POLLUTION ASSESSMENT : RIVER GANGA

JULY, 2013

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FOREWORD

River Bhagirathi and river Alaknanda originate in Garhwal Himalayas and join at Devprayag to form River Ganga. River Ganga traverses through Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal and thereafter enters Bangladesh. The important tributaries of Ganga are the Yamuna, the Kali, the Ramganga, the Ghaghra, the Gandak, the Kosi, and the Sone.

Various urban centers viz. Haridwar, Kannauj, Kanpur, Allahabad, Varanasi, Patna and Kolkata which are located on the banks of river Ganga, draw water from the river to meet their requirement and almost the entire wastewater generated by these centers is disposed off into the river. The cluster of polluting industries in Kashipur and Moradabad discharge their effluent in river Ramganga and that of Meerut and Modinagar in river Kali. Both these tributaries contribute pollution in river Ganga in the vicinity of Kannauj. The tannery cluster in Kanpur also discharges substantial amount of industrial effluent in the river. River Ganga is polluted by Faecal Coliforms bacteria in its entire length to variable degree whereas the level of BOD an indicator of organic pollution is largely exceeding the criteria in the stretch that spans from Kannauj to Tarighat.

The diversion of water of River Ganga through Upper and Lower Ganga canals, leaves virtually very little or no flow in the main river. In absence of adequate flow the unabated discharge of treated sewage, even with 100% treatment, and BOD level of 30 mg/l, cannot bring the river water quality to bathing level in lean season flow. To achieve the goal of river water quality minimum flow is required to be maintained throughout the year to support the eco-system in general and all forms of aquatic life in particular and ultimately maintain the wholesomeness of river Ganga.

Central Pollution Control Board, in association with the State Pollution Control Boards of Uttarakhand, Uttar Pradesh, Bihar, and West Bengal, has established a monitoring network to quantify water quality of the Ganga and suggests measures for improving the quality.

The water quality data collected and collated by Central Pollution Control Board under National Water Quality Monitoring Programme and Assessment of sources of Pollution is presented in this treatise. This report also provides insight to the contribution of pollution from River Kali and River Ramganga. The cooperation extended by State Pollution Control Boards of Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal in collecting and collating the data is acknowledged.

The data presented in this report has been assessed, processed and compiled by Sh. Vishal Gandhi, Scientist, ‘C’, Sh. R M Bhardwaj, Scientist ‘D’, Sh.A.K.Sinha, Scientist ‘D’ and Ms. Garima Dublish, Research Associate under the supervision of Sh. J S Kamyotra, Member Secretary.

We hope, the information contained in the report would be useful to the concerned authorities, academic institutions, researchers and others stakeholders involved in mission clean Ganga.

(Ajay Tyagi)
Chairman

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EXECUTIVE SUMMARY

Central Pollution Control Board has a network of 57 water quality monitoring stations on river Ganga and monitoring 9 core parameters regularly. With respect to said network, it was observed that river Ganga within the prescribed limits in terms of BOD from its origin to Rishikesh and in the segment of Bihar. However, in the stretch of Rishikesh Downstream to Garhmukteshwar and Kannauj Upstream to Trighat and few locations at West Bengal (Dakshineshwar, Uluberia & Diamond Harbour) water quality exceeds the criteria in terms of BOD.Dissolved Oxygen & pH is meeting the criteria at almost all the monitoring locations while Faecal Coliform is not meeting the criteria at most of the monitoring locations from Kanpur Downstream onwards upto Diamond Harbour.

- **Status of Drains discharging wastewater to river Ganga**
  CPCB has inventorized and monitored 138 drains in Ganga river Catchment. 76 % of the pollution load was contributed by Uttar Pradesh. Maximum flow was also measured in Uttar Pradesh. In Uttar Pradesh, Chhoyia, Permiya, Sisamau nala are the major polluters which contributes maximum pollution load. In West Bengal maximum numbers (54) of point sources were identified. This indicates that if the pollution load in the major drains of **Uttar Pradsh**, Bihar and West Bengal is addressed, water quality would show substantial improvement.

- **Performance Evaluation Of Sewage Treatment Plants**
  Perfomance evaluation of 64 Sewage Treatment Plants was conducted. It was observed from the findings that capacity utilization wise, West Bengal needs immediate attention. All the non functional STPs needs to be made functional. The STP's at Bhatpara (new), Titagarh, Bandipur need improvement. With respect to Uttar Pradesh, Jajmau, Dinapur, Bhagwanpur at BHU needs improvement in its performance. In case of Bihar, treatment plant at Chapara, Patna needs to be made functional. STP at Lakkarghat in Uttrakhand needs improvement in its performance.

- **Recoinaissance survey of river Kali (East) and Ramganga**

  CPCB has surveyed and monitored river Kali (East) and Ramganga and inventorize point sources of pollution. Major tributaries of river Ramganga are river Kho, Gagan, Kosi, Dhela, Bhakara, East and Waste Begul and Deohra (Gorra). During survey, it was found that Moradabad and Rampur drain are two major drains discharging industrial/domestic wastewater in river Ramganga. Total BOD load discharge to river Ramganga by tributaries/darins is 132 TPD. Flow of river Kali at Khatauli town was zero which shows that natural source of river Kali was abolished and flow was only observed during monsoon. There are nine point sources namely Abu Nallah-1, Abu Nallah-2, Odean drain, Chhoyia drain, Hapur drain, Kadrabad drain, Gulaothi drain, Bulandshar drain-1 and Bulandshar drain-2 which carry industrial and domestic wastewater into river Kali. Total BOD load discharged by 09 drains to river Kali (East) is 165 TPD.

- **Inventorisation Of Grossly Polluting Industries (GPI)**

  CPCB has also inventorized 764 grossly polluting industries discharging wastewater to main stem of River Ganga (either directly or through drains) and its two important tributaries Kali-east and Ramganga in Uttarakhand, Uttar Pradesh, Bihar and West Bengal. It was observed that water consumed by grossly polluting industries is 1123 MLD.In terms of number industrial units, tannery sector is dominating where as in terms of wastewater generation Pulp & paper sectors dominate followed by chemical and sugar sector.It is also observed that GPI in Bihar generate minimum wastewater (19%) in terms of water consumed whereas GPI in West Bengal generate maximum wastewater 75.5% in terms of water consumed this followed by Uttarakhand (56.7%) and Uttar Pradesh (39%%).

  In the riverine system Ramanga carries maximum industrial wastewater followed by main stream of river Ganga and Kali-East respectively.

CHAPTER-1

Introduction and Geomorphology

Background

The Ganga basin accounts for a little more than one-fourth (26.3%) of the country's totalgeographical area and isthe biggest river basin in India, covering the entire states of Uttarakhand, Uttar Pradesh (UP), Bihar, Delhi, and parts of Punjab, Haryana, Himachal Pradesh, Rajasthan, Madhya Pradesh, and West Bengal. The Ganga basin is bound in the north by the Himalayas and in the south by the Vindhyas. The main river stream originates in the Garhwal Himalaya (30^0 55' N, $79^0$7' E) under the name of the Bhagirathi.

The ice-cave of Gaumukh at the snout of the Gangotri glacier, 4100 meters above sea level, is recognized as the traditional source of River Ganga. The river cuts its path through the Himalayas and flows a distance of about 205 Kilometers from Gaumukh and transverses through two districts of Uttrakhand state i.e. Uttarkashi and Tehri to reach Devprayg where another head stream, the Alaknanda, joins it to form Holy Ganga. The River Alaknanda is a major tributary of the River Ganga at Uttarakhand that begins at the confluence of the Satopanth and Bhagirath Kharak glaciers in Uttarakhand and it travels approx 190 km. before meeting Bhagirathi.

Picture-1: Bhagirathi near Gomukh

Picture 2:Confluence of River Alaknanda with River Bhagirathi at Devprayag

After flowing through the northern-most part of Uttarakhand, the riverflowsthrough Uttar Pradesh, Bihar, Jharkhand and West Bengal, and finally drains into the Bay of Bengal. The river traverses a length of 1450 km in Uttarakhand and Uttar Pradesh while touching the boundary between UP and Bihar for a stretch of 110 km. It then flows through Bihar, more or less covering a distance of 405 km.The length of the river measured along the Bhagirathi and Hugli rivers during its coursein West Bengal is about 520 km. The River Ganga has a large number of tributaries, namely, Kali, Ramganga, Yamuna, Gomti, Ghaghara, Gandak, and Kosi. The River Yamuna, although a tributaryof Ganga, is a river basin in itself. Its major tributaries are

Chambal, Sind, Betwa, and Ken. The main plateau tributaries of the Ganga river are Tons, Son, Damodar, and Kangsabati-Haldi.

1.1 Salient Features of River Ganga

Total Length	2525 kms
Uttarakhand	450 kms
Uttar Pradesh	1000 kms
Sharing length between UP & Bihar	110 kms
Bihar	405kms
Jharkhand	40kms
West Bengal	520 kms
Catchment Area Ganga Basin	8,61,404 sq km (26.4%) of India
Average Annual discharge	4,93,400 million cubic meter
Main Tributaries	Yamuna, Ramganga, Gomti, Ghaghara, Gandak, Damodar, Kosi & Kali-East
Main sub tributaries	Chambal, Sindh, Betwa, Ken, Tons (beyond Five States), Sone & Kasia-Haldi
Major Cities located on the bank	Srinagar, Rishikesh, Haridwar, Roorkee (in Uttarakhand), Bijnor, Narora, Kanauj, Kanpur, Allahabad, Varanasi, Mirzapur (In Uttar Pradesh), Patna, Bhagalpur (In Bihar) and Bahrampur, Serampore, Hawarah and Kolkata (in West Bengal)

- **Demography (Riperian States along Ganga river)**

Total population (2011)

State / UT	Persons	Density (persons per km^2)	Urban Population
Uttarakhand	10,116,752	190/km^2	30,91,169 (30.55%)
Uttar Pradesh	199,581,477	828/km^2	4,44,70,455(22.28%)
Bihar	103,804,637	1,102/km^2	1,17,29,609 (11.30%)
Jharkhand	1,150,038	720/km^2	79,29,292
West Bengal	91,347,736	1,029/km^2	2,91,34,060 (31.89%)
Total	437,816,840(43.78 Crore)		96,354,585 (9.63 Crore) (22%)

Main stem of river Ganga houses a populationwith high density. In absence of proper sanitation, abstraction of surface and groundwater for irrigation and drinking purposes and partially treated domestic and industrial effluent turns Ganga into a polluted river in the stretch from Kannuj to trighat in the state of Uttar Pradesh and also makes the water of riverGanga unfit even for bathing purposes. Map of Ganga Basin is shown in Figure 1.1

Figure 1: Map of Ganga Basin

1.2 Developments in Ganga basin

Total Surface water resource of Ganga river has been assessed as 33 X 10^7 cusec out of which 7 X 10^7 cusec of surface water has been put to use. In addition, the annual groundwater potential for irrigation, domestic and industrial usage in the Ganga basin has been assessed at 11 X 10^7 cusec and out of which 7 X 10^7 cusec of groundwater is being used as per records of Central Ground Water Board.

Due to large scale developments in the Ganga Basin, the river ecosystem is being effected adversely. To understand the present scenario in the Ganga basin, the river Ganga can be classified into three reaches.

1.2.1 Upper Ganga Reach

The river Ganga, in the upper reaches flows on a steep and narrow bed, mostly rocks and boulders. This reach is considered to have immense potential for harnessing hydropower. A line diagram showing hydro power projects on Ganga river from Gaumukh to Haridwar is placed at figure 1.2

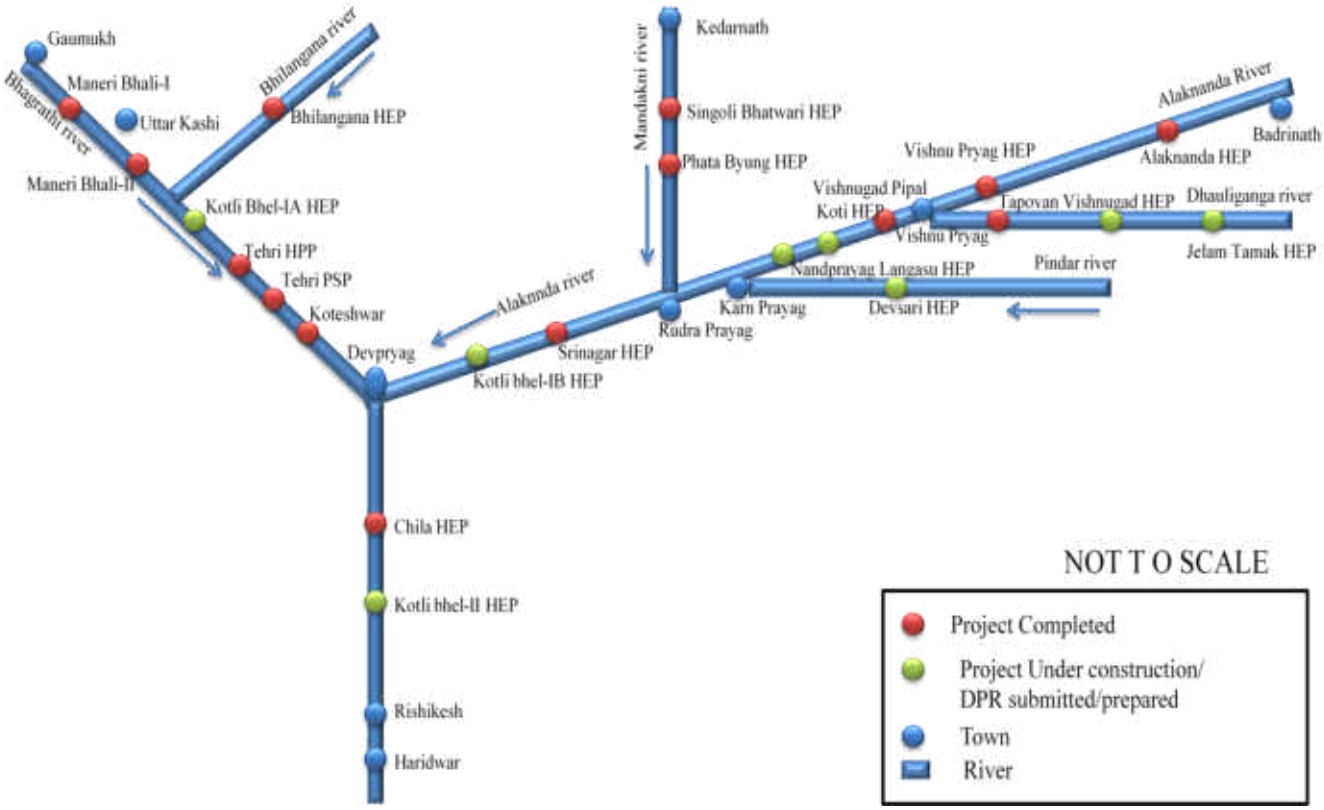


Figure 2.2: Schematic diagram showing hydrapower projects from Gaumukh to Rishikesh

There are two types of projects on river Ganga- Hydropower projects in the upper reaches planned and implemented by various Central and State agencies viz. Uttrakhand Jal Vidyut Nigam Limited (UJVVNL) and the irrigation (canal system) projects in the downstream middle reaches constructed by the State Irrigation Departments of Uttrakhand/Uttar Pradesh.

The hydropower projects in Uttrakhand are mostly run of the river (ROR) type except the Tehri Dam Project which is a storage project for hydropower development and augments the non-monsoon river flows due to storage of flood water in monsoon period. Besides, there are six existing (ROR type) hydro projects in operation and seven (ROR types) projects under construction.

In addition, there are around 22 ROR type projects, with proposed installed capacity of more than 10 MW, under various stages of planning and investigation. All these projects are placed in table 1.1.

Table 1.1: Hydro-Electric Projects (Above 10 Mw) On River Ganga In Uttarakhand

SL. NO.	NAME OF THE PROJECT	CAPACITY IN MW	NAME OF CO.	DISTRICT	RIVER
A. UNDER OPERATION (Existing)					
1	Tehri Dam	1000	THDC	Tehri	Bhagirathi
2	Visnuprayag HEP	400	JPVL	Chamoli	Alakananda
3	Koteshwar HEP	400	THDC	Tehri	Bhagirathi
4	Maneri Bhali-I HEP	90	UJVNL	Uttarkashi	Bhagirathi
5	Maneri Bhali-II HEP	304	UJVNL	Uttarkashi	Bhagirathi
6	Chilla HEP	144	UJVNL	Pauri	Ganga
7	Bhilangana	22.5	Swasti Power	Tehri	Bhilangana
B. UNDER CONSTRUCTION					
1	Tapovan Vishnugad HEP	520	NTPC	Chamoli	Dhauliganga
2	Tehri-psp (stage-II)	1000	THDC	Tehri	Bhagirathi
3	Phata Byung HEP	76	LANCO	Rudraprayag	Mandakini
4	Singoli Bhatwari HEP	99	L & T	Rudraprayag	Mandakini
5	Vishnugad Pipalkoti HEP	444	THDC	Chamoli	Alakananda
6	Alakananda HEP	300	GMR	Chamoli	Alakananda
7	Srinagar HEP	330	GVK	Pauri	Alakananda
C. DPR PREPARED / SUBMITTED					
1	Kotli Bhel – I A HEP	195	NHPC	Tehri	Bhagirathi
2	Kotli Bhel – I B HEP	320	NHPC	Pauri	Alakananda
3	Kotli Bhel – II HEP	530	NHPC	Pauri	Ganga
4	Bowla Nandprayag HEP	300	UJNVL	Chamoli	Alakananda
5	Nandprayag Langasu HEP	100	UJNVL	Chamoli	Alakananda

6	Jelam Tamak HEP	128	THDC	Chamoli	Dhauliganga
7	Lata Tapovan HEP	171	NTPC	Chamoli	Dhauliganga
8	Devsari HEP	252	SJVNL	Chamoli	Pinder
D. PROJECTS UNDER INVESTIGATION					
1	Karmoli HEP	140	THDC	Uttarkashi	Jadhganga
2	Gohana Tal HEP	60	THDC	Chamoli	Birahiganaga
3	Jadhganga HEP	50	THDC	Uttarkashi	Jadhganga
4	Malarijelam HEP	114	THDC	Chamoli	Dhauliganga
5	Tamak Lata HEP	280	UJNVL	Chamoli	Dhauliganga
6	Rishi Ganga – I HEP	70	UJNVL	Chamoli	Rishiganga
7	Rishi Ganga – II HEP	35	UJNVL	Chamoli	Rishiganga
8	Bhilanganga- II HEP	11	UJNVL	Tehri	Bhilanganga
9	Bhilanganga – III HEP	25	Polyplex	Tehri	Bhagirathi
10	Jalandharigad HEP	11.8	Hausil Hydro	Uttarkashi	Bhagirathi
11	Byunderganga HEP	24.3	Super Hydro	Chamoli	Bhyunderganga
12	Melkhet HEP	15	Melkhet Power	Chamoli	Pinder
13	Rambara HEP	76	LANCO	Rudraprayag	Mandakini
14	Gaurikund HEP	24	LANCO	Rudraprayag	Mandakini

1.2.2 Middle Ganga Reach:

The river in the middle reach enters and flows in plains, meandering mostly on a bed of fine sand. The river has a wide bed and flood plain. Substantial portionof the river flow is diverted to support agricultural activities through a system of Canals. The Uttar Pradesh Irrigation Department (UPID) is primarily responsible for managing these irrigation projects.

The first significant irrigation projects, with head works at Bhimgoda barrage located at Haridwar was constructed more than a century ago. It has a canal system called Upper Ganga Canal having a main canal of 10500 cusec capacity. Another project, known as Eastern Ganga Canal, having canal of 5800 cusec capacity was commissioned in early seventies, mainly for irrigation during Khariff season when there is a lot of water in the river and some irrigation in other seasons, when water is available from releases from Tehri. The next significant irrigation project is located near Bijnore. It has a canal system called Middle Ganga Canal having a capacity of 10,260 cusec. The Narora barrage constructed mainly for the water supply to Atomic Power Plant and from this barrage, Lower Ganga Canal system of capacity 9000 cusec was constructed in early eighties. A parallel canal system of 4600 cusec was added later by the state of UP . These three irrigation canal systems divert fresh water from the river for irrigation which affects the flows downstream of Narora particularly up to Allahabad.

Substantial amount of flow, conveyed through a feeder canal originating from the barrage at Kalagarh on the river Ramganga, is introduced into the river Ganga just downstream of Garhmukteshwar to ensure sufficient quantities of water for Narora Atomic Power Plant. A Schematic diagram showing the major canal systems is depicted in figure 1.3.

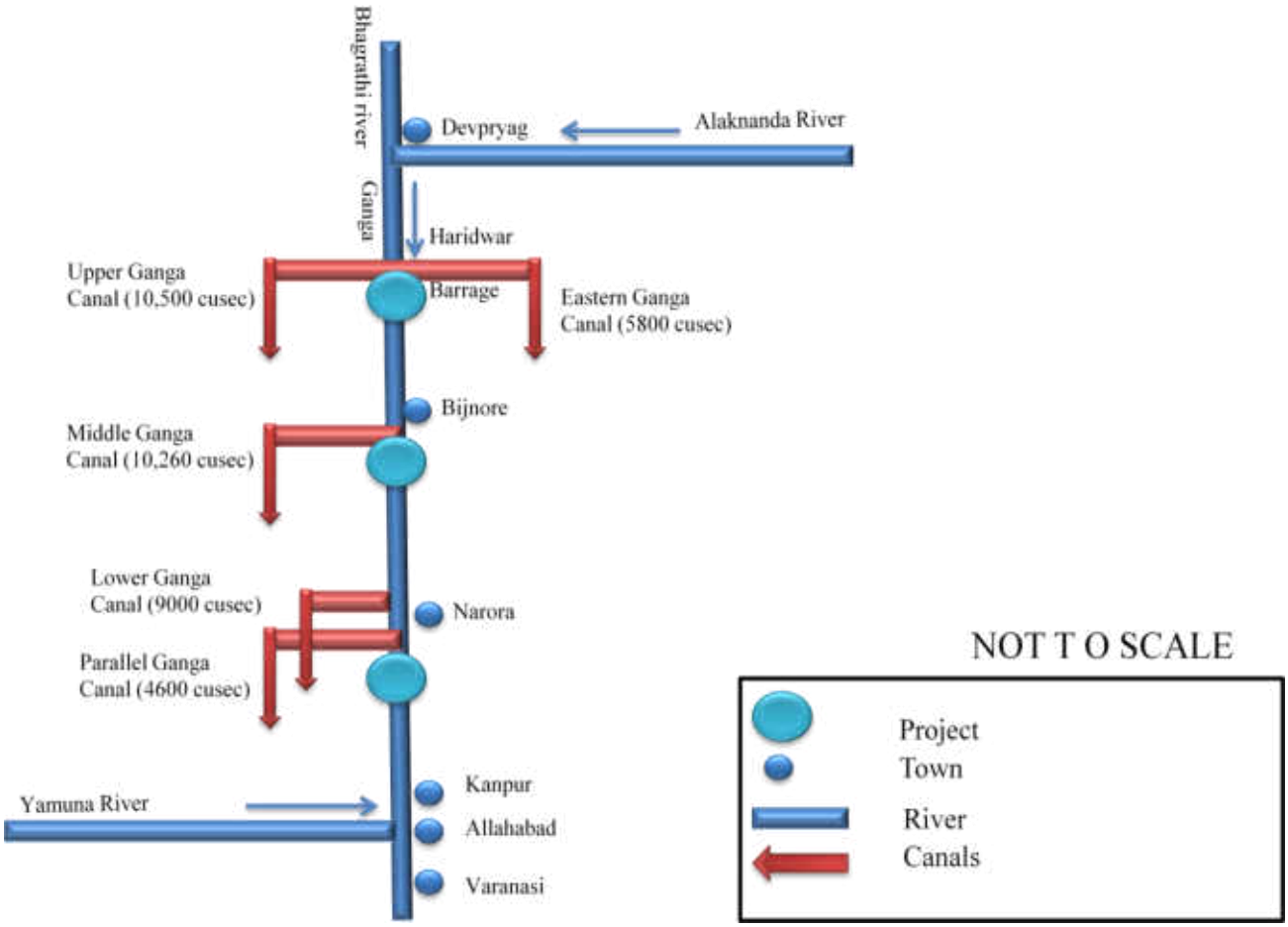


Figure 1.3: Schematic diagram shows canal system of river Ganga (middle –reach)

The confluence of Ramganga at Kusumkher, Kali at Kannauj and Yamuna at Allahabad augment the flow in the river. However, these rivers, particularly Ramganga and Kali also bring a lot of domestic/ industrial pollution load. In addition, several towns, industries and agricultural activities contribute to the point and non-point pollution load in this reach. Significant being the leather tanneries at Kanpur. Thus, river flow and water quality are the key concerns in this reach.

Excessive use of ground water, by farmers, is depleting the ground water aquifers. At a number of places water is pumped out from the river or riverside wells to grow sugarcane and other cropsIn addition, general degradation of river system is visible due to encroachment of river bed, indiscriminate gravel/ sand mining, riverbed farming, active netting of fish, open defecation, etc. In many places, dumping of solid wastes including floral offerings and other materials used for religious purposes, washing of clothes, wallowing of animals, throwing un-burnt/ partially burnt dead bodies adversely

affect aesthetics, water quality and aquatic life. Many important small, large and mega religious congragations are a part of socio-cultural dimensions of the riverine system at several places, the most important being at Haridwar, Allahabad and Varanasi. Rapid urbanization along the river banks puts tremendous pressure on the scarce water resources.

1.2.3 Lower Ganga Reach:

The river in the third reach is wide and considerable changes in the sediment transport and deposition is observed which eventually leads to frequent change in the river course and wide spread flooding.

In this reach, the river Ganga receives water from three categories of rivers. In the first category are perennial rivers that originate in Himalayas and carry snow fed flows with significant discharge in the non-monsoon season. This includes Kosi, Gandak, Karnali (Ghaghra) and Mahakali (Sharda) river systems. In the second category are the rivers like Mechi, Kankalm, kamla, Bagmati, West Rapti and Babai rivers which are fed by precipitation as well as ground water recharge and springs. Although these rivers are also perennial, they are commonly characterized by wide seasonal fluctuations in discharge. The third category of river systems includes a large number of small rivers in the terrain which originate from the southern Shivalik range of hills. These rivers are seasonal with little flows during the dry season but characterized by flash floods during the monsoon.

.Many important small, large and mega religious congragations are a part of socio-cultural dimensions of the riverine system at several places, the most important being at Ganga Sagar where the river merges into the sea.

A line diagram showing the lower reach of Ganga Basin is shown in figure 1.4.

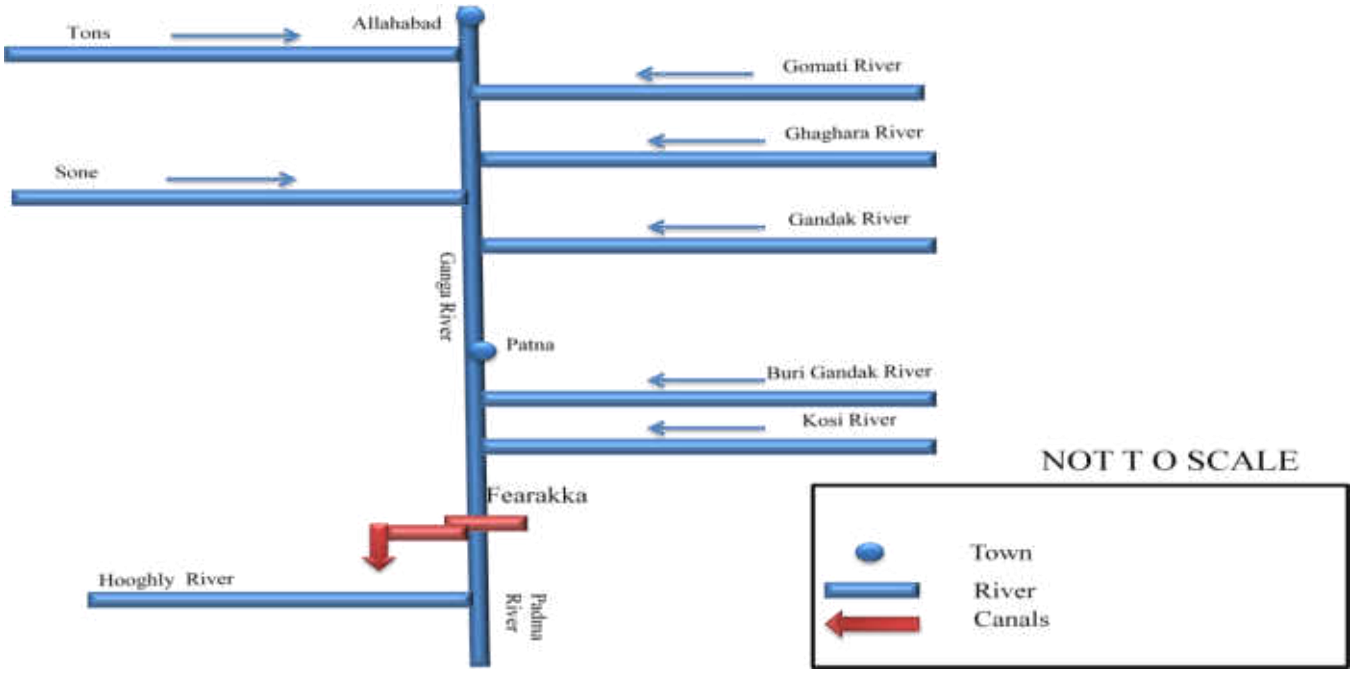


Figure 1.4: Lower reach of Ganga Basin

CHAPTER -2
METHODOLOGY

Water Quality data generated through a continous monitoring programme under National Water Quality Monitoring Programme (NWMP) in accordance to Water Quality Monitoring Protocol. Beside NWPM, various other studies of river and industrial pollution assessment are conducted periodically and collated in this report. Methodology of the study has been descripted in figure-1.

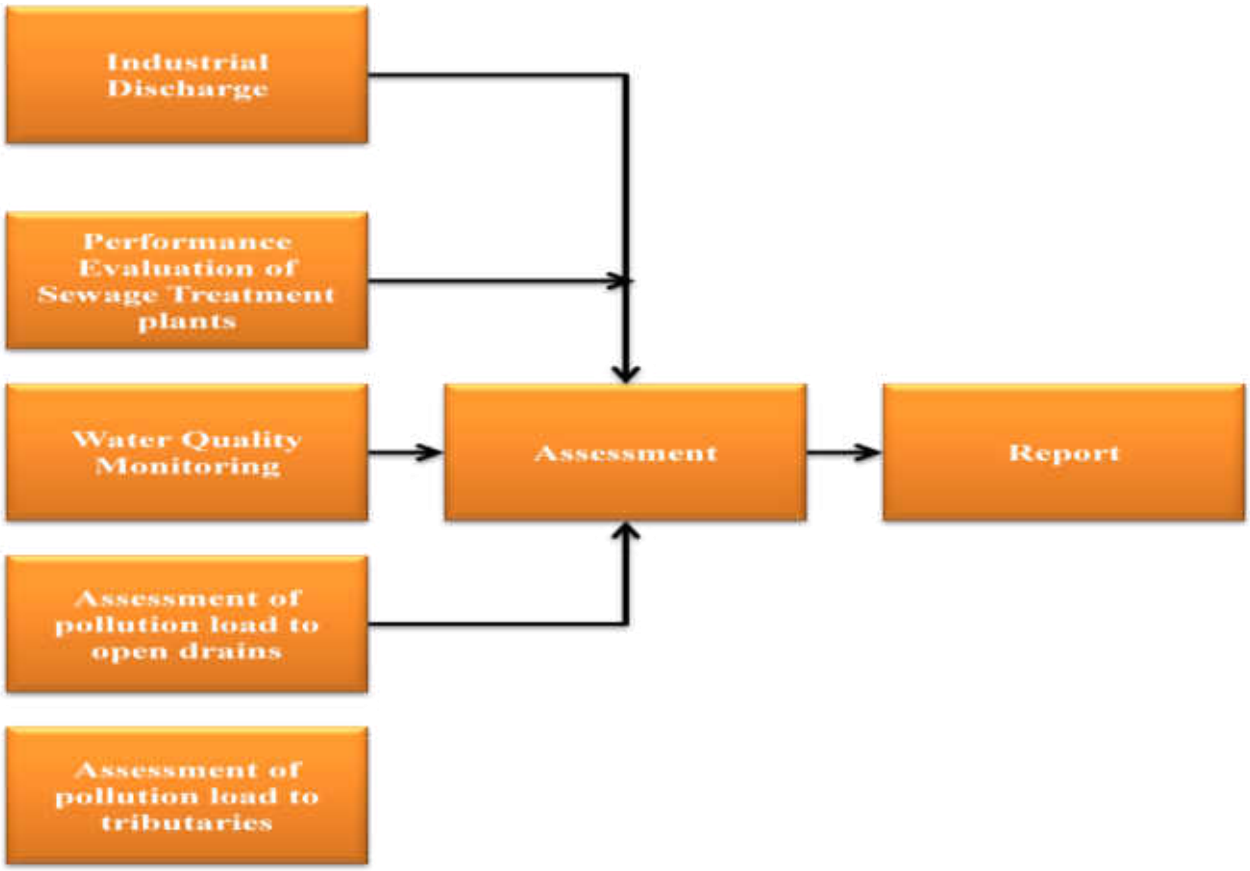


Figure-2.3: Methodology of the study

2.1 SOURCES OF POLLUTION

Major point sources of pollution in river Ganga are discharge of untreated/partially treated sewage from- -urban- centres- discharge from open drains carries sewage, -industrial wastewater, returned storm waterdischarge from major tributariesdischarge of untreated/partially treated/treated wastewater from industrial units .

Status of each point source is subsequently discussed in following chapters.

CHAPTER -3
STATUS OF WATER QUALITY OF RIVER GANGA

3.0 WATER QUALITY MONITORING NETWORK

In order to assess water quality of river Ganga, the Central Pollution Control Board has set up 57 water quality monitoring stations on the main stem of river Ganga, in association with State Pollution Control Boards of Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal.The salient featuresof monitoring locations is presented in table-3.1 and details are furnished in **Annexure-I.**

Table-3.1: Water quality monitoring stations on main stem of River Ganga in different states

State	No. of Monitoring Locations	Frequency	Monitoring Agency
Uttarakhand	11	Yearly/Monthly	UEPPCB/CPCB
Uttar Pradesh	20	Monthly	UPPCB
Bihar	15	Monthly	BPCB
Jharkhand	1	Monthly	JPCB
West Bengal	10	Monthly	WBPCB

3.1 WATER QUALITY PARAMETERS

The core water quality parameters studied are temperature, pH, conductivity, dissolved oxygen (DO), biochemical oxygen demand (BOD), nitrate, nitrite, total coliforms (TC), and faecal coliforms (FC). Besides, several other location-specific parameters are also studied. The list of parametersassessed in the study of water quality is presented in **Annexure II.** Generally, state pollutioncontrol boards assist in sampling and analysis of water quality data, while the CPCB undertakesscrutiny, processing, and storage of data, along with the analysis of data for interpretation andpreparation of action plans. The monitoring is undertaken either on monthly or yearly basis.

3.2 WATER QUALITY ASSESSMENT OF RIVER GANGA

The monitoring results obtained during 2011 under National Water Quality Monitoring Programme reflect that organic matter and bacterial population of faecal origin continue to dominate the pollution problem in River Ganga. The major water quality concerns as revealed from the monitoring results are pathogenic pollution as reflected through indicators i.e. Total Coliforms (TC) & Faecal Coliform (FC), organic matter as reflected through Biochemical Oxygen Demand (BOD) and salinity as reflected through conductivity. The observed range of water quality parameters river Ganga for the year 2011 along with summary for the year 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009 and 2010 is given in Table 3.2 for comparative assessment of water quality trends over the years. The results obtained for the year 2011 are shown in **Annexure-III.**

Table 3.2: Range of water quality parameters during the years – 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010 and 2011 in river Ganga

Year	No of Monitoring locations	Observed Range of Water Quality Parameters						
		Temp. (^{0}C)	pH	Conductivity (µmhos/cm)	DO (mg/l)	BOD (mg/l)	Total Coliform (MPN/100 ml)	Faecal Coliform (MPN/100 ml)
2002	34	3-34	6.4-9.0	19-2720	2.7-11.5	0.5–16.8	300-25x10^5	20-11x10^5
2003	34	4-34	6.8-8.9	49-1323	4-11	0.8-27	47-45x10^5	26-12x10^5
2004	34	5-35	7-8.8	72-4080	0.3-13.2	0.7-14.4	11-45x10^5	11-7x10^5
2005	39	4-39	6.1-9	23-1696	3.2-12.8	0.1-15.2	13-45x10^5	13-11x10^5
2006	39	9-33	7.0-8.9	97-5620	2.2-11.9	0.1-16.4	1-25x10^5	17-11x10^5
2007	39	4-33	6.1-8.8	23-5040	1.4-11	0-14	0-28x10^5	0-7 x10^5
2008	39	2.5-35.5	6.1-8.9	39-6320	1.2 - 11.6	0.5-21.0	0- 101x10^5	0 - 85 x10^4
2009	57	4-37	6.5-8.9	68-4460	4.3-11.2	0.2-16	2-65 x10^4	0-4 x10^5
2010	57	4-35	6.7-9.0	21-5250	3.6-12	0.2-15	3-14x10^5	2-4 x10^5
2011	**57**	**3-37**	**6.7-9.1**	**49-10240**	**4-14.3**	**0.2-11**	**5-25 x10^5**	**5-11 x10^5**

3.2.1 Water Quality Assessment in Uttarakhand

The spatial distribution of water quality data is illustrated in fig-3.1 to 3.5 with respect to Dissolved Oxygen (DO), Bio-chemical Oxygen Demand (BOD), Total Coliform (TC), Faecal Coliform (FC) and conductivity. The examination of the figures indicates following observations:

- pH - meeting thewater quality criteria for bathing, notified under the Environment (Protection) Act, 1986, depicted in **Annexure IV**at all the monitoring locations.
- Conductivity meeting the primary water criteria based on designated best use depicted in **Annexure V**.

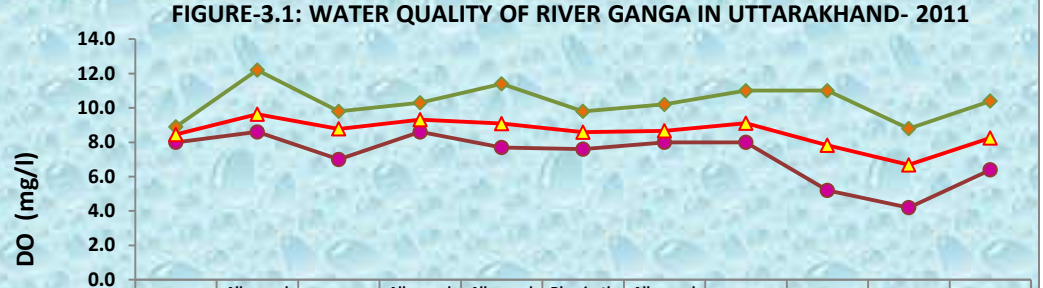
Picture 3: River Ganga near Gangotri

- DO varies from 4.2-12.2 mg/l. The average value of DO is meeting the criteria at all monitoring locations. In some periods of the year the DO is not meeting the criteria in river Ganga at Haridwar downstream (D/s).
- BOD ranges from 0.2-11.0 mg/l. The highest value 11.0 mg/l is observed at D/s Haridwar. River Ganga at D/s of Raiwala and D/s of Rishikesh is not meeting the water quality criteria for bathing with respect to BOD.
- Faecal Coliform value ranges from 5-46000 MPN/100ml and not meeting the water quality criteria for bathingin river Alaknanada at Rudraprayag before confluence (B/c) & after confluence (A/c) river Mandakini and at Devraprayag B/c & A/c River Bhagirathi
- While the Total Coliform value ranges 5-580000 and not meeting the primary water criteria based on designated best use for category 'C' at all monitored locations of river Alaknanda and Mandakini; and in river Ganga at D/s Raiwala and D/s Haridwar.
- The higher value of coliform bacteria and organic pollution is observed in Upper Ganga due to open defecation and discharge of waste water directly through small drains into the river.

Picture 4: Confluence of river Mandakini with River Alaknanda at Rudraprayag

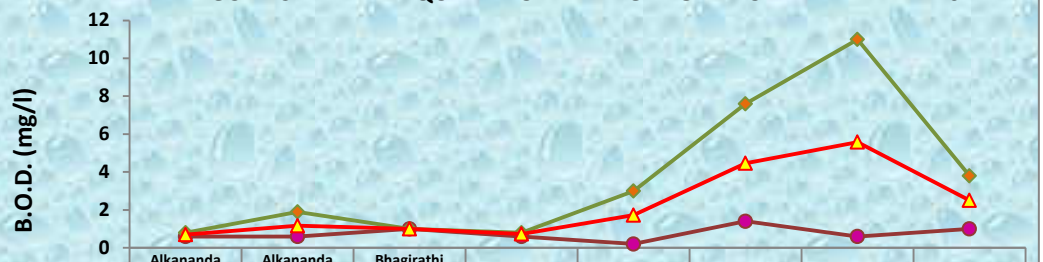
Picture 5: River Ganga at Gangotri

FIGURE-3.1: WATER QUALITY OF RIVER GANGA IN UTTARAKHAND- 2011



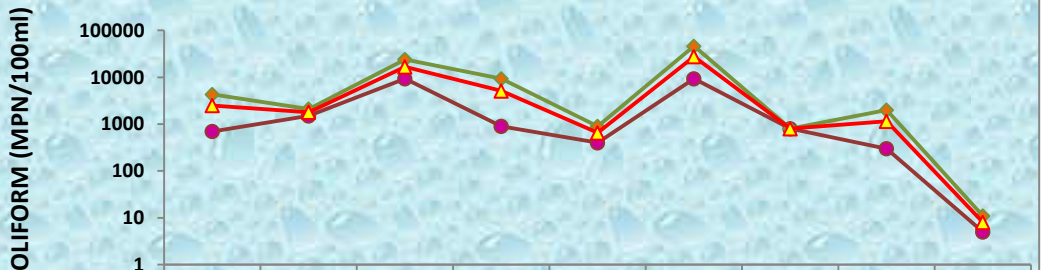
	Gangotri	Alkananda B/C at Rudra Prayag	Mandakini Rudra Prayag	Alkananda A/C at Rudra Prayag	Alkananda B/C at Dev Prayag	Bhagirathi B/C at Dev Prayag	Alkananda A/C at Dev Prayag	Rishikesh U/S	D/S Raiwala	Haridwar D/S	D/S Roorkee
Min	8.0	8.6	7.0	8.6	7.7	7.6	8.0	8.0	5.2	4.2	6.4
Max	8.9	12.2	9.8	10.3	11.4	9.8	10.2	11.0	11.0	8.8	10.4
Mean	8.5	9.6	8.8	9.3	9.1	8.6	8.7	9.1	7.8	6.7	8.3

FIGURE-3.2: WATER QUALITY OF RIVER GANGA IN UTTARAKHAND- 2011

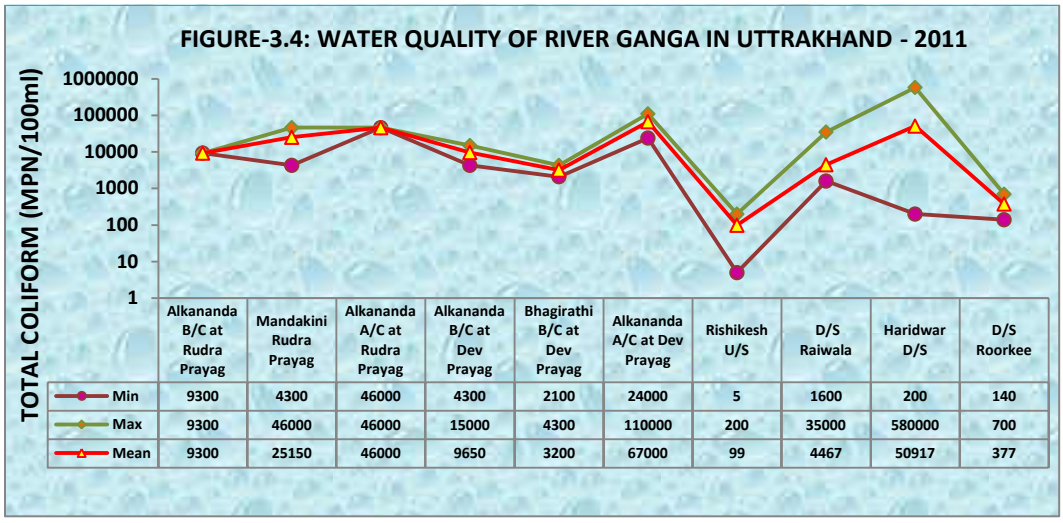


	Alkananda A/C at Rudra Prayag	Alkananda B/C at Dev Prayag	Bhagirathi B/C at Dev Prayag	Alkananda A/C at Dev Prayag	Rishikesh U/S	D/S Raiwala	Haridwar D/S	D/S Roorkee
Min	0.6	0.6	1	0.6	0.2	1.4	0.6	1
Max	0.8	1.9	1	0.8	3	7.6	11	3.8
Mean	0.7	1.2	1.0	0.7	1.7	4.5	5.6	2.5

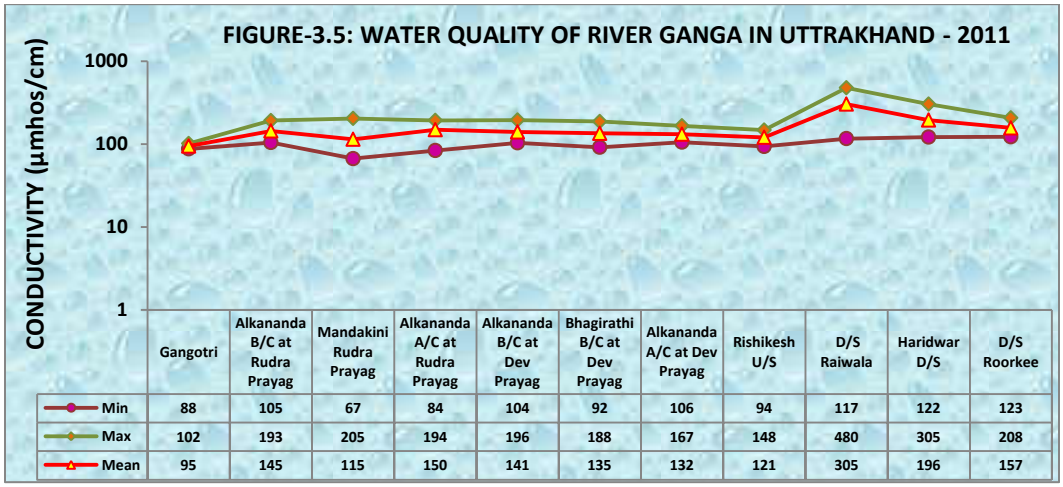
FIGURE-3.3: WATER QUALITY OF RIVER GANGA IN UTTARAKHAND - 2011



	Alkananda B/C at Rudra Prayag	Mandakini Rudra Prayag	Alkananda A/C at Rudra Prayag	Alkananda B/C at Dev Prayag	Bhagirathi B/C at Dev Prayag	Alkananda A/C at Dev Prayag	D/S Raiwala	Haridwar D/S	D/S Roorkee
Min	700	1500	9300	900	400	9300	800	300	5
Max	4300	2100	24000	9300	900	46000	800	2000	11
Mean	2500	1800	16650	5100	650	27650	800	1150	8



	Alkananda B/C at Rudra Prayag	Mandakini Rudra Prayag	Alkananda A/C at Rudra Prayag	Alkananda B/C at Dev Prayag	Bhagirathi B/C at Dev Prayag	Alkananda A/C at Dev Prayag	Rishikesh U/S	D/S Raiwala	Haridwar D/S	D/S Roorkee
Min	9300	4300	46000	4300	2100	24000	5	1600	200	140
Max	9300	46000	46000	15000	4300	110000	200	35000	580000	700
Mean	9300	25150	46000	9650	3200	67000	99	4467	50917	377



	Gangotri	Alkananda B/C at Rudra Prayag	Mandakini Rudra Prayag	Alkananda A/C at Rudra Prayag	Alkananda B/C at Dev Prayag	Bhagirathi B/C at Dev Prayag	Alkananda A/C at Dev Prayag	Rishikesh U/S	D/S Raiwala	Haridwar D/S	D/S Roorkee
Min	88	105	67	84	104	92	106	94	117	122	123
Max	102	193	205	194	196	188	167	148	480	305	208
Mean	95	145	115	150	141	135	132	121	305	196	157

3.2.2 Spatial and temporal trend of water quality in Uttarakhand

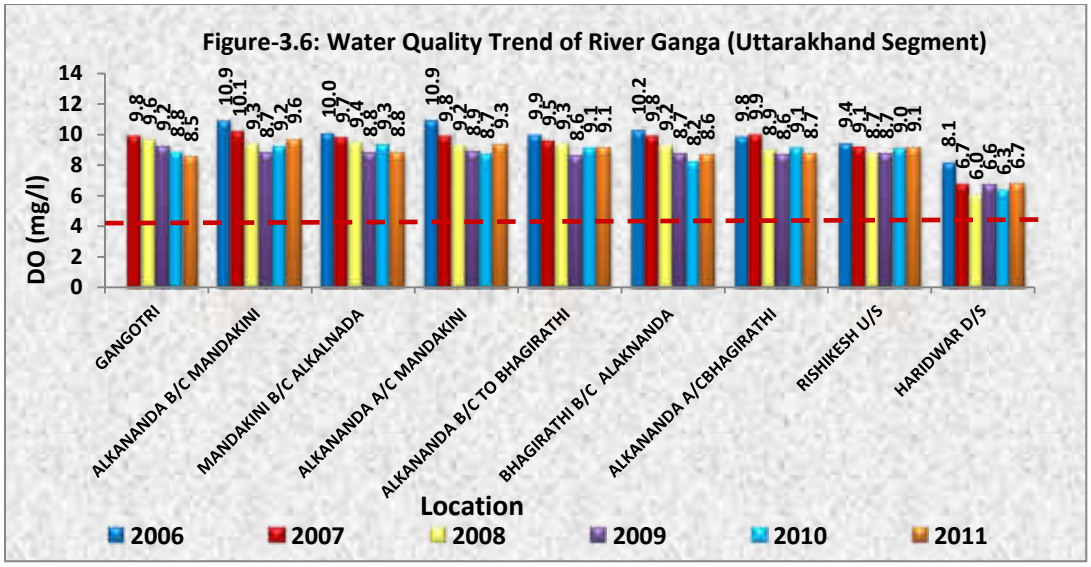
To study the water quality trend in the River Ganga BOD, DO, FC and TC parameters were considered. Average value of aforementioned parameters is used for the period 2006–11 and depicted in figure 3.6-3.8.

