

## Chapter 6

### Repair and Maintenance of Drains

#### Issues

There are 22 drains that join Yamuna in Delhi, including Shahdara outfall drain which joins downstream of Okhla. These drains carry 3911 MLD of waste water, both treated and untreated, (CPCB report for the year 2017) which is released into the river Yamuna. Though the Report of Expert Committee dated 13-10-2014 had stated that there are 210 natural storm water drains of which 157 could only be located, as per the information now received from DJB, the number of drains (natural and artificial) in the catchment of Najafgarh, Supplementary and Shahdara drain is 376

NGT had given detailed directions which are recounted below as they are all monitorable.

- i. Actual number of drains which are connected to STPs either directly or indirectly should be mapped and no sewage or industrial effluent be allowed to flow through the drains and drains joining larger drains should be trapped at the outfall point and conveyed through Interceptor sewer line to STPs.
- ii. In respect of the Interceptor Sewer project (ISP) which proposed to trap 108 drains and 242 MGD (about 1100 MLD) of sewage it should have been commissioned by March 2016. As per DJB the revised date now is Dec 2018.
- iii. Sewage flow from eleven drains out falling into Yamuna which have been trapped and sewage conveyed to STPs should be sewage free as six of these drains on inspection, were found having sewage in them.
- iv. Six drains, namely, Shadara, Qudasia bagh (Mori gate), Barapulla,, Maharani Bagh, Kalkaji and Tekhand drains have to be trapped.
- v. As per the Expert Committee report there were 148 locations in sewerred areas where the drains were found carrying sewage due to puncturing of sewer lines and 344 locations where storm drains join sewers thereby causing surcharging of sewers resulting in flooding. This is where sewage gets mixed with storm water overflowing in the area. DJB had already identified and mapped such locations and has been directed to prepare an Action Plan to remedy this.
- vi. IFCD, PWD and Municipal Authorities are expected to undertake periodic dredging and de- silting of drains within their jurisdiction and dispose of the silt/dredged material as designated landfill sites.
- vii. No MSW, C&D waste or faecal sludge should be allowed to be deposited into drains and the authorities owning the drains should have plans to clean drains. Also, Environmental

Compensation under Polluter Pays Principle of Rs 5000 on individuals should be imposed in addition to action under municipal laws.

- viii. No concretization or covering of the drains should be permitted as any such action adversely affects the biodiversity present in the drains and affects the ground water recharge.
- ix. Drains carrying both industrial effluent and domestic sewage should be identified and effluent from such point sources of industrial pollution conveyed to CETPs as the STPs are not designed to treat industrial effluents.
- x. All the drains should be subjected to flow measurement and testing of quality of waste water by CPCB and DPCC

### **Present Status:**

An Action Plan for sewage flowing through drains in sewerred areas at 148 locations and 344 locations where storm water is being forced into sewers, has been prepared by DJB and out of 148 locations, at 69 locations the sewage flowing into drains has been plugged and the action plan for plugging the balance 79 locations is under implementation.

### **Action Plan:**

- In order to make an assessment of the number of drains, DJB through IIT Delhi has prepared a Drainage Master Plan for Delhi. DJB has informed that the number of drains that still remain to be trapped in the catchment of Najafgarh, Supplementary and Shahdara drains which will be assessed and plans formulated for their trapping and conveyance to STPs. MC will monitor this.
- Progress of plugging sewage in drains flowing through sewerred areas will be monitored on quarterly basis and the progress covered in the progress report. Already 79 out of 148 such spots have been stated to have been plugged by the DJB. These will also be subject to independent verification.
- DJB has been asked to prepare an action plan for plugging six (6) out of 11 drains where sewage was found in the drains despite the same having been trapped. The DJB will also be asked to take follow up action on recommendations in respect of each of the six drains as decided in the meeting of the Principal Committee held on 18-07-2018. The Action taken by DJB will be monitored by the MC.
- Compliance of NGT directions for imposition of Environmental Compensation under Polluter Pays Principle for those generating sewage, whether in sewerred areas or unsewerred areas, which despite NGT's directions in May 2015 has not been complied with so far, will be pursued. Separate directions have been issued asking NCT Delhi as to why those consuming

water upto 20 KLD should be exempt from paying sewage charges even if water is subsidized by the Government.

