage) and downstream at Gokulghat in Mathura cantonment (153 km from Okhla barrage).

State of the river

According to the NRCD, the DO levels in the river are healthy. Yet a trend analysis reveals that water quality has deteriorated at both upstream and downstream locations during 1996-2005. In 1996 DO levels upstream and downstream of Mathura were 8.1 and 8.5 mg/l respectively. By 2005, this deteriorated to 6.9 and 6.4 mg/l respectively. Before this DO values at upstream reached an all time high 11.7 mg/l in 1999. Similarly in 2002, at Mathura downstream DO values increased to 10.6 mg/l whereas the corresponding upstream value was 8.6 mg/l. Till 1998 DO downstream was greater than that upstream. This scientifically impossible phenomena was observed in 2002 as well.

Water supply

If we take official estimates into consideration the water supply amounts to as low as 34 mld water or 97 lpcd. If we consider a nominal leakage loss of 15 per cent it drops to 84 lpcd. The CDP for Mathura under the JNNURM pegs this even lower. It states that the actual water received is about 60 lpcd. Experts as well as government officials agree that in such a scenario users will be forced to privately source groundwater. Moreover the total slum population in 2001 was around 1.44 lakh (or more than 40 per cent of the total population). Here, only 60 per cent is covered with water supply facilities with most people having access to hand pumps rather than piped water connections.

According to an evaluation study by IIT Roorkee, the project proposal for YAP was prepared in the 1990s when the actual flow in the drains was monitored and found to be 27.54 mld (Masani nala 12.55 mld; rest of the 17 drains 14.99 mld).

Waste generation

CPCB in its report *Status of sewage treatment in India*, estimates that the per capita water use in 2001 in Mathura is 167.5 lpcd and not 155 lpcd (as adopted by UPJN). The corresponding waste

generation for a population of 2.99 lakh (2001 census) would then be about 40 mld. In 2005, Dipankar Saha, the officer-in-charge at CPCB Agra, measured the wastewater flow in the drains and found it to be 49.5 mld. This corresponds with a water use of 177 lpcd (62 mld). As UPJN does not have its own estimates, it agrees with Saha's data on waste generation — as on 2006.

Expenditure on river clean-up

During 1993-2003, Rs 24.18 crore was spent under YAP in Mathura. CPCB and NRCD consider the Mathura stretch to extend from Vrindavan to Mathura Cantonment – a span of 15 km. In addition to this, YAP also funded several pollution control activities in Vrindavan. Rs 8.52 crore was spent in Vrindavan till September 2005. Altogether Rs 35.16 crore was spent to clean up the 15-km stretch from Vrindavan to Gokul barrage. In other words Rs 2.34 crore per km. This is likely to increase with YAP-II investments.

TABLE 4.14: Investment to clean up sewage in Mathura	
Capital investment under different programmes to clean the Yamuna in Mathura	Rs crore
YAP-I	16.905 ¹
YAP extended	7.28 ¹
YAP-II	Not allocated
1981 UPJN plan to tap nalas	0.12 ²
1952-1972 sewerage works	0.1072 ³
1984 Rehabilitation of Bengalighat PS, IPS at Vrindavan Gate and to clean nalas and sewers	0.25 ³
Mathura CETP	1.88 ⁴
Under JNNURM sewerage master plan	304 ⁵
Under JNNURM drainage (desilting of drains and decentralised treatment)	228 ⁵
Total	556.85

Sources:

1. Anon 2005, 'MIS report of programmes under National River Conservation Plan, Vol II', MoEF, New Delhi, November, *mimeo*
2. Anon 2006, <http://www.auburn.edu/~alleykd/envirolitigators/writpetition.htm>, as viewed on June 15
3. Anon 2006, 'Improvement of sewerage system of Mathura city under JNNURM programme', UP Jal Nigam, *mimeo*
4. Anon 2006, Status of common effluent treatment plants in India, CPCB, New Delhi, January
5. Anon 2006, *City Development Plan of Mathura*, Infrastructure Professional Enterprise (p) Ltd, September, *mimeo*

Sewage treatment capacity

Two STPs were constructed in Mathura with a combined capacity of 28 mld. The 13.5 mld Masani Nala STP and the 14.5 mld STP at Kulu Ka Nagla (in trans-Yamuna) oxidation ponds were set up at a cost of Rs 4.35 crore or Rs 15.51 lakh per mld

Future projects

The Mathura administration also plans to spend Rs 304 crore on sewerage and STPs under the Jawaharlal Nehru National Urban Renewal Mission (JNNURM). It will also spend Rs 228 crore on its drainage system. The Uttar Pradesh Jal Nigam (UPJN) has already sent a proposal to the Union ministry of urban development for approval. If this proposal is approved the investment will go up to Rs 37.23 crore for every km stretch of the river. Mathura Nagar Palika Parishad aims to mobilize Rs 852 crore for water supply, sewerage and drainage through JNNURM.