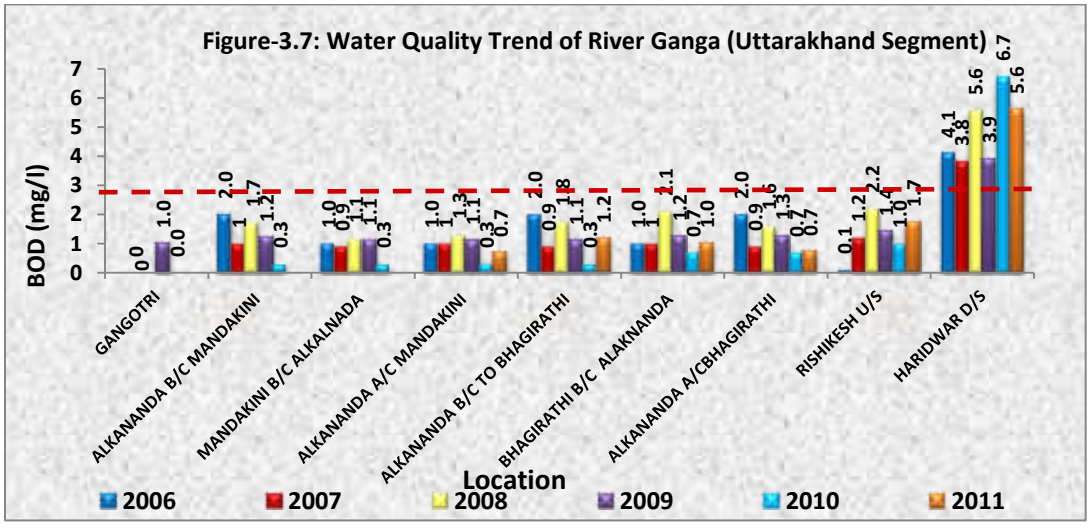
- From a close examination it is observed that average value of DO comply with the standards for the period of 2006-2011 at all monitoring locations in Uttrakhand. A decreasing trend in DO is observed at most of the monitoring locations.
- BOD also complies with the standard at all locations except Haridwar D/s for the period 2006-2011 and an increasing trend at this location is observed, while most of the locations are showing a decreasing trend.

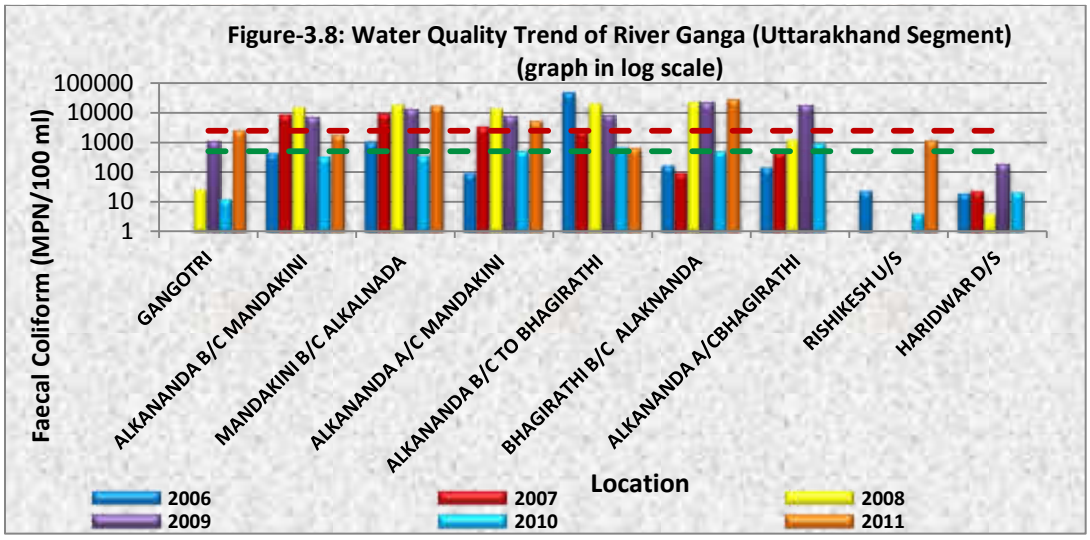
- However, TC and FC conforms to the standard in only a few places, i.e, the Bhagirathi at Gangotri and the Ganga at Rishikesh and Haridwar, the major pilgrimage centres. A mixed trend in TC and FC is observed.

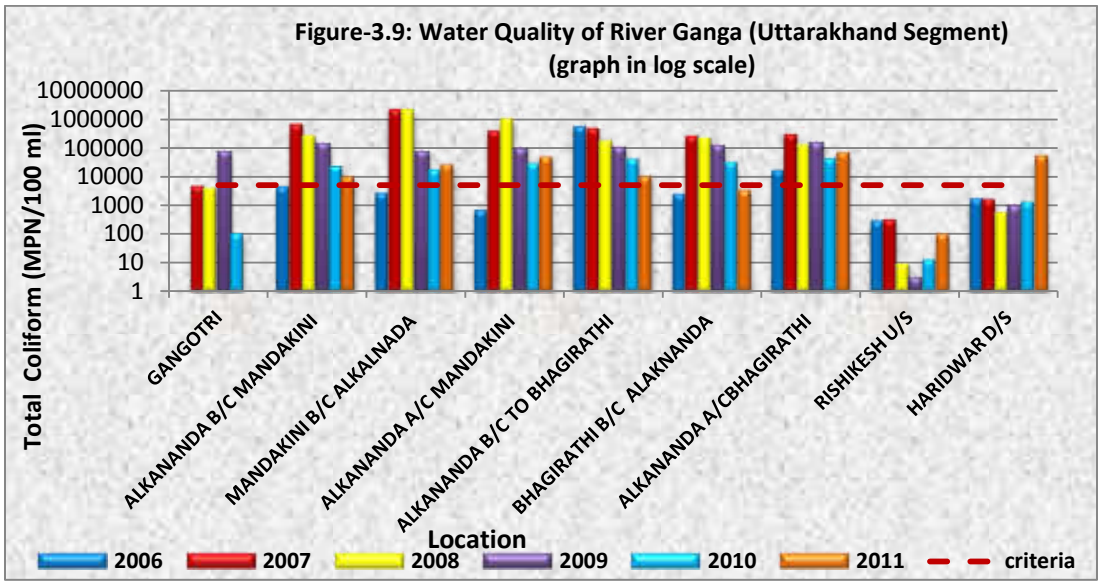
- In overall analysis, the River Ganga in Uttarakhand is relatively clean and complying with the criteria, except for TC and FC which is higher. However the location Haridwar D/s appears as a critical location.

Picture-6: River Ganga at Harki Pauri, Haridwar









3.2.3 Water Quality Assessment in Uttar Pradesh Upper Stretch (from Garhmukteshwar to Kanpur D/s)

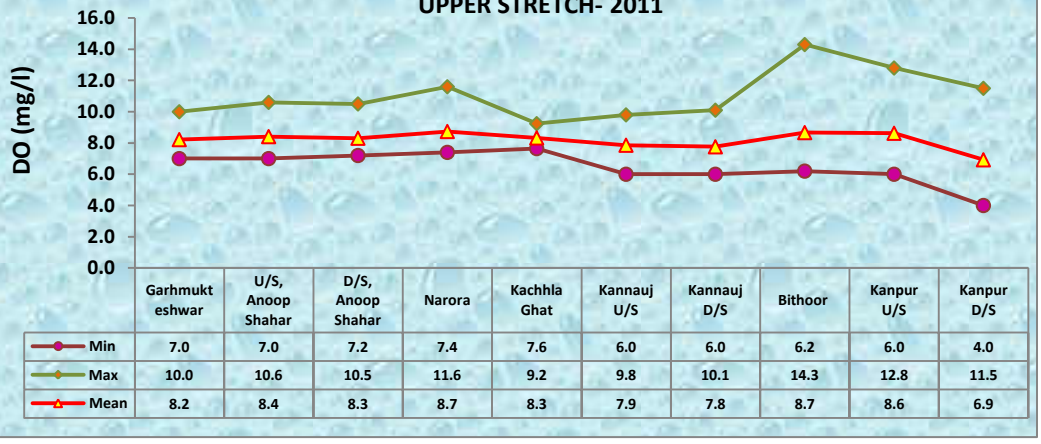
In the upper stretch of Uttar Pradesh from Garhmukteshwar to Kanpur D/sthe results are depicted in figure 3.10 to 3.14. Following observations emerge from analysis of the data:

- pH is meeting the water quality criteria for bathing at all the monitoring locations.
- Conductivity is meeting the primary water quality criteria based on designated best use.
- DO varies from 4.0-14.3 mg/l. The average value of DO is meeting the criteria at all monitoring locations. At some periods of the year the value of DO observed in river Ganga at Kanpur D/s is not meeting the criteria and supersaturation at Bithoor is also observed.

- BOD ranges from 1.6-9.6 mg/l. The maximum value of BOD measured at all monitoring locations is exceeding the water quality criteria notified for bathing.
- Faecal Coliform value ranges from 70-93000 MPN/100ml and not meeting the water quality criteria for bathingat from Kannauj U/s to D/s Kanpur.
- While the Total Coliform value ranges 150-240,000 not meeting the criteria for category 'C' of designated best use concept at all monitored locations.

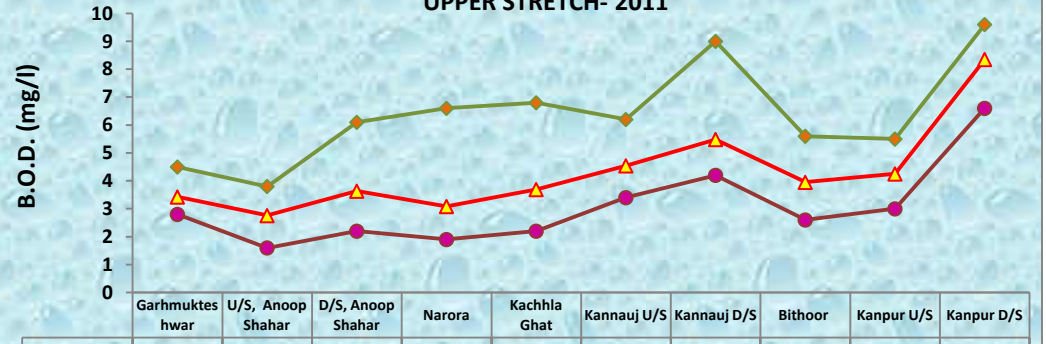
Picture -7: River Ganga at Ganga Bridge-Shuklaganj U/s Kanpur

FIGURE-3.10: WATER QUALITY OF RIVER GANGA IN UTTAR PRADESH UPPER STRETCH- 2011



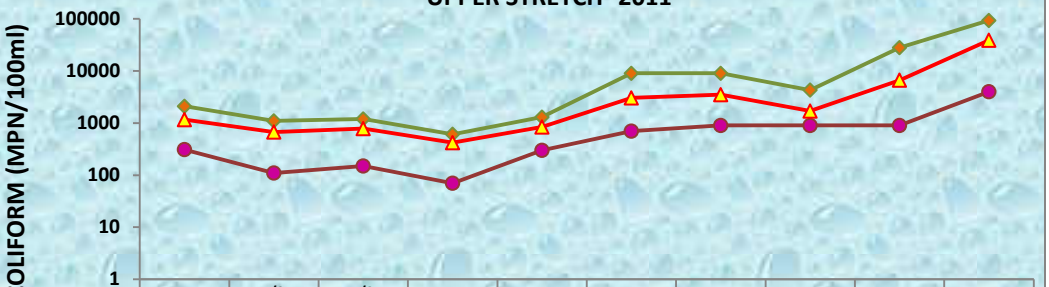
	Garhmukteshwar	U/S, Anoop Shahar	D/S, Anoop Shahar	Narora	Kachhla Ghat	Kannauj U/S	Kannauj D/S	Bithoor	Kanpur U/S	Kanpur D/S
Min	7.0	7.0	7.2	7.4	7.6	6.0	6.0	6.2	6.0	4.0
Max	10.0	10.6	10.5	11.6	9.2	9.8	10.1	14.3	12.8	11.5
Mean	8.2	8.4	8.3	8.7	8.3	7.9	7.8	8.7	8.6	6.9

FIGURE-3.11: WATER QUALITY OF RIVER GANGA IN UTTAR PRADESH UPPER STRETCH- 2011



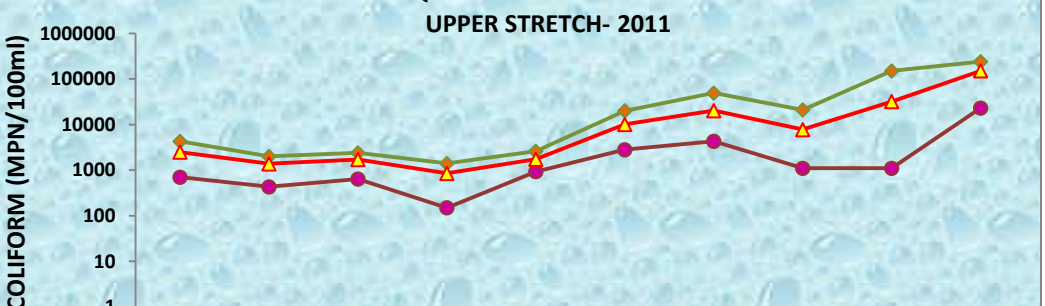
	Garhmukteshwar	U/S, Anoop Shahar	D/S, Anoop Shahar	Narora	Kachhla Ghat	Kannauj U/S	Kannauj D/S	Bithoor	Kanpur U/S	Kanpur D/S
Min	2.8	1.6	2.2	1.9	2.2	3.4	4.2	2.6	3	6.6
Max	4.5	3.8	6.1	6.6	6.8	6.2	9	5.6	5.5	9.6
Mean	3.4	2.8	3.6	3.1	3.7	4.5	5.5	4.0	4.3	8.4

FIGURE-3.12: WATER QUALITY OF RIVER GANGA IN UTTAR PRADESH UPPER STRETCH- 2011



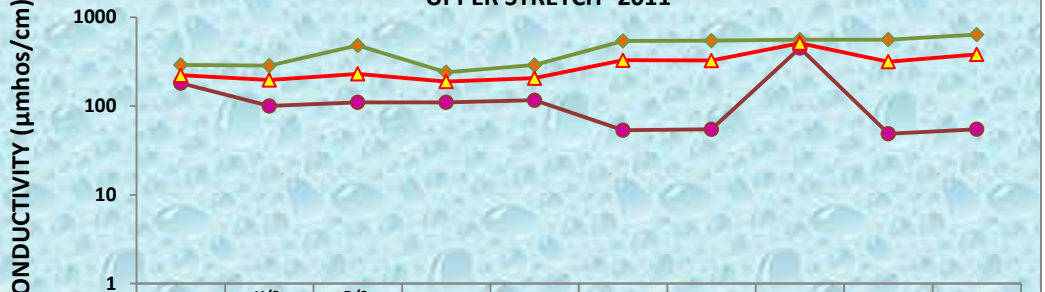
	Garhmukteshwar	U/S, Anoop Shahar	D/S, Anoop Shahar	Narora	Kachhla Ghat	Kannauj U/S	Kannauj D/S	Bithoor	Kanpur U/S	Kanpur D/S
Min	310	110	150	70	300	700	900	900	900	4000
Max	2100	1100	1200	610	1300	9000	9000	4300	28000	93000
Mean	1162	673	783	420	840	3042	3508	1700	6667	38942

FIGURE-3.13: WATER QUALITY OF RIVER GANGA IN UTTAR PRADESH UPPER STRETCH- 2011



	Garhmukteshwar	U/S, Anoop Shahar	D/S, Anoop Shahar	Narora	Kachhla Ghat	Kannauj U/S	Kannauj D/S	Bithoor	Kanpur U/S	Kanpur D/S
Min	700	430	640	150	930	2800	4300	1100	1100	23000
Max	4300	2000	2400	1400	2600	20000	49000	21000	150000	240000
Mean	2497	1377	1713	850	1743	10075	20208	7750	31992	151333

FIGURE-3.14: WATER QUALITY OF RIVER GANGA IN UTTAR PRADESH UPPER STRETCH- 2011



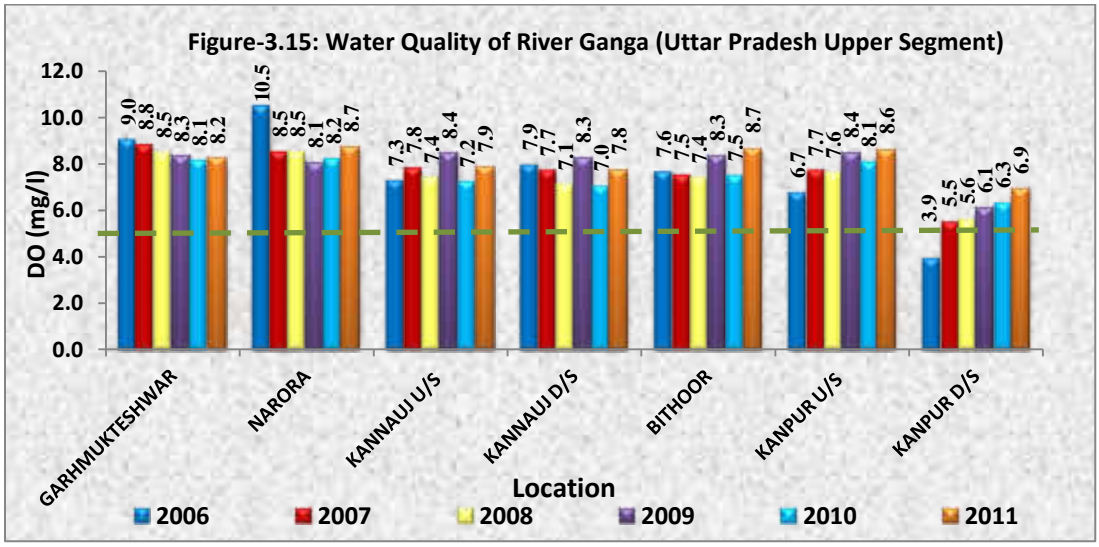
	Garhmukteshwar	U/S, Anoop Shahar	D/S, Anoop Shahar	Narora	Kachhla Ghat	Kannauj U/S	Kannauj D/S	Bithoor	Kanpur U/S	Kanpur D/S
Min	181	100	110	110	116	53	55	450	49	55
Max	290	285	480	240	289	541	544	558	560	637
Mean	221	196	230	189	206	327	324	510	316	381

3.2.4 Spatial and temporal of water quality in Uttar Pradesh upper stretch

The results from 2006 to 2011 for DO, BOD, FC and TC are summarised and illustrated in figure 3.15 to 3.18.A close examination indicates that

- Average values of DO comply with the standards for the period of 2006-2011 at most of the locations.
- BOD does not comply with the standards at most of the locations for the period of 2006-2011. An increasing trend of BOD is observed.
- A decreasing trend is observed in faecal coliform count.
- A decreasing trend is also observed in Total Coliform count.
- In overall analysis, the River Ganga in upper stretch of Uttar Pradesh is polluted.

Picture 8: River Ganga at Bijnor



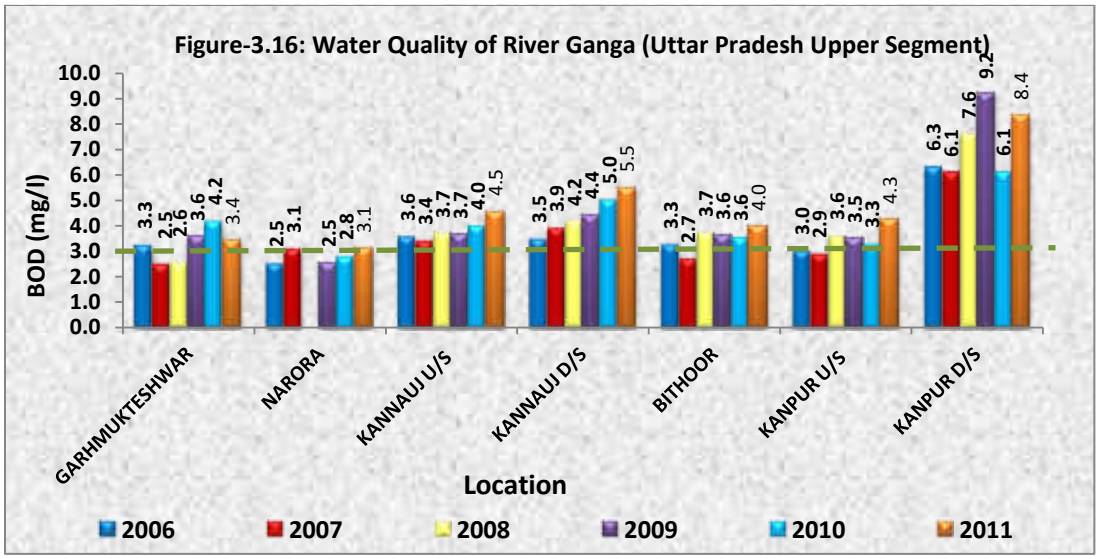


Figure-3.16: Water Quality of River Ganga (Uttar Pradesh Upper Segment)

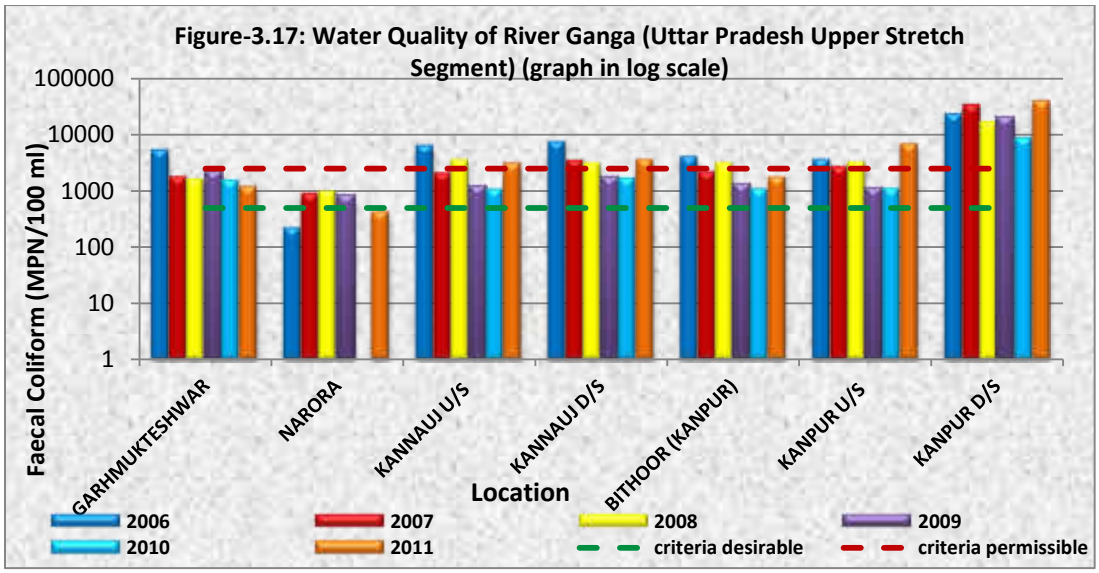


Figure-3.17: Water Quality of River Ganga (Uttar Pradesh Upper Stretch Segment) (graph in log scale)

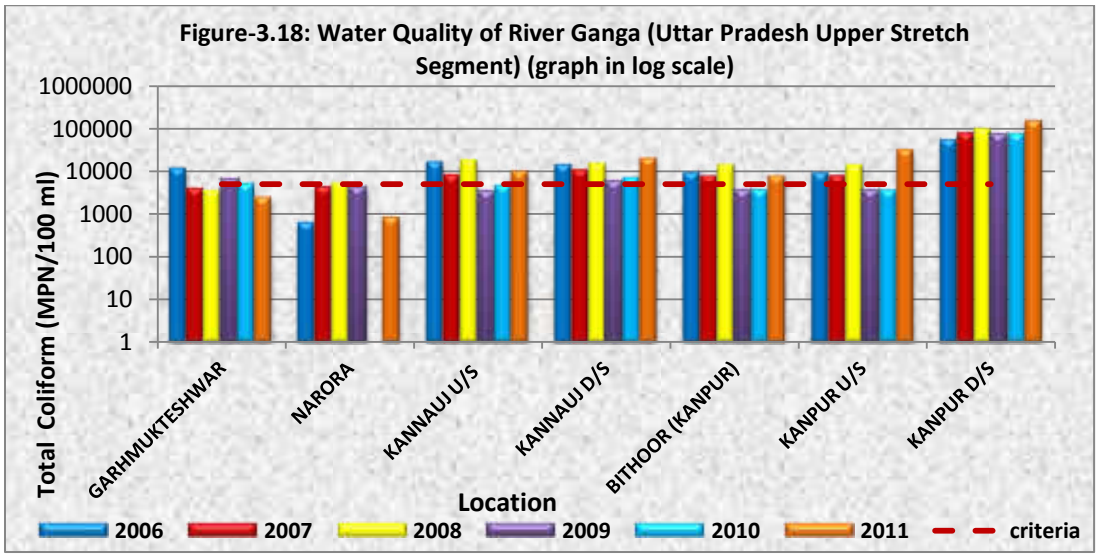


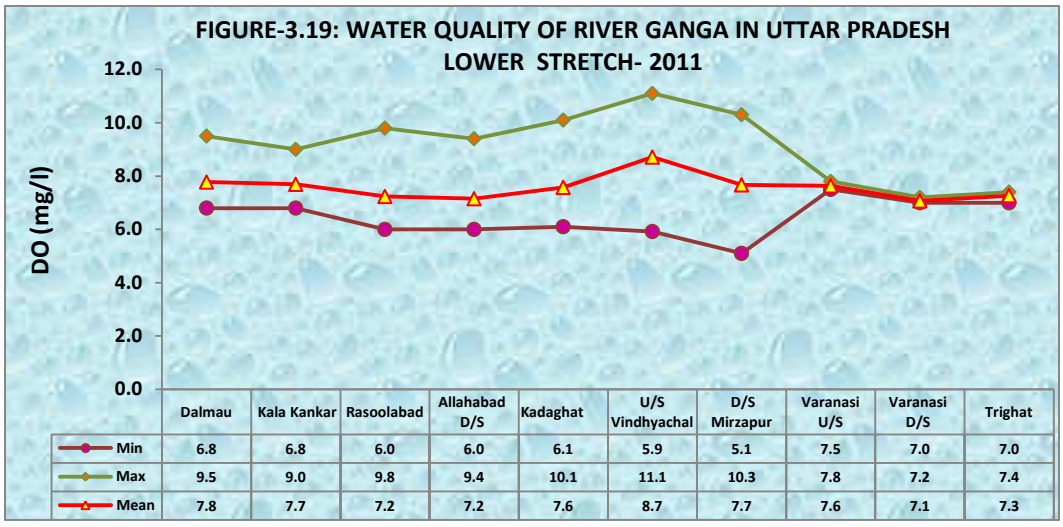
Figure-3.18: Water Quality of River Ganga (Uttar Pradesh Upper Stretch Segment) (graph in log scale)

3.2.5 Water Quality Assessment in Uttar Pradesh Lower Stretch (from Dalmau to Trighat)

In the lower stretch of Uttar Pradesh from Dalmau to Trighat the results are depicted in figure 3.19 to 3.23. From the figures it is observed that:

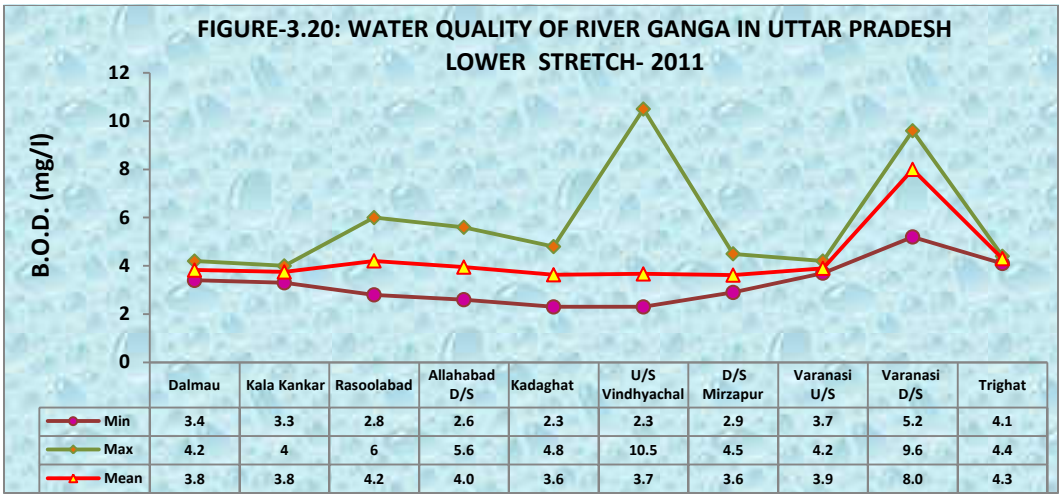
- DO & pH - meeting thewater quality criteria for bathing at all the monitoring locations.
- Conductivity meeting the primary water quality criteria based on designated best use.
- DO varies from 5.1-11.1 mg/l.
- BOD ranges from 2.3-10.5 mg/l. The maximum value of BOD has been measured at U/s Vindhyachal (Mirzapur). All the monitoring locations are exceeding the water quality criteria notified for bathing.
- Faecal Coliform values range from 40-46000 MPN/100ml and not meeting the water quality criteria for bathingat all monitoring locations except U/s Vindhyachal.
- While the Total Coliform value ranges 110- 70,000 not meeting the criteria for category 'C' of designated best use concept at all monitored locations.

Picture-9: River Ganga &Yamuna Sangam



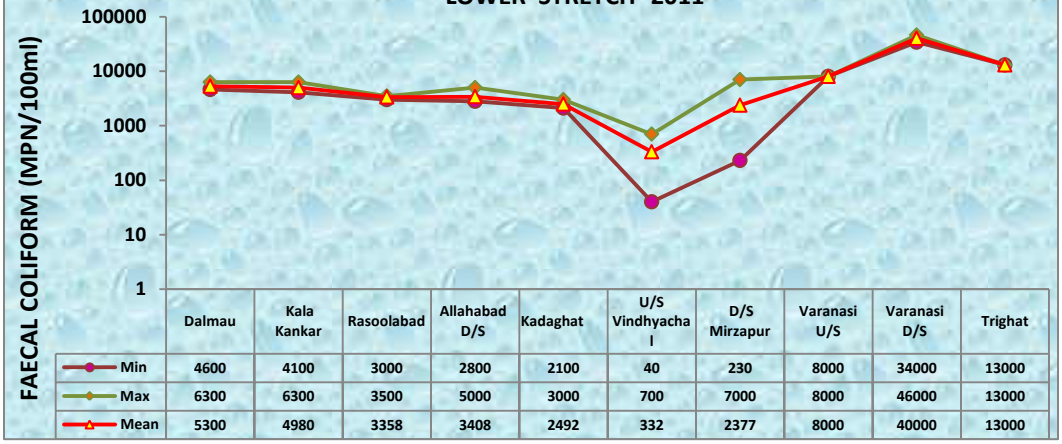
	Dalmau	Kala Kankar	Rasoolabad	Allahabad D/S	Kadaghat	U/S Vindhyachal	D/S Mirzapur	Varanasi U/S	Varanasi D/S	Trighat
Min	6.8	6.8	6.0	6.0	6.1	5.9	5.1	7.5	7.0	7.0
Max	9.5	9.0	9.8	9.4	10.1	11.1	10.3	7.8	7.2	7.4
Mean	7.8	7.7	7.2	7.2	7.6	8.7	7.7	7.6	7.1	7.3

FIGURE-3.20: WATER QUALITY OF RIVER GANGA IN UTTAR PRADESH LOWER STRETCH- 2011



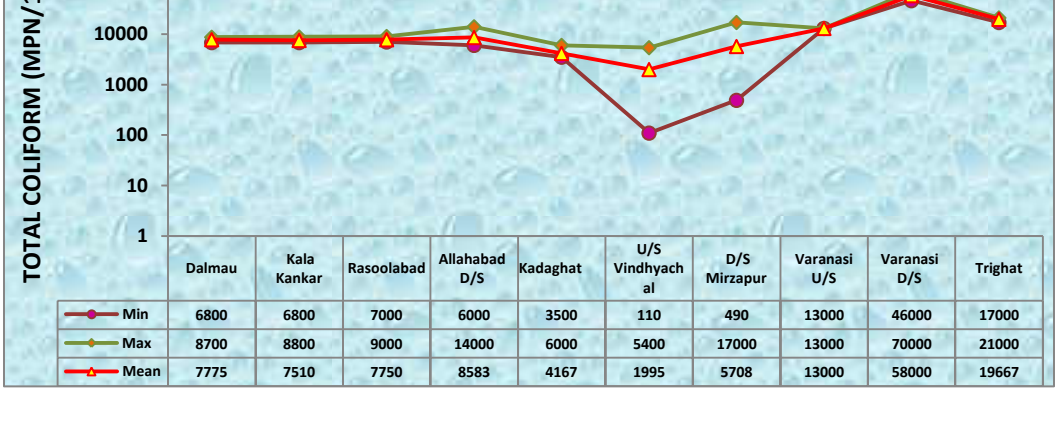
	Dalmau	Kala Kankar	Rasoolabad	Allahabad D/S	Kadaghat	U/S Vindhyachal	D/S Mirzapur	Varanasi U/S	Varanasi D/S	Trighat
Min	3.4	3.3	2.8	2.6	2.3	2.3	2.9	3.7	5.2	4.1
Max	4.2	4	6	5.6	4.8	10.5	4.5	4.2	9.6	4.4
Mean	3.8	3.8	4.2	4.0	3.6	3.7	3.6	3.9	8.0	4.3

FIGURE-3.21: WATER QUALITY OF RIVER GANGA IN UTTAR PRADESH LOWER STRETCH- 2011

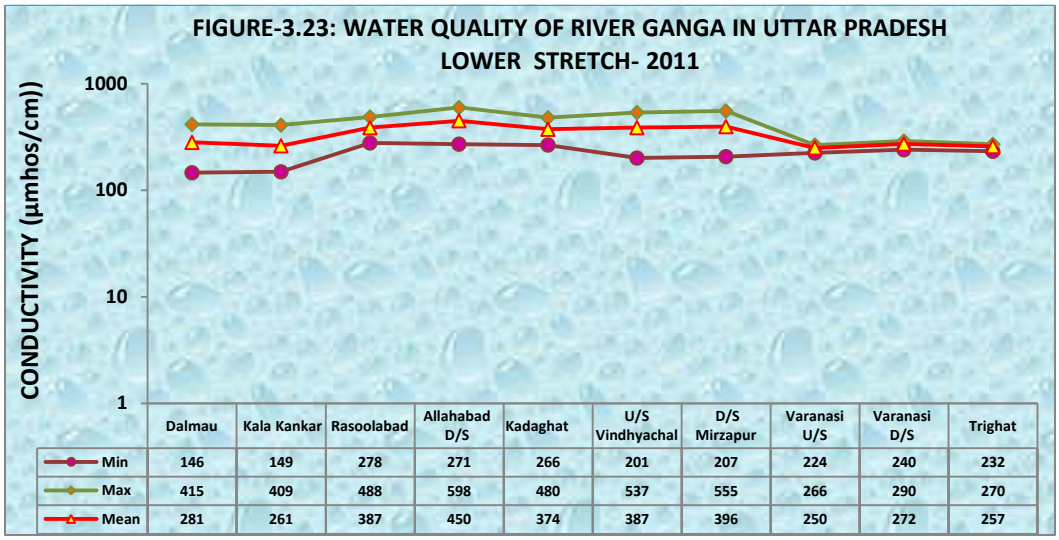


	Dalmau	Kala Kankar	Rasoolabad	Allahabad D/S	Kadaghat	U/S Vindhyachal	D/S Mirzapur	Varanasi U/S	Varanasi D/S	Trighat
Min	4600	4100	3000	2800	2100	40	230	8000	34000	13000
Max	6300	6300	3500	5000	3000	700	7000	8000	46000	13000
Mean	5300	4980	3358	3408	2492	332	2377	8000	40000	13000

FIGURE-3.22: WATER QUALITY OF RIVER GANGA IN UTTAR PRADESH LOWER STRETCH- 2011



	Dalmau	Kala Kankar	Rasoolabad	Allahabad D/S	Kadaghat	U/S Vindhyachal	D/S Mirzapur	Varanasi U/S	Varanasi D/S	Trighat
Min	6800	6800	7000	6000	3500	110	490	13000	46000	17000
Max	8700	8800	9000	14000	6000	5400	17000	13000	70000	21000
Mean	7775	7510	7750	8583	4167	1995	5708	13000	58000	19667

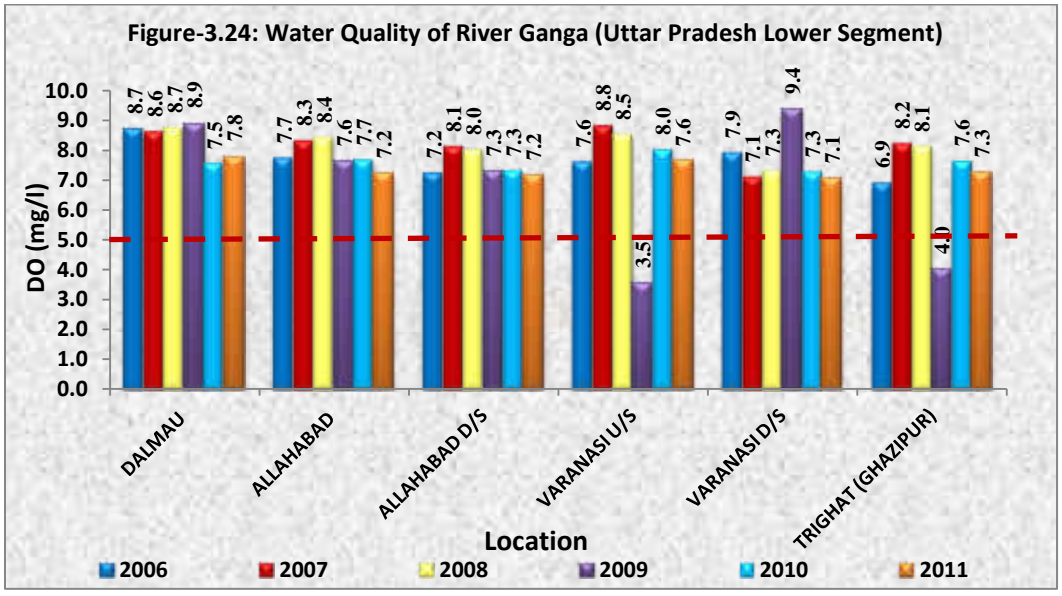


	Dalmau	Kala Kankar	Rasoolabad	Allahabad D/S	Kadaghat	U/S Vindhyachal	D/S Mirzapur	Varanasi U/S	Varanasi D/S	Trighat
Min	146	149	278	271	266	201	207	224	240	232
Max	415	409	488	598	480	537	555	266	290	270
Mean	281	261	387	450	374	387	396	250	272	257

3.2.6 Spatial and Temporal trend of water quality in Uttar Pradesh lower stretch

An overall summary of the trend in BOD, DO, FC and TC at various locations of lower stretch of Uttar Pradesh is presented in Figures 3.24-3.27. The results of this stretch clearly indicate that:

- Average values of DO comply with the standards for the period of 2006-2011 at most of the locations.
- BOD does not comply with the standards at most of the locations for the period of 2006-2011. An increasing trend of BOD is observed at all monitoring locations except Varanasi D/s, however every year (2006-2011) highest BOD is always observed at Varanasi D/s.
- Faecal Coliform and Total coliform both are observed higher than the criteria at most of the locations, while the highest value is always observed at Varasi D/s. No specific trend is observed in these two parameters.
- In overall analysis, the River Ganga in lowerstretch of Uttar Pradesh is polluted.



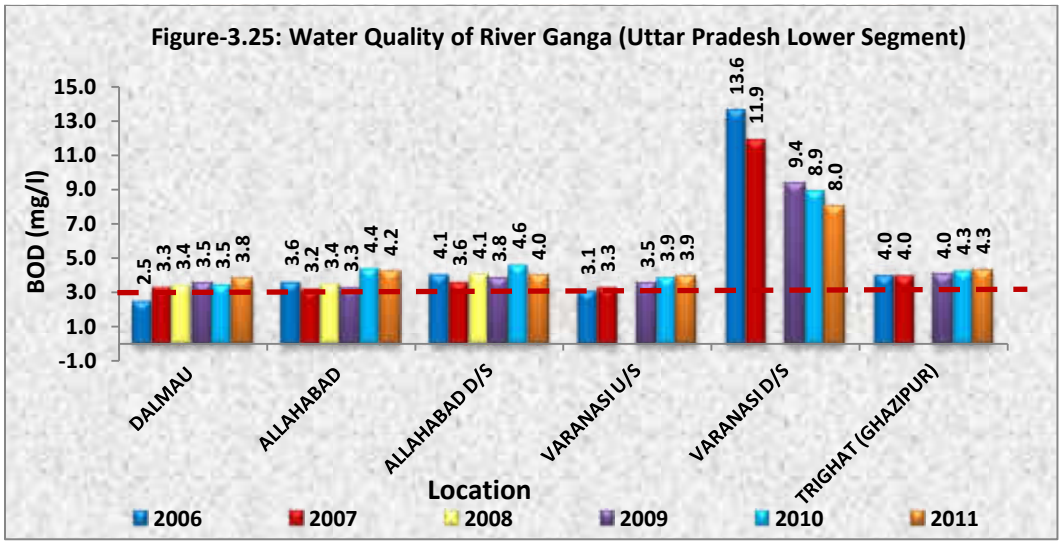


Figure-3.25: Water Quality of River Ganga (Uttar Pradesh Lower Segment)

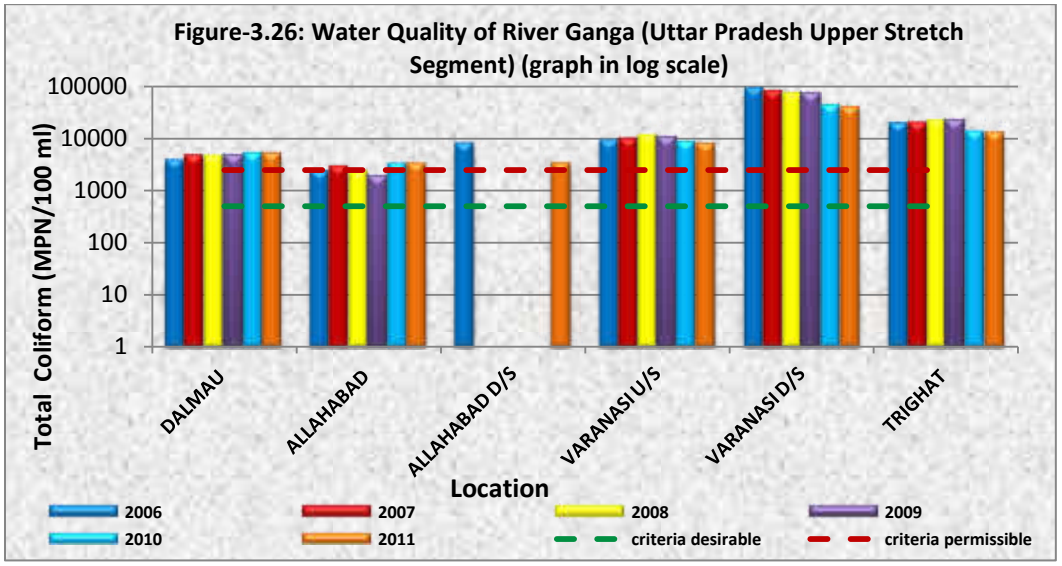


Figure-3.26: Water Quality of River Ganga (Uttar Pradesh Upper Stretch Segment) (graph in log scale)

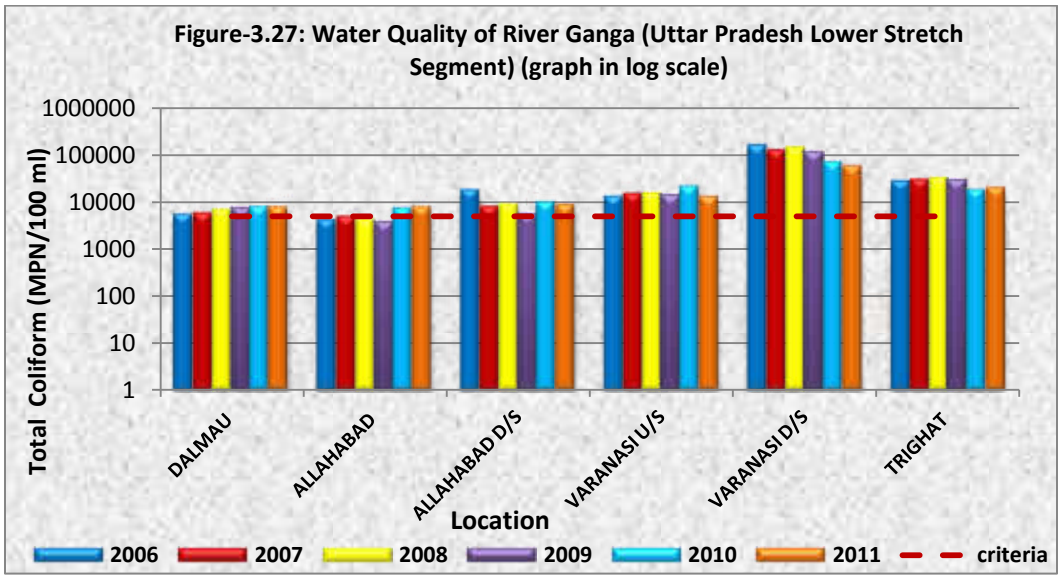


Figure-3.27: Water Quality of River Ganga (Uttar Pradesh Lower Stretch Segment) (graph in log scale)

3.2.7 Water Quality Assessment in Bihar (from Buxar to Khalgaon)

The water quality of river Ganga in the stretch of Bihar with respect to BOD, DO, Conductivity, Faecal Coliform and Total Coliform is depicted in Figure 3.28 to 3.37 in two stretches, upper stretch (from Buxar to Phunphun) & lower stretch (from Fathua to Khalgaon). In the overall stretch of Bihar from Buxar to Khalgaon, it is observed that

- DO & pH is meeting the water quality criteria for bathing at all the monitoring locations.
- Conductivity meeting the primary water quality criteria based on designated best use.

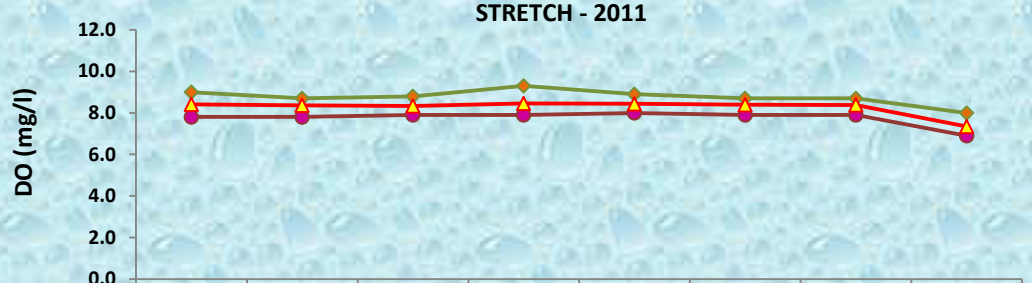
Picture 10: River Ganga at Khalgaon

Picture 11: River Ganga at Mokama

- DO varies from 6.2-9.3 mg/l.
- BOD ranges from 2.6-3.0 mg/l and meeting the water quality criteria notified for bathing at all monitoring locations and all occasions.
- Faecal coliform values range from 700-9000 MPN/100ml. Faecal coliform is observed higher than the criteria at most of the locations monitoreed.
- Total Coliform values range from 1400-90,000 not meeting the based on designated best use for category 'C' atmost of the monitored locations.
- The stretch in Bihar is almost clean with respect to organic pollution. High faecal contamination is observed.