- Secretary PWD, Secretary I&FC and DMCs will be asked to draw up calendar for dredging and desilting of drains and bring it in public domain for better compliance. The authorities will be asked to keep the public informed about nodal officer's numbers on websites and through public notice and they can what's app details to the zonal engineer in case drains are being misused or not being dredged as per the Calendar.
- NGT has already placed a ban on concretization of natural storm water drains. Any violation of this direction if reported to the MC will be taken up at the highest level of the Agencies/Departments and also reported to the Tribunal.
- For controlled dredging of Yamuna River as directed by NGT, as a first step, the issue will be discussed with the Secretary MoWR, RD & GR and Chairman Principal Committee for funding the feasibility study. A feasibility report for de-sludging and controlled dredging in Yamuna can be got prepared through expert institutions like NEERI, IIT Delhi and Delhi University under the technical supervision of Experts like Dr Rakesh Kumar Director NEERI, Prof CR Babu, and Prof AK Gossain. Co-option of other Experts will be suggested, if considered necessary, in consultation with the Principal Committee.
- The Action plans for enforcement action against people throwing C& D waste or letting sewage flow into drains will be followed up and results obtained from DMCs, DJB and DMs will be displayed on the website of the concerned agencies and the MC. There was however a tendency to disown responsibility with arguments that the drains belong to PWD, I& FC and MCD is only responsible for storm water drains. The I&FC and DJB tried to disown the problem as one where they have no powers to take punitive or deterrent action. This continued deflection of responsibility has been brought to the notice of all the Heads of the organisations and the Chief Secretary. If the apathy continues it will be reported to NGT on 31.12.18.
- The only way of judging whether the action taken is showing is to have samples of waste water from various drains taken by CPCB and DPCC and to ask for location specific action started against concerned staff in whose jurisdiction things have worsened. Such periodic measurements will be taken through joint team of CPCB and DPCC scientists and will cover both flow measurements as well as quality parameters. Adequacy of the number of testing stations for long drains like the Najafgarh drain will be decided in consultation with the DJB, CPCB and DPCC.

- Hotspots of industrial pollutants in selected drains will be identified after sending out a team of scientists from CPCB and DPCC and drain owning agencies/DMCs and based on such reports an Action Plan will be prepared for trapping industrial effluent in the drains for treatment through existing CETPs or by setting up new ones or even action under the law against such point sources of pollution. This is an ongoing activity and reports would be sought every 2 months.
- Directions have been issued to Dept. of Irrigation & Floods for placing booms at the mouth of drains joining Yamuna and at some other selected points so as to collect floating plastic and other waste entering Yamuna. First report has been sought on 01-11-2018. The progress achieved will be reported to NGT.
- I&FCD has been directed to do aeration/ozonation under the supervision of CPCB in selected drains like the Najafgarh drain as directed by the NGT. Progress on this will be monitored and technical help of Institutes like NEERI will be sought. No time line is possible but action on this would be co-ordinated by the MC by 15<sup>th</sup> December subject to NEERI agreeing to carry this out within November and December.
- Teams of students from Delhi College of Engineering/IITs Delhi under the leadership of some faculty will be sent out to carry out surprise and random checks on selected drains, prioritized in consultation with DMCs and DJB, and report on dumping of septage, C&D waste or biomedical waste into the drains. Specific locations where CPCB and DPCC find a worsening situation would be reported on website and directions given for immediate rectification. This arrangement has been discussed with Professor Gossain of IIT Delhi. A plan has still to be drawn up depending on student availability. They would need to be compensated for out of pocket expenses. A system for doing this does not exist presently and by 31.12.18 the progress made would be reported.