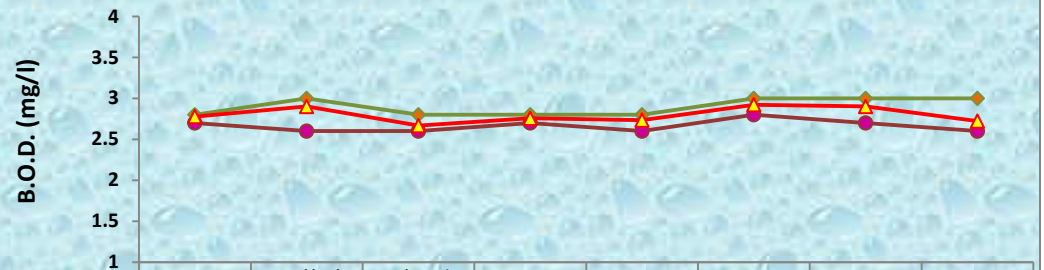
Water Quality of River Ganga in Bihar (Upper Stretch)

FIGURE-3.28: WATER QUALITY OF RIVER GANGA IN BIHAR UPPER STRETCH - 2011



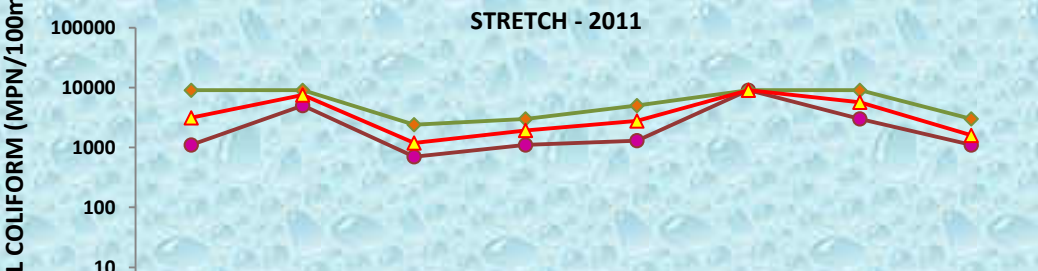
	Buxar	Ramrekhaghat Buxar	Indrapuri Dehri On Sone	Doriganj Chapara	Khurji Patna (U/S)	Darbhanga Ghat, Patna	Patna D/S	Punpun, Patna
Min	7.8	7.8	7.9	7.9	8.0	7.9	7.9	6.9
Max	9.0	8.7	8.8	9.3	8.9	8.7	8.7	8.0
Mean	8.4	8.4	8.3	8.5	8.4	8.4	8.4	7.3

FIGURE-3.29: WATER QUALITY OF RIVER GANGA IN BIHAR UPPER STRETCH - 2011



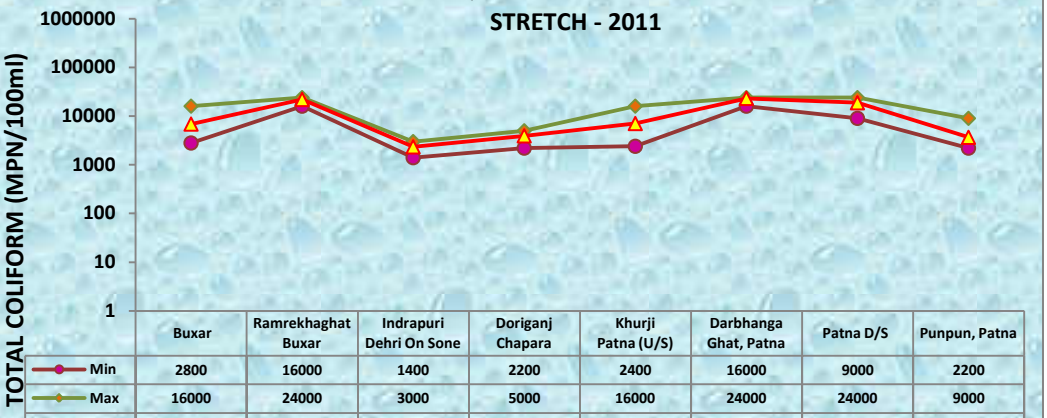
	Buxar	Ramrekhaghat Buxar	Indrapuri Dehri On Sone	Doriganj Chapara	Khurji Patna (U/S)	Darbhanga Ghat, Patna	Patna D/S	Punpun, Patna
Min	2.7	2.6	2.6	2.7	2.6	2.8	2.7	2.6
Max	2.8	3	2.8	2.8	2.8	3	3	3
Mean	2.8	2.9	2.7	2.8	2.7	2.9	2.9	2.7

FIGURE-3.30: WATER QUALITY OF RIVER GANGA IN BIHAR UPPER STRETCH - 2011



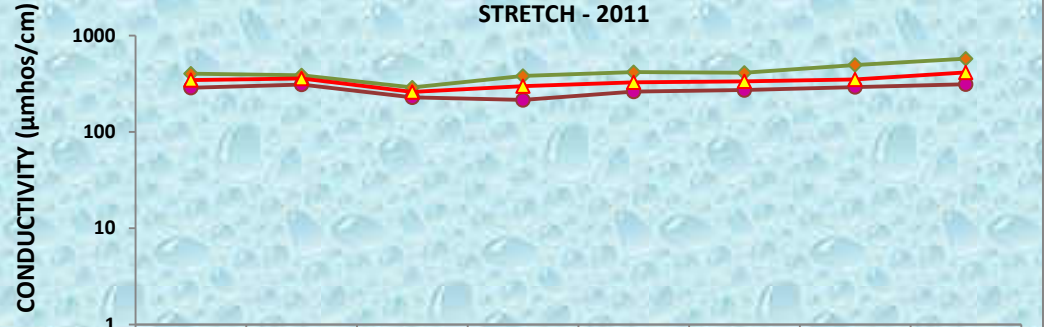
	Buxar	Ramrekhaghat Buxar	Indrapuri Dehri On Sone	Doriganj Chapara	Khurji Patna (U/S)	Darbhanga Ghat, Patna	Patna D/S	Punpun, Patna
Min	1100	5000	700	1100	1300	9000	3000	1100
Max	9000	9000	2400	3000	5000	9000	9000	3000
Mean	3122	7500	1188	1922	2767	9000	5667	1589

FIGURE-3.31: WATER QUALITY OF RIVER GANGA IN BIHAR UPPER STRETCH - 2011



	Buxar	Ramrekhaghat Buxar	Indrapuri Dehri On Sone	Doriganj Chapara	Khurji Patna (U/S)	Darbhanga Ghat, Patna	Patna D/S	Punpun, Patna
Min	2800	16000	1400	2200	2400	16000	9000	2200
Max	16000	24000	3000	5000	16000	24000	24000	9000
Mean	6867	22000	2338	3933	7044	23111	18778	3667

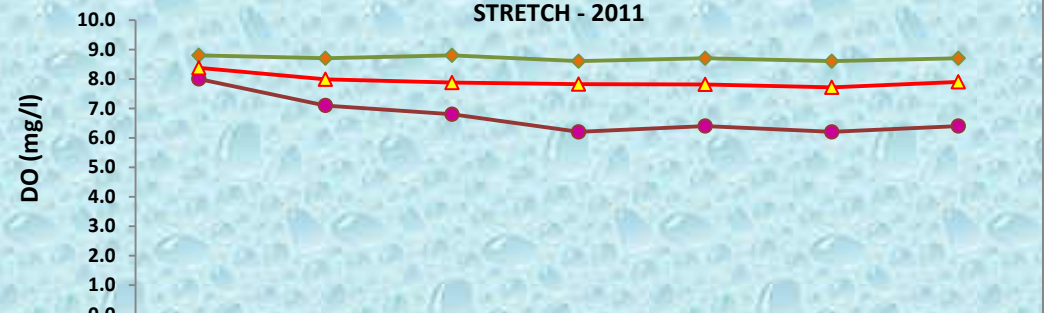
FIGURE-3.32: WATER QUALITY OF RIVER GANGA IN BIHAR UPPER STRETCH - 2011



	Buxar	Ramrekhaghat Buxar	Indrapuri Dehri On Sone	Doriganj Chapara	Khurji Patna (U/S)	Darbhanga Ghat, Patna	Patna D/S	Punpun, Patna
Min	287	310	228	214	262	271	292	312
Max	402	386	288	380	416	410	495	574
Mean	345	357	259	298	327	334	350	413

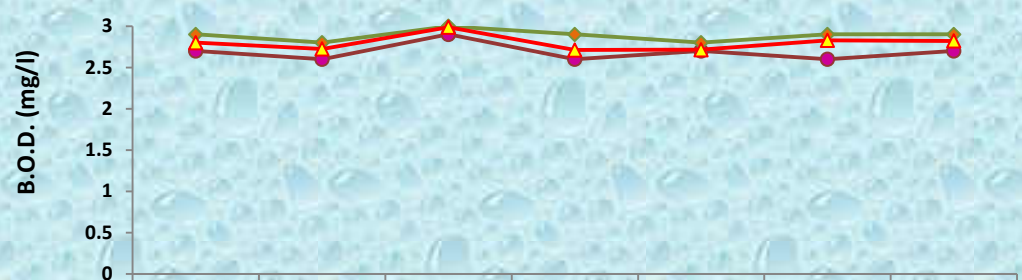
Water Quality of River Ganga in Bihar (Lower Stretch)

FIGURE-3.33: WATER QUALITY OF RIVER GANGA IN BIHAR LOWER STRETCH - 2011



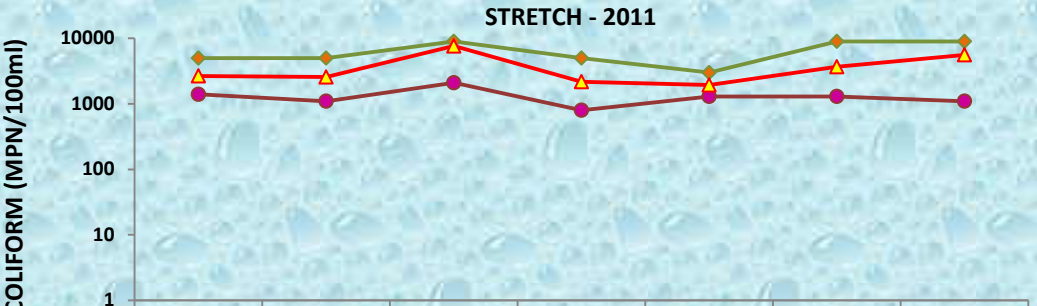
	Fatuha	Mokama (U/S)	Mokama (D/S)	Munger	Sultanganj Bhagalpur	Bhagalpur	Kahalgaon
Min	8.0	7.1	6.8	6.2	6.4	6.2	6.4
Max	8.8	8.7	8.8	8.6	8.7	8.6	8.7
Mean	8.4	8.0	7.9	7.8	7.8	7.7	7.9

FIGURE-3.34: WATER QUALITY OF RIVER GANGA IN BIHAR LOWER STRETCH - 2011



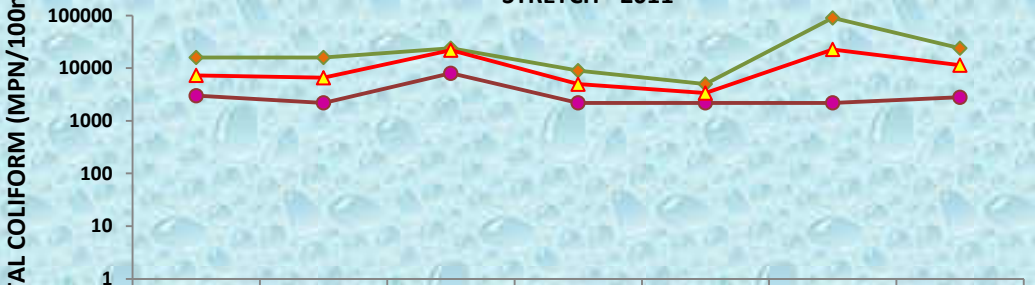
	Fatuha	Mokama (U/S)	Mokama (D/S)	Munger	Sultanganj Bhagalpur	Bhagalpur	Kahalgaon
Min	2.7	2.6	2.9	2.6	2.7	2.6	2.7
Max	2.9	2.8	3	2.9	2.8	2.9	2.9
Mean	2.8	2.7	3.0	2.7	2.7	2.8	2.8

FIGURE-3.35: WATER QUALITY OF RIVER GANGA IN BIHAR LOWER STRETCH - 2011

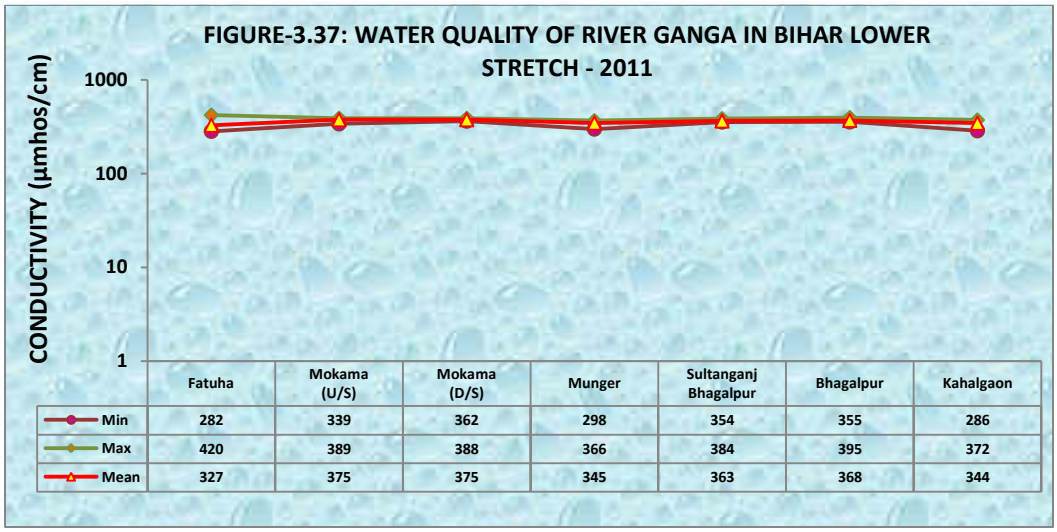


	Fatuha	Mokama (U/S)	Mokama (D/S)	Munger	Sultanganj Bhagalpur	Bhagalpur	Kahalgaon
Min	1400	1100	2100	800	1300	1300	1100
Max	5000	5000	9000	5000	3000	9000	9000
Mean	2675	2575	7638	2178	1943	3686	5611

FIGURE-3.36: WATER QUALITY OF RIVER GANGA IN BIHAR LOWER STRETCH - 2011



	Fatuha	Mokama (U/S)	Mokama (D/S)	Munger	Sultanganj Bhagalpur	Bhagalpur	Kahalgaon
Min	3000	2200	8000	2200	2200	2200	2800
Max	16000	16000	24000	9000	5000	90000	24000
Mean	7313	6588	22000	4967	3371	22743	11422

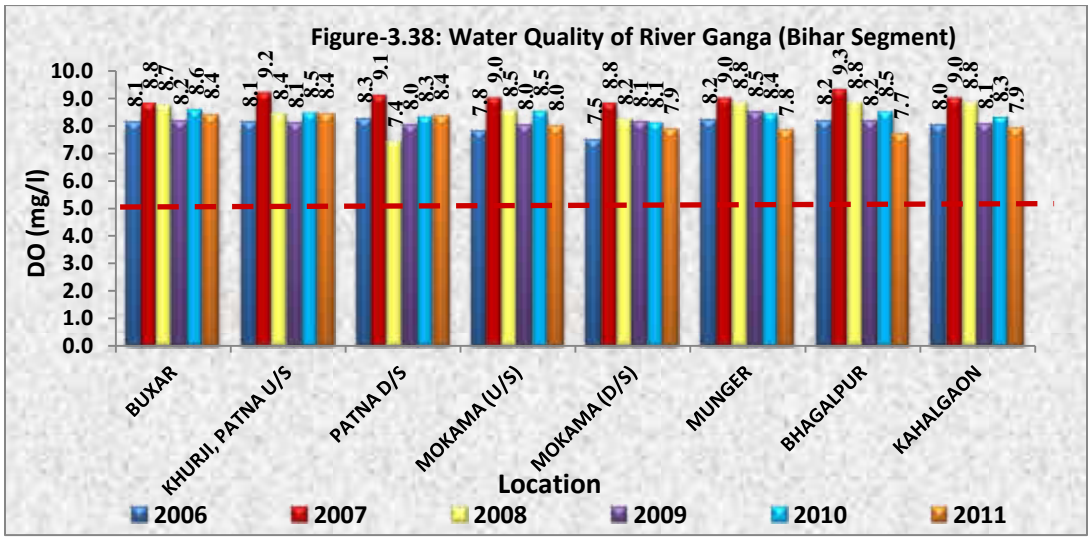


	Fatuha	Mokama (U/S)	Mokama (D/S)	Munger	Sultanganj Bhagalpur	Bhagalpur	Kahalgaon
Min	282	339	362	298	354	355	286
Max	420	389	388	366	384	395	372
Mean	327	375	375	345	363	368	344

3.2.8 Spatial and Temporal trend of water quality in Bihar stretch

The trend of BOD, DO, FC and TC at various locations of Bihar is presented in Figures 3.38 to 3.41.

- It is observed that average value of DO complies with the standards for the period of 2006-2011 at all locations.
- BOD also complies with the standards at all locations for the period of 2006-2011. An increasing trend in BOD is observed at all monitoring locations.
- A decreasing trend in faecal coliform is observed at all monitoring locations in Bihar. Average value of FC is observed higher at downstream of urban centres in comparision of other locations.
- Similarly a decreasing trend is observed with respect to Total coliform.
- In overall analysis, the River Ganga is comparatively clean in the stretch of Bihar with respect to organic pollution. Faecal contamination is observed high and beyond the criteria at most of the locations.



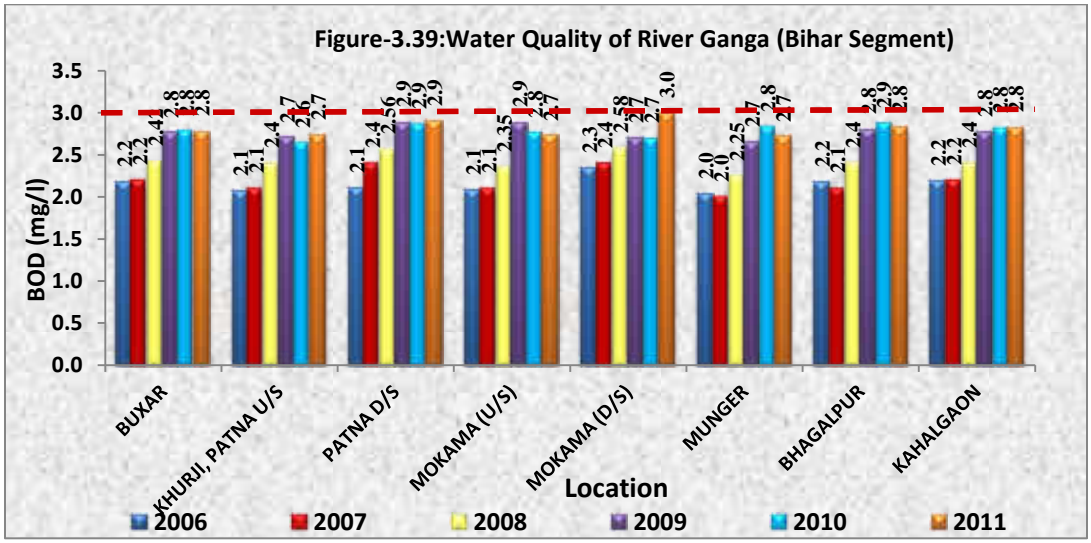


Figure-3.39:Water Quality of River Ganga (Bihar Segment)
BOD (mg/l)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
BUXAR
KHURJI, PATNA U/S
PATNA D/S
MOKAMA (U/S)
MOKAMA (D/S)
MUNGER
BHAGALPUR
KAHALGAON
Location
2006
2007
2008
2009
2010
2011

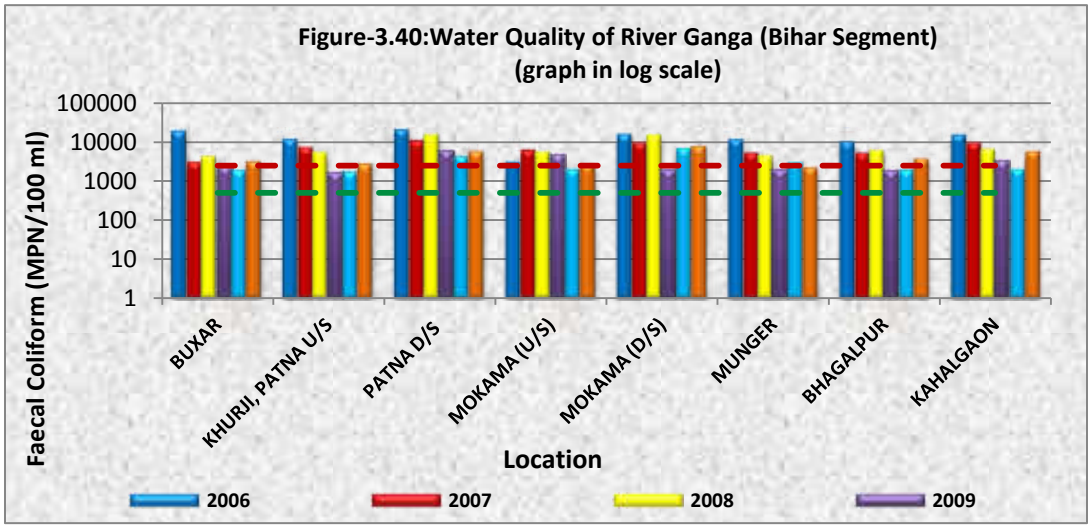


Figure-3.40:Water Quality of River Ganga (Bihar Segment)
(graph in log scale)
Faecal Coliform (MPN/100 ml)
100000
10000
1000
100
10
1
BUXAR
KHURJI, PATNA U/S
PATNA D/S
MOKAMA (U/S)
MOKAMA (D/S)
MUNGER
BHAGALPUR
KAHALGAON
Location
2006
2007
2008
2009

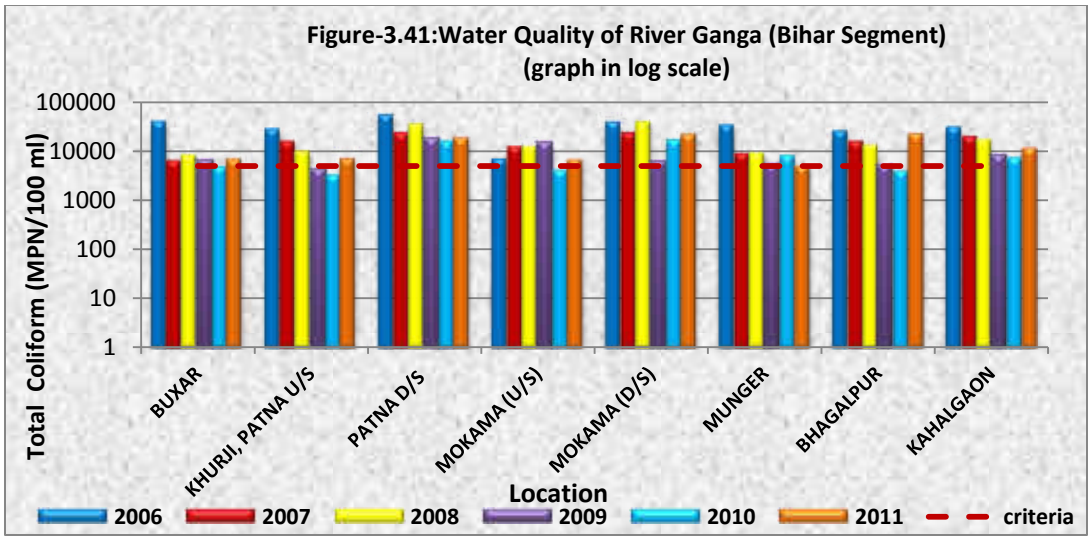


Figure-3.41:Water Quality of River Ganga (Bihar Segment)
(graph in log scale)
Total Coliform (MPN/100 ml)
100000
10000
1000
100
10
1
BUXAR
KHURJI, PATNA U/S
PATNA D/S
MOKAMA (U/S)
MOKAMA (D/S)
MUNGER
BHAGALPUR
KAHALGAON
Location
2006
2007
2008
2009
2010
2011
criteria

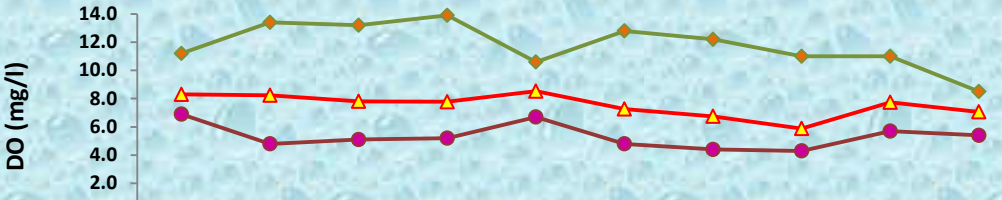
3.2.9 Water Quality Assessment in West Bengal

The water quality of river Ganga (named Hoogly in this stretch) with respect to DO, BOD, Faecal Coliform, Total Coliform and conductivity in the stretch of West Benagal from Baharampur to Diamond Harbour for the year 2011 is depicted in figure-3.42 to 3.46. From the figures it is observed that

- pH - meeting thewater quality criteria. for bathing at all the monitoring locations.
- Conductivity meeting the primary water quality criteria based on designated best use at all locations except Diamond harbor due to sea water intrusion. Highest Conductivity here observed is 10240 µmhos/cm**.**
- DO varies from 4.3-13.4 mg/l and not meeting the water quality criteria notified for bathing at Tribeni, Howrah-Shivpur, Garden Reach and Uluberia.
- BOD ranges from 0.3-8.2 mg/l and not meeting the water quality criteria notified for bathing at most of the monitoring locations except Tribeni and Palta.
- Faecal coliform value ranges from 700-11,00,000 MPN/100ml. Faecal coliform is observed higher than the criteria at all monitoring locations.
- Total Coliform value ranges 900- 25,00,000 not meeting the based on designated best use for category 'C' atall monitored locations.

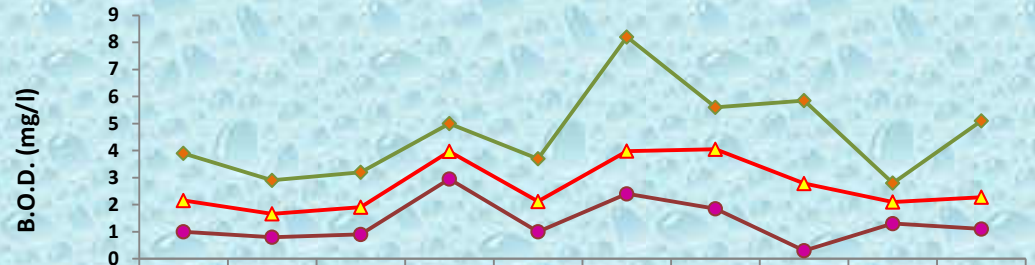
Picture-12: River Ganga at Dakshineshwar

FIGURE-3.42: WATER QUALITY OF RIVER GANGA IN WEST BENGAL- 2011



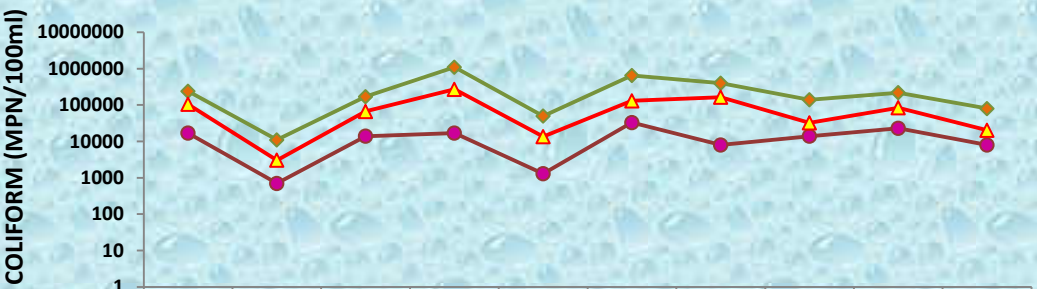
	Baharam-Pore	Tribeni Near Burning Ghat	Seram Pore	Dakshin-Eshwar	Nabadip	Howrah Shivpur	Garden (Reach	Uluberia	Palta	Diamond Harbour
Min	6.9	4.8	5.1	5.2	6.7	4.8	4.4	4.3	5.7	5.4
Max	11.2	13.4	13.2	13.9	10.6	12.8	12.2	11.0	11.0	8.5
Mean	8.3	8.2	7.8	7.8	8.5	7.3	6.8	5.9	7.7	7.1

FIGURE-3.43: WATER QUALITY OF RIVER GANGA IN WEST BENGAL- 2011



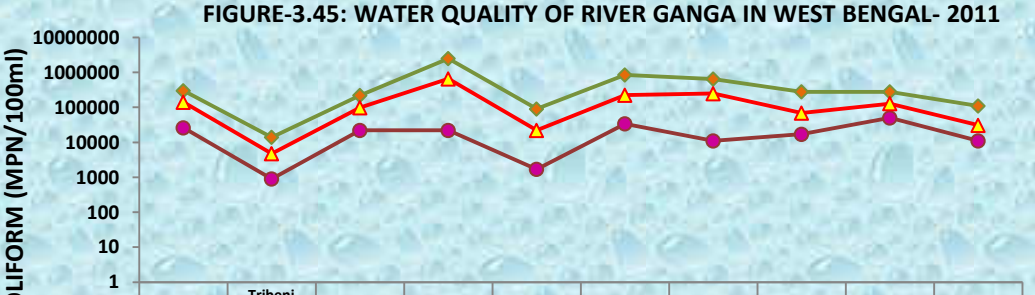
	Baharam-Pore	Tribeni Near Burning Ghat	Seram Pore	Dakshin-Eshwar	Nabadip	Howrah Shivpur	Garden (Reach	Uluberia	Palta	Diamond Harbour
Min	1	0.8	0.9	2.95	1	2.4	1.85	0.3	1.3	1.1
Max	3.9	2.9	3.2	5	3.7	8.2	5.6	5.9	2.8	5.1
Mean	2.2	1.7	1.9	4.0	2.1	4.0	4.1	2.8	2.1	2.3

FIGURE-3.44: WATER QUALITY OF RIVER GANGA IN WEST BENGAL- 2011

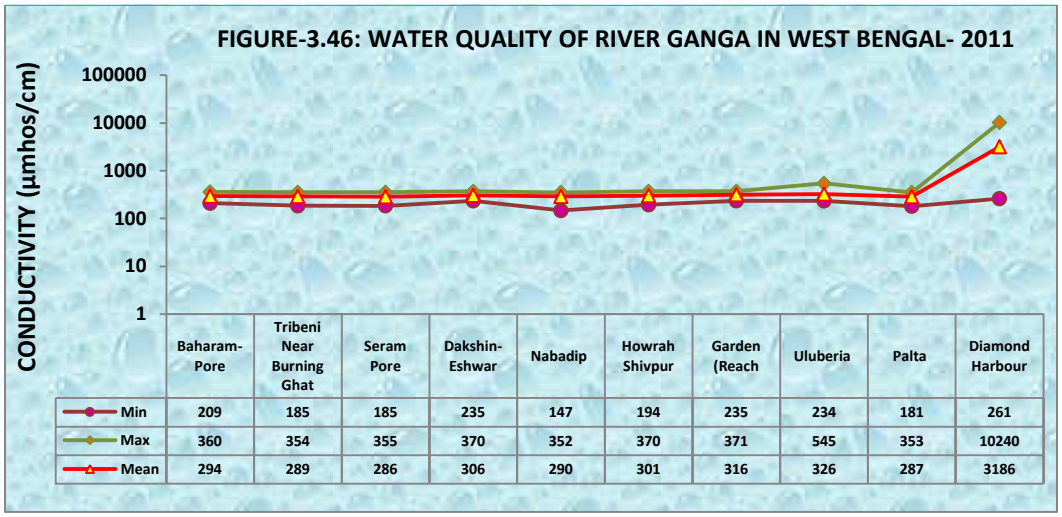


	Baharam-Pore	Tribeni Near Burning Ghat	Seram Pore	Dakshin-Eshwar	Nabadip	Howrah Shivpur	Garden (Reach	Uluberia	Palta	Diamond Harbour
Min	17000	700	14000	17000	1300	33000	8000	14000	23000	8000
Max	240000	11000	170000	1100000	50000	650000	400000	140000	220000	80000
Mean	105364	3064	66667	270333	13573	130750	164833	32500	84667	20333

FIGURE-3.45: WATER QUALITY OF RIVER GANGA IN WEST BENGAL- 2011



	Baharam-Pore	Tribeni Near Burning Ghat	Seram Pore	Dakshin-Eshwar	Nabadip	Howrah Shivpur	Garden (Reach	Uluberia	Palta	Diamond Harbour
Min	26000	900	22000	22000	1700	34000	11000	17000	50000	11000
Max	300000	14000	220000	2500000	90000	850000	650000	280000	280000	110000
Mean	140545	4755	97917	653083	21973	223667	247167	68833	128333	30667

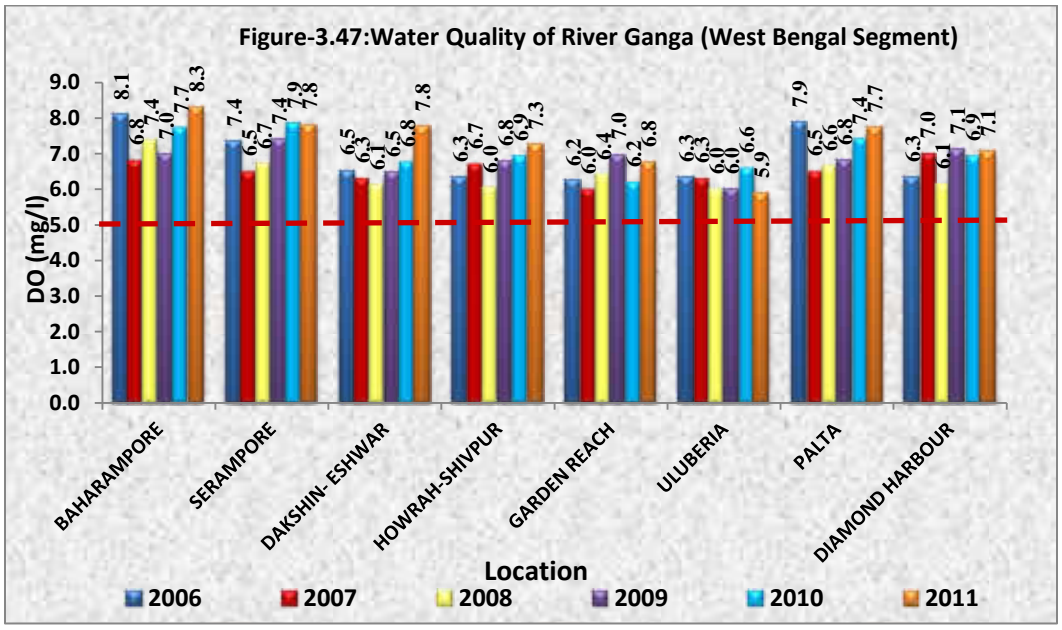


	Baharam-Pore	Tribeni Near Burning Ghat	Seram Pore	Dakshin-Eshwar	Nabadip	Howrah Shivpur	Garden (Reach	Uluberia	Palta	Diamond Harbour
Min	209	185	185	235	147	194	235	234	181	261
Max	360	354	355	370	352	370	371	545	353	10240
Mean	294	289	286	306	290	301	316	326	287	3186

3.2.10 Spatial and Temporal trend of water quality in West Bengal stretch

The trend of BOD, DO, FC and TC at various locations of West Bengal is presented in Figures 3.47 to 3.50.

- It is observed that average value of DO complies with the standards for the period of 2006-2011 at all locations.
- An increasing trend of BOD is observed at Serampore, Dakshineshwar, Howrah-Shivpur, Uluberia and Diamond Harbour. Average value of of BOD is observed high thanth criteria at Dakshineshwar, Howrah-Shivpur, Garden Reach, Uluberia, Palta and Diamond Harbour.
- Faecal Coliform and total coliform is not meeting the desired criteria at all monitoring locations. A fluctuating trend is observed in FC and TC.
- In overall analysis, the River Ganga is polluted with respect to organic and coliform pollution the stretch of West Bengal at most of the monitoring locations.



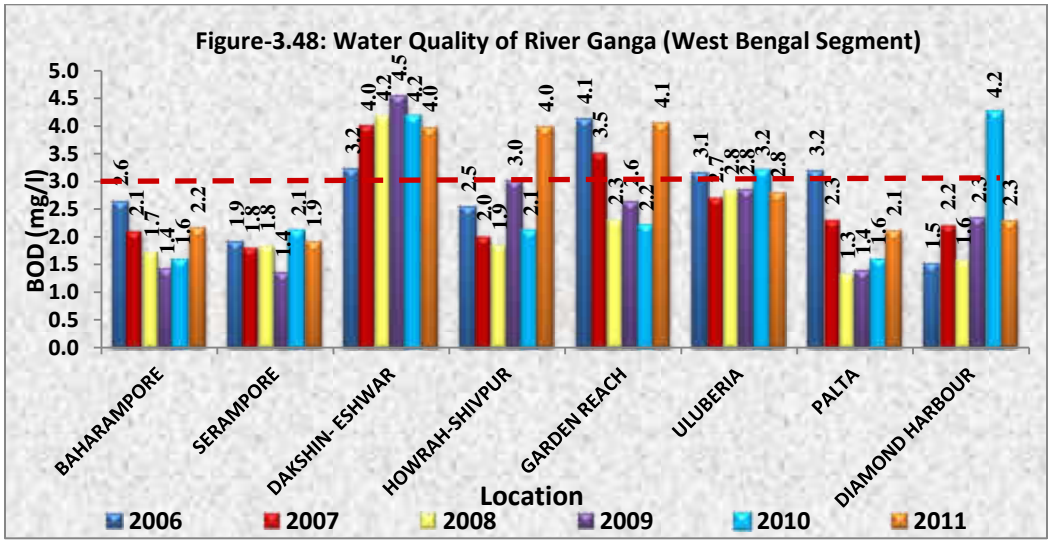


Figure-3.48: Water Quality of River Ganga (West Bengal Segment)
BOD (mg/l)
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
2.6 2.1 1.7 1.4 1.6 2.2
1.9 1.8 1.8 1.4 2.1 1.9
3.2 4.0 4.2 4.5 4.2 4.0
2.5 2.0 1.9 3.0 2.1 4.0
4.1 3.5 2.3 2.6 2.2 4.1
3.1 2.7 2.8 2.8 3.2 2.8
3.2 2.3 1.3 1.4 1.6 2.1
1.5 2.2 1.6 2.3 4.2 2.3
BAHARAMPORE
SERAMPORE
DAKSHIN- ESHWAR
HOWRAH-SHIVPUR
GARDEN REACH
ULUBERIA
PALTA
DIAMOND HARBOUR
Location
2006
2007
2008
2009
2010
2011

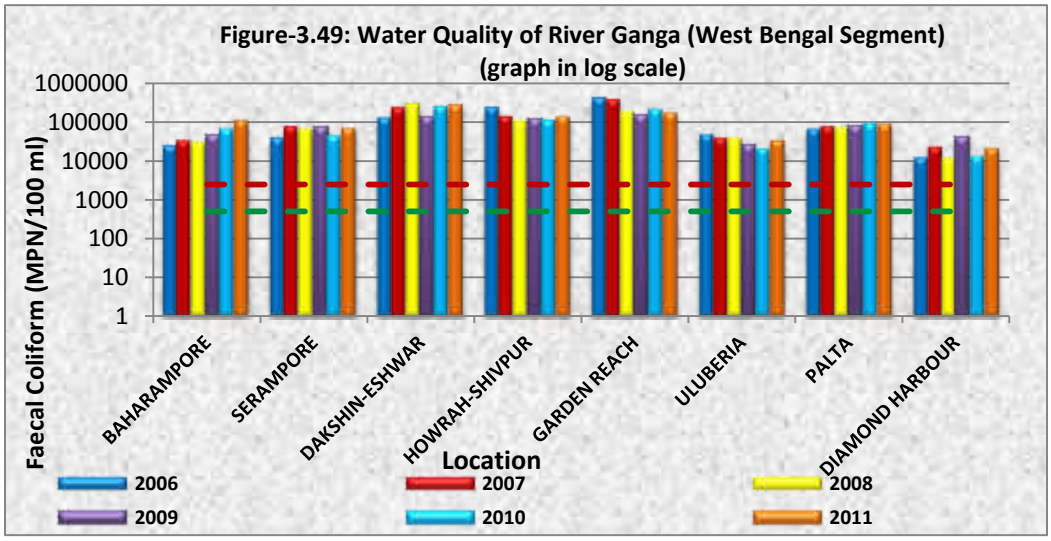


Figure-3.49: Water Quality of River Ganga (West Bengal Segment)
(graph in log scale)
Faecal Coliform (MPN/100 ml)
1000000
100000
10000
1000
100
10
1
BAHARAMPORE
SERAMPORE
DAKSHIN-ESHWAR
HOWRAH-SHIVPUR
GARDEN REACH
ULUBERIA
PALTA
DIAMOND HARBOUR
Location
2006
2007
2008
2009
2010
2011

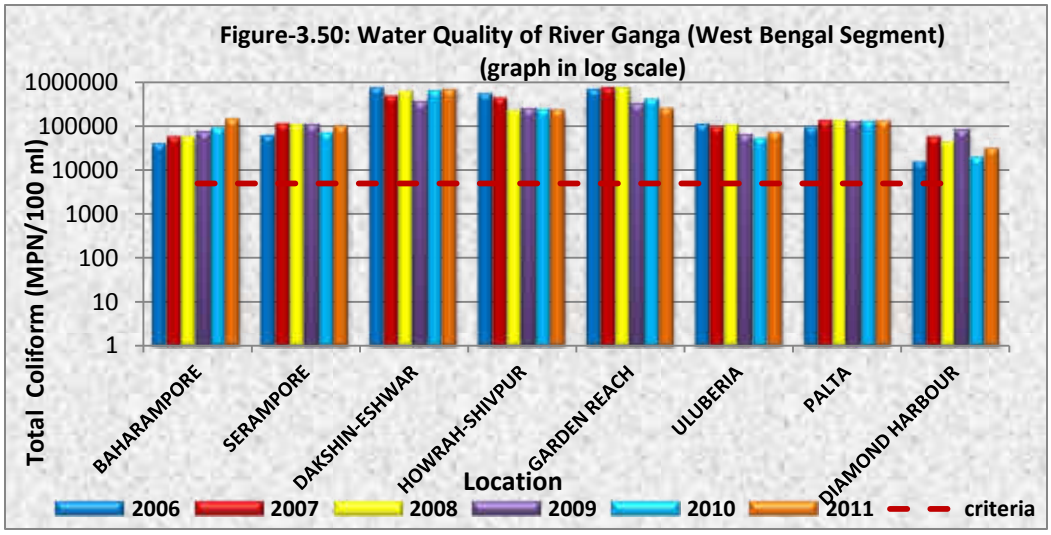


Figure-3.50: Water Quality of River Ganga (West Bengal Segment)
(graph in log scale)
Total Coliform (MPN/100 ml)
1000000
100000
10000
1000
100
10
1
BAHARAMPORE
SERAMPORE
DAKSHIN-ESHWAR
HOWRAH-SHIVPUR
GARDEN REACH
ULUBERIA
PALTA
DIAMOND HARBOUR
Location
2006
2007
2008
2009
2010
2011
criteria

3.2.11 Polluted Stretchs in river Ganga

CPCB identified three polluted stretch in river Ganga D/s of Haridwar, from Kannauj to Varanasi D/s and D/s Dakshineshwar.

3.3 CONCLUSION

- Based on long term assessment of mean value of water quality data, it is observed that the stretch of river Ganga from its origin to Rishikesh and in the segment of Bihar is found to be largely within the prescribed limits with respect to BOD.

- While the stretch of Rishikesh Downstream to Garhmukteshwar and Kannauj Upstream to Trighat and few locations at West Bengal (Dakshineshwar, Uluberia & Diamond Harbour) exceeds the criteria in terms of BOD.

- Dissolved Oxygen & pH is meeting the criteria at almost all the monitoring locations while Faecal Coliform is not meeting the criteria at most of the monitoring locations from Kanpur Downstream onwards upto Diamond Harbour.

CHAPTER-4
STATUS OF SEWAGE GENERATION AND TREATMENT CAPACITY

4.0 Status of Municipal Sewage Generation in Ganga River

There are 36 Class I cities and 14 Class II towns along the mainstream of Ganga. Status of wastewater generation and treatment capacity in these urban centres along Ganga River is summarized in table 4.1.

Table 4.1: Wastewater generation and- treatment- capacity-

Category	Wastewater- generation (MLD)	Treatment Capacity (MLD)
Class - I (36)	2601.3	1192.4
Class - II (14)	122	16.4
Total	2723.3	1208.8

Table 4.1 indicates that there are fifty cities (Class I & Class II) discharging 2723.3 MLD wastewater out of which 1208.8 MLD has the treatment capacities i.e 44 %. The contribution of class I cities is 96 % of total wastewater generation and the treatment capacity is almost 99 % of the total treatment capacity.

4.1 Methodology

There are 36 class-I cities and 14 Class-II Towns in catchment of Ganga River as per estimation done (based on Census-2001). To collect information/data on water supply, wastewater generation, collection, treatment and disposal in class-I cities, the questionnaires were sent to all the state secretaries, municipal corporations, state water boards, municipalities, public health engineering department, pollution control boards and also other concerned agencies. The collected information is processed and presented in this report.

4.2 SEWAGE GENERATION OF CLASS-I CITIES IN GANGA RIVER

Information of sewage generation of Class-I Cities along Ganga River is provided in the table 4.2 and figure 4.1 to 4.5.

Table 4.2: Sewage Generation of Class - I Cities

S. No.	States/UT	City/Town	Sewage-generation- (in MLD)	Treatment Capacity (in MLD)
1.	**Uttarakhand**	Haridwar	39.6	18.0

Table 4.2: Sewage Generation of Class - I Cities				
S. No.	**States/UT**	**City/Town**	**Sewage-generation- (in MLD)**	**Treatment Capacity (in MLD)**
2.	**Uttar Pradesh**	Kanpur	339.3	171.1
3.		Varanasi	187.1	141.0
4.		Allahabad	208.0	89.0
5.		Farrukhabad-cum-Fatehgarh	30.5	8.3
6.		Mirzapur-Vindhyachal	27.5	14.0
7.		Unnao	23.9	19.4
8.		Ballia	18.0	-
Sub- Total			**873.9**	**460.8**
9.	**Bihar**	Munger	34.0	13.5
10.		Katihar	31.7	31.7
11.		Bhagalpur	61.6	11.0
12.		Patna	249.2	109.0
Sub- Total			**376.5**	**165.2**
13.	**West Bengal**	Kolkata	618.4	172.0
14.		Haldia	24.5	24.5
15.		Santipur	18.7	18.7
16.		Nabadwip	15.5	10.0
17.		Basirhat	15.3	-
18.		Bangaon	13.8	-
19.		South Dumdum	53.0	52.9
20.		Rajpur Sonarpur	33.6	45.4
21.		Kamarhati	48.8	40.0
22.		North Dumdum	29.7	-
23.		Naihati	20.5	-
24.		Ulberia	27.3	-
25.		Kanchrapara	17.0	-
26.		Halisahar	16.8	-
27.		North Barrackpur	19.2	16.7
28.		Rishra	13.5	15.3
29.		Ashoknagar Kalyangarh	17.3	15.0
30.		Haora	136.2	63.9
31.		Bhatpara	59.7	28.5
32.		Maheshtala	52.5	3.9

Table 4.2: Sewage Generation of Class - I Cities				
S. No.	**States/UT**	**City/Town**	**Sewage-generation- (in MLD)**	**Treatment Capacity (in MLD)**
33.		Serampore	26.7	18.9
34.		Chandannagar	16.1	22.7
35.		Habra	17.2	-
Sub- Total			**1311.3**	**548.4**
Total			**2601.3**	**1192.4**
Source: CPCB report Status Of Water Supply, Wastewater Generation And Treatment In Class-I Cities Class-II Towns Of India				

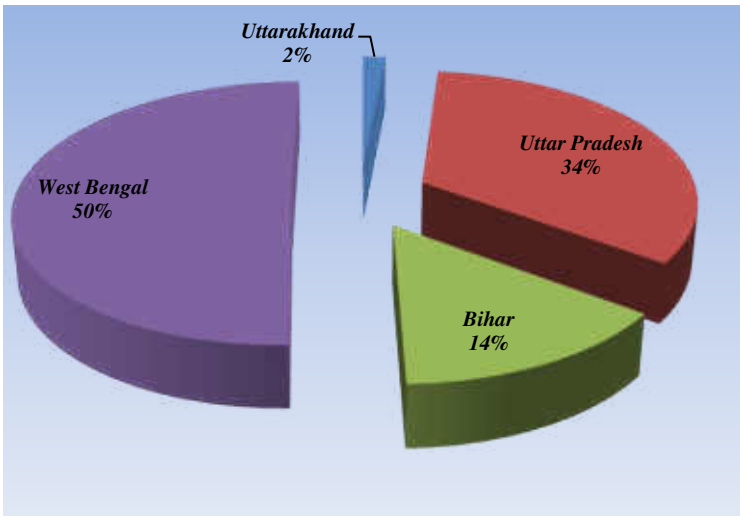


Figure 4.1: Percent wise sewage generation of class -I cities

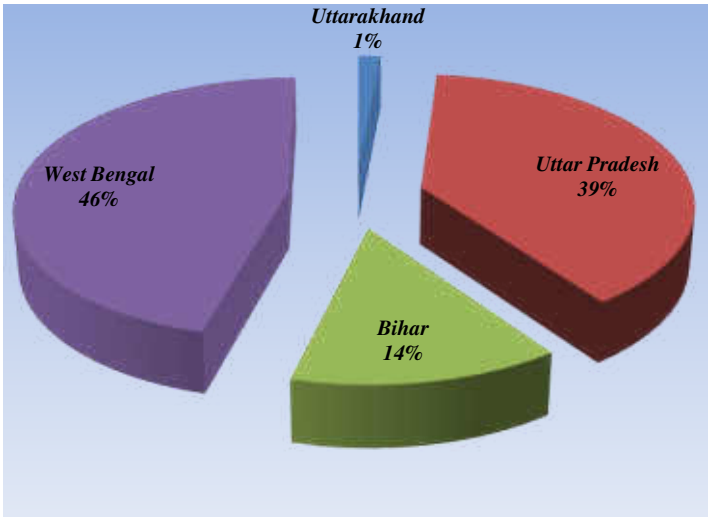


Figure 4.4 : Percent wise treatment capacity of class –I cities

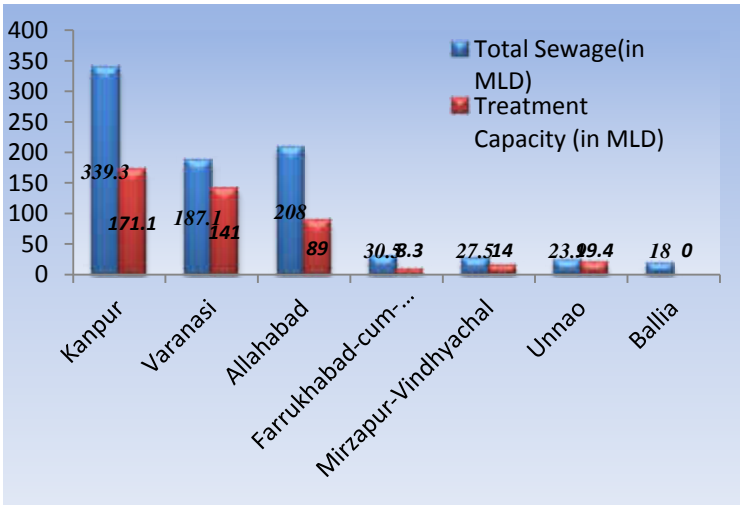


Figure 4.5: Sewage Generation and Treatment capacity of class -I cities of U.P

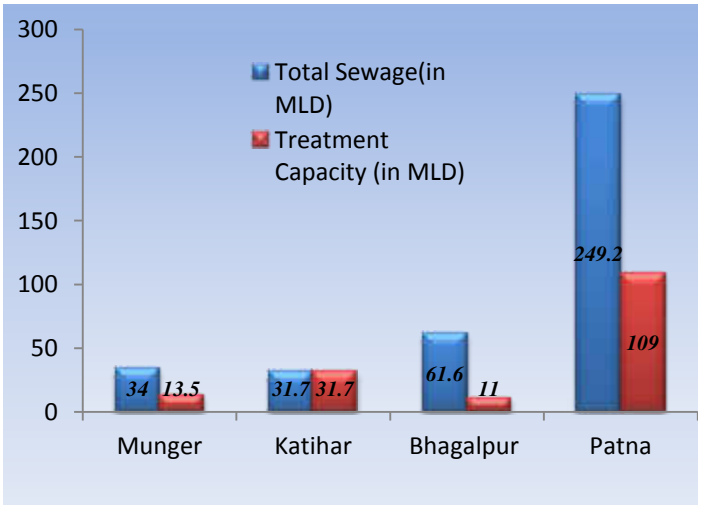


Figure 6.4: Sewage Generation and Treatment capacity of class -I cities of Bihar

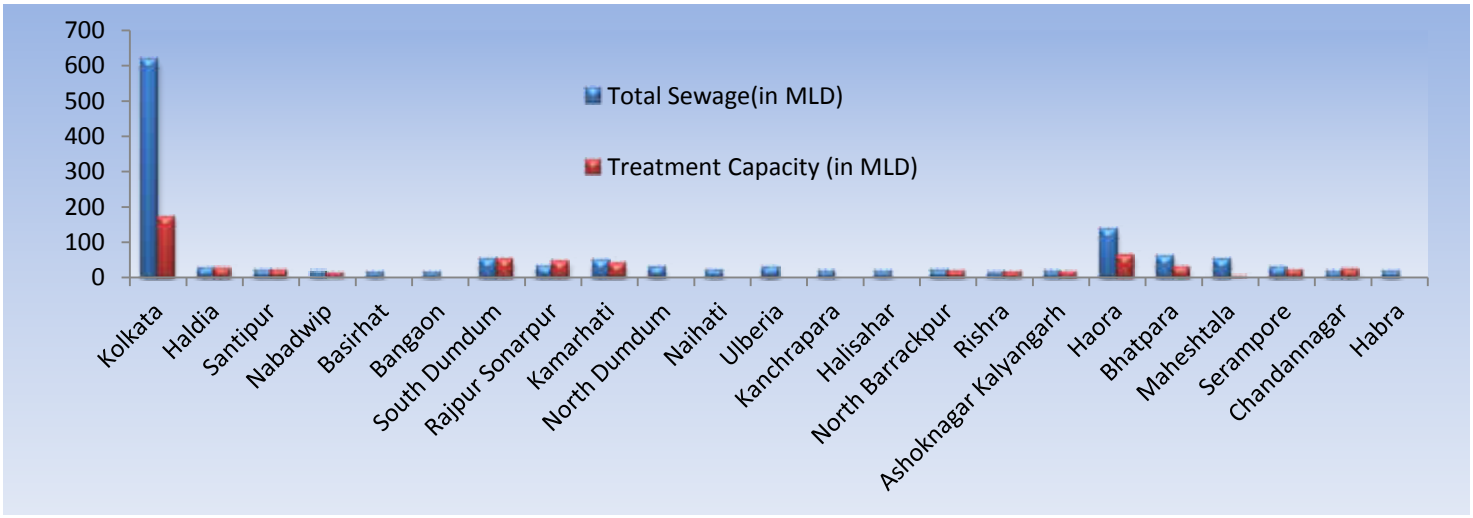


Figure 4.7: Sewage Generation and Treatment capacity of class -I cities of West Bengal

Close examination to table 4.2 and figure 4.1 to 4.5 reveals following observations:

State wise wastewater generation in class I cities are as follows:

- Uttrakhand generated 39.6 MLD about 27 % of total wastewater generation.
- Uttar Pradesh has seven cities but generates 873.9 MLD i.e 34 % of total wastewater generation.
- With respect to Bihar, wastewater generation from 4 cities 376.5 MLD i.e 14 % of total wastewater generation. The major city is Patna which generates 249.2 MLD i.e 66 % of total wastewater generation in the state of Bihar.
- The state of West Bengal generates 1311 MLD i.e 50 % and major city is Kolkata i.e 47 % almost half of waste water generation in the state of West Bengal. Next to Kolkata, the city of Haora generates significant amount of wastewater generates 136.2 MLD i.e 10 %.

State wise wastewater treatment capacity in class I cities are as follows:

- It is observed that in the state of Uttar Pradesh, wastewater treatment capacity is 53 % of total wastewater generation of the state.
- In case of Bihar, it is 44 % of total waste water generation.
- With respect to West Bengal, the treatment capacity is 42 % of the wastewater generation.

4.2 SEWAGE GENERATION OF CLASS-II TOWNS IN GANGA RIVER

Information of sewage generation of Class-II Towns along Ganga River is furnished in the table 4.3

Table 4.3: Sewage generation of Class - II towns

S. No.	States/UTs	City/Town	Total Sewage (in MLD)	Capacity of STP (in MLD)
1.	Uttarakhand	Rishikesh	10.7	6.3
2.		Roorkee	11.0	-
Sub-Total			**21.7**	**6.3**
3.	Uttar Pradesh	Najibabad	7.6	-
4.		Bijnor	7.6	8.1
5.		Mughalsarai	16.0	-
6.		Ghazipur	10.7	-
7.		Kannauj	7.0	-
8.		Deoband	7.8	-
9.		Gangaghat	6.8	-
Sub-Total			**63.5**	**8.1**
10.	Bihar	Buxar	7.6	2.0
11.		Sitamarhi	6.5	-
12.		Begusarai	8.6	-
13.		Mokameh	8.0	-
Sub-Total			**30.7**	**2**
14.	West Bengal	Ranaghat	6.0	-
Total			**122.0**	**16.4**

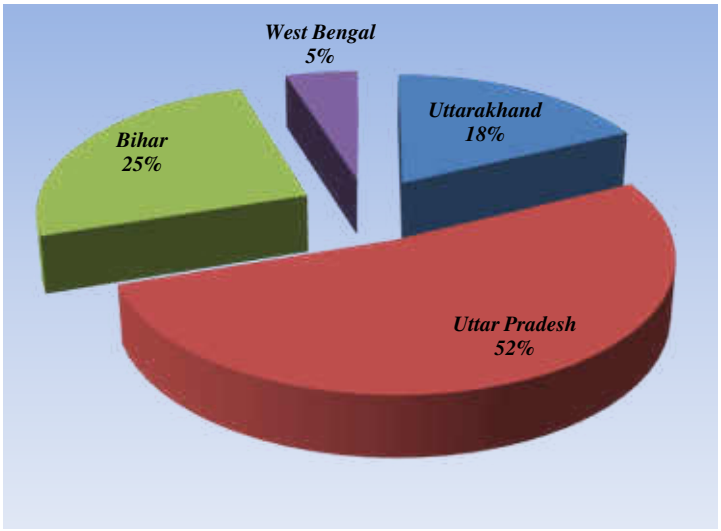


Figure 4.6: Percent wise sewage generation of class -IItowns

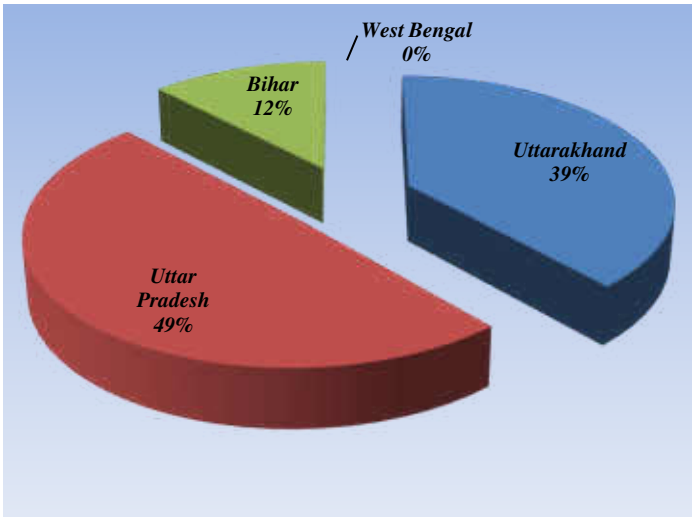


Figure 4.7 : Percent wise treatment capacity of class –II towns

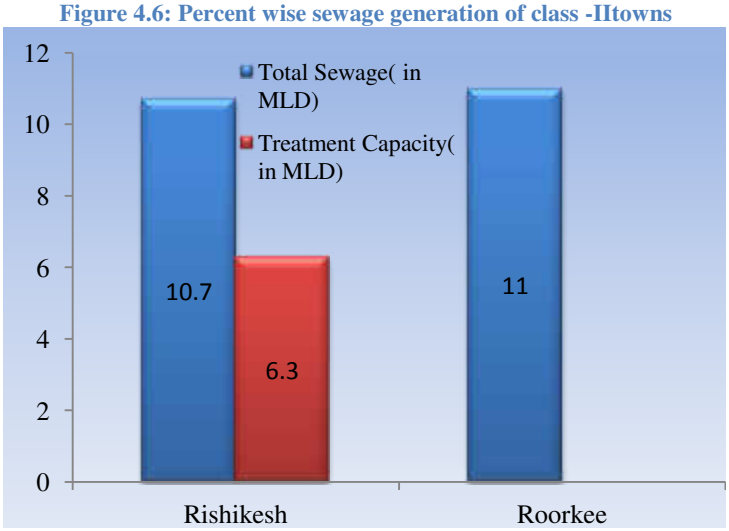


Figure 4.8: Sewage Generation and Treatment capacity of class -II towns of Uttrakhand

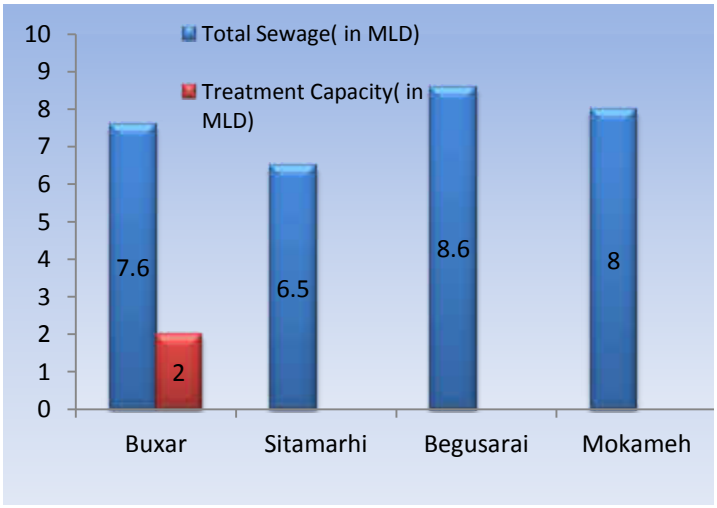


Figure 4.9: Sewage Generation and Treatment capacity of class -I towns of Bihar

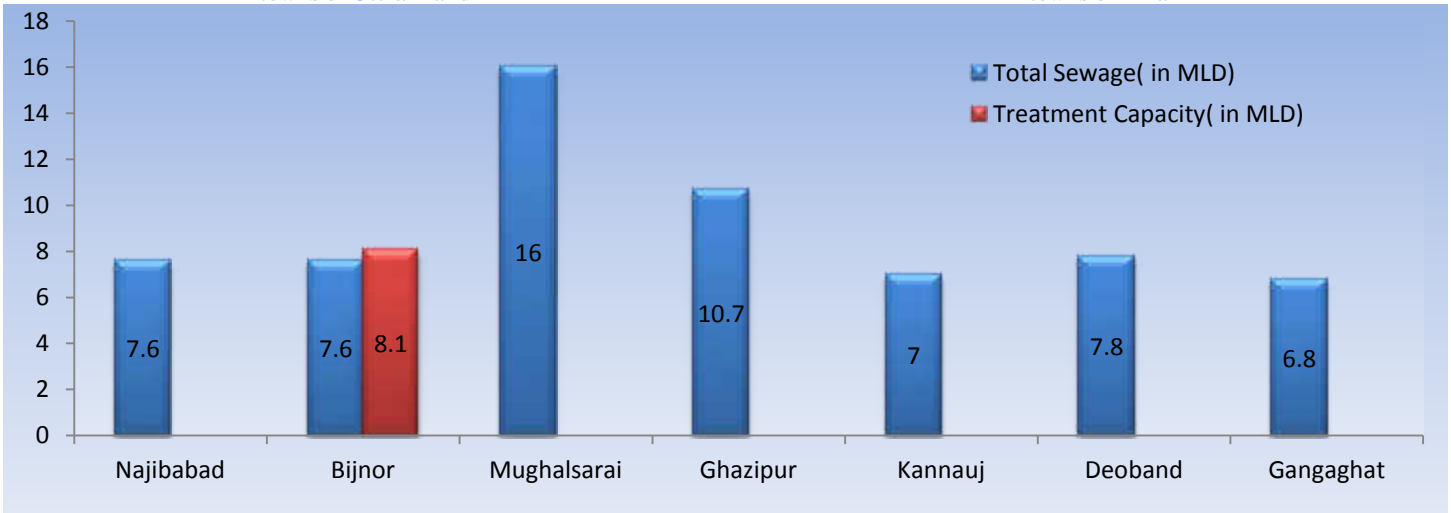


Figure 4.10: Sewage Generation and Treatment capacity of class –II townsof Uttar Pradesh

Close examination of table 3 and figure 4.6 to 4.10 reveals following observations:

- 122 MLD of sewage generated from 14 class-II towns and treatment capacity was 16.4 MLD i.e (13.44 %).
- In Uttrakhand, total sewage generation was21.7 MLD whereas treatment capacity was 6.3 MLD (29.03 %).
- In Uttar Pradesh, 07 number of class –IItowns generates 63.5 MLD of sewage and total treatment capacity 8.5 MLD viz 12.75 %.
- Sewage generation from Mughalsarai (25 %) and Ghazipur (17 %) was maximum in comparison to other class –IItowns of Uttar Pradesh.
- 04 no. of class – IItowns of Bihar generates 30.7 MLD of sewage whereas treatment capacity was 2 MLD (6.5 %).
- In West Bengal, Ranaghat was the only class-II town discharging 06 MLD of sewage.

4.3 CONCLUSION

In view of above facts and figures, following observations were made:

- Sewage generation from class – I cities is highest in West Bengal followed by Uttar Pradesh, Bihar and Uttarakhand which is commensuret with the sewage treatment capacity-in these states.
- In class-II towns, sewage generation in Uttar Pradesh is highest followed by Bihar Uttarakhand and West Bengal whereas sewage treatment capacity is highest in Uttar Pradesh followed by Uttarakhand and Bihar.
- Major urban centres generating substantial volume of sewage are Kanpur, Allahabad, Varanasi, Patna, Bhagalpur and Kolkata

The assessment of sewage generation and development of treatment capacity indicates that there is gap of 1515 MLD which should be reduced to improve water quality of river Gangas.

CHAPTER-5
STATUS OF PERFORMANCE OF SEWAGE TREATMENT PLANTS

CPCB has identified 64 STPs under Ganga river Catchment and MoEF has sanctioned 52 STPs. CPCB inspected 51 number of Sewage Treatment plant installed under the catchment area of Ganga river. Out of 51 STPs, 04 STPs (23.3 MLD) of West Bengal are not under MoEF scheme. Total installed capacity of said STPs is 1009 MLD and actual utilization is 602 MLD which is 59 %. 09 STPs are violating BOD standard and 01 STP exceed the COD standard. 14 numbers of STPs are found non-operational. Performance evaluation of STPs is depicted in Table 5.1 and 5.2. State-wise description of above said table is stated below:

Picture 13: STPs at Srinagar, Uttrakhand

1. Uttrakhand

- 4 numbers of STPs monitored and their total capacity is 54 MLD.
- 1 STP exceeds the BOD and COD limits.

Picture 14: STP at Swarg Ashram

Picture 15: STP at Sringar

2. Uttar Pradesh

- 8 number of STPs monitored and total installed capacity is 358 MLD out of which 287 MLD is utilized.
- 4 STPs exceed the BOD limits.
- 1 STP was found non-operational.

Picture 16: STP at Varanasi

Picture 17: STP at Varanasi

3. Bihar

- 5 STPs monitored and total installed capacity is 140 MLD whereas actual utilization is 100 MLD.
- 1 STP was found non-operational.
- 1 STP exceeds the BOD limits.
- All STP within the COD limits.

Picture 18: STP at Chhapra

Picture 19: STP at Beur

4. West Bengal

- 34 numbers of STPs were monitored and their total installed capacity was 457 MLD whereas their actual utilization was only 214 MLD which is 49 %.
- 3 STPs exceed the BOD limit whereas COD limit of all STPs is under the prescribed limit.
- 13 STPs were found non-operational.

Picture 20: STP at Howrah

Picture 21: STP at Barrackpore

Table 5.1: Monitoring results of STPs

Sl. No	States	STPs	Designed capacity (MLD)	Actual Treatment (MLD)	Characteristics			
					Inlet		Outlet	
					BOD (mg/l)	COD (mg/l)	BOD (mg/l)	COD (mg/l)
1.	**Uttar**	Jajmau, Kanpur	5	4.5	162	293	76	197
2.	**Pradesh**	Jajmau, Kanpur	130	100	314	672	69	211
3.		Salori, Allahabad	29	22.7	44	207	23	53
4.		Naini, Allahabad	60	46	86	176	19	29
5.		Dinapur	80	88	225	447	44	100
6.		Bhagwanpur, BHU (Varanasi)	8	12.16	66	154	71	151
7.		Muzaffar Nagar	32.5					
8.		Mirzapur	14	14.5	160	455	27	80
	Sub-total		**358.5**	**287.86**				
9.	**Uttrakhand**	Jagjeetpur, Haridwar	27	-	-	-	13	42
10.		Jagjeetpur, Haridwar	18	-	-	-	14	68
11.		Swarg Ashram Rishikesh	3	-	-	-	10	42
12.		Lakkarghat, Rishikesh	6				44	308
	Sub-total		**54**	**-**				
13.	**Bihar**	Pahari, Patna	25	18	54	91	25	55
14.		Chapara, Patna	2	0	-	-	-	-
15.		Beur, Patna	35	24	72	169	38	50
16.		Saidpur, Patna	45	33	130	315	5	8
17.		Mattagajpur	33	25	28	78	17	67
	Sub-total		**140**	**100**				
18.		Barrackpore	1	**0**				
19.		Baidyabati	6	6	14	59	1	20
20.		Kannogar	22		21	82	12	43
21.	**West Bengal**	North Barrackpore	4.35	Not functional				
22.		Berhampore	3.7	-			12	35
23.		Kalyani Block-B2,B3	11	-	-	-	-	-
24.		Kalyani Town area	6	-	-	-	-	-
25.		Madrail, Kinkara,	10	10	63	9	5	67

		Bhatpara						
26.		Chandan Nagar, Khalisani	18	Not functional	-	-	-	-
27.		Chandan Nagar, Khalisani	18	18	82	260	8	71
28.		***Titagarh**	4.5		110	216	58	130
29.		***Titagarh**	4.5		110	216	67	146
30.		***Bandipur**	14	14	14	47	5	35
31.		Panihati	12	12	23	126	8	55
32.		Serampore	19	19	51	137	15	59
33.		Chakapara, Howrah	30	30	56	312	11	55
34.		Arupara, Howrah	45	45	110	549	27	67
35.	**West Bengal**	Bansberia	0.3	0.3	17	59	16	51
36.		Garden Reach	48	Trial Phase	13	51	8	7
37.		Mahestala, Nungi	4	4	13	51	2	23
38.		Budge Budge	4.25	Not functional	7	90	-	-
39.		Bhadreshwar	7.6	7.6	103	335	4	39
40.		***Champadani**	0.3	Not functional	-	-	-	-
41.		Garulia	7.9	Not known	-	-	-	-
42.		Cossipore Chitpur	45	Trial Phase	7	148	7	45
43.		Naihati	11.5	-	55	125	8	39
44.		Kamarhati	40	40	66	250	6	41
45.		Jagaddal, Bhatpara(New)	10	06	126	392	66	165
46.		Jagaddal, Bhatpara(old)	8.5	Not functional	-	-	-	-
47.		Jagaddal, Bhatpara	4.5	Not functional	-	-	-	-
48.		Nabadwip	10	2.5	88	232	8	43
49.		Jiaganj, Azimpur	1.39	Not functional	-	-	-	-
50.		Gayeshpur, Halishar & Kanchrapara	13	Not functional	-	-	-	-
51.		Asanol	12	Not functional	-	-	-	-
Sub-Total			**457.29**	**214.4**				
Total			**1009.79**	**602.26**				

Note: * STPs are not under any MoEF scheme

Table 5.2: Performance evaluation of STPs installed under Ganga river catchment

States	No. Of Stps	Installed Capacity	Actual Utilised Capacity	Total No. Of STPs Not In Operation	Total No. Of STPs Under Construction	STPs Exceeding BOD Limits	STPs Exceeding COD Limits
Uttar Pradesh	8	358	287	1	0	4	0
Uttrakhand	4	54	-	0	0	1	1
West Bengal	34	457	214	13	0	3	0
Bihar	5	140	100	1	0	1	0
Total	**51**	**1009**	**602**	**15**	**0**	**9**	**1**

Close examination of the table reveals the following:

- STP at Lakkarghat needs improvement for its performance in Uttrakhand.
- It is observed from the findings that capacity utilization wise, West Bengal needs immediate attention. All the non functional STP's need to be made functional. The STP's at Bhatpara (new), Titagarh, Bandipur needs improvement
- With respect to Uttar Pradesh, Jajmau, Dinapur, Bhagwanpur at BHU needs improvement in its performance.
- In case of Bihar, treatment plant at Chapara, Patna needs to be functional.

CHAPTER-6
DRAINS DISCHARGING WASTEWATER TO RIVER GANGA

6.0 DRAINS

Drains are the channels which are either man made or available in the system naturally to carry storm water to its disposal point which can be either a river or a lake/pond or sea. However, in absence of sewerage systems, drains are turned into open sewers to carry storm water and sewage.

6.1 DRAINS DISCHARGING WASTEWATER TO RIVER GANGA

CPCB has identified 138 drains and discharging 6087 MLDof wastewater. In Uttrakhand 14 nos. of drains are discharging 440 MLD of industrial and domestic wastewater directly/indirectly to river Ganga. Uttar Pradesh discharges 3289 MLD of industrial and domestic wastewater through 45 drains. 25 no. of drains identified in state of Bihar discharging 579 MLD of wastewater to river Ganga. 1779 MLD of wastewater discharges to river Ganga through 54 drains in West Bengal.Details are mentioned below:

State	No. Of Drains	Flow (MLD)	BOD Load (Tonnes / Day)
Uttrakhand	14	440	42
Uttar Pradesh	45	3289	761
Bihar	25	579	99
West Bengal	54	1779	97
Total	138	6087	999

6.1.1 Uttrakhand - Drains discharging their wastewater to river Ganga

14 drains have been identified in Uttarakhand discharging 440 MLD domestic as well as industrial wastewater directly/indirectly to River Ganga. Rambha nadi/drain (152 MLD) and Laksar drain (196 MLD) are two major drains which contribute 80% of total wastewater discharge directly or indirectly to river Ganga. Total BOD load from 14 drains was 42800 kg/day. Details of the drains are mentioned below:

- Rishikesh region discharge 178.5 MLD directly to Ganga River.

Picture 22: Image of Kassavan at Haridwar

- In Haridwar, Kassavan drain, Harki Paudi and Pandeywala drain discharge more than 12 MLD of industrial and domestic waste water to Upper Ganga Canal.
- Matri sadan drain and Jagjitpur STP drain carries 46 MLD of wastewater and merges directly with river Ganga.
- Laksar drain carries wastewater of Birla tyre and merges with Banganga river which ultimately meets Ganga upstream of Bijnore (U.P)

Picture 23: Image of Rambha river at Rishikesh (Uttrakhand)

Physico-chemical characterstics and flow details of point sources are furnished in table-6.1. Schematic flow diagram showing point sources of river Ganga in Uttrakhand region are depicted in figure-6.1.

Table -6.1: Physico-chemical characterstics of point sources discharging to River Ganga at Uttarakhand

S.N.	Catchment Region	Point Sources	Flow (MLD)	Parameters						BOD load Kg/Day
				pH	*COD*	*BOD*	*TSS*	*TDS*	*Cl⁻*	
1.	**Uttarkashi & Devprayag**	Storm Water Drain Uttarkashi	1.73	**-**	**-**	**-**	**-**	**-**	**-**	**-**
2.		Kodia nala Devprayag	1.73	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Sub total			3.46							
3.	**Rishikesh**	Triveni Drain/ Saraswati Nala	11.5	7.84	178	72	-	56	40	828
4.		Rambha River	152	-	03	01	-	-	-	152
5.		Lakkar Ghat STP Drain	12	6.52	52	18	-	388	45	216
6.		IDPL- STP Drain	3	6.42	20	04	-	128	11	12
7.		Swarg Ashram STP Drain	2.5	6.39	102	23	-	260	40	57.5
8.		Gadhi Shyampur Drain	-	8.31	52	12	-	84	04	-

Sub total			**180.0**							**1265.5**
9.	**Haridwar**	Jagjeetpur STP Drain	42	7.86	232	50	-	212	42	2100
10.		Kassavan Drain	11.7	8.0	288	116		272	50	1357.2
11.		Pandey wala Drain	-	8.01	357	95	-	392	65	-
12.		Matra Sadan Drain	3.8	8.11	69	20	-	280	23	76
13.		Rawlirao Drain	2.8	7.36	1300	762	-	628	57	2133.6
Sub-total			**60.3**							**5666.8**
14.	**Laksar**	Laksar Drain	196	7.89	430	183		664	21	35868
Total			440							42800
Note: *All the concentration is expressed in mg/l except of pH.*										

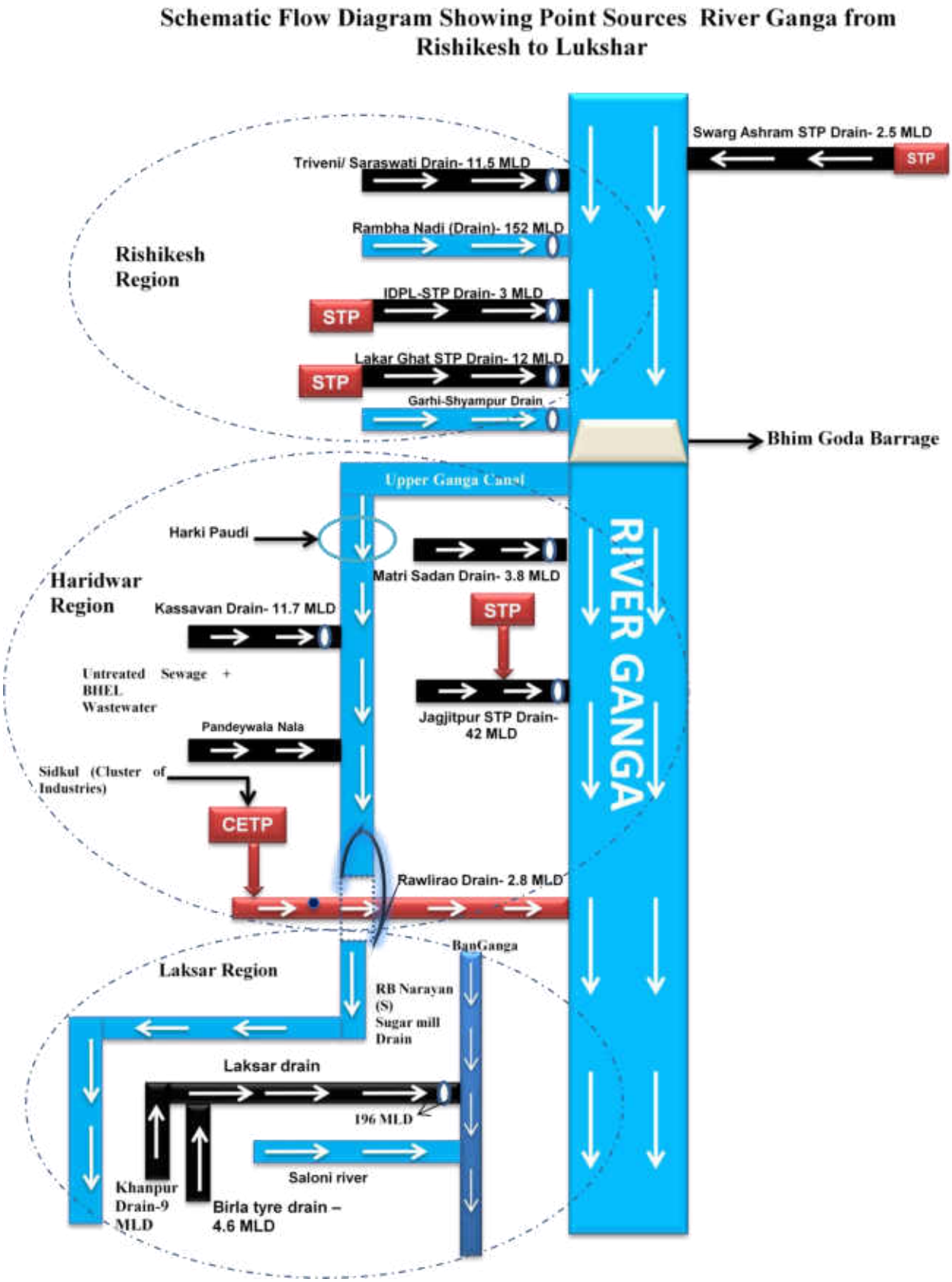


Figure 6.1: Schematic flow diagram showing point sources of river Ganga from Rishikesh to Laksar

Close examination of table 6.1 and figure 6.1 reveals following observations:

- Total discharge by 14 drains was 440 MLD. Laksar drain (44%) and Rambha river (34 %) contributes 348 MLD of flow. BOD load from 14 drains was 42800 kg/day out of which 35868 kg/day from Laskar drain i.e 84 % of total load discharged in river Ganga at Uttrakhand. Figure 6.2 and 6.3 depicts flow and BOD load distribution of drains at Uttrakhand.
- Rishikesh region contributes 184 MLD of wastewater from 08 drains with BOD load of 1265 kg/day. Figure 6.4 and 6.5 shows flow and BOD load distribution of drains at Rishikesh

Picture 24: Image of Jagjeetpur drain at Haridwar

Picture 25: Image of Lauksar drain at Haridwar

- In Haridwar region, total wastewater flow was 60 MLD whereas 48.6 MLD of wastewater flows directly to river Ganga and remaining drains discharge to Upper Ganga Canal. Figure 6.6 and 6.7 shows flow and BOD load distribution of drains at Haridwar
- Hariki Paudi drain, Kassavan drain, Pandeywala nala discharge 11.4 MLD of wastewater to Upper Ganga canal.
- As mentioned above, Laksar region contributes maximum wastewater load. Laksar drain (196 MLD) confluence with Banganga in Laskar and merges with river Ganga at upstream of Bijnore.

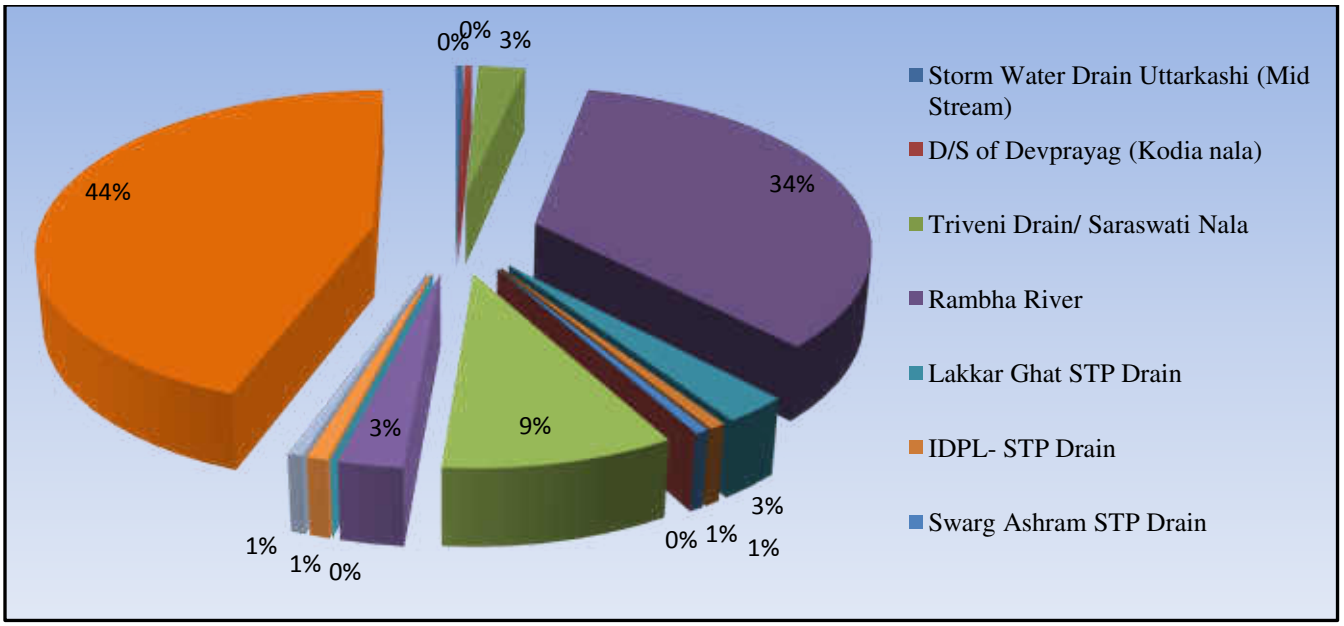


Figure 6.2: Flow distribution of drains in Uttrakhand catchment

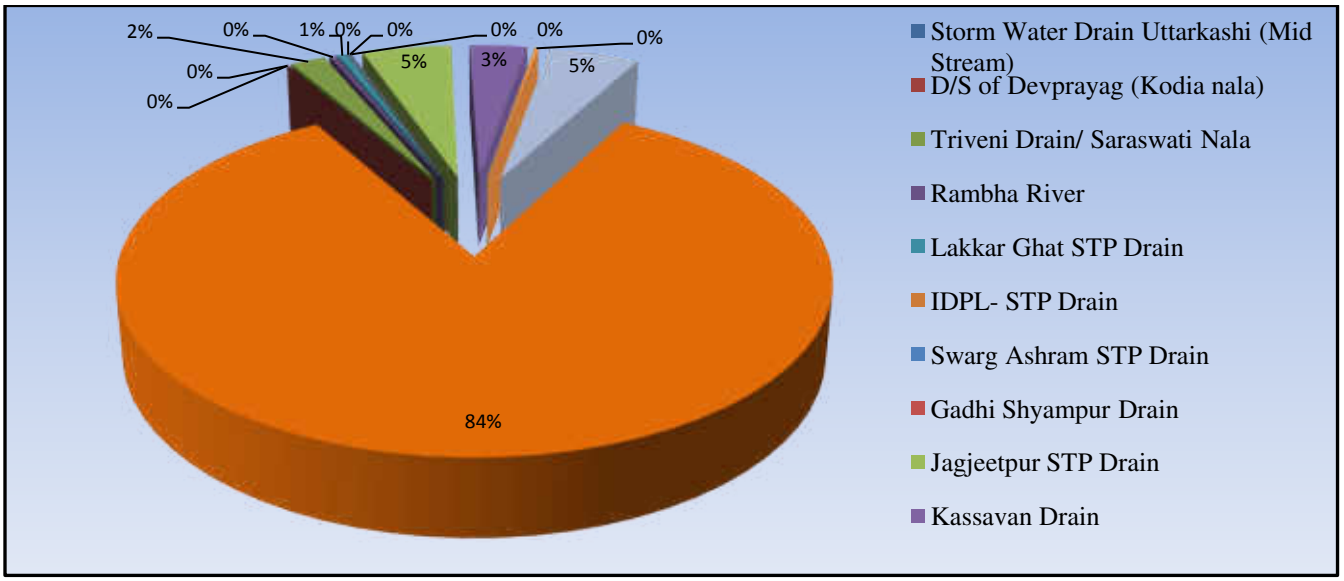


Figure 6.3: BOD load distribution of drains in Uttrakhand region

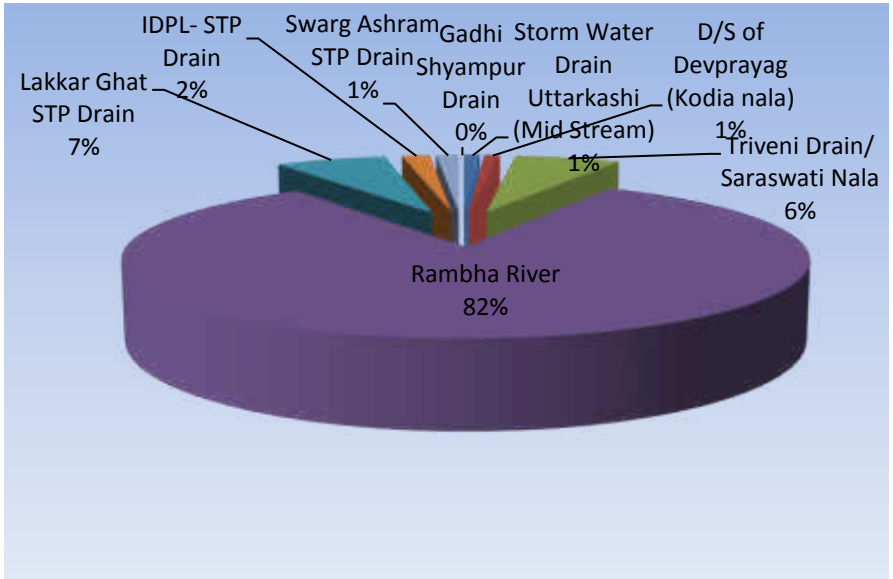


Figure 6.4: Flow details of drains loacted in Rishikesh

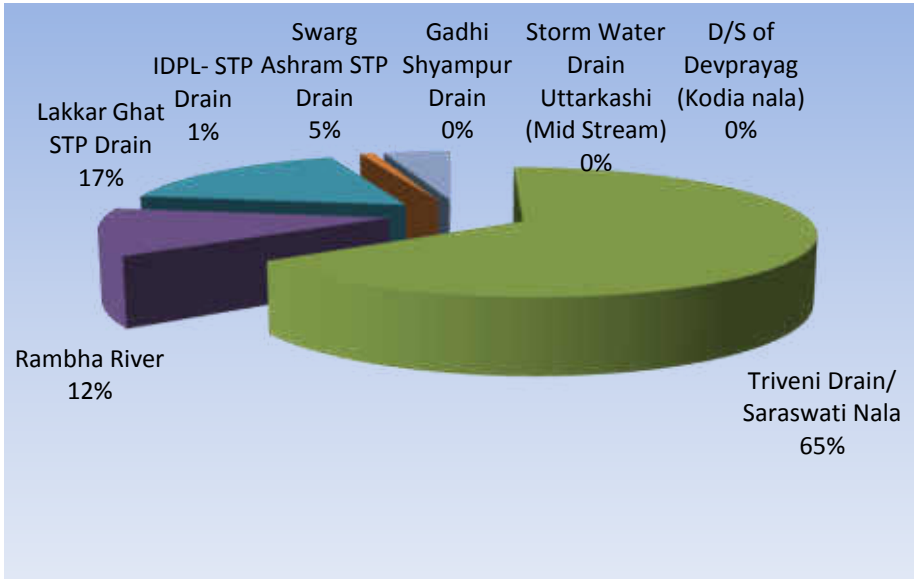


Figure 6.5: BOD load details of drains loacted in Rishikesh

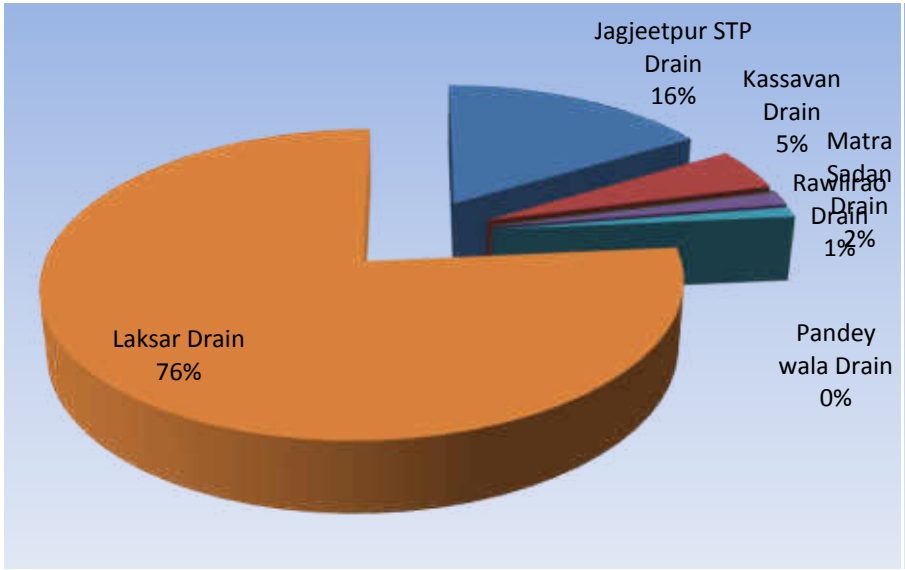


Figure 6.6: Flow details of drains located in Hardwar and Laksar

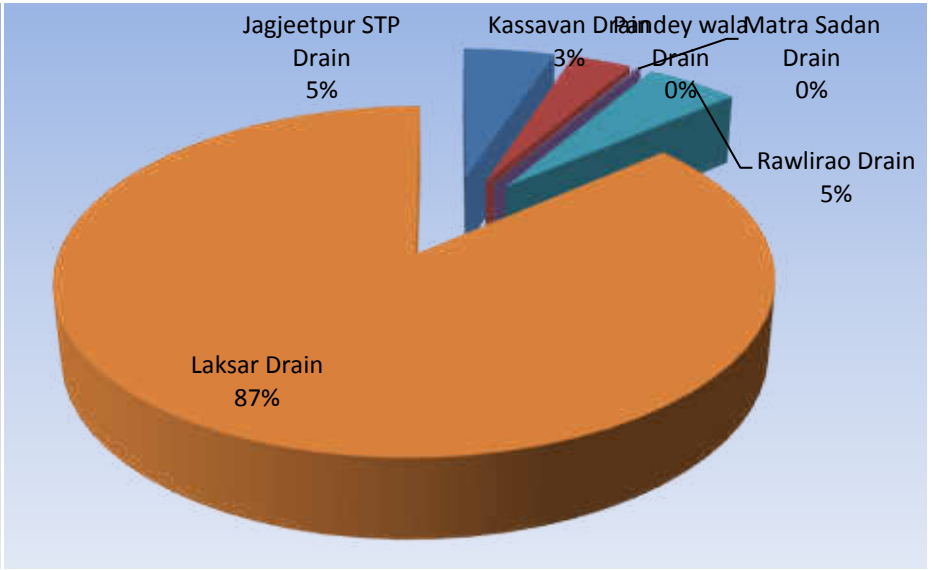


Figure 6.7: BOD load drains located in Hardwar and Laksar

6.1.2 Uttar Pradesh – Drains discharging their wastewater to river Ganga

3289 MLD of wastewater is discharged into river Ganga from different cities like Bijnor, Garh, Gajrola, Babrala, Kannauj, Kanpur, Allahabad and Varanasi. Total 45 nos. of drains were identified.

In Uttar Pradesh, River Ganga is divided into two segment namely, Upper Ganga region (Sukratal to Anupshar) and Kanpur-Varanasi region.

6.1.2.1 Upper Ganga Region (Sukratal to Anupshar)

In Upper Ganga Region (Sukratal to Anupshar), 270 MLD of flow was measured and 12 point sources were identified. Analytical results and flow details of point sources are mentioned in table 6.2. Schematic flow diagram showing point sources of river Ganga in Uttrakhand region depicted in figure 6.8.

Table 6.2: Analytical results of point sources for Upper Ganga region in Uttar Pradesh

S.N.	Catchment area	Point Sources	Flow (MLD)	Parameters						BOD load Kg/Day
				pH	COD	BOD	TSS	TDS	Cl^-	
1.	**Sukratal**	Banganga River (at confluence with river Ganga)	-	8.04	09	03	-	-	-	-
2.	**Bijnor**	Hemraj Drain	-	7.43	16	05	36	1434	15	-
3.		Bijnor Sewage Drian	7.6	7.32	221	58	167	796	93	440.8
4.		Malan River (at confluence with river Ganga)	16.5	9.16	22	05	99	358	12	82.5
5.		Chhoiya Drain (at conf. with river Ganga)	124	8.07	407	130	126	1132	81	16120
Sub-Total			**148.1**							**16643.3**
6.	**Gajrola and Babrala**	Bagad River	1.8	9.12	435	196	252	14590	379	352.8
7.	**Garh**	Garh Drain	14	9.18	35	16	63	1226	13	224
8.		Fuldehra Drain (at confluence with river Ganga)	32	7.78	724	109	38	-	108	3488
Sub-Total			**46**							**3712**
9.	**Badaun**	Badaun Sewage Drain	29.9	7.93	134	46	108	-	172	1375.4
10.		Sot River	42	7.93	103	23	20	-	172	966

S.N.	Catchment area	Point Sources	Flow (MLD)	Parameters						BOD load Kg/Day
				pH	COD	BOD	TSS	TDS	Cl^-	
Sub-Total			**71.9**							**2341.4**
11.	**Anupshar**	Anupsahar STP Drain-1	0.85	8.89	98	15	11	-	107	9.35
12.		Anupsahar STP Drain-2	1.75	8.46	191	28	69	-	101	49
Sub-Total			**2.6**							**58.35**
Total			**270.4**							**23107.85**
Note: *All the concentration is expressed in mg/l except of pH.*										

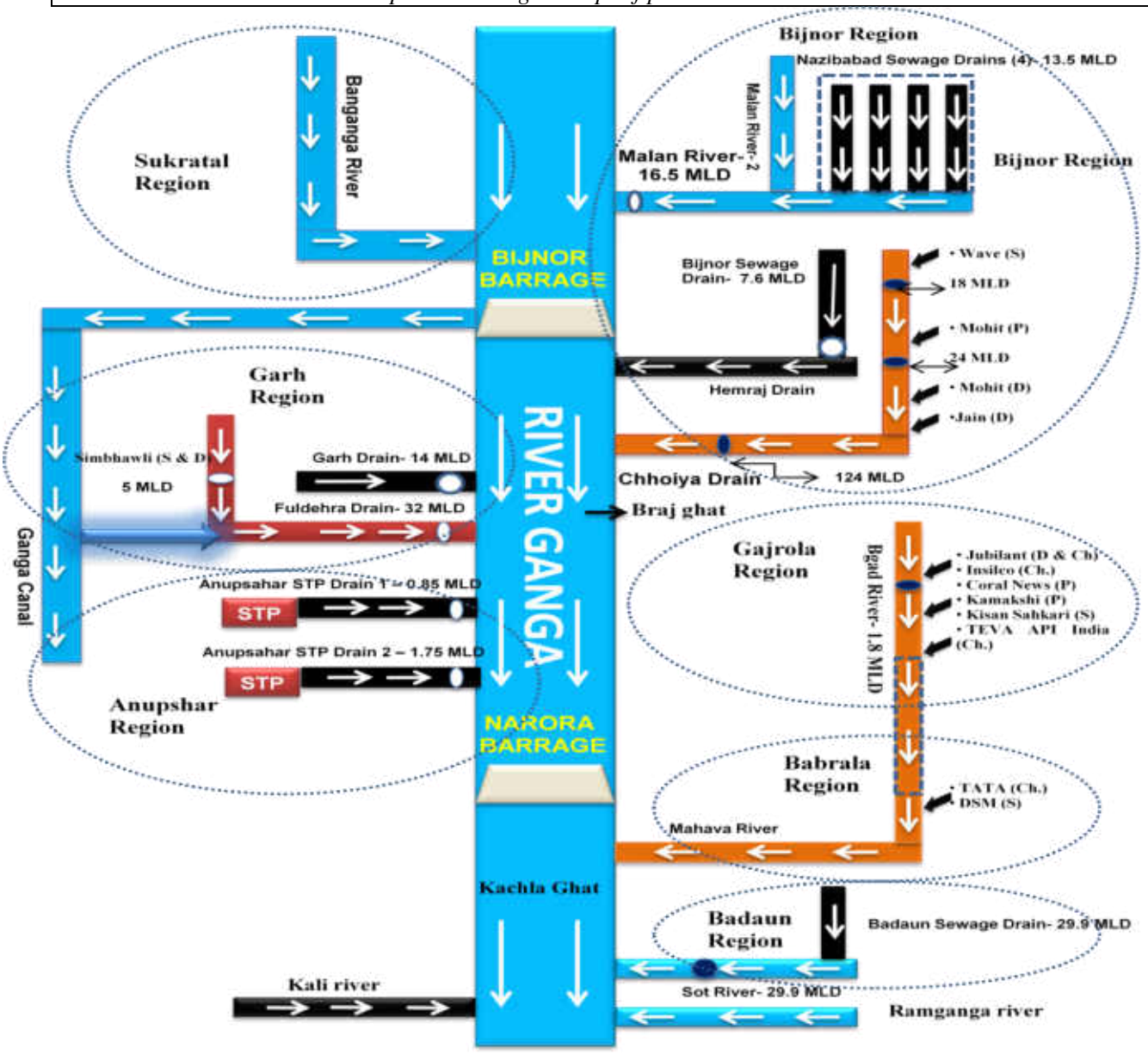


Figure 8.8: Schematic flow diagram of river Ganga showing point sources from Shukratal to Kannauj

Close examination to table 6.2 and figure 6.8 reveals following observations:

- 12 drains were identified from Sukratal to Baduan region with total wastewater flow of 270 MLD with BOD load of 23107 kg/day.
- Seven sub regions namely Sukratal, Bijnor, Gajrola, Babrala, Garh, Baduan and Anupshar were identified. Figure 6.9 and 6.10 shows flow and BOD load distribution of Upper Ganga region
- **Bijnor** discharges24 MLD of wastewater (17%) whereas BOD load was 523 kg/day (7%). **In Bijnor,** 04 point sources were identified namely Hemraj Drain, Bijnor Sewage Drain, Chhoiyad rain and Malan River. Malan river carries sewage of Nazibabad and merges with river Ganga. 16.5 MLD of flow was observed with BOD load of 115 kg/day. Figure 6.11 and 6.12 depicts flow and BOD load distribution of Bijnor.
    - Chhoiya drain carries wastewater of Wave Sugar mill, Mohit Paper mills, Jain Distillery and Mohit Distillery. Flow of Chhoiya drain was estimated to be 124 MLD i.e 84 % whereas BOD load was 16120 kg/day i.e 97 %.

Picture 26: River Bagad/Mahava at Baduan

Picture 27: Chhoiya drain at Bijnore

Picture 28: Malan river at Nazibabad (Bijnore)

- **Garh region** contributes 46 MLD of waste water i.e 31 % whereas BOD load is 3712 kg/day. In Garh catchment, two drains namely Garh drain & Fuldhera drain carries industrial and domestic wastewater to river Ganga. Figure 6.13 and 6.14 shows flow and BOD load distribution of Garh, Gajrola and Babrola.

- Industrial wastewater of Simbhawli (Sugar & Distilleries) was discharged through through Fuldehra drain. 14 MLD of flow was observed at Garh drain whereas Fuldhera drain carries 32 MLD of wastewater i.e. 67 % and BOD load was3488 kg/day (87 %).

Picture 29: Fuldhera drain at Garh-Simbhawli region

Picture 30: Fuldhera drain at confluence point of river Ganga

- **Badaun region** contributes 71.9 MLD of wastewater i.e 49 % whereas BOD load was 2341 kg/day viz. 34 %. In Baduan, Sot River and Badaun sewage drain are the major point source. Figure 6.15 and 6.16 shows flow and BOD load distribution of Badaun and Anupshar region.
- Anupshar contributes 2.6 MLD of wastewater i.e 2% whereas BOD load was 58.35 kg/day (1%).

Picture 31: Image of Baduan drain

This clearly indicates that chhoiya drain needs immediate attention.

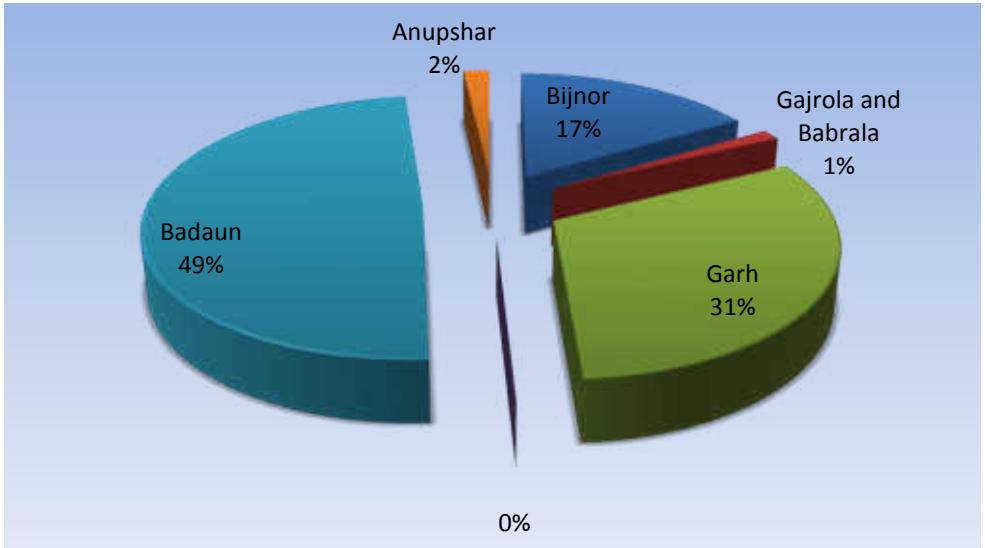


Figure 6.9: Pie-chart showing flow distribution of regions/catcment in Upper Ganga region

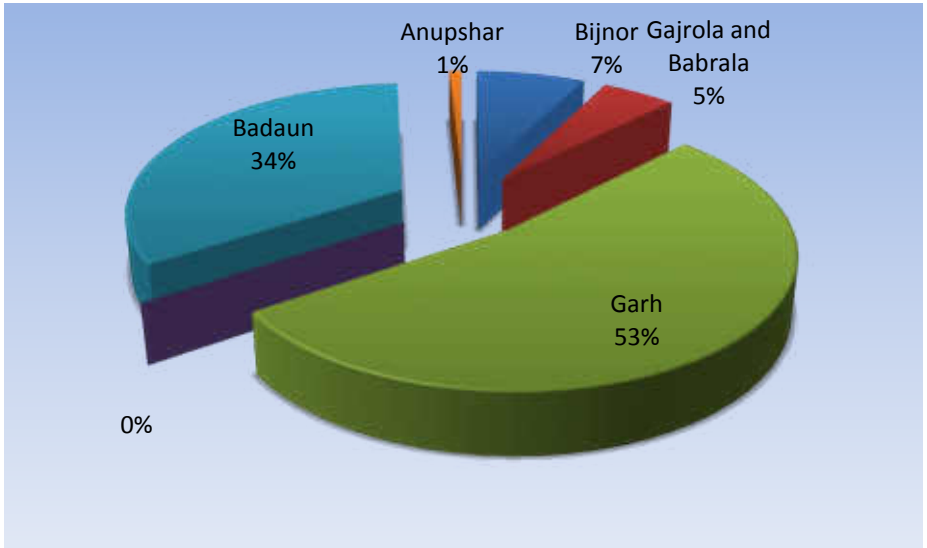


Figure 6.10: Pie-chart showing BOD load distribution of distribution of regions/catcment in Upper Ganga region

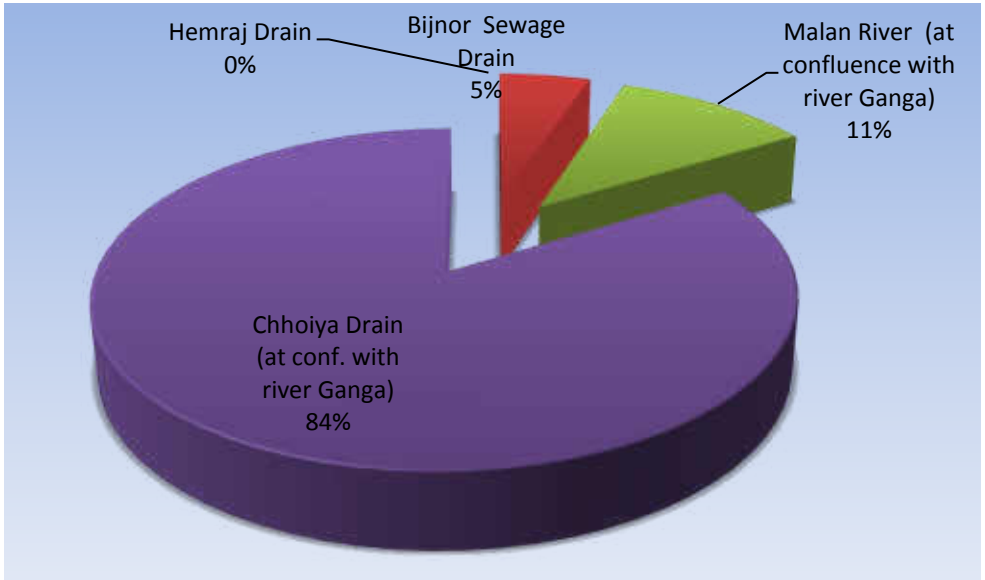


Figure 6.11: Pie chart showing flow distribution of drains located in Bijnor region

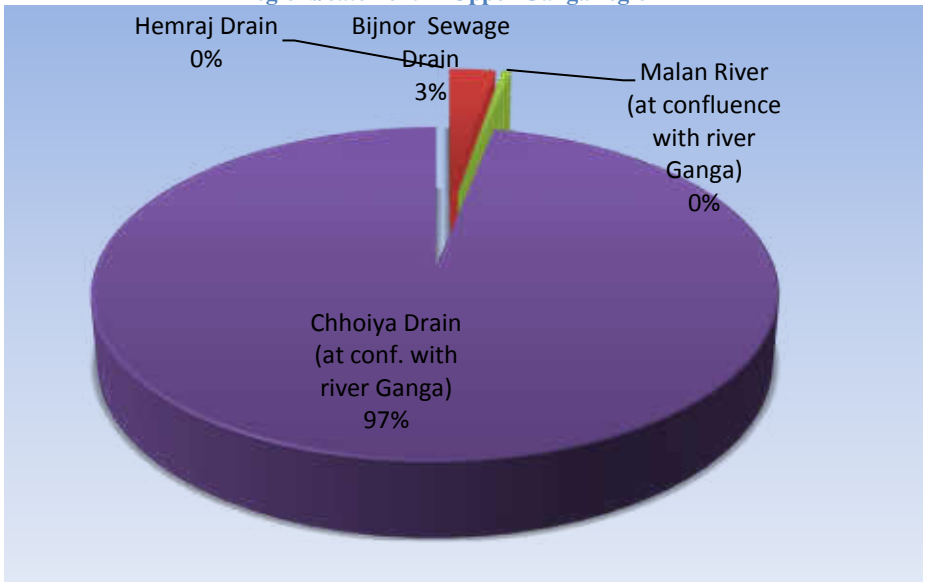


Figure 6.12: Pie-chart showing BOD load distribution of drains located in Bijnor region

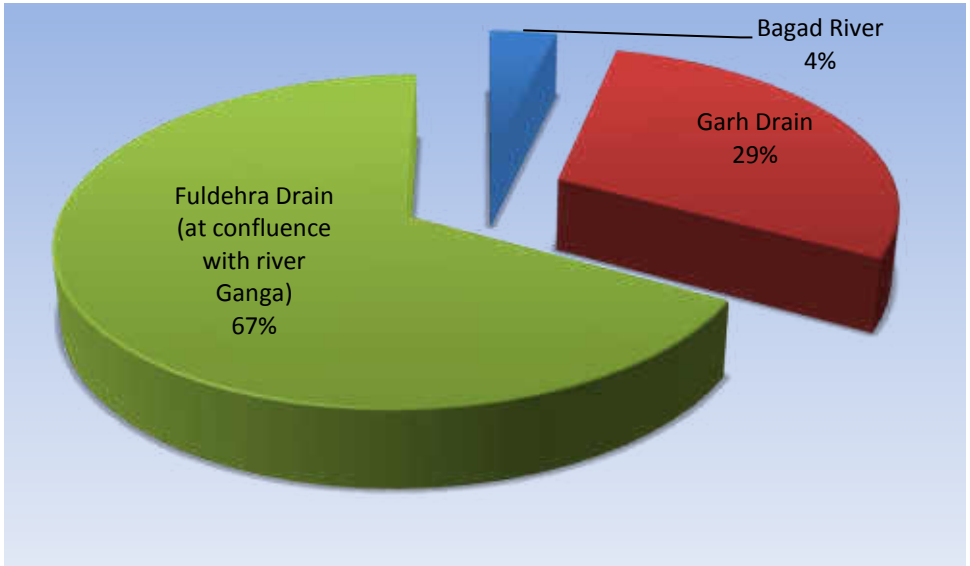


Figure 6.13: Pie chart showing flow distribution of Gajrola, Babrala and Garh region

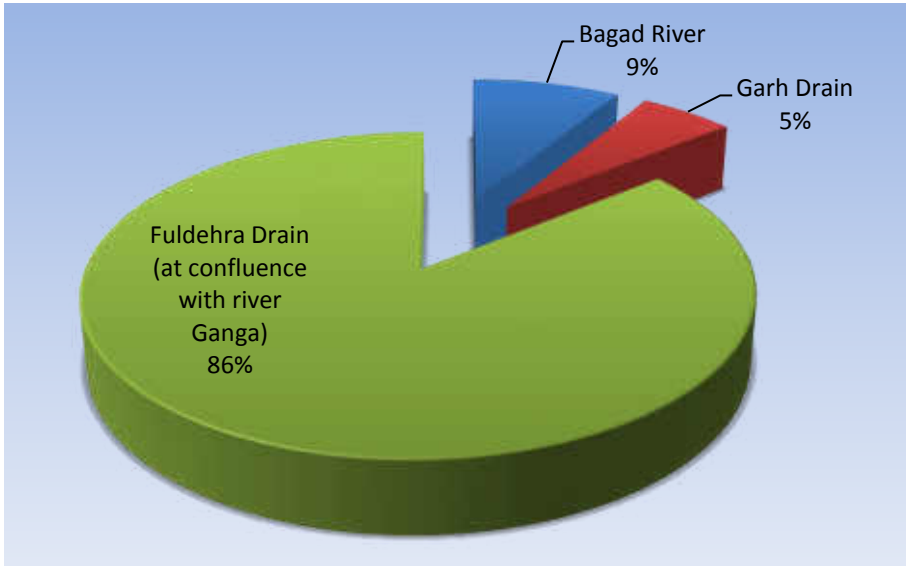


Figure 6.14: Pie chart showing BOD load distribution of Gajrola, Babrala and Garh region

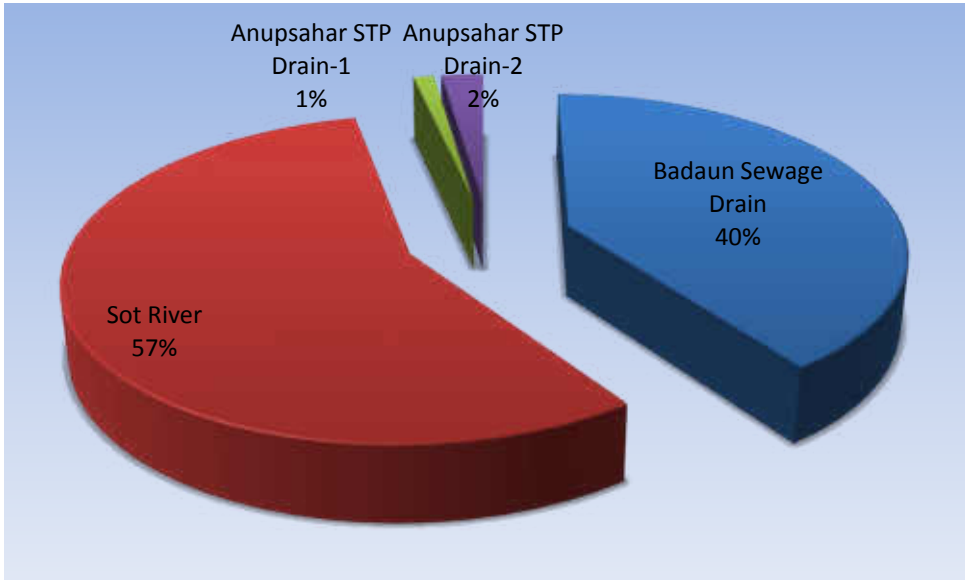


Figure 6.15: Pie chart showing flow distribution of Badaun and Anupshar region

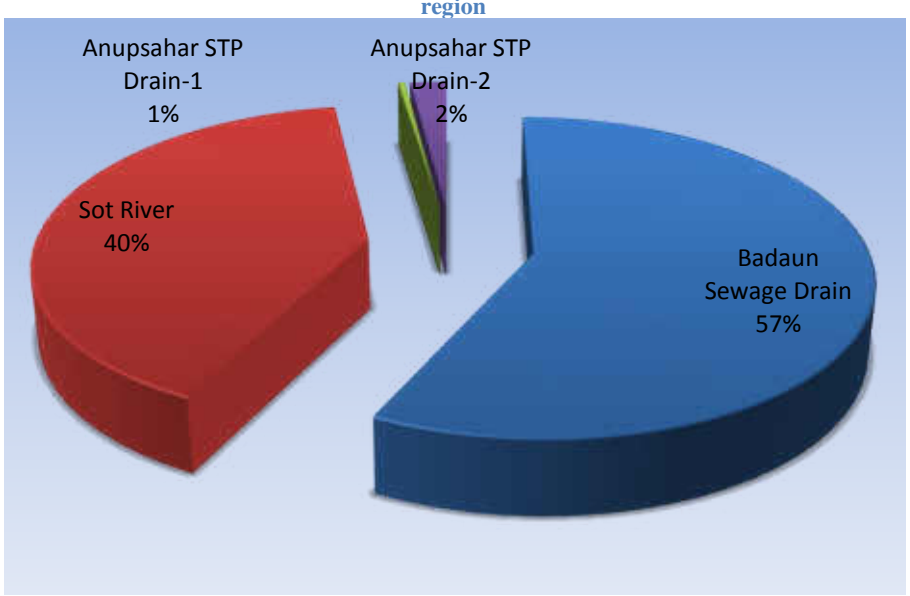


Figure 6.16: Pie chart showing BOD load distribution of Badaun and Anupshar region

6.1.2.2 Kanpur-Varanasi Region

In Kanpur-Varanasi region, 3019 MLD of flow was measured and 33 point sources were identified. Analytical results and flow details of point sources are mentioned in table 6.3. Schematic flow diagram showing point sources of river Ganga in Uttrakhand region depicted in figure 6.17

Table 6.3: Analytical results of point sources for Ganga region in Uttar Pradesh (Kanpur-Varanasi)

SL. No.	Catchment region	Point Source	Flow (MLD)	Parameters					BOD Load (kg/day)
				pH	COD	BOD	TSS	TDS	
1.	Kanpur	Dabka Nalla-1 (Kachha nala)	94	7.16	543	168	86	1540	15792
2.		Dabka Nalla-2 (Pakka nala)	25	8.71	484	139	230	648	3475
3.		Dabka Nalla-3 (Pakka nala)	0.26	8.81	43	39	789	1132	10
4.		Shetla Bazar (Kachha nala)	29	9.64	1,793	424	257	5076	12296
5.		Wazidpur Nalla	54	9.3	2,491	843	923	-	45522
6.		Satti Chaura	1.1	7.54	189	88	608	797	97
7.		Golaghat Nala	0.83	7.48	236	137	315	1,111	114
8.		Bhagwatdas Nala	11	7.42	209	104	218	850	1144
9.		Sisamau Nala	197	7.81	7,478	2,930	327	644	544980
10.		Permiya Nala	186	7.44	93.5	58.3	156.5	523	11485
Sub-Total			**598.19**						**634915**
11.	Unnao	Loni Drain	41.9	7.99	324	116	225	4092	4,860
12.		City Jail Drain	35.86	7.71	642	201	356	4985	7,208
Sub-Total			**77.76**						**12068**
13.	Fatehpur to Raibareilly	Pandu River	1,396	7.76	56.3	25	32.6	641	34,900
14.		Seepage	*	8.21	10.8	BDL	1157	321.2	-----
15.		Arihari Drain	34.25	8.47	16.2	3.7	10.4	370.8	127
16.		NTPC drain	60.29	8.16	86.6	18.6	469	469.6	1,121
Sub-Total			**1491**						**36148**
17.	Allahabad	Rasulabad-1 (Pakka nala)	29.8	7.99	1362	680	1,858	5,132	20,264

SL. No.	Catchment region	Point Source	Flow (MLD)	Parameters					BOD Load (kg/day)
				pH	COD	BOD	TSS	TDS	
18.		**Rasulabad-2 (Pakka nala)**	20.2	7.96	587	280	550	707	5,656
19.		**Rasulabad-3 (kachha nala)**	14.2	8.03	192	93	108	587	1,320
20.		**Rasulabad-4 (Kachha nala)**	48.5	8.12	88.5	49	176	571	2,376
21.		**Nehru Drain**	7	8.10	17.3	8.65	21	637	61
22.		**Kodar Drain**	20	7.63	148	52.4	219	734	1,040
23.		**Pongaghat Drain**	8	7.8	96.9	20.1	67	678	161
24.		**Solari Drain**	34.8	8.02	105.8	31.6	121	770	1,087
25.		**Maviya Drain**	65	7.31	104	52	182	523	3,380
26.		**Mugalaha Drain**	46	7.68	33.9	13.2	15	284	598
Sub-Total			**293.5**						**35943**
27.	**Mirzapur**	**Ghore Saheed drain**	86.4	--	110	47.7	118	---	4121
28.		**Khandwa drain**	62.21	--	252	86	199	---	5350
Sub-Total			**148.61**						**9471**
29.	**Varanasi**	**Rajghat drain**	16.19	7.28	100	49.9	81.8	454	808
30.		**Nagwa drain**	66.45	7.46	156	61.1	106.42	608.42	4,060
31.		**Ramnagar drain**	23.65	6.65	144	40.7	110.86	703.66	963
32.		**Varuna drain**	304.5	7.31	46.2	12.4	433.8	552.4	3,776
33.		**Shivala Drain**	*	7.32	100	49.9	81.8	454	------
Sub-Total			**410.79**						**9607**
Total			**3019.39**						**738152**
Note: ***All the concentration is expressed in mg/l except of pH.***									

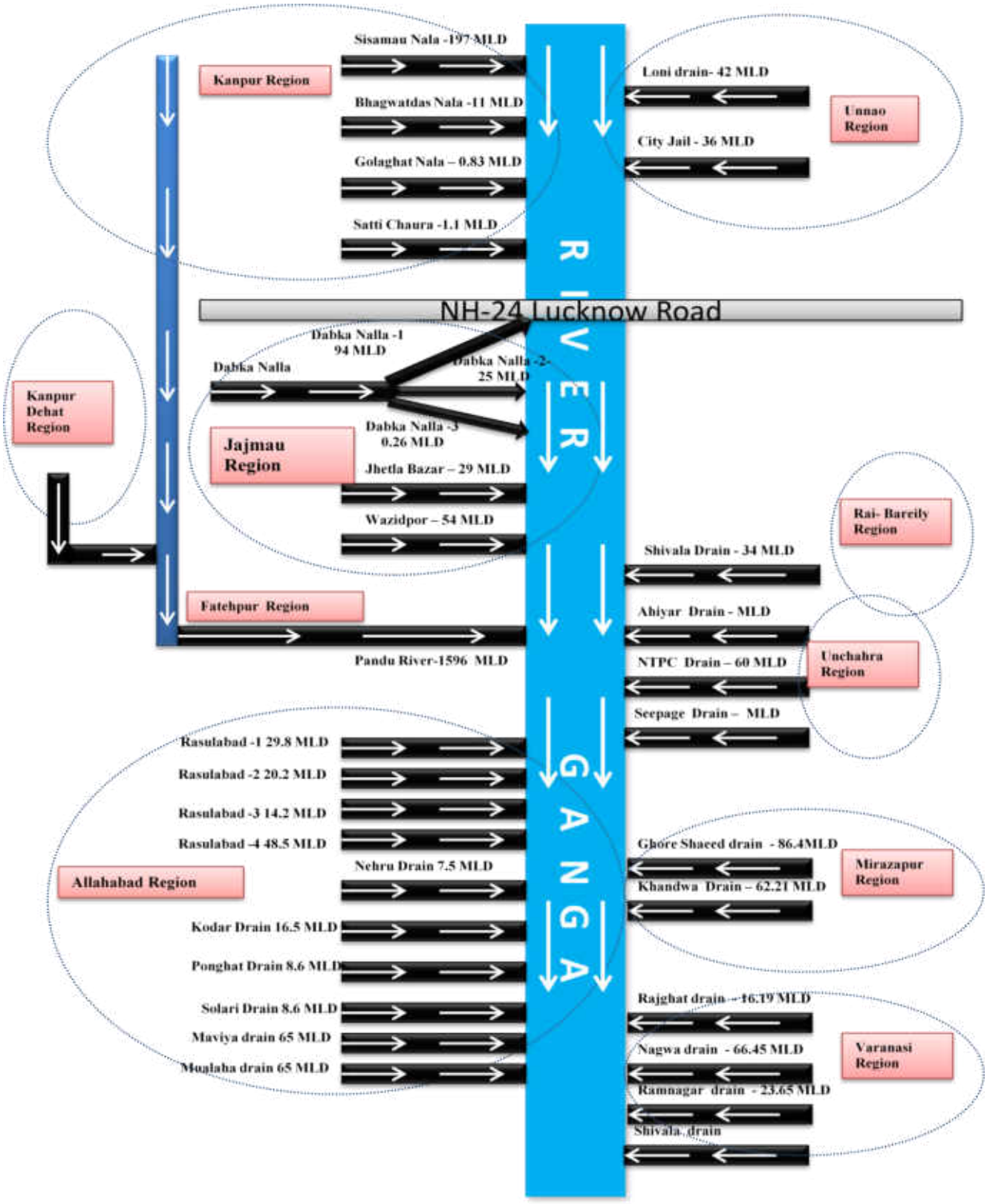


Figure 6.17: Schematic flow diagram of river Ganga showing point sources from Kanpur to Varanasi

Close examination to table 6.3 and figure 6.17 reveals following observations:

- Six sub region namely Kanpur, Unnao, Rai-Bareeilly, Allahabad, Mirazapur and Varanasi were identified discharging 3019 MLD of wastewater and BOD load of 738152 kg/day.
- Quanitity and load wise wastewater distribution shown in 6.18 and 6.19. Load wise contribution of Kanpur is highest.
- In Kanpur, 10 drains were identified contributing 598 MLD (20%) of wastewater with BOD load of 634915 kg/day (86%).

Picture 33: Image of Dabka Nallah

Picture 34: Sheetla bazar nallah

  - Sisamau Nala discharge 197 MLD of wastewater i.e 33 % whereas BOD load was 5,44,980 kg/day viz 86%.
  - Permiya Nala carries 31 % of waste water of Kanpur i.e 186 MLD whereas BOD load was 11485 viz 2%.
  - Dabka Nalla-1 and 2, Wazidpur Nalla also contributes major wastewater flow from Kanpur region.
  - Load and volume wise Sisamau Nala dominates (Figure 6.20 & Figure 6.21)
- In Unnao and Raibareilly, five drains were identified namely Loni drain and City jail drain in Unnao and Pandu river, Seepage rain, Arihari drain and NTPC drain in Raibareilly. Unnao discharges 77 MLD of waste water i.e 2% whereas Raibareilly discharges 1491 MLD of wastewater 49 %.
  - Pandu river carries 89 % of wastewater of Raibareilly and Unnao with BOD load of 34,900 kg/day i.e 73%.
  - NTPC drain also carries 60 MLD of wastewater with BOD load of 1121 kg/day viz. 2%. Percentage of BOD load of Loni drain (10 %) and city jail drain (15%) were on higher side.
  - Load and Volume wise Pandu river has shown the highest value (Figure 6.22 &6.23)

- 10 drains were identified in Allahabad discharging 293 MLD of wastewater i.e 10 % whereas BOD load was 35943 kg/day (2%).
    - With respect to flow, Maviya drain contributes 65 MLD (22 %) followed by Rasulabad – 4; 48.5 MLD (16%). (Fig 6.24)
    - BOD load of Rasulabad-1 was highest i.e 20,264 kg/day (56%) as compare to other drains.
- In Mirazapur and Varanasi, seven drains were identified and discharge 558 MLD of wastewater and BOD load of 19078 kg/day. With respect to flow, Mirazapur contributes 148 MLD (5%) with BOD load of 9471 kg/day (1%) whereas Varanasi discharges 410 MLD of 410 MLD of wastewater (14 %).
    - Varuna drain contributes 54 % of the wastewater of Mirzapur and Varanasi i.e 304 MLD whereas BOD load was 3776 kg/day (20%).
    - Khandwa drain contributes maximum BOD load 5350 kg/day viz. 28% of Mirzapur and Varanasi. Figure 6.26 and 6.27 shows flow and BOD load distribution of Mirazaour and Varanasi.

This summarises that Sisamu nallah at Kanpur, Pandu river, Rasulabad at Allahabad and Varuna/Khandwa drains at Varanasi need immediate attention to control pollution..

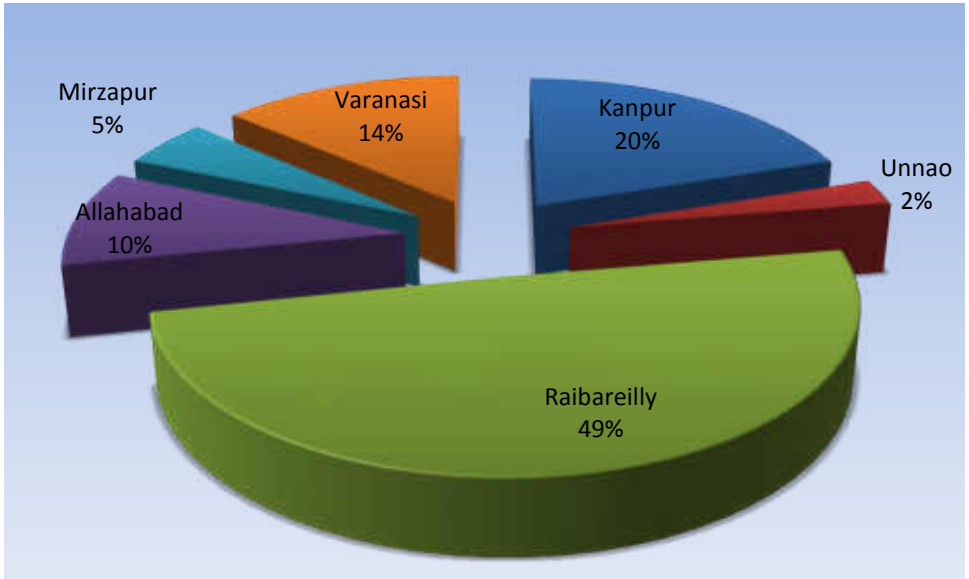


Figure 6.18: Pie-chart showing flow distribution of regions/catcment in Kanpur-Varanasiregion

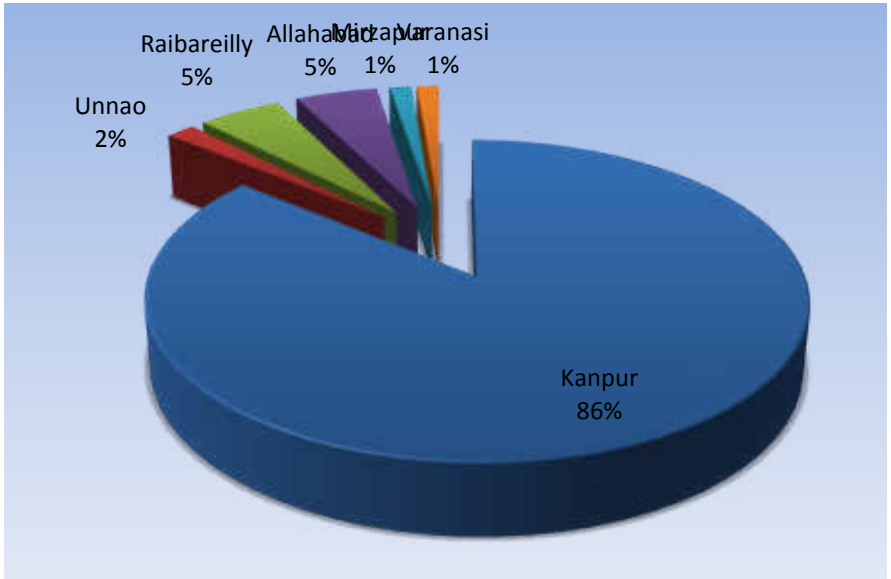


Figure 6.19: Pie-chart showing BOD load distribution of distribution of regions/catcment in Kanpur-Varanasiregion

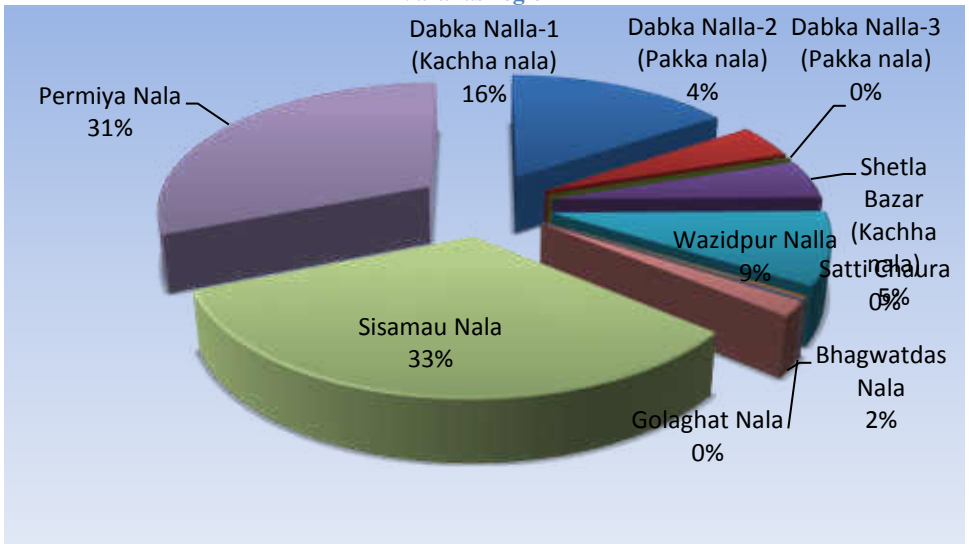


Figure 6.20: Pie chart showing flow distribution of drains located in Kanpur region

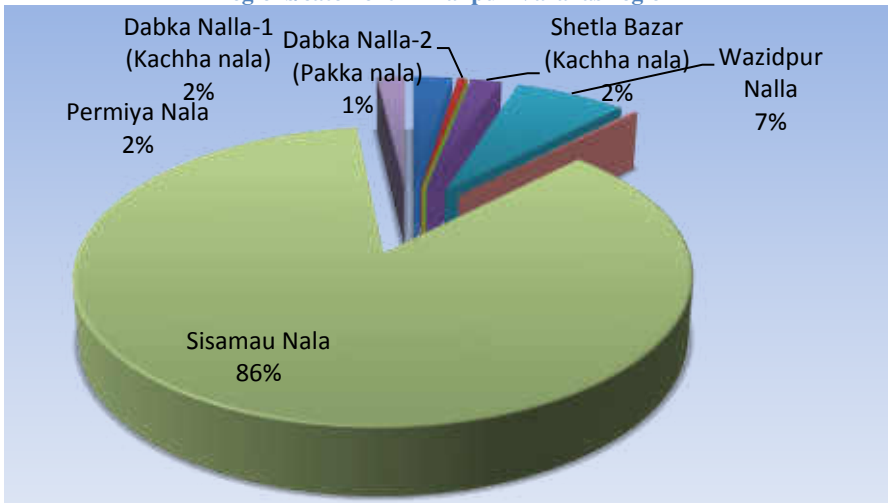


Figure 6.21: Pie-chart showing BOD load distribution of drains located in Kanpur region

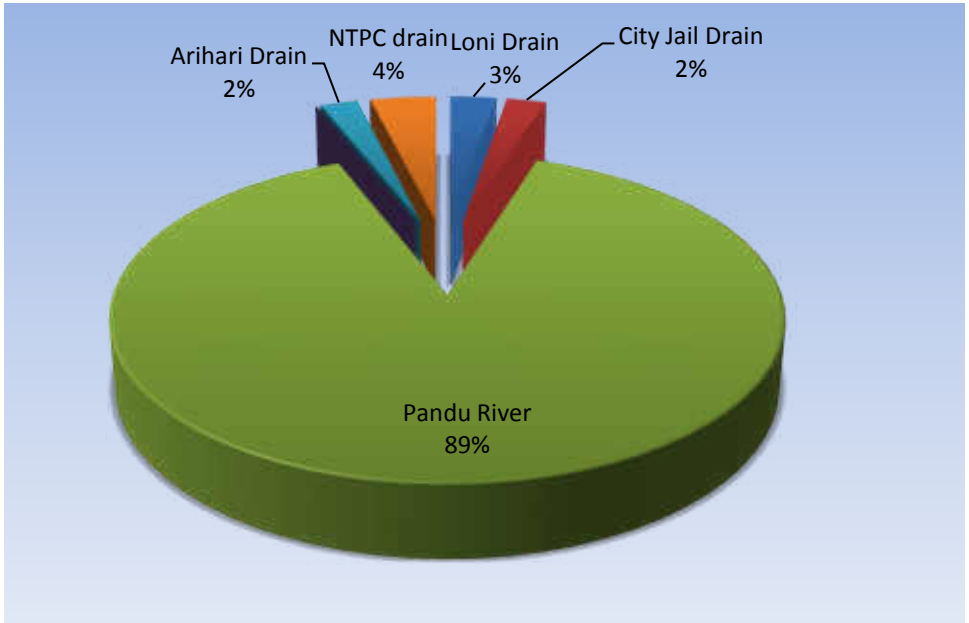


Figure 6.22: Pie chart showing flow distribution of Unnao and Rai Bareilly region

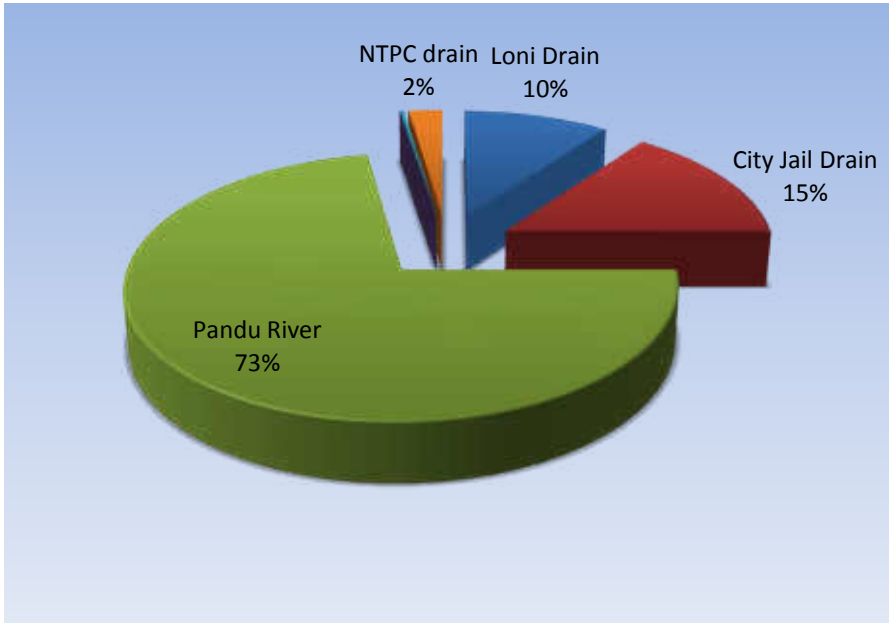


Figure 6.23: Pie chart showing BOD load distribution of Unnao and Rai Bareilly region

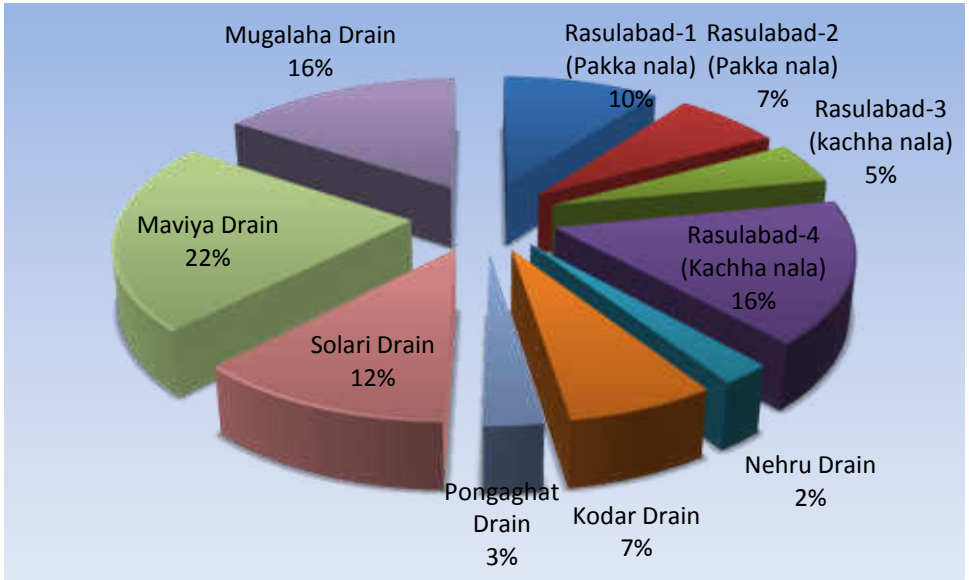


Figure 6.24: Pie chart showing flow distribution of Allahabad region

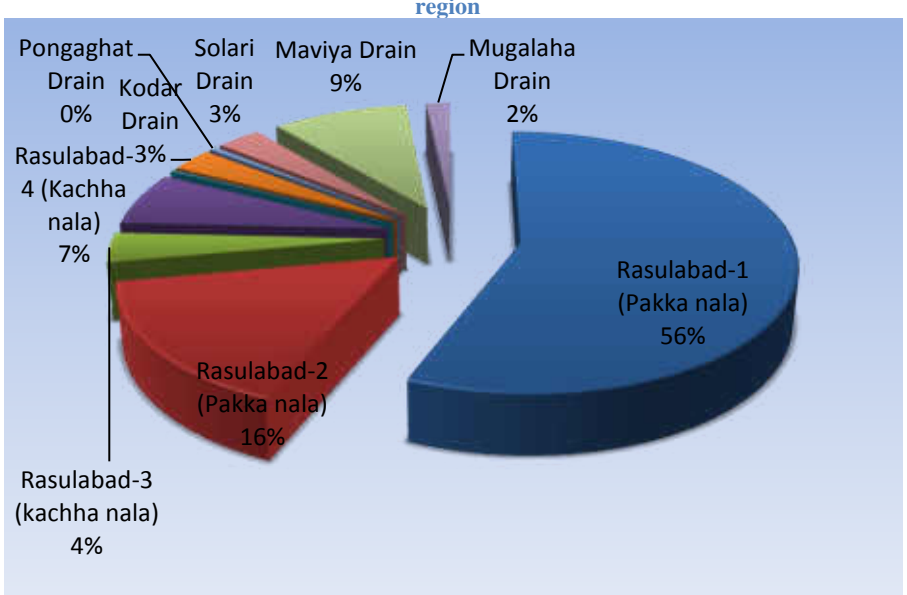


Figure 6.259: Pie chart showing BOD load distribution of Allahabad region

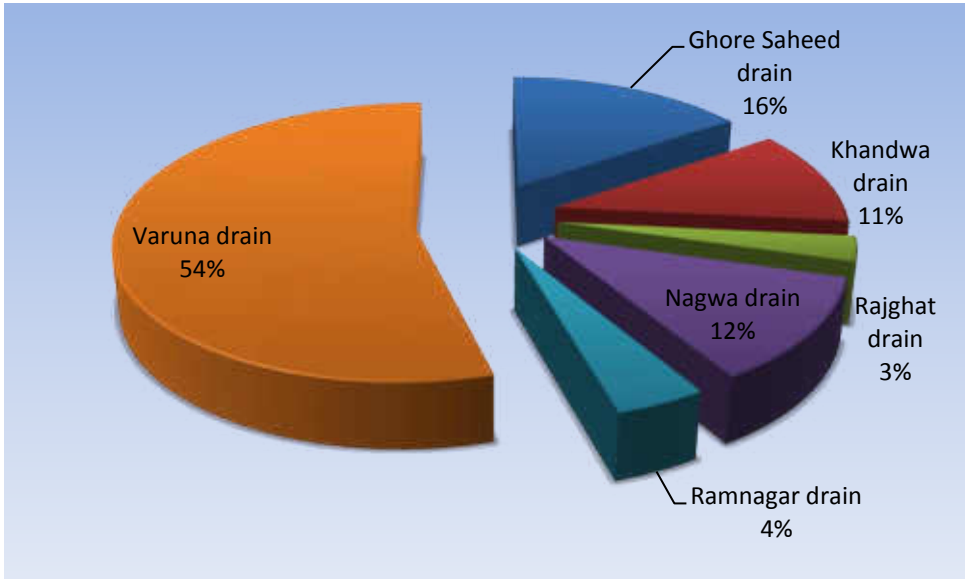


Figure 6.26: Pie chart showing flow distribution of Mirazapur and Varanasi region

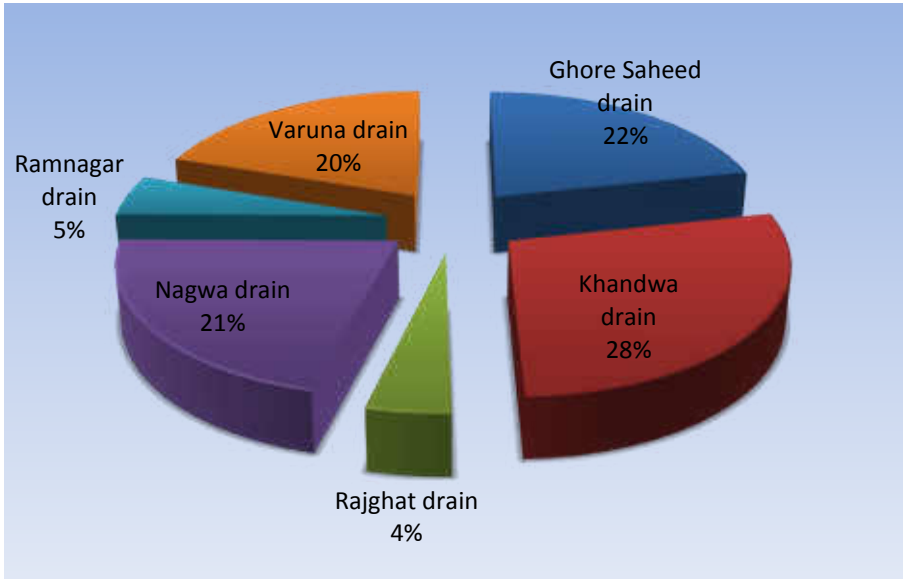


Figure 6.27: Pie chart showing BOD load distribution of Mirazapur and Varanasi region

6.1.3 Bihar- Drains discharging wastewater to river Ganga

In the state of Bihar 579 MLD of domestic and industrial wastewater is discharged to river Ganga through drains. Total 25 drains are identified which flow through Buxer, Patna, Munger, Bhagalpur and Kahalgaon. In Buxer city, 05 drains were identified which carry 34 MLD of wastewater. Patna city discharges 224 MLD of wastewater through 09 drains. Details of the drains are mentioned in table 6.4. Schematic flow diagram showing point sources of River Ganga in state of Bihar is depicted in figure 6.28.

Table 6.4: Details of drains -Bihar

S.No.	City	Drain	Flow (MLD)	BOD Load (Kg/Day)
1.	Buxer	Sidhharth Drain	7.5	997.28
2.		Sati Ghat Drain	7.7	1506.16
3.		Nath Baba Drain	5.2	303.54
4.		Tadka Drain	6.8	16.44
5.		Sariupur Drain	6.7	1583.14
Sub-Total			**33.9**	**4406.56**
6.	Patna	Danapur Cantt Drain	10.1	1988.6
7.		Digha Ghat Drain	9.6	1907.48
8.		Kurzi Drain	120.4	31926.8
9.		Rajapur Drain	40.7	7494.8
10.		Bansh Ghat Drain	6.6	1135.22
11.		Collectriate Ghat Drain	14.3	3998.66
12.		Mittan Ghat Drain	5.4	980.02
13.		Mahavir Drain	5.4	1078.46
14.		Badshahi Drain	21.4	4879.04
Sub-Total			**233.71**	**55389.1**
15.	Munger	ITC Drain	10.13	3289.4
16.		Lal Darwala Drain	8.5	2103.7
Sub-total			**18.63**	**5393.1**
17.	Bhagalpur	Jamunia Drain	82.61	17027.2
18.		Adampur Drain	11.75	2651.3

S.No.	City	Drain	Flow (MLD)	BOD Load (Kg/Day)
19.		Sarkikal Drain	6.62	1981.64
20.		Saklichand Drain	7.7	1479.24
21.		Hathiya Drain	11.8	2721.82
22.		Chama Drain	10.6	3072.7
23.		Barari Ghat Drain	9.7	2868.9
Sub-total			**140.7**	**31802.8**
24.	Kahalgaon	Kowa Drain	147.28	932.8
25.		KagziDrain	5.2	1582.16
Sub-total			**152.48**	**2514.96**
Total			**579.42**	**99506.5**

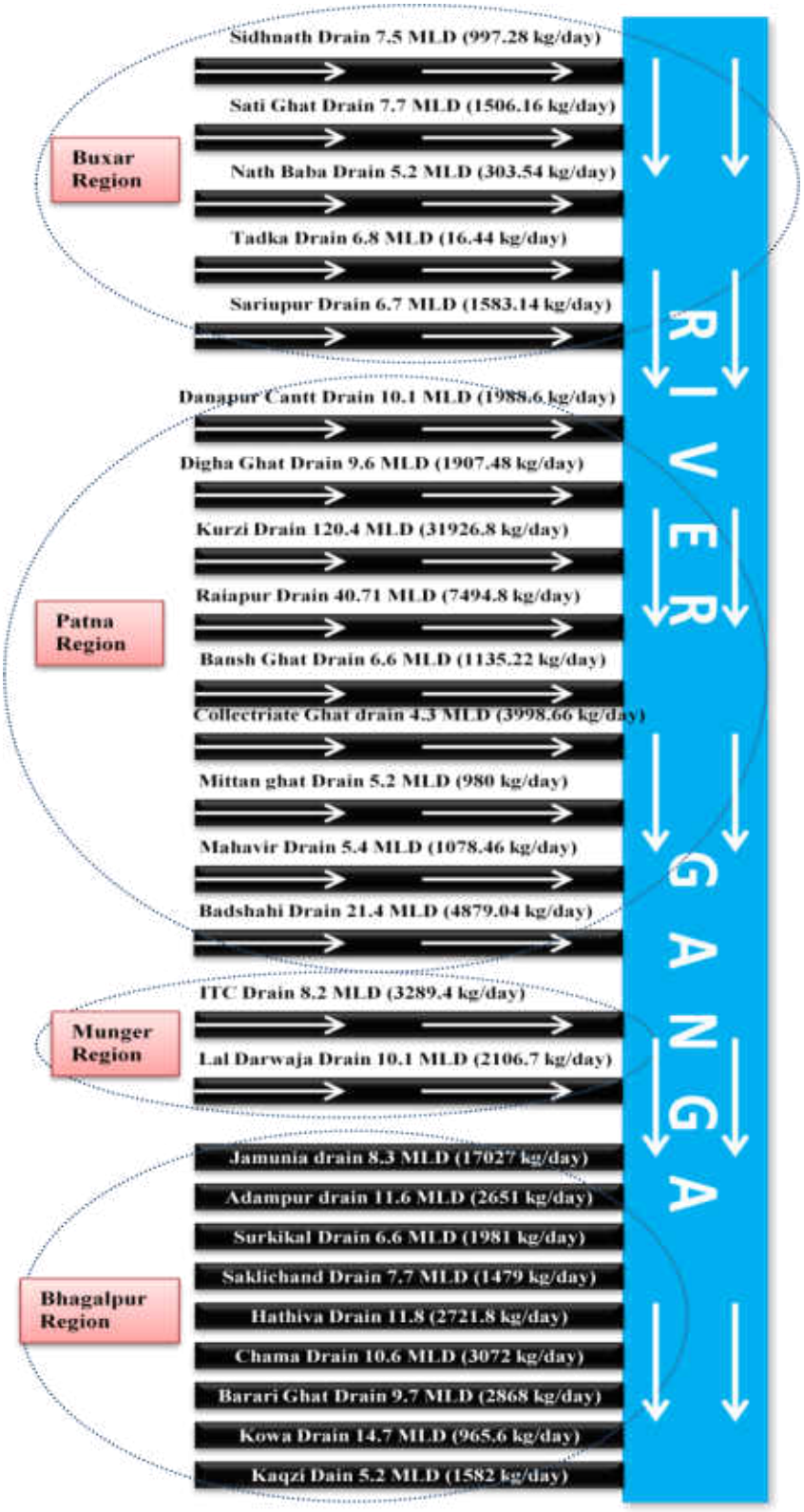


Figure 6.28: Schematic flow diagram showing point sources on river Ganga in the state of Bihar

Close examination to table 6.4 and figure 6.28 reveals following observations:

- 25 numbers of drains were identified having flow of 579 MLD with total BOD load of 99,506 kg/day. Figure 6.29 and 6.30 shows flow and BOD load distribution of Bihar
- 05 numbers of drains were identified in Buxer with total flow of 34 MLD and 4406 kg/day. Figure 6.31 and 6.32 shows flow and BOD load distribution of Buxer.
- Patna city carries 234 MLD of wastewater viz. 41 % of the total wastewater whereas BOD load was 55389 kg/day i.e 56%. Figure 6.33 and 6.34 shows flow and BOD load distribution of Patna.
    - In Patna city, 09 drains were identified and Kurzi drain discharge 120 MLD of wastewater i.e 52 % of total wastewater of Patna and BOD load was 58 % i.e 31926 kg/day.

Picture 35: Kurji Nala, Patna

Picture 36: Rajapur Nala, Patna

Picture 37: Collectriate Ghat Nala, Patna

- In Bhagalpur, Jamunia drain carries 82 MLD (59 %) of flow with BOD load of 17027 kg/day (53%). Figure 6.37 and 6.38 shows flow and BOD load distribution of Bhagalpur.
- 07 numbers of drains were identified in Bhagalpur. 140 MLD of flow was observed whereas BOD load was 31802 kg/day.
- In Khalgaon, 02 drains were identified namely Kowa drain (147.28 MLD) and Kagzi drain (5.2 MLD). BOD load of Kowa drain (932 kg/day) was less as compared to Kagzi drain (2541 kg/day). Figure 6.39 and 6.40 shows flow and BOD load distribution of Khalgaon.

Picture 38: Hathiya Nala, Bhagalpur

Picture 39: Kagzi Nala, Khalgaon

- There are two drains at Munger, volumewise Lal darwaja drain is higher that ITC, but load wise ITC drain dominates.
- At Bauxer, the contribution of drains is more or less evenly distributed.

It is observed from the figures that the contribution from the city of Patna is prominent both in terms of volume and pollution load.

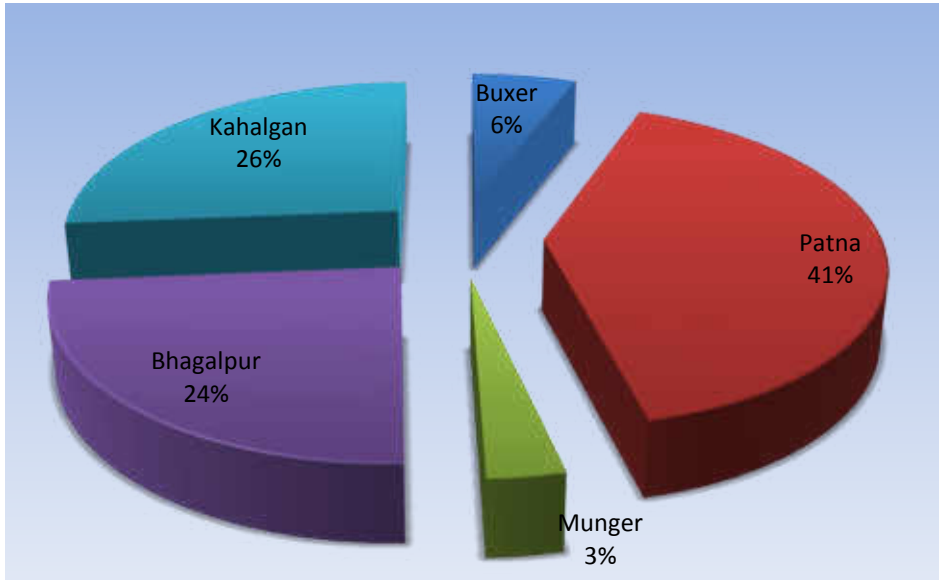


Figure6.29: Pie-chart showing flow distribution of drains region-wise

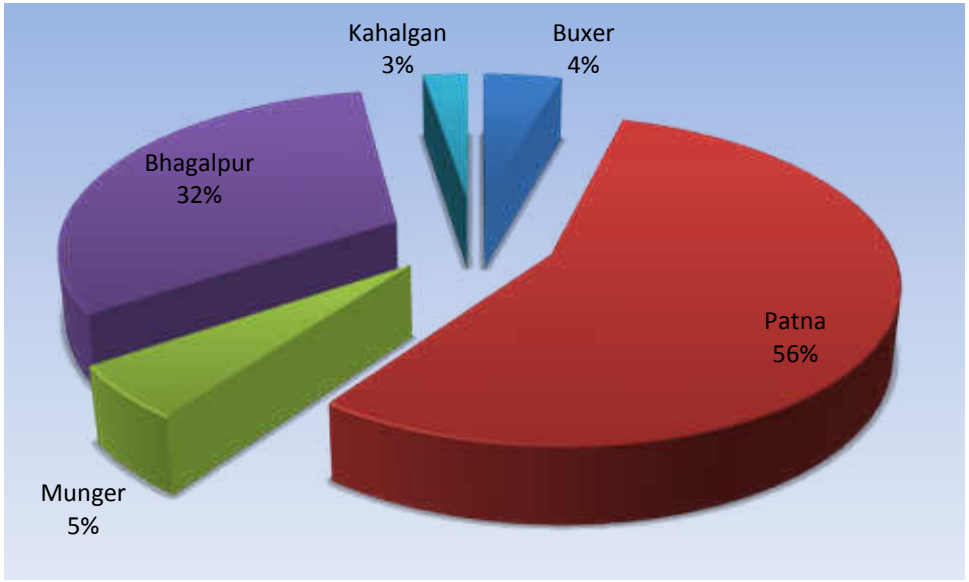


Figure 6.30: Pie-chart showing BOD load distribution of drains region-wise

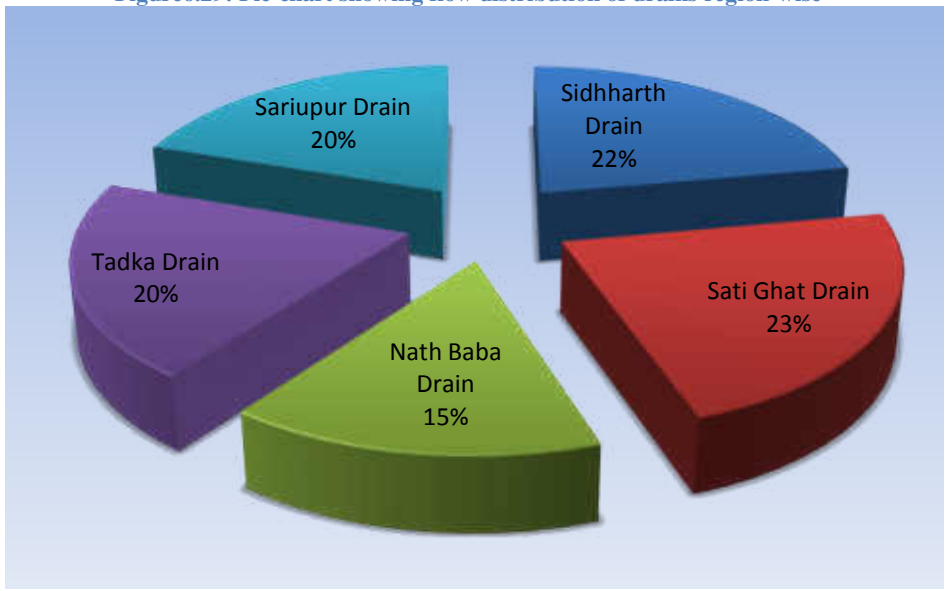


Figure 6.31: Pie-chart showing flow distribution of drains in Buxar catchment

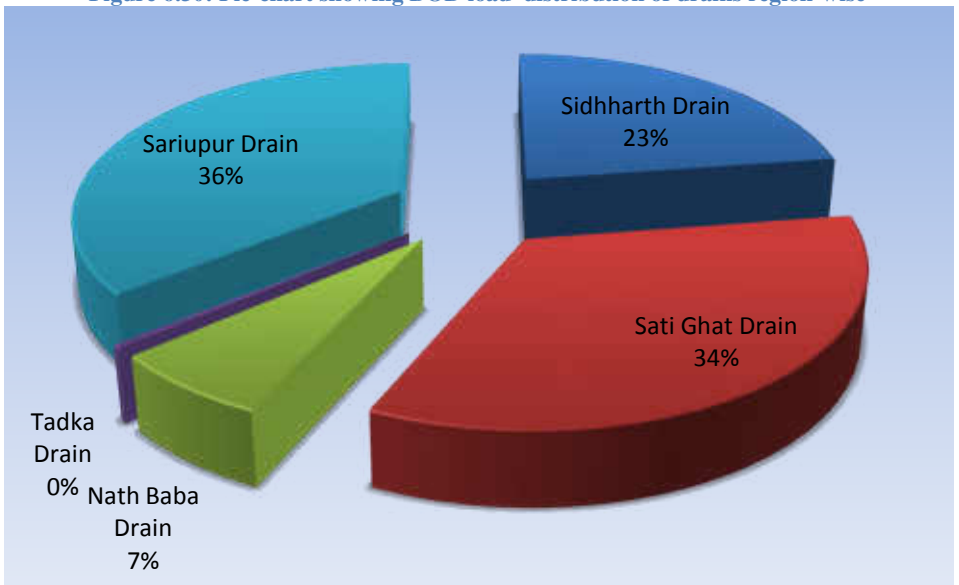


Figure 6.32: Pie-chart showing BOD load of distribution of drains in Buxar Catchment

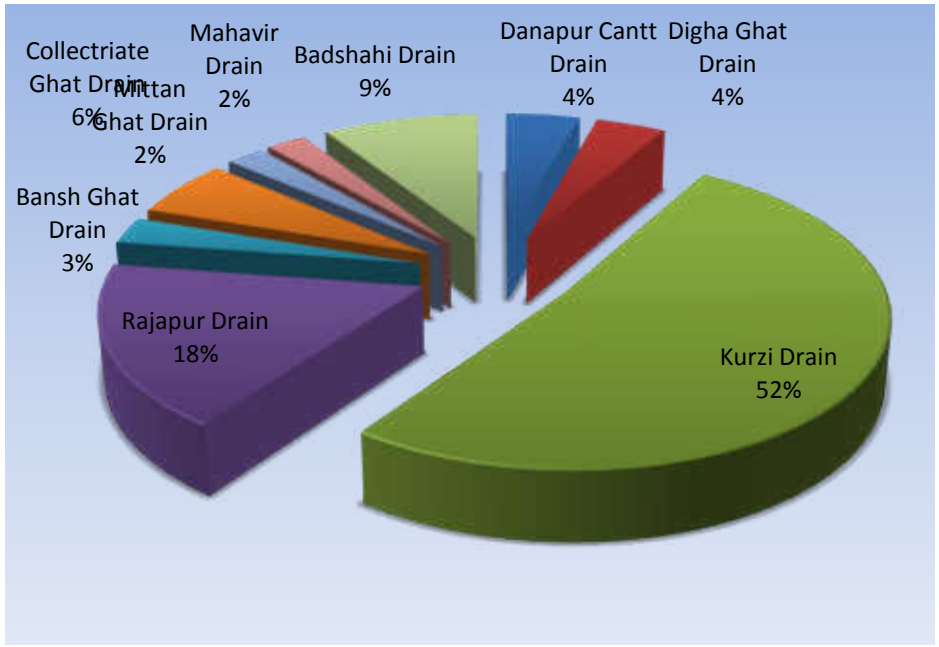


Figure 6.33 Pie-chart showing flow distribution of drains in Patna catchment

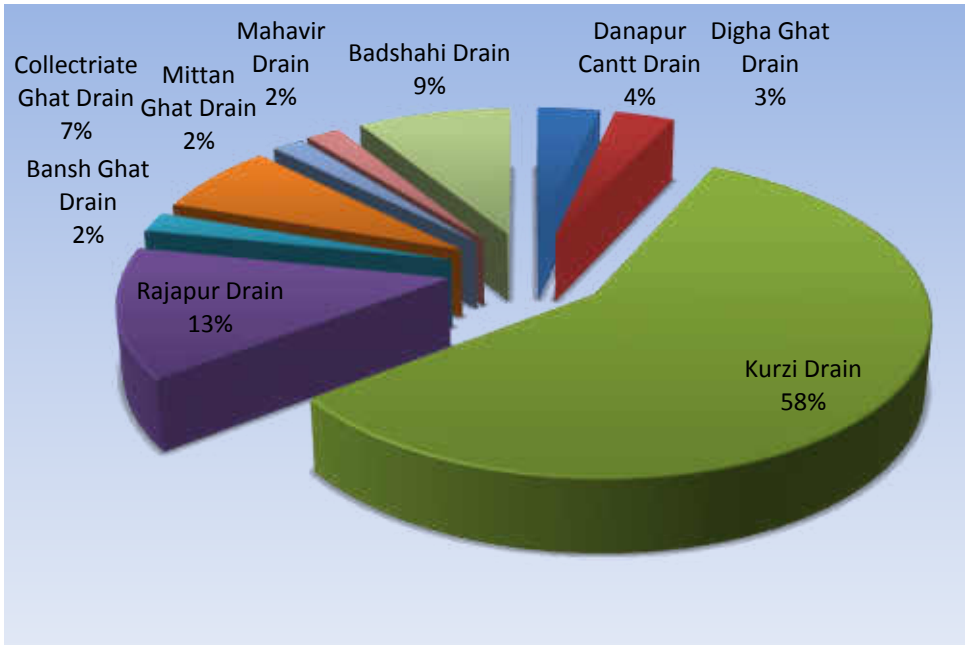


Figure 6.34: Pie-chart showing BOD load of distribution of drains in Patna catchment

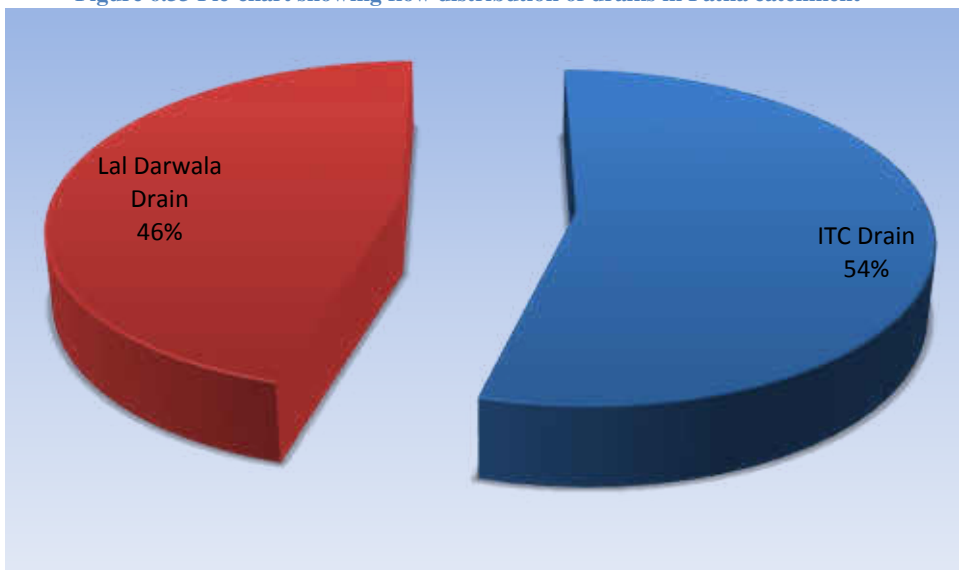


Figure 6.35: Pie-chart showing flow distribution drains in Munger catchment

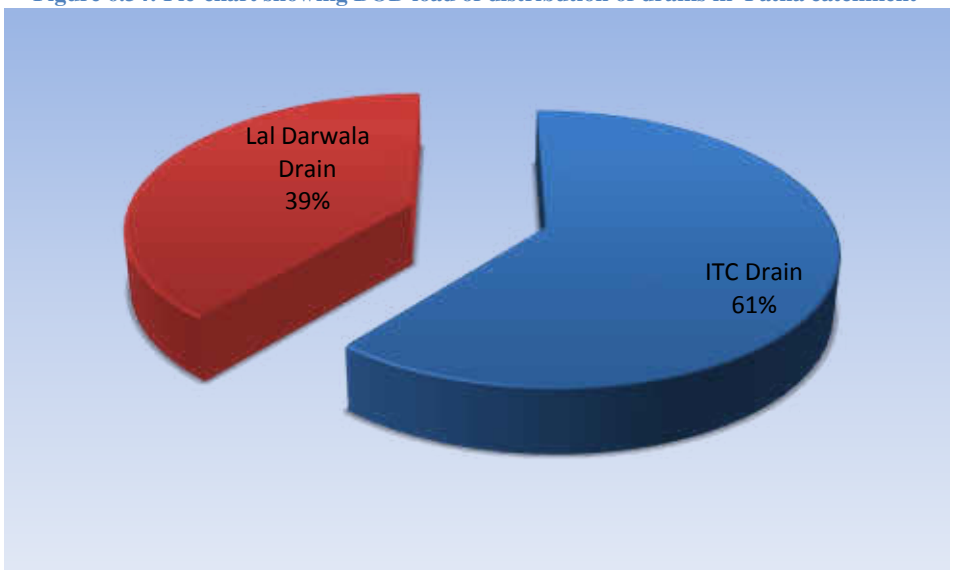


Figure 6.36: Pie-chart showing BOD load of distribution of drains in Munger catchment

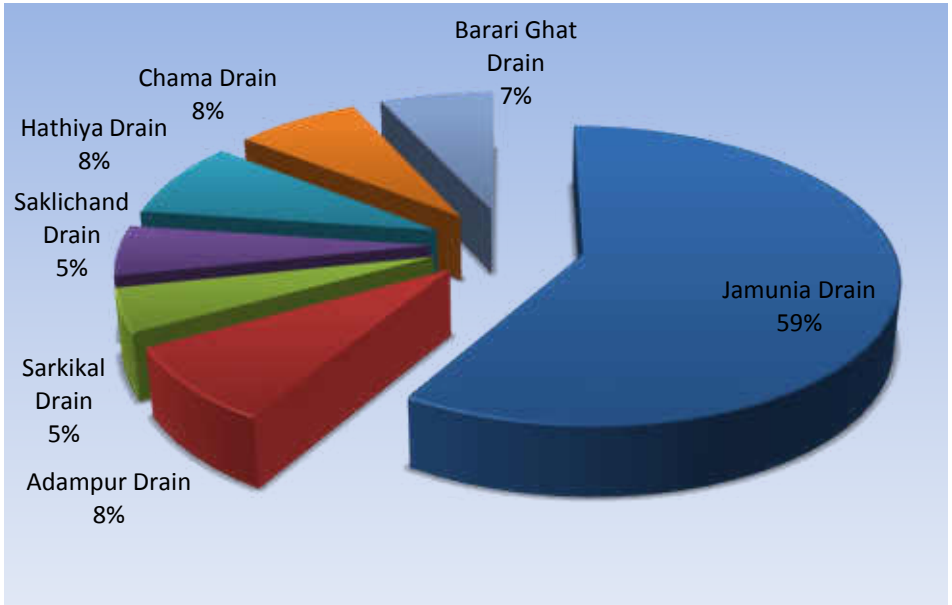


Figure 6.37: Flow details of drains in Bhagalpur catchment

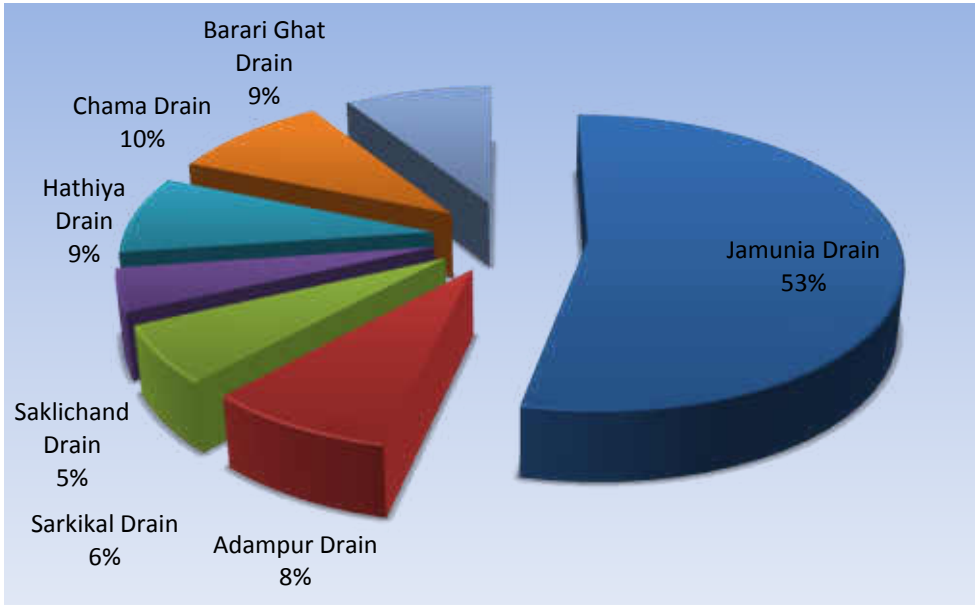


Figure 6.38: BOD load details of drains in Bhagalpur catchment

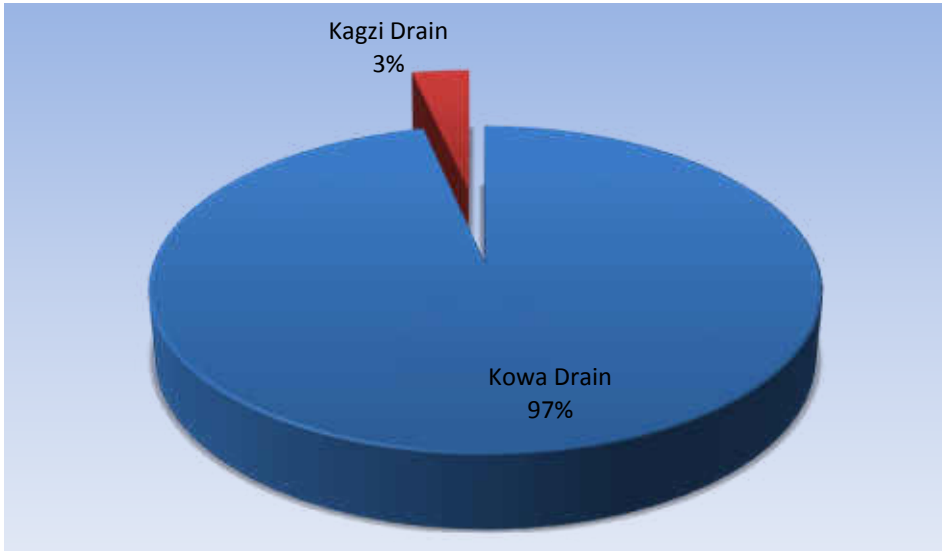


Figure 6.39: Flow details of drains in Khalgaon catchment

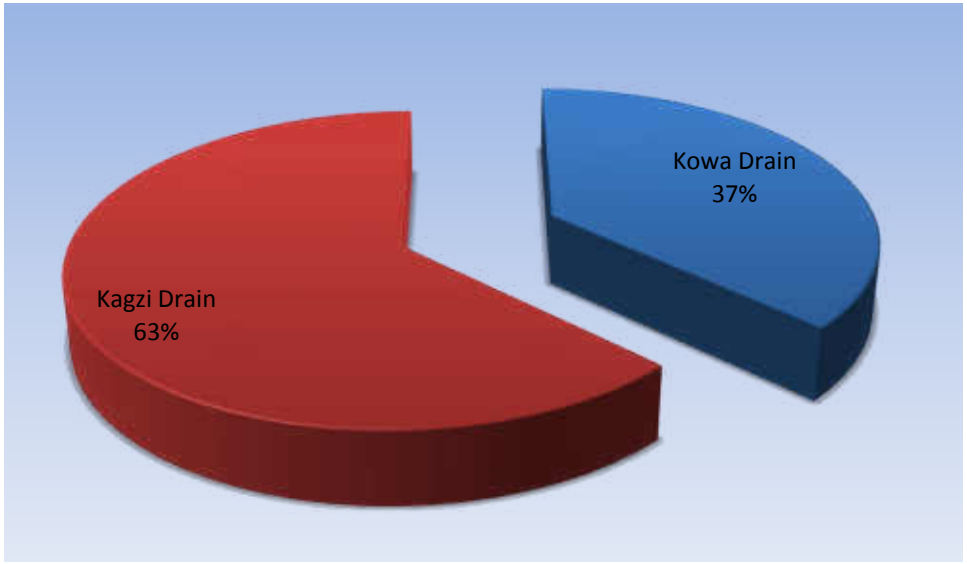


Figure 6.40:BOD load details of drains in Khalgaon catchment

6.1.4 West Bengal – Drains discharging wastewater to River Ganga

54 drains were identified, out of which 34 drains are located on left bank and contribute 1179 MLD of wastewater to river Ganga and 20 drains are located on right bank of river and add 600 MLD of wastewater. Details of drains are mentioned in table 6.5,6.6 and figure 6.41. Close examination to table 6.5 and 6.6 and figure 6.41 depicts following observations:

Picture 40: Nimtala ghat canal

- In terms of load wise, number wise and flow wise, drains in the left bank is higher than that of right bank.
- The drains in the left bank can be classified to 10 zones such as Kalyani, Halisahar, Naihati, Bhatpara, Barrackpur, Titagarg, Khardaha, Kamarhati, Baranagar, Kolkata and total contribution of BOD load is 74624 kg/day. Out of which Kolkata region contributes (74 %) 55443 kg/day. Next to Kolkata is Kamarhati 6310 kg/day (8%) and khardaha 2330 kg/day (3%). The contribution of other zones is small and more or less evenly distribution.

Picture 41: Khardah khal

Picture 42: Gandhi ghat

- The more prominent drains are Tolly Nallah, Dhankhati Khal, Akhra food ghar, Khar daha municipal khal, Kashipur khal, Mistry khal, adjacent Kashipur ferry ghat adjacent to Diamond club, Kashipur Khal if a load of more than 1000 kg/day is considered.

Picture 43: Najerganj khal

Picture 44: Singhi mara khal

- The drains on the right bank can be classified in six zones such Hoogli, Serampur, Rishra, Bally, Howrah, Uluberia and total contribution of BOD 22514 kg/day. The major drain (more than 1000 kg/day) are Hasting ghat road canal, Najer Ganj Khal, Chhatra canal, Bagh Khal, Telkal Ghat, Ramkrishna Mullickghat Road, Foreshore road, Martin Burn.

Table 6.5: Bank wise Identification and Flow-wise Categorization of different Drains discharging at left bank in River Ganga

Sl. No.	Location of Sampling Point	Flow (MLD)	BOD Load (kg/day)
1	Circular Canal adjacent to River Hooghly	320.3	7045.5
2	Tolly Nala adjacent to Dahighata	380.2	26991.3
3	Dhankheti Khal Near CESE Intake Point	65.2	15133.8
4	Akhra Food Ghar Adjacent to Hooghly River	83.4	2002.5
5	Khardah Municipal Drain Connected to Hooghly River	63.0	2330.5
6	Debitala Pancha Khal, Ichapore (Adjacent to R.N.S Brick Field)	46.0	229.8
7	Khal Near Nimtala Burning Ghat	20.7	1554.9
8	MuniKhali Khal Adjacent to Arun Mistri Ghat	19.4	54.21

Sl. No.	Location of Sampling Point	Flow (MLD)	BOD Load (kg/day)
9	Kashipur Khal Adjacent to Khamarhati Jute Mill	16.1	6309.8
10	In front of S.P Bunglow, S.N Banerjee Road, Mistry Ghat, Barrackpore	22.7	3628.8
11	Adjacent to Cossipore ferryghat & gunshell factory	19.8	1269.04
12	Chitpur Ghat, Dilarjung Road	15.0	960
13	Majher Char Khal & Kalyani combined waste sewage near brick field with foam near sluice gate	16.5	363
14	(Drain Opposite to Fort William , Judges Court Ghat)	7.65	76
15	Adjacent to Garifa Rly.Stn., Patterson road, adjacent to Ram Ghat	7.78	148.2
16	Adjacent to Garifa Rly. Stn.(North side) on Patterson road(domestic)	9.68	475.3
17	Baranagar Khal Adjacent to Ratan Babu Ghat	10.3	990.7
18	Mohan Misra lane & crossing of Ghosh para road, Halisahar, adjacent to Prabhat Sangha playground	10.7	236.1
19	Bagher Khal, adjacent to Hotel Dreamland, near sluice gate, open pucca drain	11.1	177
20	Drain between Pratapnagar and Rajbari	4.19	729.5
21	By the side of Alliance jute mill, Jagatdal Jetty, opposite side of bank Chandannagar Jetty	4.96	277.7
22	Adjacent to boundary wall of Gandhighat & near Upashak Social Welfare Organization, Gandhighat, South gate-1,Barrackpore	3.61	36.1
23	Balughat, Manirampur pucca drain	2.28	125.4
24	Bishalakshmi Ghat, adjacent to CESC Power House, Titagarh	4.01	256.7
25	Thanar Khal, adjacent to Thana & over tank by Naihati Municipality	5.29	201
26	Sasan ghat	2.92	32.08
27	Open pucca drain carrying waste for ward nos. 9 & 10	1.20	140.4
28	Saidabad kunja Bhata(opposite to auto center)ward no. 25	1.26	102.1
29	Shovabazar Canal Near Shovabazar Launch Ghat	0.42	28.97

Sl. No.	Location of Sampling Point	Flow (MLD)	BOD Load (kg/day)
30	Open pucca drain flowing adjacent to Diamond club,	0.96	2029.4
31	Open Kuccha drain carrying domestic waste for Ward 16	0.66	32.3
32	Adjacent to boundary wall of Jangipur College and B D Office	1.08	49.7
33	Shasan (burning) Ghat,Bhairabpur, Purbaparaword9 no16	0.54	18.90
34	Radhar Ghat(Old Ichagra shasan Ghat) Bhairabpur, Purbapara	0.48	61.9
Total		**1179.2**	**74623.7**

Table 6.6: Bank wise Identification and Flow-wise Categorization of different Drains discharging at right bank in River Ganga

Sl. No.	Location of Sampling Point	Flow (MLD)	BOD Load (kg/day)
1	Bhagirathi lane, Mahesh, Serampore	41.5	327.625
2	Hastings Ghat road, adjacent to Hastings jute mill, Rishra, Hooghly	42.0	3569.18
3	Najerganj Khal, north side of Shalimar paint, near Hans Khali Poll, Sankrail	326.0	5216.14
4	Singhi More Khal (Singhi mara Khal), Manikpur, Sankrail, near brick field	26.1	67.95
5	Chatra Khal, Beniapara, Serampore, Behind Ganga Darsan, Raja K. L Goswami street, Serampore	28.4	1445.85
6	Bagh Khal, border of Rishra & Konnagar Municipality on G.T Road	18.4	1030.575
7	Telkal Ghat	21.9	3028.49
8	Ramkrishna Mullickghat Road	12.2	1087.4
9	130 Foreshore Road Martin Burn	17.6	2475.39
10	Shibpur Burning Ghat	13.3	705.96
11	Jagannath Ghat Road, opposite to China pharmacy, by the side of Bijoy lakshmi rolling mill	17.3	448.71
12	Combined of Swarasati Khal and Rajganj Khal, near Sankrail Police station, near Pareshnath Hazra Ghat	2.77	16.62
13	Champdany Ferry Ghat, opposite nabal garrage, Champdany , Poura bhavan road, Pin-712222	4.15	157.59

Sl. No.	Location of Sampling Point	Flow (MLD)	BOD Load (kg/day)
14	South side of Dawnagazi Ghat, Bally Municipality, Bally	1.31	36.59
15	Jagatnath Ghat, Ward No.-14, Lalababu Saha Rd., South side of Kathgola Ghat	9.33	133
16	101,Foreshore Road	6.24	167
17	Kuthighat South Side of Belur Math	5.76	946
18	N.C.Pal Khal, Sankrail	3.87	266
19	Adjacent to bazarpara and Garighat (ward no. 18) Kuccha drain	1.20	150
20	Shalimar Coal Deposit No 1Naresh Kumar Ward	0.16	158
Total		**599.5**	**22513.5**

RIGHT BANK

Sampling. Point No.	Sampling Point name	BOD load kg/day
HOOGHLY ZONE		
CHAP/R-1	Champdany ferry Ghat, Champdany	157.59
SERAMPORE ZONE		
SER/R-1	Chatra Khal, Serampore	1445.85
SER/R-2	Bhagirathi lane Mahesh, Serampore	327.63
RISHRA JONE		
RIS/R-1	Hasting Ghat Rd. Rishra	3569.18
RIS/R-2	Bagh Khal Rishra	1030.57
BALLY ZONE		
BALLY/R-1	Dawangazi Ghat Bally	36.59
BALLY/R-2	Kuthighat, Bally	1716.48
BALLY/R-3	Jagatnath Ghat, Bally	
BALLY/R-4	Jagatnath Ghat Opposite China Pharmacy	
HOWRAH ZONE		
H/R-1	Telkal Ghat	3028.49
H/R-2	Ramakrishna Mullick Ghat	1087.4
H/R-3	130 Foreshores Rd., Martin Burn	2475.39
H/R-4	101 Foreshores Road	274.34
H/R-5	Shibpur Burning Ghat	699.6
H/R-6	Shalimar coal deposit No.1 Naresh Kr. ward	10.48
H/R-7	Najerganj Khal	5216.14
H/R-8	N.C.Pal Khal	239.98
ULUBERIA ZONE		
ULU/R-1	Singhi More Khal Sankrail	67.95
ULU/R-2	Combined of Swaraswati and Rajganj Khal	16.62

Total BOD load (kg/day) = 4599.75

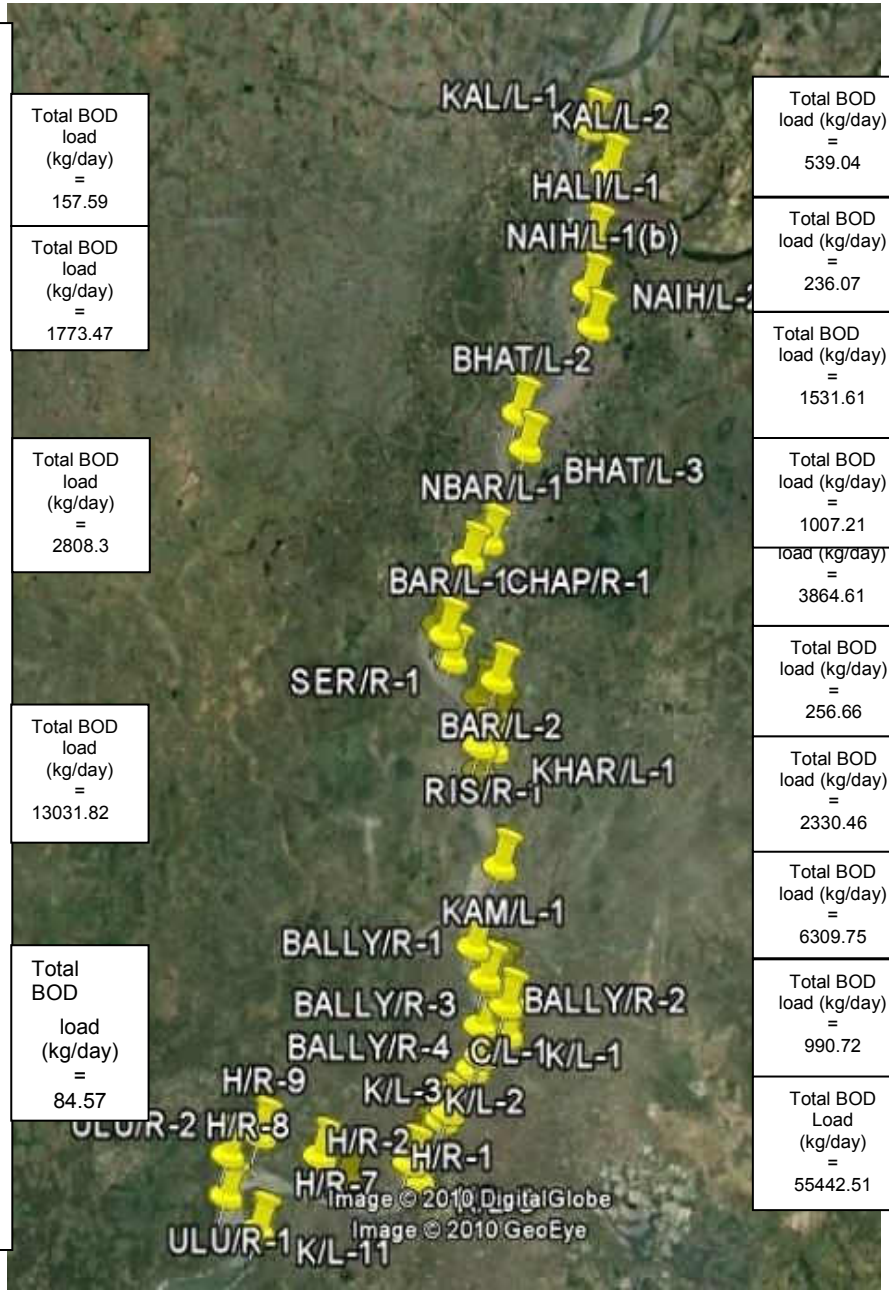


Figure 6.41: Schematic flow diagram showing point sources of West Bengal

LEFT BANK

Sampling Point no	Sampling Point name	BOD load kg/day
KALYANI ZONE		
KAL/L-1	Bagher Khal	176.94
KAL/L-2	Majher Char Khal	362.10
HALISAHAR ZONE		
HALI/L-1	Adjacent to Pravat Sangha Play ground Halisahar	236.07
NAIHATI ZONE		
NAIH/L-1 (a)	Adjacent to Garifa Railway Stn.(North side)	183.85
NAIH/L-1 (b)	Ram Ghat	381.02
NAIH/L-2	Thana Khal	401.86
BHATPARA ZONE		
BHAT/L-2	Jagatdal jetty Ghat Bhatpara	277.67
BHAT/L-3	Drain between Pratapnagar and Rajbari, Bhatpara	729.54
BARRACKPORE ZONE		
NBAR/L-1	Debitala Pancha Khal	229.82
BAR/L-1	Mistry Ghat, Barrackpore	3473.28
BAR/L-1 (a)	Balughat, Barrackpore	125.40
BAR/L-2	Gandhighat, Barrackpore	36.11
TITAGARH ZONE		
TIT/L-1	Bishalakshmi Ghat, Titagarh	256.66
KHARDAH ZONE		
KHAR/L-1	Khardah Khal, Khardah	2330.46
KAMARHATI ZONE		
KAM/L-2	Kashipore Khal, Kamarhati	6309.75
BARANAGAR ZONE		
B/L-1	Ratan Babu Ghat	990.72
KOLKATA ZONE		
K/L-1	Chitpur Ghat	1287.31
K/L-2	Cossipore ferry Ghat	1269.04
K/L-3	Circular Canal	7045.50
K/L-4	Shovabazar Launch Ghat	28.97
K/L-5	Nimtala Burning Ghat	1554.93
K/L-6	Judges Court Ghat	74.93
K/L-7	Dahighat	26991.35
K/L-8	Dhankheti Khal	15133.80
K/L-9	Akra Food Ghar	2002.47
K/L-10	Munikhali Khal	54.21

6.2 Conclusion

The- contribution- of- wastewater- from- 138- drains- in- UttarakhandU.P.Bihar- and- West-Bengal- is- 6087- MLD- and- resultant- BODload- is- 999- Tonnes/day.

In view of above facts and figures, it is concluded that following drain-are- contributing-substantial- pollution load to- river Ganga: Lakshar drain - in Uttrakhand; Chhoiya drain, Fuldhera drain, Badaun sewage drain Sisamu Nala, Debka Nallah-1, Wazidpur nallah, Permiya nallah at Kanpur, City Jail drain at Unnao, Pandu river at Fatehpur, Rasulabad drain at Allahabad, Khandaha drain at Mirzapur, Nagwa and Varuna drain at Varanasi in Uttar Pradesh; Kurzi drain, collectorate drain- in- Patna, Jamunia drain at Bhaglpur, ITC drain at Munger in Bihar and Tolly Nallah, Dhankati drain, Nazerganj Khal in West Bengal.

CHAPTER-7
STATUS OF WATER QUALITY OF RIVER RAMGANGA AND KALI

River Ramganga and River Kali are the major source- of- pollution of Ganga river.- These- rivers merge with river Ganga in-the-vicinity-of Kannuaj. Catchment-area-of-river Ramganga and river-Kali has significant number of-grossly-polluting industries impacting their water quality.

7.1 Status of Water Quality of River Ramganga

River **Ramganga** originates from Doodhatoli ranges (high altitude zone of 800m-900m) in the district of Pauri Garhwal, Uttarakhand. The river flows south west from KumaunHimalaya. It is a tributary of the river Ganga. Ramganga descends upon the plains from the Corbett National Park near Ramnagar in Nainital district and flows through the plains of Kalagarh, Afzalgarh, Moradabad, Rampur, Bareilly, Shahjahanpur and finally merges with river Ganga near Kannauj (Uttar Pradesh).Several water polluting industries (mostly Agro based industries) are located in its catchment. The catchment area of the basin is about 32,493 sq. km. Total length of river from the source to the confluence with the river Ganga is 596 km. The major tributaries which join Ramganga river are the Kho, Gagan, Kosi, Dhela, Bhakara, East Begul, West Begul and Deoha (Garra).

Picture 45: River Ramganga at Agwanpur

In the present study, assessment of River Ramganga has been carried out between the latitude 29°18'36.17" N to 28°17'40.89" N and the longitude 78°38'12.07" E to 79°22'7.48" E from Kalagarh (U.K) to Bareilly (U.P) covering 236 km of stretch.

7.1.1 Problem Area

River Ramganga enters Moradabad city, after its origin from Pauri Garhwal. The problem of colour in downstream stretch is encountered due to untreated/partially treated industrial discharges containing lignin and other organic load. The significant quantity of pollution load is transported by the Rivulets from Uttrakhand namely Dhella, Bahela, Kosi and Pilakhar (Figure 7.1) to river Ramganga. It is estimated that the total wastewater discharge directly or indirectly into the river Ramganga from Uttarakhand is 162 MLD and from Uttar Pradesh is 73 MLD. Water Quality of Ramganga affects the water quality of river Ganga at Kannauj.

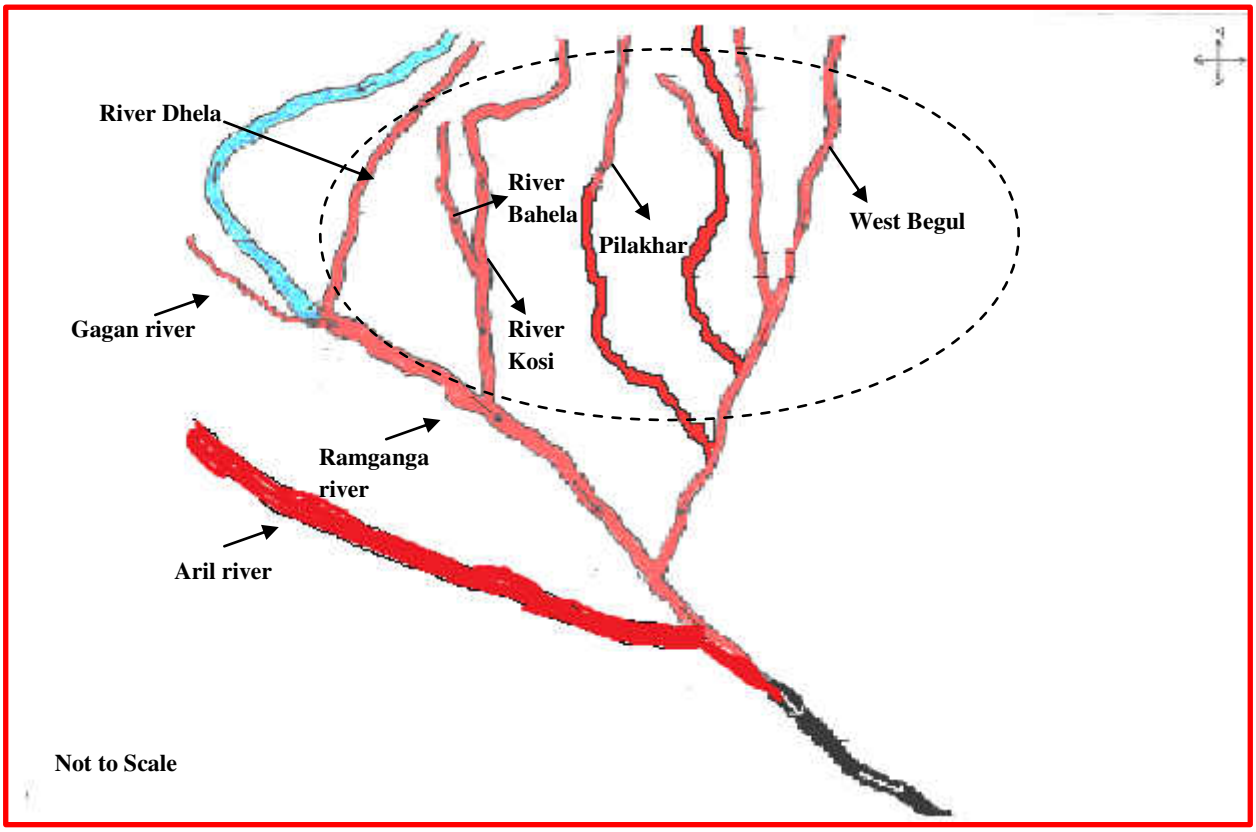


Figure 7.1: Map showing problem area

7.1.2 Monitoring Programme for assessment

Grab samples were collected from 15 locations and analyzed for physio-chemical parameters such as pH, TDS, BOD, COD, DO, Chloride and Conductivity.Pollution sources and river sampling points is depicted in table 7.1 and analytical results are summarized in table 7.2. Schematic flow diagram showing point sources of river Ramganga is shown in figure 7.2.

Table 7.1: Point Sources of River

Sl.No.	Code	Source	Point Source	Location
1.	R1	River	Kho	Sherkot
2.	R2	River	Gagan	Delhi-Moradabad Road
3.	R3	River	Bahela	Tanda D/s
4.	R4	River	Dhela	Bhojpur
5.	R5	River	Kosi	Rampur-Delhi Road
6.	R6	River	Bhakra	Delhi-Bareilly Road

7.	R7	River	Begul	2 km d/s of previous location
8.	R8	River	Shankhu	Delhi-Bareilly Road
9.	R9	River	Deroyian	Uccha village, Bareilly
10.	R10	River	Nakatiya	Shahpur Road
11.	R11	River	Aril-D/s	Rasoolpur village, Baduon, Bareilly
12.	D1	Drain	Seohara	Seohara village
13.	D2	Drain	Dwarika-Sugarmill drain	Afzalgarh, Dwarikeshpur
14.	D3	Drain	Rampur Drain	Patwai
15.	D4	Drain	Moradabad drain	Moradabad Bypass

Table 7.2: Physico results of point sources

SL.No.	**Point Source**	**Flow (MLD)**	**Parameters**							**BOD load kg/day**
			pH	**COD**	**BOD**	**Colour**	**Cl**	**Conduc-tivity**	**DO**	**TDS**	
1.	River Kho	245	7.3	24.0	1.8	Colour less	8.99	202	9	120	441
2.	Seohara Drain	19	7.1	880	320	300	-	-	0	690	6080
3.	Dwarika-Sugar Drain	9.3	6.9	336	210	70	-	-	0	960	1953
4.	River Gagan	422	7.2	8	2.6	20	15	439	9.5	310	1097
5.	River Bahela at Tanda	131	7.5	417	57	60	35	699	0.2	396	7467
6.	River Dhela	702	6.9	256	57	150	119	944	1.0	610	40014
7.	River Kosi	675	7.9	50	11	60	21	598	2.6	346	7425
8.	Rampur Drain	80	7.2	376	195	150	-	-	0	1050	15600
9.	Moradabad drain	150	7.5	440	196	160	-	-	0	900	29400
10.	River Bhakra	1283	7.6	20	2	Colour less	11.98	612	9	400	2566
11.	River Aril at Rasoolpur	86	7.5	160	22	140	87.9	1051	4	630	1892

	village, Baduon, Bareilly										
12.	River Begul	1520	7.5	20	2	25	21.97	611	8.2	400	3040
13.	River Shankhu	452	7.7	20	1.4	Colour less	15.98	495	7	300	633
14.	River Deroyian	-	7.1	88	29	60	41.95	719	0	420	-
15.	River Nakatiya	-	7.1	84	9.2	25	11.98	575	2.6	350	-

Note : All units are measured in mg/l except pH, conductivity in µmho/cm

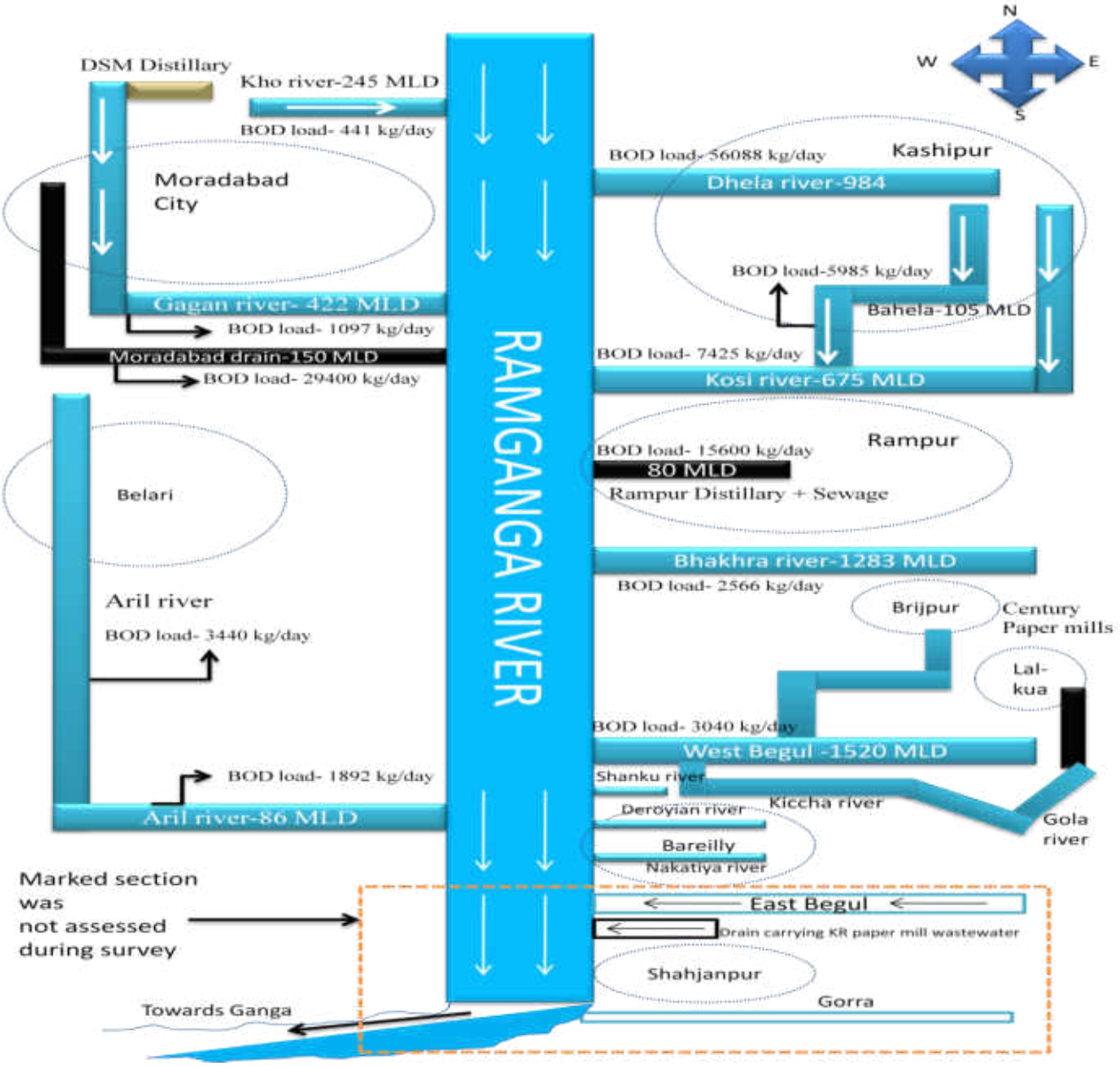


Figure 7.2: Schematic flow diagram showing point sources of river Ramganga

7.1.3Water Quality at River Ramganga

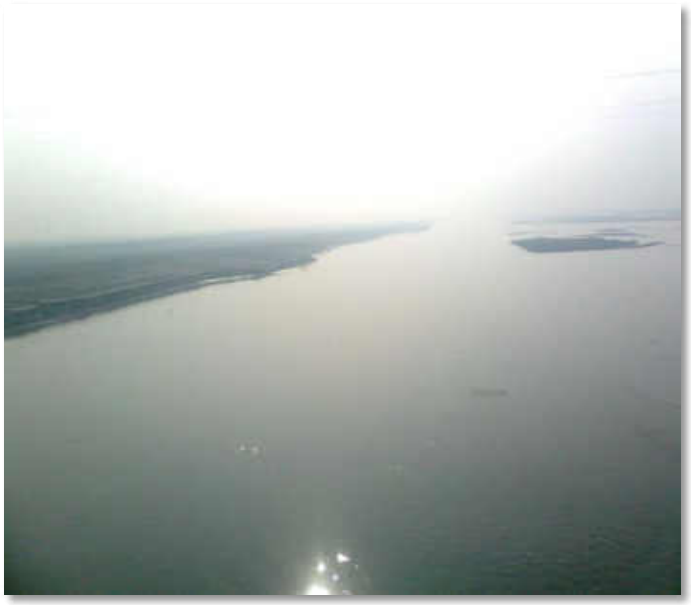
Monitoring of River Ramganga was carried out at 05 locations from Afzalgarh to downstream of Bareilly. Analytical results of river Ramganga are placed at table 7.3

Table 7.3: Analytical results of River Ramgana

SL. No.	Code	River Ramganga at	Flow (MLD)	Parameters								BOD load kg/day
				pH	COD	BOD	TDS	Colour	DO	Cl	Conduc -tivity	
1.	RM1	Afzalgarh	1255	7.0	12	3.2	170	Colour less	8.2	14	262	4016
2.	RM2	Agwanpur	1500	8.3	09	02	172	<20	9.2	10	292	3000
3.	RM3	Khatghar A/c Dhela	2724	7.9	38	09	238	40	6.1	19	431	24516
4.	RM4	Shahabad road	2595	7	28	4.6	380	30	3.8	33	578	11937
5.	RM5	Bareilly-Baduon Road	9128	7.7	24	3.8	370	25	6.8	25	604	34686
Note : All units are measured in mg/l except pH, conductivity in µmho/cm												

Close examination to table 7.3 reveals following observations:

- DO concentration of river Ramganga fluctuates from 3.8 mg/l to 9.2 mg/l. DO value at Agwanpur is 9.2 mg/l and after confluence of river Dhela, DO value falls to 6.1 mg/l. Similarly, after confluence of Kosi, Moradabad drain, Rampur Drain, DO value again drop down to 3.8 mg/l. However, DO concentration again increases to 6.8 mg/l as fresh water from river Bhakra, Begul and Shankhu join Ramganga.
- BOD concentration also shows the same trend as BOD concentration at Afzalgarh is 3.2 mg/l and after confluence of said drains BOD concentration at Shahabad road is 4.6 mg/l whereas it again comes down to 3.8 mg/l.
- Same trend was also observed in case of COD and TDS.



Picture 46: River Ramganga at Bareilly

7.1.4 Major Findings

Based on the facts obtained, following findings were made out:

1. River Dhela, Bahela, Kosi, Rampur Drain, Moradabad drain are the causes of deterioration of water quality of Ramganga.
2. Water Quality of river Ramganga at Afzalgarh and Agwanpur meets Primary Water Quality Criteria for Bathing Water with respect to DO and BOD.

3. River Dhela carries BOD load of 40014 kg/day and it deteriorates water quality of Ramganga. Analytical results of river Ramganga (after confluence of Dhela at Khatghar) shows that water quality does not meet Primary Water Quality Criteria for Bathing Water as BOD concentration was 09 mg/l. BOD load of Ramganga increases from 3000 kg/day (Agwanpur) to 24516 kg/day (Khatghar).
4. Moradabad Drain, Rampur Drain, River Kosi and Gagan meet Ramganga between Khatghar and Shahabad Road. Moradabad drain carries BOD load of 29400 kg/day as it carries industrial and domestic wastewater of Moradabad whereas BOD load of Rampur drain was 15600 kg/day.
5. Water quality of river Kosi deteriorates after confluence of River Bhela. River Bahela carries industrial and domestic wastewater of Kashipur (Uttrakhand) with BOD load of 7467 kg/day. BOD and DO concentration of river Kosi after confluence (at Rampur Bridge) was 11 mg/l and 2.6 mg/l respectively which violate the prescribed norms.
6. Seohara drain carries industrial wastewater of M/s Dhampur Sugar Mills and merges with River Gagan. Seohara drain has the BOD load of 6080 kg/day. However, BOD concentration of Gagan was always less than 3 mg/l and DO concentration was more than 4 mg/l.
7. BOD load of Ramganga decreases from 24516 kg/day (Khatghar) to 11937 kg /day (Shahabad road). However, water quality of Ramganga at Shahabad road does not meet Primary Water Quality Criteria for Bathing Water with respect to DO and BOD.
8. Flow of river Ramganga increases from 2595 MLD (Shahabad road) to 9128 MLD (Bareilly-Baduaon road) as River Bhakra, Begul and Shankhu join river Ramganga and provide dilution to Ramganga. Similarly, BOD load also increases from 11937 kg/day (Shahabad road) to 34686 kg/day (Bareilly-Baduaon road) as untreated sewage of Bareilly city amalgamate with Ramganga via River Deroyian and Nakatiya.
9. River Bhakra, Begul and Shankhu mostly carry fresh water whereas Deroyian and Nakatiya river carries sewage of Bareilly city. DO Concentration of both Deroyian and Nakatiya river was less than 4 mg/l whereas BOD concentration was more than 3 mg/l.
10. BOD concentration of Ramganga decreases from 4.6 mg/l (Shahabad road) to 3.8 mg/l (Bareilly-Baduaon road) whereas DO concentration increases from 3.8 mg/l (Shahabad road) to 6.8 mg/l (Bareilly-Baduaon road).
11. River Aril joins Ramganga after Bareilly-Baduaon road. Industrial wastewater from Bilari discharge into said river and ultimately deteriorates Ramganga.

7.1.2 Salient feature of Kalinadi

The Kalinadi is an intermittent river, flowing during the monsoon season. It originates near Khatholi town (Uttar Pradesh) and flows through the districts of Meerut, Hapur, Bulandshar, Aligarh, Kasganj and finally merges with river Ganga at Kannauj (Uttar Pradesh). The area under study is a part of the Indo-Gangetic Plains, lies between the latitude 29°9' 34.29" N to 27°1'321.34"N and the longitude 77°45' 15.10" E to 77°58'14.03"E in districts of Uttar Pradesh. The climate of the area is characterized by a moderate type of subtropical monsoon. The average annual rainfall in the area is about 1000 mm, out of which the main part is received during the monsoon period. The major land use is agriculture and there is no effective forest cover. The soils

of the area are loam to silty loam and are free of carbonates. River Kali has a total length of 550 km (approximately). River Kali gets water during monsoon season and groundwater recharge.

Now a day, groundwater recharge is minimal and mostly industrial & domestic wastewater is discharged in to river Kali system. The river receives considerable amounts of wastewater every day from the industries and municipal area of Meerut city, Hapur, Bulandshar city which leads to deterioration of water quality.

Picture 47: Kali river near Saini village

7.2.1 Problem Area

The present study covers River Kali from Lawaru village, Uttar Pradesh (U.P) to Bulandshar, U.P. Different type of industries (Distilleries, Paper Mills, Diaries, Sugar Mills) discharges their partially treated and untreated effluent into said river. Untreated/Partially treated sewage of Meerut, Hapur, Gulaothi leads to deterioration of water quality of Kalinadi.

7.2.2 Sampling Locations of Point Sources

Grab samples were collected from 10 locations and analyzed for physio-chemical parameters such as pH, TDS, TSS, Total Kjedehal Nitrogen, BOD, COD, DO.Point source and river sampling points is depicted in table 7.4. The sampling points are depicted on Schematic flow diagram at figure 7.3.

Table 7.4: Point Sources of River Kali

Sl.No.	Code	Source	Point Source	Location	Description
1.	KD1	Drain	AbuNallah-1	Near village Gesupur	Mixed Drain
2.	KD2	Drain	AbuNallah-2	Front of Kirti Palace	Domestic Drain
3.	KD3	Drain	Slaughter House Drain or Camela Drain	Near Kajipur	Mixed Drain
4.	BG	Canal	Ganga Canal	Near Chhapokali	Fresh Water
5.	KD4	Drain	Chhuyia Drain	NH-24	Mixed Drain

6.	KD5	Drain	Hapur Drain	Near Akroli village	Mixed Drain
7.	KD6	Drain	Kadarabad Drain	Near Brijnathpur Sugar Mills	Mixed Drain
8.	KD7	Drain	Gulaothi Drain	Near Railway Track	Domestic Drain
9.	KD8	Drain	Bulandshar Drain-1	Near Devpura-1 colony	Domestic Drain
10.	KD9	Drain	Bulandshar Drain-2	Near Mohan Katti	Domestic Drain

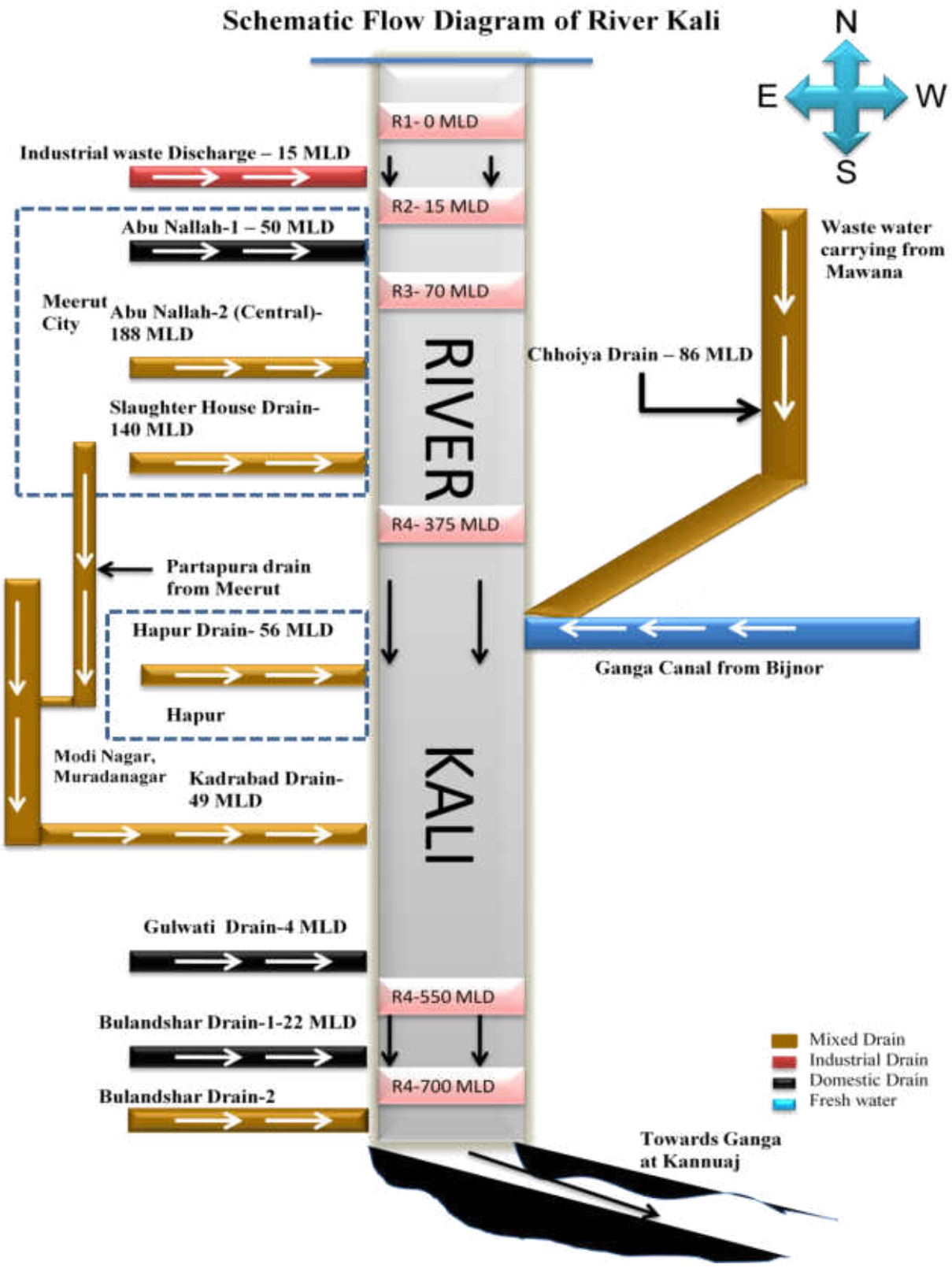


Figure 7.3: Schematic Flow diagram of River Kali

7.2.3 Result of point sources of pollution discharge to Kali river

Analytical results of point sources are depicted in table 7.5. BOD load and flow distribution of adjoining drains are shown in figure 7.4 and 7.5.

Table 7.5: Analytical results of point sources

SL.No.	Point Source	Flow (MLD)	Parameters					BOD load kg/day
			pH	COD	BOD	TSS	TDS	
1.	AbuNallah-1	50	7.70	303	113	86	1540	5650
2.	AbuNallah-2	188	7.40	284	108	230	648	20304
3.	Slaughter House Drain or Odean Nallah	140	7.21	888	520	789	1132	72800
4.	Chhoyia Drain	86	8.27	3170	731	257	5076	62886
5.	Hapur Drain	56	7.46	145	31	128	-	1736
6.	Kadarabad Drain	49	7.96	97	21	35	-	1029
7.	Gulaothi Drain	4	7.26	385	183	290	-	732
8.	Bulandshar Drain-1	22	7.95	70	22	47	-	484
9.	Bulandshar Drain-2	-	7.34	105	40	143	-	-
Note : All units are measured in mg/l except pH								

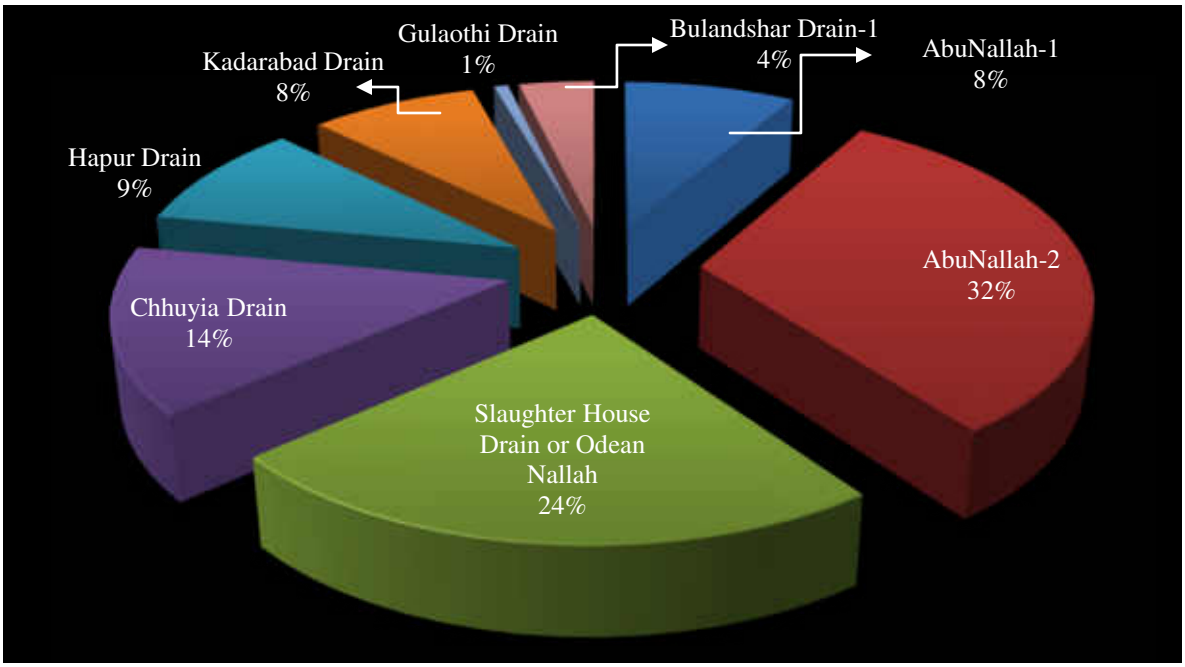


Figure 7.4: Pie-chart showing Flow distribution of adjoining drains

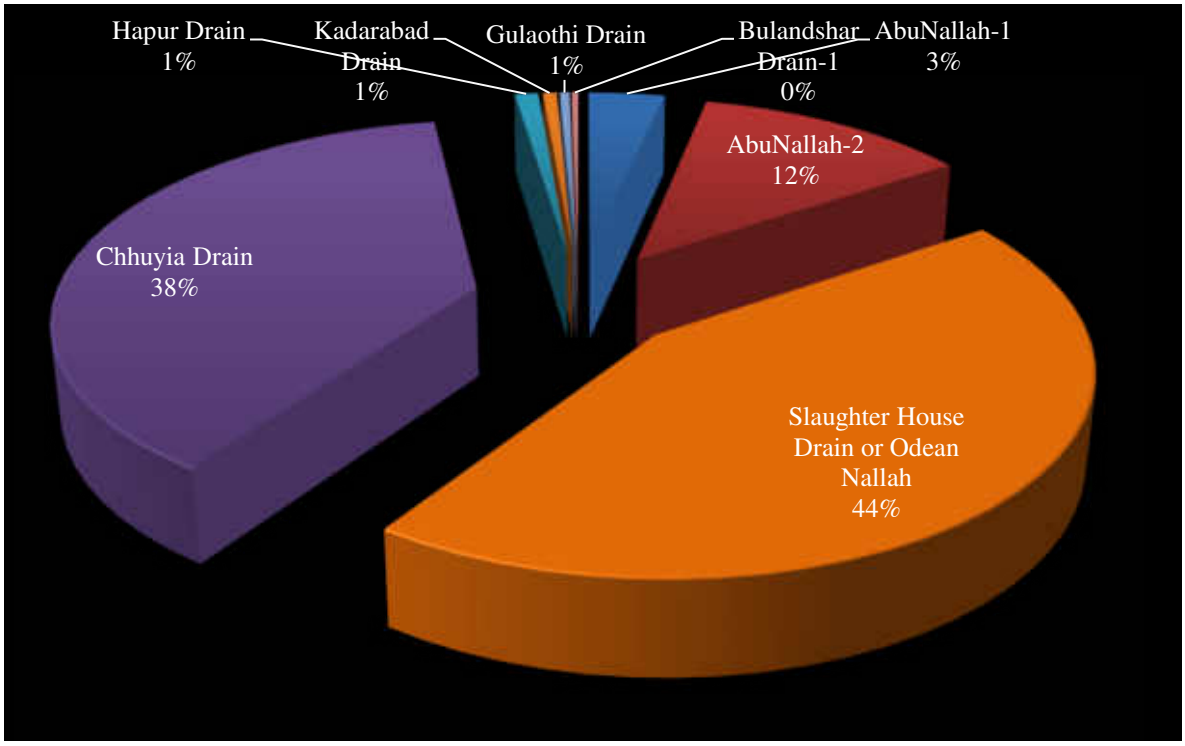


Figure 7.5: Pie-chart shows BOD load distribution of adjoining drains

Close examination to table 7.5 and figure 7.4 and 7.5 reveals that flow-wise Abu Nallah 2 and Odean Nallah are the highest and the drains Chhoiya, Abu nallah 1, Hapur and Kadrabad are of same group with around 50 MLD. While considering the load-wise distribution, Chhoiya and Slaughter house drains are the highest follows by Abu Nalla-2. Abu Nallah-1, Hapur, Kadrabad drain are of same group. The domination of Chhoiya and Slaughter house drain is due to industrial

discharges of industrial wastewater. Drain-wise domestic and industrial discharges are summarized in figure 7.6.

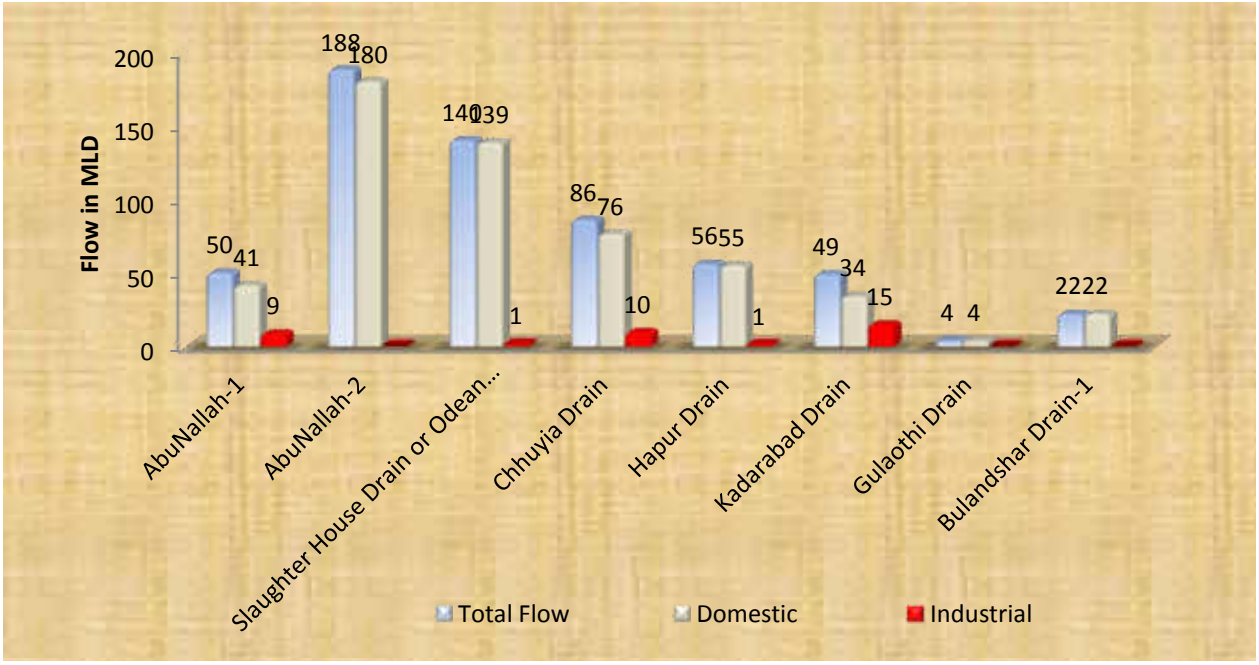


Figure 7.6: Drain-wise domestic and industrial pollution load

7.2.4 Distribution of Pollution Load with Industry Specific

Sugar mills, Paper mills, Distilleries and textile dyeing industries discharge their untreated/partially treated effluent either into river Kali or into Abu nallah-1, Kadarabad drain, Chhoiya drain and Odean Nallah. Distribution of different industrial sector effluent to different recipients is depicted in Table 7.6.

Sl.No	Industrial Effluent recepients point	Quantity (MLD)	Industrial Sector	Quantity (MLD)
1.	River Kali	16.08	**i.** Sugar Mills	3.9
			ii. Paper Mills	16
			iii. Textile & Dyeing	0.053
			iv. Frozen Meat Packaging	0.035
2.	Abu Nallah-1	8.66	**i.** Distilleries	3.12
			ii. Fine Organic Chemical	4.840
3.	Odean Nallah	1.455	**i.** Frozen Meat Packaging	0.415
			ii. Slaughter House Drain	1.0
			iii. Textile Dyeing	0.040
4.	Chhoiya Drain	9.575	**i.** Sugar mills	2.5
			ii. Paper mills	7.050
			iii. Frozen Meat	0.025

				Packaging	
5.	Kadarabad drain	14.815	**i.**	Sugar Mills	1.8
			ii.	Paper Mills	10.64
			iii.	Textile and dyeing industries	1.225
			iv.	Defence Equipment	0.35

Source: Uttar Pradesh Pollution Control Board

7.2.5 River Points

Monitoring of River Kali was carried out at 6 locations from Lawaru Village to Bulandshar Drain. Analytical results of river kali are placed at table 7.7.

Table 7.7: Analytical results of River Kali

SL. No.	Code	River Kali at	Flow (MLD)	Parameters						BOD load kg/day
				pH	COD	BOD	TSS	TDS	TKN	
1.	KR1	Near Lawaru Village	0	-	-	-	-	-	-	-
2.	KR2	NH19-near Saini Village	15	6.86	625	330	344	1356	-	**4950**
3.	KR3	Near village Gesupur	70	7.39	479	241	196	1456	-	**16870**
4.	KR4	Near Kaol Village	375	7.46	395	136	311	960	-	**51000**
5.	KR5	Near Aichana	550	7.67	90	27	-	410	16.60	**14850**
6.	KR6	D/s of Bulandshar	700	7.7	23	08	-	400	14.10	**5600**
Note : All units are measured in mg/l except pH										

Close examination to table 7.7 indicates that river stretch from Saini to Kaol village has the highest BOD and COD load. After dilution with fresh Ganga water, the load is minimized which is observed at Aichana and continue. The same trend is followed in TDS. The results indicates that the drains like Abu Nallah-1, 2, Odean Nallah, Chhoiya Nallah needs attention for pollution control immediately along with a minimum flow at upstream. This will renovate the water quality of Kali river.

7.2.6 Major Findings

1. Flow of river Kali at Khatauli town was zero which shows that natural source of river Kali was abolished and flow was only observed during monsoon, this can be improved by rainwater harvesting or discharge from upper ganga canal.
2. BOD concentration at NH-19 near Saini village was highest i.e 330 mg/l alongwith COD 625 mg/l. This results only depicts that nearby industries like M/s Dev Priya Products P. Ltd, M/s Anand Duplex discharge effluent to river Kali.

3. Abu nalla-2 and slaughter house drain mostly carries untreated sewage of Meerut city which lead to deterioration of water quality of River Kali. Odean nallah carries maximum BOD load of 72800 kg/dayand added heavy flow to river Kali.
4. Chhoiya drain also has maximum COD concentration of 3170 mg/l compare to all major drains with heavy BOD load of 62886kg/day. It shows that Chhoiya drain carries industrial wastewater.

Picture 48: Sampling of Gulaothi drain

5. BOD load of river Kali near Kaol village was 51000 kg/day and it decreases to 14850 kg/day as industrial waste is diluted with sewage of Hapur, Meerut and release of fresh water from Ganga canal.
6. Improvement was observed at downstream of Bulandshar as BOD load decreases to 5600 kg/day due to dilution of river Kali.

CHAPTER-8

STATUS OF GROSSLY POLLUTING INDUSTRIES (GPI)

8.0 INTRODUCTION

One of the functions entrusted to Central pollution control board under National Ganga River Basin Authority Project is inventorization, monitoring and surveillance of pollution load discharging into river Ganga. While assessing the industrial pollution load it is understood that the assessment of pollution load in the tributaries namely Ramganga and Kali (E) is an imperative prerequisite. Thus the assessment of pollution load of Kali and Ramganga is added along with main stem of Ganga. An attempt has been made in this publication is to collect, collate and dessiminate the information from the data of concerned State Pollution Control Boards which are located on the banks of main stem of River Ganga. These are: Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal.

Picture 49: Lagoon Image of Distillery

8.1 METHODOLOGY

The information on grossly polluting industries is collected through a questionnaire. The format of the questionnaire is given in ***Annexure-VI,*** which is duly filled by the regional offices of the concerned state Boards. The filled questionnaire after judicious scrutiny by in-house experts has been summarized in ***Annexure-VII.*** It is pertinent to mention that this database is primarily on the information of grossly polluting industries. Grossly Polluting Industries (GPI) are defined as the industry which is discharging wastewater more than 100KLD and/or hazardous chemicals used by the industry as specified under the Schedule-I, Part-II of The Manufacture, Storage and Import of Hazardous Chemical Rules of 1989 under Environment (Protection) Act, 1986.

8.1.1Classification of Industrial Units with respect to products

Industrial units are classified in following sectors.

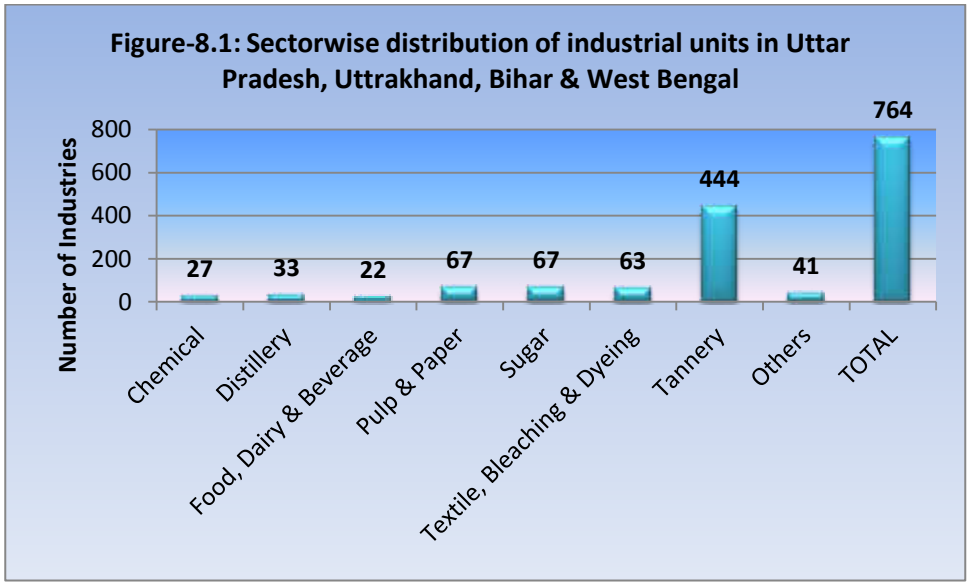
- Chemicals: which mainly include fertilizer, petro-chemical , pesticides and pharmaceuticals.
- Distillery

- Dairy, Food & Beverage
- Pulp and Paper
- Sugar
- Tannery
- Textile, Bleaching & Dyeing
- Other (Cement, Slaughter house, Ordinance, Packaging & printing, Paint, Electronics& Electrical, Thermal, Kattha –kachh, Electroplating, Metallurgical, automobile etc.

8.3 FINDING AND OBSERVATION

8.3.1 Sector wise distribution of industries

There are 764 industries in the main stem of Ganga and referred tributaries Kali (E) and Ramganga. Out of which 687 industrial units are in Uttar Pradesh followed by 42 in Uttarakhand. Sector wise distribution of industrial units is given in figure-8.1. It is observed from the figure-8.1 that number wise tanneries are dominant industries followed by sugar, pulp & paper and Textile, dyeing and bleach.



8.3.2 Status of water Consumption and Wastewater Generation

Total water consumption in the industries is 1123 MLD and waste water generation is 501 MLD. Uttar Pradesh is the dominating states with respect to water consumption (62 % of total water consumed) and wastewater generation (45% of total wastewater generated) followed by Uttarakhand. This is summarized in table-8.1 and percentage wise consumption and generation is depicted in figure-8.2 &8.3.

Table-8.1:State wise status of industrial unit, water consumption and wastewater generation			
State	**Number of Industry**	**Water consumption (MLD)**	**Waste water generation (MLD)**
Uttarakhand	42	224	127
Uttar Pradesh	687	693	269
Bihar	13	91	17
Jharkhand	0	0.0	0.0
West Bengal	22	116	87
TOTAL	**764**	**1123**	**501**

Figure-8.2: State wise Water Consumption (on % basis)

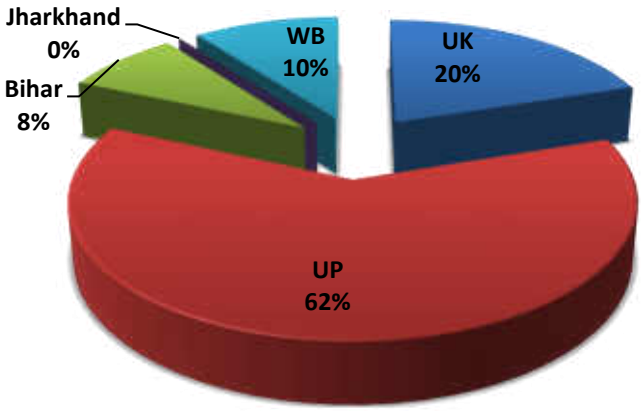
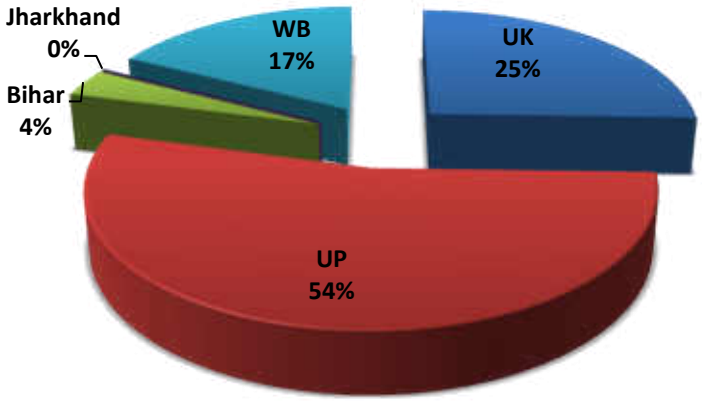


Figure-8.3: Statewise wastewater generation (on % basis



Close examination to the table-8.1 and figure-8.2 &8.3 it is observed

- Wastewater generation is nearly 45% in terms of total water consumption.
- In terms of water consumption industries in Uttar Pradesh consumes maximum water followed by Uttarakhand and West Bengal. But wastewater generation with respect to water consumption is enhanced in Uttarakhand and West Bengal.

Sector wise water consumption and wastewater generation is given in table-8.2. It reveals from the stated table that

- Maximum water consumed and generated by Pulp and Paper industries. The consumption is followed by sugar industries while generation is followed by chemical industries.

Table-8.2: Status of sector specific industrial water consumption and wastewater generation

Type of Industry	Total Units	Water Consumption (MLD)	Wastewater Generation (MLD)
Chemical	27	210.9	97.8
Distillery	33	78.8	37.0
Food, Dairy & Beverage	22	11.2	6.5
Pulp & Paper	67	306.3	201.4
Sugar	67	304.8	96.0
Textile, Bleaching & Dyeing	63	14.1	11.4
Tannery	444	28.7	22.1
Others	41	168.3	28.6
Total	**764**	**1123**	**501**

Percentage wise water consumption and wastewater generation in various categories of industrial sectors is given in figure -8.4&8.5 and it is observed from the figures that

- Sugar, pulp and paper and chemical are the three major sectors which consume approx 73% water and generate 79% of total wastewater.

Figure-8.4: Sector wise water consumption (on % basia) in Uttar Pradesh, Uttrakhand, Bihar & West Bengal

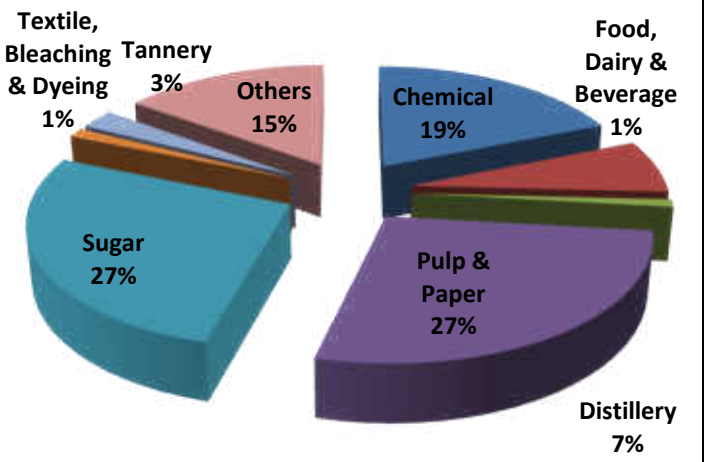
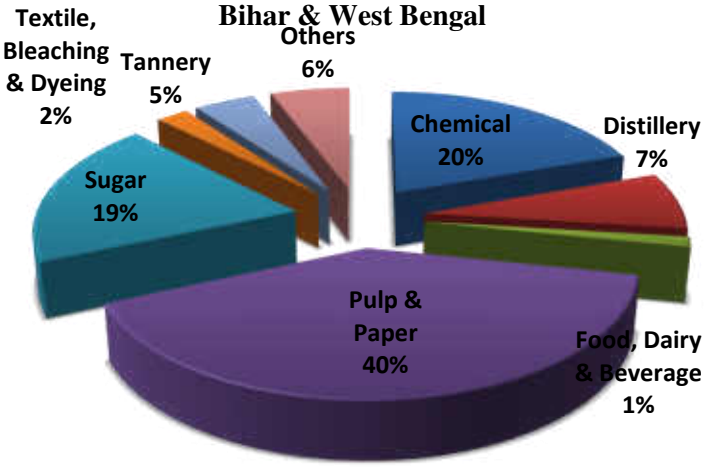


Figure-8.5: Sector wise wastewater generation in Uttar Pradesh, Uttrakhand, Bihar & West Bengal



8.3.3 Status of state wise water consumption and wastewater generation from grossly polluting industries

8.3.3.1 Uttarakhand

Number of grossly polluting industries located in Uttarakhand is 42. Out of which, 7 industries are

dischargingin the main stem of Ganga and located in the region of Dehradun and rest are located in the sub-basin of Ranmganga in the region of Kashipur and Udham Singh Nagar. In Uttarakhand category wise only three types of industries are located; these arepulp and paper, sugar and distillery. The status of water consumption and wastewater generation by these industries is stated in table-8.4&8.5.

Table-8.4: Status of water consumption and wastewater generation in Uttarakhand

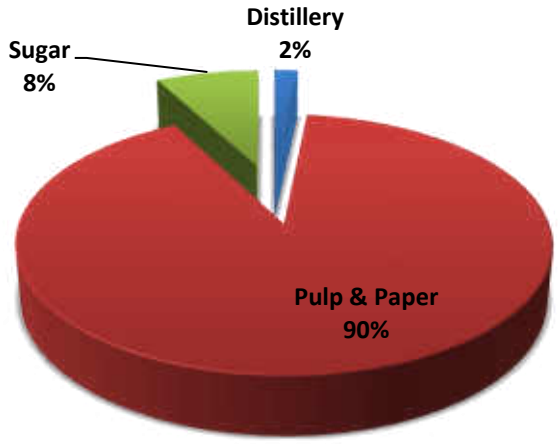
Category of Industry	Number of Industry	Water Consumption (MLD)	Wastewater Generation (MLD)
Distillery	3	5.6	2.2
Pulp & Paper	30	193.1	115.5
Sugar	9	25.3	9.8
Total	**42**	**224**	**127.5**

Table-8.5: Status of water consumption and wastewater generation in Uttarakhand

Water Bodies	Ganga		Ramganga	
Category of Industry	**Number of Industry**	**Wastewater Generation (KLD)**	**Number of Industry**	**Wastewater Generation (KLD)**
Distillery	1	0.16	2	2.0
Pulp & Paper	3	2.9	27	112.6
Sugar	3	1.9	7	7.9
Total	**7**	**5.0**	**35**	**122.5**

It is observed from the table that 96% wastewater generated is discharged in Ramganga riverine system, which ultimately leads to the main stem of River Ganga at Kannauj Upstream (Uttar Pradesh). Pulp and paper industry is the sector which generates 90% of total waste water; this is illustrated in the figure -8.6.

Figure-8.6: Sector wise wastewater generation in Uttarakhand



8.3.3.2 Uttar Pradesh

The category wise and water body wise wastewater generation in the state of Uttar Pradesh is depicted in table-5. It is observed from the table that there are 687 industries of grossly polluting status discharging 269 MLD wastewater. The Suagr, Pulp and Paper and Chemicalare the major industrial sector which discharged 70% of total wastewater generated in the state. Out of 688 industries 594 are located in the main stem of Ganga River. It is also observed that 442 industries are tannery. Volume wise highest wastewater 85.7 MLD is coming from sugar industry. This indicates that the tannery although have a higher number of industries but discharging less volume of wastewater, which concludes that tanneries are basically small scale industry.

Picture 50: Lagoon image

With respect to River Kali-East sugar, distillery and pulp & paper are the major industrial sectors which are discharging in to the river. In comparison to the number of the industries with respect to Ganga is small (53) but discharging 71.4 MLD wastewater. Pulp & paper is discharging 36.8 MLD wastewater, which is 52% of the total wastewater discharged into the river Kali-East by grossly polluting industries. Next to Pulp & paper is Sugar industry (15) and discharging 14.8 MLD.

It is pertinent to mention that Ramganga which houses 44 industries but discharging 106 MLD wastewater and major of them are sugar industries which are discharging 50% of total wastewater discharged into the river Ramganga in Uttar Pradesh.

The percentage wise wastewater generation in these three riverine systems and sector specific wastewater generation in Uttar Pradesh is given in figure-8.7 &8.8 respectively. The status of sector specific water consumption and wastewater generation in Uttar Pradesh and in the three riverine systems in Uttar Pradesh is given in table-8.6 &8.7 respectively.

Figure-8.7: Percentage wise wastewater discharge in riverine system at Uttar Pradesh

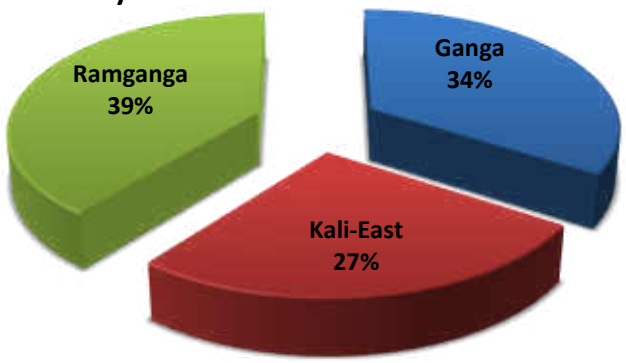


Figure-8.8: Sector wise wastewater generation (on % basis) in Uttar Pradesh

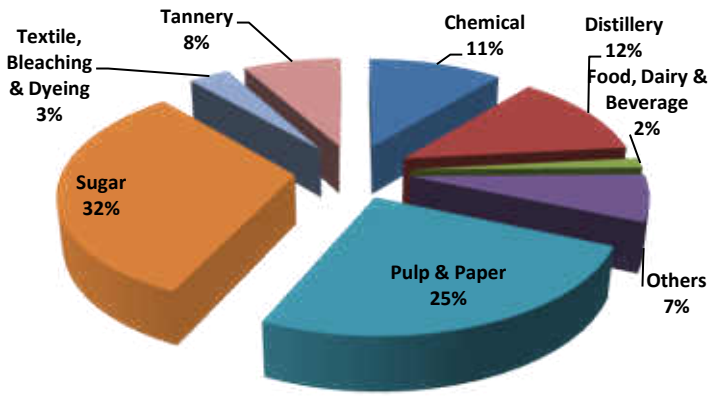


Table-8.6: Status of water consumption & wastewater generation in Uttar Pradesh

Category of Industry	Number of Industry	Water Consumption (KLD)	Waste-water Generation (KLD)
Chemical	20	113.0	29.6
Distillery	27	69.2	33.0
Food, Dairy & Beverage	15	6.3	3.8
Others	35	90.7	18.1
Pulp & Paper	33	96.3	68.1
Sugar	56	278.4	85.7
Textile, Bleaching & Dyeing	59	11.4	9.0
Tannery	442	27.4	21.6
Total	**687**	**693**	**269**

Table-8.7: Status of wastewater generation in the riverine system of Uttar Pradesh

Water Bodies	Ganga		Kali-East		Ramganga	
Category of Industry	**Number of Industry**	**Waste-water Generation (KLD)**	**Number of Industry**	**Waste-water Generation (KLD)**	**Number of Industry**	**Waste-water Generation (KLD)**
Chemical	15	21.0	3	3.8	2	4.8
Distillery	10	8.7	10	13.15	7	11.2
Food, Dairy & Beverage	12	1.9	2	1.5	1	0.5

Table-8.7: Status of wastewater generation in the riverine system of Uttar Pradesh						
Water Bodies	Ganga		Kali-East		Ramganga	
Others	27	5.2	6	0.5	2	12.4
Pulp & Paper	9	8.3	16	36.8	8	23
Sugar	18	18.4	15	14.8	23	52.5
Textile, Bleaching & Dyeing	57	6.7	1	0.8	1	1.5
Tannery	442	21.6	0	0	0	0
Total	**590**	**91.73**	**53**	**71.4**	**44**	**105.9**

8.3.3.3 Bihar

In the state of Bihar, discharge from grossly polluting industries is not so prominent in comparison to other states with respect to river Ganga. The total discharge from industries is 17.3 MLD, out of which 7 MLD is from Barauni refinery. The information regarding wastewater from various type of industries is summarized in Table-8.8.

Table-8.8: Status of water consumption wastewater generation in Bihar			
Category of Industry	**Number of Industry**	**Water Consumption**	**Wastewater Generation (KLD)**
Chemical	1	12	7.2
Distillery	1	0.6	0.1
Food, Beverage & Dairy	2	0.8	0.4
Pulp & Paper	1	1.1	0.5
Tannery	2	1.3	0.5
Textil, Bleach& Dyeing	3	0.0	0.0
Other	3	75.1	8.7
Total	**13**	**90.9**	**17.3**

8.3.3.4 Jharkhand

There is no information regarding industrial discharge in river Ganga at Jharkhand.

8.3.3.5 West Bengal

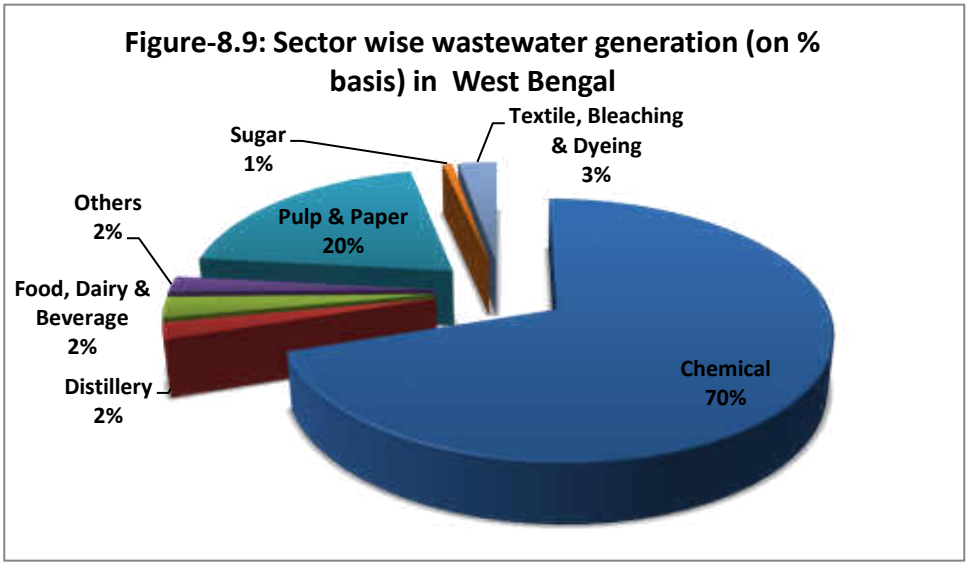
In the stretch of West Bengal the river Hooghly (Ganga is named as Hoogly here) receives 87 MLD wastewater from 22 grossly polluting industries. It is pertinent to note that various categories of industries are housed on the banks of Hooghly, this is summarized in table-8.9. It is observed that

chemical industry discharges 70% of total wastewater generated, followed by Pulp & paper which is 20%. This is a deviation from the trend in Upper and middle Ganga.

Table-8.9: Status of wastewater generation from various type of industries in West Bengal

Category of Industry	Number of Industry	Water Consumption (KLD)	Wastewater Generation (KLD)
Chemical	6	85.9	61
Distillery	2	3.3	1.8
Food, Dairy & Beverage	5	4.2	2.3
Others	3	2.5	1.8
Pulp & Paper	3	15.9	17.3
Sugar	2	1.1	0.6
Textile, Bleaching & Dyeing	1	2.6	2.4
TOTAL	**22**	**115.5**	**87.2**

Distribution of wastewater generated from different type of industry is depicted in figure-8.9.



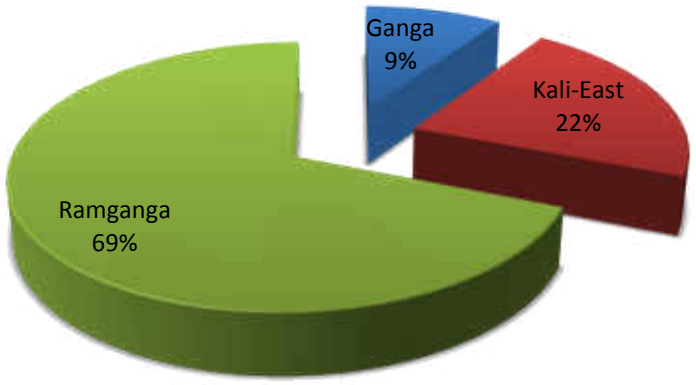
8.3.4 Comparison of industrial wastewater discharges among three riverine system: Kali- East, Ramganga & main stem of Ganga.

A comparison of wastewater discharged in river Ganga, Kali-East and Ramganga in Uttarakhand and Uttar Pradesh (up to Kannauj Downstream) all together is shown in table-8.10 and percentage discharged by grossly polluting industries in these rivers at Uttarakhand and Uttar Pradesh is depicted in figure-8.10.

Table-8.10: Status of wastewater generation in the three riverine system from Uttarakhand to Uttar Pradesh

Water Bodies	Ganga		Kali-East		Ramganga	
Category of Industry	**Number of Industry**	**Waste-water Generation (KLD)**	**Number of Industry**	**Waste-water Generation (KLD)**	**Number of Industry**	**Waste-water Generation (KLD)**
Chemical	5	3.1	3	3.8	2	4.8
Distillery	7	6.9	10	13.2	9	13.3
Food, Dairy & Beverage	1	0.7	2	1.5	1	0.5
Others	0	0	6	0.5	2	12.4
Pulp & Paper	6	9.0	16	36.8	35	135.6
Sugar	13	11.8	15	14.8	30	60.4
Textile, Bleaching & Dyeing	0	0	1	0.8	1	1.5
Total	**32**	**31.5**	**53**	**71.3**	**80**	**228.5**

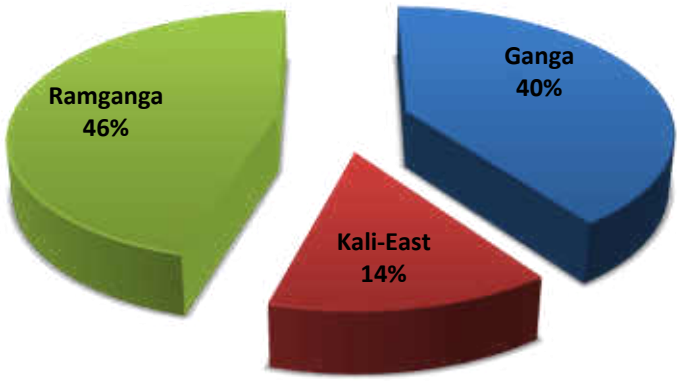
Figure- 8.10: Percentage of wastewater discharged in River Ganga, Kali-East and Ramganga from Uttrakahand to Uttar Pradesh (upto Kannauj Downstream)



- It is observed from the figure-10 that wastewater discharged by grossly polluting industries from Uttarakhand to Uttar Pradesh upto Kannauj downstream all together in river Ramganga is 69% followed by Kali-East (22%) and River Ganga (9%).

- However if we take the whole stretch of River Ganga the percentage of total wastewater discharged to river Ramganga is 46% followed by Ganaga (40%) and Kali-East (14%). This is depicted in figure-8.11.

Figure-8.11: Percentage of wastewater discharged in River Ganga, Kali-East and Ramganga from Uttrakahand to West Bengal



8.3.5 Sector specific wastewater generation in terms of water consumption

- In Uttarakhand, Uttar Pradesh, Bihar and West Bengal all together it is observed that average wastewater generation by grossly polluting industries is approx 45% of water consumed by these industries.

Table 8.11: Percentage of sector specific wastewater generation with respect to consumption

Industrial Sector	Chemical	Distillery	Food, Dairy & Beverage	Pulp & Paper	Sugar	Textile, Bleaching & Dyeing	Tannery	Others
% of wastewater generation with respect to consumption	46.4	47	58	65.8	31.5	80.9	77	17

- Tannery; Distillery; Dairy, food and beverage; Dyeing, Textile & Bleach and Pulp & paper are the sectors which generate more than 50% wastewater in terms of water consumed by these categories of industries. The details are given in Table-8.11.

8.4 CONCLUSION

- There are 764 grossly polluting industries discharging wastewater to main stem of River Ganga (either directly or through drains) and its two important tributaries Kali-east and Ramganga in

Uttarakhand, Uttar Pradesh, Bihar and west Bengal. Out of 764 industries, 687 are located in Uttar Pradesh.

- The water consumed by grossly polluting industries is 1123 MLD.
- Total wastewater generated by grossly polluting industries is 501 MLD. This is 45% (approx) of total water consumed.
- In terms of number of industrial units, tannery sector is dominating where as in terms of wastewater generation Pulp & paper sectors dominate followed by chemical and sugar sector.
- It is observed that GPI in Bihar generate minimum wastewater (19%) in terms of water consumed whereas GPI in West Bengal generate maximum wastewater 75.5% in terms of water consumed this followed by Uttarakhand (56.7%) and Uttar Pradesh (39%%).
- In the riverine system Ramanga carries maximum industrial wastewater followed by main stream of river Ganga and Kali-East respectively.

8.5 ACTION TAKEN

Central Pollution Control Board has inspected 441 industries (as on 30/06/2013) to check the compliance and inventory provided by State Polution Control Board and to check the adequacy of industries in terms of wastewater pollution. Details of industries monitored and their action taken are provided in Annexure-VIII.

CHAPTER – 9
CONCLUSION

The River Ganga suffers from myriad problems, most significant ones being the lean flow during dry season. Discharge of untreated and/or partially treated sewage and industrial wastewater into the river is a key issue. Diversion of river water through Upper and Lower Ganga canals, leaving virtually very little flow in the main river stream makes dilution difficult even for the treated sewage.

In Uttar Pradesh, there is need of treatment of sewage and availability of proper conveyance system for sewage. River Ganga also needs minimum ecological flow for its survival in the stretch of Uttar Pradesh. Since a river is a living eco-system and therefore ultimate goal should be to protect the functioning of the river eco-system.

Major Tribuatries of river Ganga namely Ramganga and Kali-East need immediate attention as they carry industrial and domestic pollution load of Uttrakhand and Uttar Pradesh.

Major industrial sector namely, Tannery, Sugar & Distillery, Pulp and Paper mills contributes significant pollution load to river Ganga and its tribuatries. There is immediate need of firm environment surveillance in order to check their compliance with environmental standards.

It is pertinent to mention that incessant discharge of treated sewage (BOD level of 30 mg/l) cannot bring the river water to bathing quality level in lean season, even if sewage get 100% treatment. Therefore, it is neccesary that minimum flow throughout theyear is maintained to support eco-system of river and aquatic life. Itwould be advisable to createmore water storage facility for Ganga riverine system and release water inthe lean period to effectively maintain minimum flow in the river.

ANNEXURE-I

DETAILS OF MONITORING LOCATIONS

S.No.	LOCATION	STATE	FREQUENCY
1.	BHAGIRATHI AT GANGOTRI	UTTARAKHAND	YEARLY
2.	ALKANANDA B/C MANDAKINI AT RUDRA PRAYAG	UTTARAKHAND	MONTHLY
3.	MANDAKINI B/C ALKALNADA AT RUDRAPRAYAG	UTTARAKHAND	MONTHLY
4.	ALKANANDA A/C MANDAKINI AT RUDRAPRAYAG	UTTARAKHAND	MONTHLY
5.	ALKANANDA B/C TO BHAGIRATHI AT DEVPRAYAG	UTTARAKHAND	MONTHLY
6.	BHAGIRATHI B/C WITH ALAKNANDA AT DEVPRAYAG	UTTARAKHAND	MONTHLY
7.	ALKANANDA A/C WITH BHAGIRATHI AT DEVPRAYAG	UTTARAKHAND	MONTHLY
8.	GANGA AT RISHIKESH U/S	UTTARAKHAND	MONTHLY
9.	GANGA A/C OF RIVER SONG NEAR SATYANARAYAN TEMPLE D/S RAIWALA	UTTARAKHAND	MONTHLY
10.	GANGA AT HARIDWAR D/S	UTTARAKHAND	MONTHLY
11.	UPPER GANGA RIVER D/S ROORKEE	UTTARAKHAND	MONTHLY
12.	GANGA AT GARHMUKTESHWAR	UTTAR PRADESH	MONTHLY
13.	GANGA U/S, ANOOPSHAHAR	UTTAR PRADESH	MONTHLY
14.	GANGA D/S, ANOOPSHAHAR	UTTAR PRADESH	MONTHLY
15.	GANGA AT NARORA (BULANDSAHAR)	UTTAR PRADESH	MONTHLY
16.	GANGA AT KACHHLA GHAT, ALIGARH	UTTAR PRADESH	MONTHLY
17.	GANGA AT KANNAUJ U/S (RAJGHAT)	UTTAR PRADESH	MONTHLY
18.	GANGA AT KANNAUJ D/S	UTTAR PRADESH	MONTHLY
19.	GANGA AT BITHOOR (KANPUR)	UTTAR PRADESH	MONTHLY
20.	GANGA AT KANPUR U/S (RANIGHAT)	UTTAR PRADESH	MONTHLY
21.	GANGA AT KANPUR D/S (JAJMAU PUMPING STATION)	UTTAR PRADESH	MONTHLY
22.	GANGA AT DALMAU (RAI BAREILLY)	UTTAR PRADESH	MONTHLY
23.	GANGA AT KALA KANKAR, RAEBARELI	UTTAR PRADESH	MONTHLY
24.	GANGA AT ALLAHABAD (RASOOLABAD)	UTTAR PRADESH	MONTHLY
25.	GANGA AT KADAGHAT, ALLAHABAD	UTTAR PRADESH	MONTHLY
26.	GANGA AT ALLAHABAD D/S (SANGAM)	UTTAR PRADESH	MONTHLY
27.	GANGA U/S, VINDHYACHAL, MIRZAPUR	UTTAR PRADESH	MONTHLY
28.	GANGA D/S, MIRZAPUR	UTTAR PRADESH	MONTHLY
29.	GANGA AT VARANASI U/S (ASSIGHAT)	UTTAR PRADESH	MONTHLY
30.	GANGA AT VARANASI D/S (MALVIYA	UTTAR PRADESH	MONTHLY

S.No.	LOCATION	STATE	FREQUENCY
	BRIDGE)		
31.	GANGA AT TRIGHAT (GHAZIPUR)	UTTAR PRADESH	MONTHLY
32.	GANGA AT BUXAR	BIHAR	MONTHLY
33.	GANGA AT BUXAR, RAMREKHAGHAT	BIHAR	MONTHLY
34.	GANGA AT INDRAPURI, DEHRI ON SONE	BIHAR	MONTHLY
35.	GANGA AT THE CONFLUENCE OF SONE RIVER DORIGANJ, CHAPRA	BIHAR	MONTHLY
36.	GANGA AT KHURJI, PATNA U/S	BIHAR	MONTHLY
37.	GANGA DARBHANGA GHAT AT PATNA	BIHAR	MONTHLY
38.	GANGA AT PATNA D/S (GANGA BDG)	BIHAR	MONTHLY
39.	GANGA AT PUNPUN, PATNA	BIHAR	MONTHLY
40.	GANGA AT FATUHA	BIHAR	MONTHLY
41.	GANGA AT MOKAMA (U/S)	BIHAR	MONTHLY
42.	GANGA AT MOKAMA (D/S)	BIHAR	MONTHLY
43.	GANGA AT MUNGER	BIHAR	MONTHLY
44.	GANGA AT SULTANGANJ, BHAGALPUR	BIHAR	MONTHLY
45.	GANGA AT BHAGALPUR	BIHAR	MONTHLY
46.	GANGA AT KAHALGAON	BIHAR	MONTHLY
47.	GANGA AT RAJMAHAL	JHARKHAND	MONTHLY
48.	GANGA AT BAHARAMPORE	WEST BENGAL	MONTHLY
49.	TRIBENI ON GANGA, NEAR BURNING GHAT	WEST BENGAL	MONTHLY
50.	GANGA AT SERAMPORE	WEST BENGAL	MONTHLY
51.	GANGA AT DAKSHINESHWAR	WEST BENGAL	MONTHLY
52.	NABADIP ON GANGA,GHOSHPARA NEAR MONIPURGHAT	WEST BENGAL	MONTHLY
53.	GANGA AT HOWRAH-SHIVPUR	WEST BENGAL	MONTHLY
54.	GANGA AT GARDEN REACH	WEST BENGAL	MONTHLY
55.	GANGA AT ULUBERIA	WEST BENGAL	MONTHLY
56.	GANGA AT PALTA	WEST BENGAL	MONTHLY
57.	GANGA AT DIAMOND HARBOUR	WEST BENGAL	MONTHLY

ANNEXURE-II

LIST OF PARAMETERS MONITORED UNDER NATIONAL WATER QUALITY MONITORING PROGRAMME

FIELD OBSERVATIONS (7)	CORE PARAMETERS (9)	GENERAL PARAMETERS (19)	BIO-MONITORING (3)	TRACE METALS (9)	PESTICIDES (15)
• Weather	• PH	• Turbidity, NTU	• Saprobity Index	• Arsenic, µg/L	• Alpha BHC, µg/L
• Depth of main stream/depth of water table	• Temperature	• Phenolphthalein Alkalinity, as $CaCO_3$	• Diversity Index	• Cadmium, µg/L	• Beta BHC, µg/L
• Colour and intensity	• Conductivity, µmhos/cm	• Total Alkalinity, as $CaCO_3$	• P/R Ratio	• Copper, µg/L	• Gama BHC (Lindane) , µg/L
• Odour	• Dissolved Oxygen, mg/L	• Chlorides, mg/L		• Lead, µg/L	• O P DDT, µg/L
• Visible effluent discharge	• BOD, mg/L	• COD, mg/L		• Chromium (Total) , µg/L	• P P DDT, µg/L
• Human activities around station	• Nitrate – N , mg/L	• Total Kjeldahl - N, as N mg/L		• Nickel, µg/L	• Alpha Endosulphan, µg/L
• Station detail	• Nitrite – N, mg/L	• Ammonia - N, as N mg/L		• Zinc, µg/L	• Beta Endosulphan, µg/L
	• Faecal Coliform, MPN/100 ml	• Hardness, as $CaCO_3$		• Mercury, µg/L	• Aldrin, µg/L
	• Total Coliform, MPN/100 ml	• Calcium, as $CaCO_3$		• Iron (Total) , µg/L	• Dieldrin, µg/L
		• Sulphate, mg/L			• Carboryl(Carbamate) , µg/L
		• Sodium, mg/L			• 2-4 D, µg/L
		• Total Dissolved Solids, mg/L			• Malathian, µg/L
		• Total Fixed Dissolved Solids, mg/L			• Methyl Parathian, µg/L
		• Total suspended Solid, mg/L			• Anilophos, µg/L
		• Phosphate, mg/L			• Chloropyriphos, µg/L
		• Boron, mg/L			
		• Magnesium, as $CaCO_3$			
		• Potassium, mg/L			
		• Fluoride, mg/L			

ANNEXURE-III

WATER QUALITY DATA OF RIVER GANGA - 2011

LOCATIONS	State Name	pH			D.O. (mg/l)			B.O.D. (mg/l)			FECAL COLIFORM (MPN/100ml)			TOTAL COLIFORM (MPN/100ml)		
		Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
BHAGIRATHI AT GANGOTRI	UTTARAKHAND	7.7	8.1	7.9	8.0	8.9	8.5									
ALKANANDA B/C MANDAKINI AT RUDRA PRAYAG	UTTARAKHAND	7.2	8.7	8.0	8.6	12.2	9.6				700	4300	2500	9300	9300	9300
MANDAKINI B/C ALKALNADA AT RUDRAPRAYAG	UTTARAKHAND	7.3	8.7	8.0	7.0	9.8	8.8				1500	2100	1800	4300	46000	25150
ALKANANDA A/C MANDAKINI AT RUDRAPRAYAG	UTTARAKHAND	7.6	8.6	8.1	8.6	10.3	9.3	0.6	0.8	0.7	9300	24000	16650	46000	46000	46000
ALKANANDA B/C TO BHAGIRATHI AT DEVPRAYAG	UTTARAKHAND	7.4	8.6	8.1	7.7	11.4	9.1	0.6	1.9	1.2	900	9300	5100	4300	15000	9650
BHAGIRATHI B/C WITH ALAKNANDA AT DEVPRAYAG	UTTARAKHAND	7.4	8.5	8.0	7.6	9.8	8.6	1.0	1.0	1.0	400	900	650	2100	4300	3200
ALKANANDA A/C WITH BHAGIRATHI AT DEVPRAYAG	UTTARAKHAND	7.4	8.5	8.1	8.0	10.2	8.7	0.6	0.8	0.7	9300	46000	27650	24000	110000	67000
GANGA AT RISHIKESH U/S	UTTARAKHAND	7.0	8.4	7.7	8.0	11.0	9.1	0.2	3.0	1.7				5	200	99
A/C R.SONG NR SATYANARAYAN TEMPLE D/S RAIWALA	UTTARAKHAND	6.8	8.6	7.7	5.2	11.0	7.8	1.4	7.6	4.5	800	800	800	1600	35000	4467
GANGA AT HARIDWAR D/S	UTTARAKHAND	6.7	8.5	7.6	4.2	8.8	6.7	0.6	11.0	5.6	300	2000	1150	200	580000	50917
UPPER GANGA RIVER D/S ROORKEE	UTTARAKHAND	6.8	8.4	7.8	6.4	10.4	8.3	1.0	3.8	2.5	5	11	8	140	700	377
GANGA AT GARHMUKTESHWAR	UTTAR PRADESH	7.2	7.5	7.4	7.0	10.0	8.2	2.8	4.5	3.4	310	2100	1162	700	4300	2497
GANGA U/S, ANOOPSHAHAR	UTTAR PRADESH	7.0	8.0	7.4	7.0	10.6	8.4	1.6	3.8	2.8	110	1100	673	430	2000	1377
GANGA D/S, ANOOPSHAHAR	UTTAR PRADESH	7.2	8.2	7.6	7.2	10.5	8.3	2.2	6.1	3.6	150	1200	783	640	2400	1713
GANGA AT NARORA (BULANDSAHAR)	UTTAR PRADESH	7.0	7.8	7.5	7.4	11.6	8.7	1.9	6.6	3.1	70	610	420	150	1400	850
AT KACHHLA GHAT, ALIGARH	UTTAR PRADESH	7.2	7.7	7.4	7.6	9.2	8.3	2.2	6.8	3.7	300	1300	840	930	2600	1743
GANGA AT KANNAUJ U/S (RAJGHAT)	UTTAR PRADESH	7.1	8.5	8.0	6.0	9.8	7.9	3.4	6.2	4.5	700	9000	3042	2800	20000	10075
GANGA AT KANNAUJ D/S	UTTAR PRADESH	7.2	8.6	8.0	6.0	10.1	7.8	4.2	9.0	5.5	900	9000	3508	4300	49000	20208
GANGA AT BITHOOR (KANPUR)	UTTAR PRADESH	7.4	8.8	8.2	6.2	14.3	8.7	2.6	5.6	4.0	900	4300	1700	1100	21000	7750
GANGA AT KANPUR U/S (RANIGHAT)	UTTAR	7.4	9.1	8.2	6.0	12.8	8.6	3.0	5.5	4.3	900	28000	6667	1100	150000	31992

LOCATIONS	State Name	pH			D.O. (mg/l)			B.O.D. (mg/l)			FECAL COLIFORM (MPN/100ml)			TOTAL COLIFORM (MPN/100ml)		
		Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
	PRADESH															
AT KANPUR D/S (JAJMAU PUMPING STATION)	UTTAR PRADESH	7.1	8.8	8.0	4.0	11.5	6.9	6.6	9.6	8.4	4000	93000	38942	23000	240000	151333
GANGA AT DALMAU (RAI BAREILLY)	UTTAR PRADESH	7.1	8.6	7.9	6.8	9.5	7.8	3.4	4.2	3.8	4600	6300	5300	6800	8700	7775
GANGA AT KALA KANKAR, RAEBARELI	UTTAR PRADESH	7.0	8.6	7.8	6.8	9.0	7.7	3.3	4.0	3.8	4100	6300	4980	6800	8800	7510
AT ALLAHABAD (RASOOLABAD)	UTTAR PRADESH	7.4	8.4	8.0	6.0	9.8	7.2	2.8	6.0	4.2	3000	3500	3358	7000	9000	7750
GANGA AT KADAGHAT, ALLAHABAD	UTTAR PRADESH	7.4	8.4	7.9	6.1	10.1	7.6	2.3	4.8	3.6	2100	3000	2492	3500	6000	4167
AT ALLAHABAD D/S (SANGAM)	UTTAR PRADESH	7.4	8.4	8.0	6.0	9.4	7.2	2.6	5.6	4.0	2800	5000	3408	6000	14000	8583
GANGA U/S, VINDHYACHAL, MIRZAPUR	UTTAR PRADESH	7.6	8.3	8.0	5.9	11.1	8.7	2.3	10.5	3.7	40	700	332	110	5400	1995
GANGA D/S, MIRZAPUR	UTTAR PRADESH	7.3	8.2	7.8	5.1	10.3	7.7	2.9	4.5	3.6	230	7000	2377	490	17000	5708
AT VARANASI U/S (ASSIGHAT)	UTTAR PRADESH	7.5	7.8	7.6	7.5	7.8	7.6	3.7	4.2	3.9	8000	8000	8000	13000	13000	13000
AT VARANASI D/S (MALVIYA BRIDGE)	UTTAR PRADESH	7.9	8.1	8.0	7.0	7.2	7.1	5.2	9.6	8.0	34000	46000	40000	46000	70000	58000
GANGA AT TRIGHAT (GHAZIPUR)	UTTAR PRADESH	7.9	8.2	8.0	7.0	7.4	7.3	4.1	4.4	4.3	13000	13000	13000	17000	21000	19667
GANGA AT BUXAR,BIHAR	BIHAR	7.6	8.5	8.2	7.8	9.0	8.4	2.7	2.8	2.8	1100	9000	3122	2800	16000	6867
GANGA AT BUXAR, RAMREKHAGHAT	BIHAR	7.4	8.6	8.2	7.8	8.7	8.4	2.6	3.0	2.9	5000	9000	7500	16000	24000	22000
GANGA AT KHURJI, PATNA U/S	BIHAR	7.9	8.6	8.2	8.0	8.9	8.4	2.6	2.8	2.7	1300	5000	2767	2400	16000	7044
AT INDRAPURI, DEHRI ON SONE	BIHAR	7.3	8.3	7.8	7.9	8.8	8.3	2.6	2.8	2.7	700	2400	1188	1400	3000	2338
AT CONFL. SONE DORIGANJ, CHAPRA	BIHAR	7.1	8.1	7.7	7.9	9.3	8.5	2.7	2.8	2.8	1100	3000	1922	2200	5000	3933
DARBHANGA GHAT AT PATNA	BIHAR	7.9	8.6	8.3	7.9	8.7	8.4	2.8	3.0	2.9	9000	9000	9000	16000	24000	23111
AT PATNA D/S (GANGA BRIDGE)	BIHAR	8.0	8.6	8.2	7.9	8.7	8.4	2.7	3.0	2.9	3000	9000	5667	9000	24000	18778
GANGA AT PUNPUN, PATNA	BIHAR	7.1	8.7	7.8	6.9	8.0	7.3	2.6	3.0	2.7	1100	3000	1589	2200	9000	3667
GANGA AT FATUHA	BIHAR	8.1	8.7	8.3	8.0	8.8	8.4	2.7	2.9	2.8	1400	5000	2675	3000	16000	7313
GANGA AT MOKAMA (U/S)	BIHAR	7.8	8.2	8.0	7.1	8.7	8.0	2.6	2.8	2.7	1100	5000	2575	2200	16000	6588
GANGA AT MOKAMA (D/S)	BIHAR	7.6	8.2	8.0	6.8	8.8	7.9	2.9	3.0	3.0	2100	9000	7638	8000	24000	22000
GANGA AT MUNGER	BIHAR	7.7	8.1	8.0	6.2	8.6	7.8	2.6	2.9	2.7	800	5000	2178	2200	9000	4967
GANGA AT SULTANGANJ, BHAGALPUR	BIHAR	7.6	8.1	7.9	6.4	8.7	7.8	2.7	2.8	2.7	1300	3000	1943	2200	5000	3371

LOCATIONS	State Name	pH			D.O. (mg/l)			B.O.D. (mg/l)			FECAL COLIFORM (MPN/100ml)			TOTAL COLIFORM (MPN/100ml)		
		Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
GANGA AT BHAGALPUR	BIHAR	7.7	8.1	7.9	6.2	8.6	7.7	2.6	2.9	2.8	1300	9000	3686	2200	90000	22743
GANGA AT KAHALGAON	BIHAR	7.7	8.2	8.0	6.4	8.7	7.9	2.7	2.9	2.8	1100	9000	5611	2800	24000	11422
GANGA AT BAHARAMPORE	WEST BENGAL	7.2	8.4	7.8	6.9	11.2	8.3	1.0	3.9	2.2	17000	240000	105364	26000	300000	140545
NABADIP ON GANGA,GHOSHPARA NEAR MONIPURGHAT	WEST BENGAL	7.1	8.3	7.8	6.7	10.6	8.5	1.0	3.7	2.1	1300	50000	13573	1700	90000	21973
TRIBENI ON GANGA, NR BURNING GHAT	WEST BENGAL	7.0	8.5	7.9	4.8	13.4	8.2	0.8	2.9	1.7	700	11000	3064	900	14000	4755
GANGA AT PALTA	WEST BENGAL	7.2	8.2	7.8	5.7	11.0	7.7	1.3	2.8	2.1	23000	220000	84667	50000	280000	128333
GANGA AT SERAMPORE	WEST BENGAL	7.1	8.4	7.9	5.1	13.2	7.8	0.9	3.2	1.9	14000	170000	66667	22000	220000	97917
GANGA AT DAKSHINESHWAR	WEST BENGAL	7.3	8.3	7.8	5.2	13.9	7.8	3.0	5.0	4.0	17000	1100000	270333	22000	2500000	653083
GANGA AT HOWRAH-SHIVPUR	WEST BENGAL	7.5	8.2	7.8	4.8	12.8	7.3	2.4	8.2	4.0	33000	650000	130750	34000	850000	223667
GANGA AT GARDEN REACH	WEST BENGAL	7.5	8.3	7.8	4.4	12.2	6.8	1.9	5.6	4.1	8000	400000	164833	11000	650000	247167
GANGA AT ULUBERIA	WEST BENGAL	7.5	8.4	7.8	4.3	11.0	5.9	0.3	5.9	2.8	14000	140000	32500	17000	280000	68833
GANGA AT DIAMOND HARBOUR	WEST BENGAL	7.5	8.5	7.9	5.4	8.5	7.1	1.1	5.1	2.3	8000	80000	20333	11000	110000	30667

ANNEXURE-IV

PRIMARY WATER QUALITY CRITERIA FOR BATHING REACHES IN RIVERS IS NOTIFIED BY MINISTRY OF ENVIRONMENT & FORESTS (MOEF)

CRITERIA	RATIONALE
1. Faecal Coliform: 500 (desirable) MPN/100ml 2500 (Maximum Permissible) 2. Faecal Streptococci: 100 (desirable) MPN/100ml 500 (MaximumPermissible)	To ensure low sewage contamination. Faecal coliform and faecal streptococci are considered as they reflect the bacterial pathogenicity. The desirable and permissible limits are suggested to allow for fluctuation inenvironmental conditionssuch as seasonal changes, changes in flow conditions etc.
3. pH: Between 6.5-8.5	The range provides protection of the skin and delicate organs like eyes, nose, ears etc. which are directly exposed during outdoor bathing.
4. Dissolved Oxygen: 5 mg/l or more	The minmum dissolved oxygen concentration of 5 mg/l ensures reasonable freedom from oxygen consuming organic pollution immediately U/s which is necessary for preventing production of anaerobic gases (obnoxious gases) from sediments
5. Biochemical Oxygen: 3 mg/l or less Demand 3 day, 27^{o}C:	The Biochemical Oxygen Demand of 3 mg/l or less of the water ensures reasonable freedom from oxygen demanding pollutants and prevent production of obnoxious gases.

ANNEXURE-V

PRIMARY WATER CRITERIA BASED ON DESIGNATED BEST USE

DESIGNATED-BEST-USE	CLASS OF WATER	CRITERIA
DrinkingWater Source without conventional treatment but after disinfection	A	1. Total Coliforms OrganismMPN/100ml shall be 50 or less 2. pH between 6.5 and 8.5 3. Dissolved Oxygen 6mg/l or more 4. Biochemical Oxygen Demand 5 days 20^{o}C 2mg/l or less
Outdoor bathing (Organised)	B	1. Total Coliforms Organism MPN/100ml shall be 500 or less 2. pH between 6.5 and 8.5 3. Dissolved Oxygen 5mg/l or more 4. Biochemical Oxygen Demand 5 days 20^{o}C 3mg/l or less
Drinking water source after conventional treatment and disinfection	C	1. Total Coliforms Organism MPN/100ml shall be 5000 or less 2. pH between 6 to 9 3. Dissolved Oxygen 4mg/l or more 4. Biochemical Oxygen Demand 5 days 20^{o}C 3mg/l or less
Propagation of Wild life and Fisheries	D	1. pH between 6.5 to 8.5 2. Dissolved Oxygen 4mg/l or more 3. Free Ammonia (as N) 1.2 mg/l or less
Irrigation, Industrial Cooling, Controlled Waste disposal	E	1. pH between 6.0 to 8.5 2. Electrical Conductivity at 25^{o}C micro mhos/cm Max.2250 3. Sodium absorption Ratio Max. 26 4. Boron Max. 2mg/l

ANNEXURE-VI

QUESTIONNAIRE FORMAT FOR GPI

Central Pollution Control Board
NGRBA Cell

Category of Industry:

1.	Name & Address of the Unit			
2.	Contact Person (Name, Designation, Mob no.)			
3.	Status of the UNIT	Closed		Operating
4.	Consent status	Valid	Applied	Deemed
		Valid upto	Date of application	Date of application
5.	Product(s) & Installed Capacity *(Tonnes/annum) or (m3/annum)*			
6.	Raw Materials, & Consumption per year*(Tonnes/annum) or (m3/annum)*			
7.	Water Consumption (industrial) (m^3/day)			
8.	Flow measuring Facility Available	YES	NO	
9.	Waste Water Generation(m^3/day)(Before ETP)			

<table>
<tr><td></td><td colspan="2"></td><td colspan="6"></td></tr>
<tr><td rowspan="5">10.</td><td rowspan="5">ETP
Status</td><td rowspan="3">NO</td><td>Connected to CETP</td><td>ZERO discharge</td><td>YES

(Dist. Of CETP from the unit)</td><td>Permission to Discharge (m^3/day)</td><td>Actual discharge To reach CETP (m^3/day)</td></tr>
<tr><td colspan="2"></td><td></td><td></td><td></td></tr>
<tr><td colspan="2"></td><td>NO</td><td colspan="2"></td></tr>
<tr><td rowspan="2">YES</td><td colspan="2">Installed Capacity (m^3/day)</td><td>Average Effluent Generation (m^3/day)</td><td>Mode of Disposal of effluent</td><td>Sludge generation /day (m^3/day)</td><td>Mode disposal of sludge</td></tr>
<tr><td colspan="2"></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="2">Sequence of Treatment Plant</td><td colspan="5"></td></tr>
<tr><td>11.</td><td colspan="2">Disposal of effluents</td><td>Into to the river</td><td>Tributaries (Name)</td><td>Drain (Name)</td><td colspan="2">Over land</td></tr>
<tr><td colspan="2"></td><td></td><td></td><td></td><td colspan="2"></td></tr>
<tr><td>12.</td><td colspan="2">Hazardous substances handling</td><td>Name of chemicals</td><td>Storage capacity</td><td>Threshold capacity</td><td colspan="2"></td></tr>
<tr><td colspan="2"></td><td></td><td></td><td></td><td colspan="2"></td></tr>
<tr><td>13.</td><td colspan="2">Remarks</td><td colspan="5"></td></tr>
<tr><td>14.</td><td colspan="2">Name & Signature</td><td colspan="5"></td></tr>
</table>

ANNEXURE-VII

DETAILS OF 764 GROSSLY POLLUTED INDUSTRIES

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
1.	Jubilant Industries Limited (Polymer Unit) Bhartiagram, Gajraula, District- JP Nagar	Chemical (polymer)	Bijnour	206	104.2		Ganga
2.	Jubilant Life Sciences Limited (Chemical Unit I) Bhartiagram, Gajraula District- JP Nagar	Chemical	Bijnour	3599	1365		Ganga
3.	Jubilant Life Sciences Limited (Chemical Unit II) Bhartiagram, Gajraula, District- JP Nagar	Chemical	Bijnour	4388	1310		Ganga
4.	M/S Merino Industries Ltd., Village-Achheja, P.O.- Hapur, Ghaziabad	Chemical	Ghaziabad	1500	200	Kadrabad Drain	Kali -East
5.	M/s Synthetic Silica Prod., D-7, 8, Site-1, Panki, Kanpur	Chemical	Kanpur	10	12	UPSIDC Drain	Ganga
6.	M/S Pecock Pigment Pvt.Ltd.(New Name Axis Nirman and industries Ltd.), G.T. Road, KANPUR	Chemical	Kanpur	24	26	Noon River	Ganga
7.	M/s Daurala Sugar Works, Chemical Unit, Daurala, Meerut	Chemical	Merrut	3625	3600	Drain	Kali -East
8.	M/s Daurala Organics (A unit of D.C.M. Sri Ram Ind. Ltd.), Daurala, Meerut	Chemical	Merrut	2400	1600	Drain	Kali -East
9.	PMC Rubber Chemicals 103 GT Road (West) PO & PS Rishra District Hooghly Pin - 712248	Chemical (Antioxidants, Antiozonant, Accelerators,	West Bengal	2599	1440	Bag Khal River	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
		Retarder)					
10.	United phosphorus Ltd,Durga chak PO, Haldia, 721602,Purba medinipur	Chemical (Asulam, Asulox, Methanol)	West Bengal	325	150	Green Belt Canal	Ganga
11.	Hindustan Unilever Ltd. 63 Garden reach Road . Kolkata 700024	Chemical (Detergent Powder ; Laundry Soap; Toilet Soap)	West Bengal	350	175		Ganga
12.	M/s IFFCO,Phulpur, Allahabad	Chemical (Fertilizer)	Allahabad	33000	14200	Tisaura drain	Ganga
13.	M/s Kribhco Shyam Fertilizer Limited, Jalalabad Road Shajhanpur	Chemical (Fertilizer)	Bareilly	24000	110	Garrha/ Gari Nala	Ramganga
14.	IFFCO Ltd., Aonla Bareilly	Chemical (Fertilizer)	Bareilly	34200	4712	Aril River	Ramganga
15.	Jubilant Industries Limited (Fertiliser Unit) Bhartiagram, Gajraula, District- JP Nagar, U.P. - 244223	Chemical (Fertilizer)	Bijnour	620	50		Ganga
16.	M/s Duncan Fertilizers, Panki , Kanpur	Chemical (Fertilizer)	Kanpur	7590	3460	UPSIDC Drain	Ganga
17.	Indian Oil Corporation Limited,Barauni Oil Refinery. Dist Begusarai P.O.Barauni Oil Refinary	Chemical (LPG, Naphtha, Motor Spirit (MS),Superior Kerosene Oil (SKO), High Speed Diesel (HSD), Light Diesel Oil (LOD), Low	Bihar	12000	7200		Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
		Sulphur Heavy Stock, Raw Petrolum Cock (RPC) and Sulfur)					
18.	Indian oil corporation, Haldia refinary,Haldia oil refinary PO, Hadia Dist,Purba mednapur-721606	Chemical (Oil & Gas)	West Bengal	16133	10005	Dankuni Canal	Ganga
19.	M/s Government Opium and Alkaloid Works, Ghazipur	Chemical (Opium and Alkaloid)	Varanasi	200	170	River Ganga	Ganga
20.	M/s Swedeshi Inscetcides Pvt.Ltd., Pokharpur, Kanpur	Chemical (Pesticides)	Kanpur	-	-	KNN Drain	Ganga
21.	M/s Swedeshi Pesiticides Pvt.Ltd., Pokharpur, Kanpur	Chemical (Pesticides)	Kanpur	-	-	KNN Drain	Ganga
22.	Haldia Petrochemicals Ltd. PO Durgachak Medinipur 713203	Chemical (Petrochemical)	West Bengal	32731.2	11470	Gran Belt Canal (GBC)	Ganga
23.	M/s Deys Medical Stores Manu.(U.P) Ltd.,UPSIDC,Naini, Allahabad	Chemical (Pharmaceutical)	Allahabad	50	40	Ganga/UPSIDC drain	Ganga
24.	M/s. Teva API India Ltd, A- 2/1, A-2/2, UPSIDC Industrial Area, Bijnor Road, Gajraula – 244235 Dist.- J.P.Nagar, Uttar Pradesh.	Chemical (Pharmaceutical)	Bijnor	1200	265		Ganga
25.	MCC PTA corp.Pvt.Ltd,Bhunia rai chakMednipore east,Haldia dist, 7112249	Chemical (Purified teraphthalic acid)	West Bengal	33780	37780		Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
26.	M/S Agjonoble India Ltd.(Ici), Panki Industrial Area, Kanpur.	Chemical	Kanpur	1.5	6.5	UPSIDC Drain	Ganga
27.	M/s Bee Chem Ind., Panki, Kanpur	Chemical	Kanpur	15	2.5	U.P.S.D.C. Drain	Ganga
28.	M/s Nibi steels Ltd.(Chemical division),Jamdih,Ghosi,District-Mau(U.P.)	Distellery	Azamgarh	80	56		Ganga
29.	M/s The Kisan Sahkari Chini Mills Ltd.,(Distellery Unit),Ghosi,District-Mau(U.P)	Distellery	Azamgarh	1950	450		Ganga
30.	M/s Keser Enterprises (Distillery Unit), Bareilly	Distellery	Bareilly	10240	5120		Ramganga
31.	M/s Majhola Distillery & Chemical Works,Majhola,Pilibhit Bareilly	Distellery	Bareilly	2896	1448		Ramganga
32.	M/S United Spirits Ltd. Unit, Roja Shajhanpur	Distellery	Bareilly	1458	729	Garrah River/ Local Drain	Ramganga
33.	M/S Superior Industries Ltd.(Distellery Division), C.B. Ganj, Bareilly	Distellery	Bareilly	600	300		Ramganga
34.	M/s UP Co operative Sugar Factory Federation Ltd., (Distillery) Anoopshahr, Distt: Bulandshahr.	Distellery	Bhulandshahar	500	360		Ganga
35.	M/S United spirits Ltd.,Hathidah,Mokama,Patna	Distellery	Bihar	640	66		Ganga
36.	M/s Jagatjeet Industries Ltd. 4A-1/1, 1/2 & A-3/2, Ind. Area, Sik. Distt. Bulandshahr	Distillary	Bhulandshahar	360	174	Industrial drain to Karvan river	Kali-East
37.	Dhampur Sugar Mills Ltd.(Unit distillary), Dhampur Distt. Bijnor (U.P.)	Distillary	Bijnour	2390	1200		Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
38.	Jubilant Life Sciences Limited (Distillery Unit) Bhartiagram, Gajraula District- JP Nagar, U.P. - 244223	Distillary	Bijnour	5344	4215		Ganga
39.	M/s Kisan Sahkari Chini Mills Ltd (Disterllery Unit) Farrukhabad	Distillary	Kanpur	6338	1000	Drain	Ganga
40.	M/s Wave Distilleries & Brevaries Ltd.,Vill- Ahmedpura , Ramghat Road, Tehsil- Atrauli, Distt. - Aligarh.	Distillery	Aligarh	8710	8710		Kali-East
41.	Dwarikesh Sugar Industries Ltd, (Distillery Unit), Unit-Dwarikesh Nagar P.O-Bundki, Tehsil-Nagina, Distt- Bijnor	Distillery	Bijnor	415.1	300		Ganga
42.	Jain Distillery, 8th Km, Stone, Nagina road, Bijnor	Distillery	Bijnor	600	350		Ganga
43.	Mohit Petro Chemicals Pvt. Ltd, 9th Km. stone, Nagina road, Bijnor	Distillery	Bijnor	600	350		Ganga
44.	Doon Valley Distillers (AD)	Distillery	Dehradun	112	154.8		Ganga
45.	M/s. Ghaziabad Organics Ltd (Distillery Division), Vill- Bhojpur, Modi Nagar, Ghaziabad	Distillery	Ghaziabad	1185	500	Kadrabad Drain	Kali-East
46.	M/s Modi Distillery, Modi Nagar, Ghaziabad	Distillery	Ghaziabad	400	216	Kadrabad Drain	Kali-East
47.	M/s Simbhaoli Sugar Mills Ltd (Distillery Unit), Simbhaoli, Ghaziabad.	Distillery	Ghaziabad	2656	1036	Kadrabad Drain	Kali-East
48.	M/s Simbhaoli Sugar Mills Ltd. (Brijnathpur Distillery Unit), Vill- Brijnathpur, Ghaziabad.	Distillery	Ghaziabad	1420	600	Kadrabad Drain	Kali-East
49.	M/s India Glycols Ltd, A-1, Industrial area bazpur road, Kashipur-244713 Distt- US Nagar	Distillery	Haldwani	5368.9	2000		Ramganga
50.	*The Bazpur Coop. Sugar Factory Ltd.*	*Distillery*	*Haldwani*	*130*	*32.5*		*Ramganga*

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
	Distillery Unit, Bazpur, US Nagar, Uttarakhand						
51.	*M/s Daurala Sugar Works, Distillery Unit, Daurala, Meerut*	*Distillery*	*Merrut*	*13000*	*1500*	*Drain*	Kali-East
52.	National Industrial Corp. Ltd Raja -Ka-Sahaspur,Bilari Distt.-Moradabad(UP)	Distillery	Moradabad	410	480		Ramganga
53.	Dhampur Sugar Distillery Pvt. Ltd Vill. & P.O.-ASMOLI ist.-oradabad U.P.	Distillery	Moradabad	1500	750		Ramganga
54.	Radico Khaitan Ltd Bareilly road,Rampur-244901(UP)	Distillery	Moradabad	4800	2400		Ramganga
55.	M/s Tikaula Distillary, Tikaula, Mujaffarnagar	Distillery	Muzaffarnagar	1000	360	Drain	Kali East
56.	M/s Lords Distillery Limited, Nandgunj, Ghazipur.	Distillery	Varanasi	727	365		Ganga
57.	I FB Agro Industries Ltd. Village - Durgapur, PO Noorpur, Via - Sarisha Ashram	Distillery	West Bengal	2357	935	Hoongly	Ganga
58.	M/S United Brewaries Limited, Kalyani Unit Plot No - 18, Block - D, Vittal Mallya Road, Kalyani, Dist - Nadia, Pin - 741235	Distillery	West Bengal	975	810	Municipal Drain	Ganga
59.	M/s Naglamal Sugar Complex, Distillery Unit, Naglamal,Meerut	Distillery	Merrut	1075	700	Drain	Kali-East
60.	M/s United Sprits Ltd., Distillery Unit, Meerut Cantt, Meerut	Distillery	Merrut	50	50	Drain	Kali-East
61.	M/s Pasupati Acrylon Ltd. Kashipur Road Thakurdawara Dist.Moradabad-244601 (UP)	Dying, Textile & Bleach	Moradabad	2100	1500	Closed Drain/ Dandi	Ramganga
62.	M/s O Bee Tee Limited,Gopepur, Gopigunj,Sant Ravidas Nagar	Dying, Textile & Bleach	Varanasi	900	630	Natural drain	Ganga
63.	Budhiya Textile, Bhagalpur	Dying, Textile & Bleach	Bihar	3	1.5		Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
64.	JJ Exporters, Bhagalpur	Dying, Textile & Bleach	Bihar	10	5		Ganga
65.	Tassat Dyeing, Bhagalpur	Dying, Textile & Bleach	Bihar	10	5		Ganga
66.	Aditya Birla Nuvo Ltd. [Jayashree Textiles]; 5, Panchugopal Bhaduri Sarani Rishra, District - Hooghly Pin-712249	Dying, Textile & Bleach	West Bengal	2599	2400	Municipal Drain	Ganga
67.	M/s Reliance Industries Ltd.Unit-1, UPSIDC, Naini,Allahabad	Dying, Textile & Bleach	Allahabad	2000	1700	Drain	Ganga
68.	M/s Reliance Industries Ltd Unit-2,UPSIDC,Naini,Allahabad	Dying, Textile & Bleach	Allahabad	1400	1300	Drain	Ganga
69.	M/s Shri Lakshmi Cotsyn Ltd.,Gudhrauli,Aung,Fatehpur	Dying, Textile & Bleach	Allahabad	500	300	Pandu	Ganga
70.	M/s Shri Lakshmi Cotsyn Ltd.,UPSIDC,Malwan,Fatehpur	Dying, Textile & Bleach	Allahabad	2300	1910	Drain	Ganga
71.	M/s A.R. polymers (P.) Ltd.,UPSIDC,Malwan,Fatehpur	Dying, Textile & Bleach	Allahabad	12	10.4	Drain	Ganga
72.	M/s Annapurna Carpet Ltd. Nakahara road,Mirzapur	Dying, Textile & Bleach	Allahabad	320	280	Natural drain/Lohadi drain	Ganga
73.	M/S Kanpur Texcel (P) Ltd., 19, Government Industry Estate, Kalpi Road, Kanpur Nagar	Dying, Textile & Bleach	Kanpur	10	13	U.P.S.I.D.C. Drain	Ganga
74.	M/S Ayudh Parachute Nirmani (O.P.F.), Naipior Road, Kanpur	Dying, Textile & Bleach	Kanpur	42.85	30	KNN Drain	Ganga
75.	M/S Industrial Enterprises, C-14, Panki Site-1, Kanpur.	Dying, Textile	Kanpur	30	15		Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
		& Bleach					
76.	M/S India Dying Works, F-8 Site 5, Panki, Kanpur	Dying, Textile & Bleach	Kanpur	4	5	UPSIDC Drain	Ganga
77.	M/s America Dying & Printers, Farrukhabad	Dying, Textile & Bleach	Kanpur	1.5	2	Anguribagh Drain	Ganga
78.	M/s Ashtha Enterprises, Khanpur, Farrukhabad	Dying, Textile & Bleach	Kanpur	1.5	2	Anguribagh Drain	Ganga
79.	M/s Avon Dying, Dada Nagar	Dying, Textile & Bleach	Kanpur	2.5	3	U.P.S.D.C. Drain	Ganga
80.	M/s Basotia Ind., C-16,17, Site-4, Panki, Kanpur	Dying, Textile & Bleach	Kanpur	10	11	U.P.S.D.C. Drain	Ganga
81.	M/s Basudeo Printers, 18B, Dada Nagar, Kanpur	Dying, Textile & Bleach	Kanpur	4	2.5	U.P.S.D.C. Drain	Ganga
82.	M/s Bharat Dyeing, Sujatganj, Kanpur	Dying, Textile & Bleach	Kanpur	2	2.5	KNN Drain	Ganga
83.	M/s Cawnpore Wollen Mills, Civil Lines, Kanpur	Dying, Textile & Bleach	Kanpur	25	25	KNN Drain	Ganga
84.	M/s Elgin Mill Co. Ltd. Unit-1 , Kanpur	Dying, Textile & Bleach	Kanpur	20	10	KNN Drain	Ganga
85.	M/s Elgin Mill Co. Ltd. Unit-2 , Kanpur	Dying, Textile & Bleach	Kanpur	20	10	KNN Drain	Ganga
86.	M/s Galaxy Export, Sutar Ganj , Kanpur	Dying, Textile & Bleach	Kanpur	2	2.5	KNN Drain	Ganga
87.	M/s Ganjiwala Pvt.Ltd.,Pokharpur ,	Dying, Textile	Kanpur	2	2	KNN Drain	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
	Kanpur	& Bleach					
88.	M/s Harsh Enterprises, Khanpur, Farrukhabad	Dying, Textile & Bleach	Kanpur	1.5	2	Anguribag Drain	Ganga
89.	M/s J.K.Cotton Spening & Weaving Mills Ltd., Kalpi Road, Kanpur	Dying, Textile & Bleach	Kanpur	24	2		Ganga
90.	M/s India Prints, Khanpur, Farrukhabad	Dying, Textile & Bleach	Kanpur	1.5	2	Anguribag Drain	Ganga
91.	M/s Khushwaha Printers, Narkasha, Farrukhabad	Dying, Textile & Bleach	Kanpur	1.5	2	Anguribag Drain	Ganga
92.	M/S R.J.Printers (S.S.Printers), Anguribag, Farrukhabad	Dying, Textile & Bleach	Kanpur	1.5	2	Anguribag Drain	Ganga
93.	M/s R.R.Prints House, Khanpur, Farrukhabad	Dying, Textile & Bleach	Kanpur	1.5	2	Anguribag Drain	Ganga
94.	M/s Shethu Sad. Anguribagh, Farrukhabad	Dying, Textile & Bleach	Kanpur	1.5	2	Anguribag Drain	Ganga
95.	M/s Tandon Brothers, Anguribagh, Farrukhabad	Dying, Textile & Bleach	Kanpur	1.5	2	Anguribag Drain	Ganga
96.	M/s K.P.Chemi Colour, Panki, Kanpur	Dying, Textile & Bleach	Kanpur	30	32	UPSIDC Drain	Ganga
97.	M/s Kalpana Dying, Ambedkar Nagar, Farrukhabad	Dying, Textile & Bleach	Kanpur	1.5	2	Anguribag Drain	Ganga
98.	M/s Kartar Taxtiles, Site 5, Panki, kanpur	Dying, Textile & Bleach	Kanpur	3	3.5	UPSIDC Drain	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
99.	M/s M.K.Dying, , Site-3, Panki, kanpur	Dying, Textile & Bleach	Kanpur	4	4.5	UPSIDC Drain	Ganga
100.	M/s Mahalaxmi Textile Industires, 155 B , Dada Nagar, Kanpur	Dying, Textile & Bleach	Kanpur	5	6	UPSIDC Drain	Ganga
101.	M/s Mahaveer Textile, 444 A, Site-1, Panki	Dying, Textile & Bleach	Kanpur	4	2.8		Ganga
102.	M/s Muir Mill, Kanpur	Dying, Textile & Bleach	Kanpur	-	-	UPSIDC Drain	Ganga
103.	M/s New Anupam Dying, Saresh Bagh,Kanpur	Dying, Textile & Bleach	Kanpur	10	4.5	KNN Drain	Ganga
104.	M/s New Victoria Mill, Kanpur	Dying, Textile & Bleach	Kanpur	-	-	KNN Drain	Ganga
105.	M/s O.P.O. Dye Chem, Dada Nagar, Kanpur	Dying, Textile & Bleach	Kanpur	-	-	UPSIDC Drain	Ganga
106.	M/s Prakash Textile, Panki, Kanpur	Dying, Textile & Bleach	Kanpur	2	2.5	UPSIDC Drain	Ganga
107.	M/s Quality Zipper, Dada Nagar, Kanpur	Dying, Textile & Bleach	Kanpur	12	14	UPSIDC Drain	Ganga
108.	M/s Saroj Textile Pvt. Ltd. Site-1, Panki , Kanpur	Dying, Textile & Bleach	Kanpur	50	53	UPSIDC Drain	Ganga
109.	M/s Sakti Dying & Bleaching, Dada Nagar, Kanpur	Dying, Textile & Bleach	Kanpur	2	2.5	UPSIDC Drain	Ganga
110.	M/s Shiva Industries, 26 C, Site -1, Panki , Kanpur	Dying, Textile & Bleach	Kanpur	20	25	UPSIDC Drain	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
111.	M/s Shudarshan Dying, Site-3, Panki, Kanpur	Dying, Textile & Bleach	Kanpur	10	11	UPSIDC Drain	Ganga
112.	M/s Stitch wire, Panki , Kanpur	Dying, Textile & Bleach	Kanpur	7	7.5		Ganga
113.	M/s Super Dying & Bleaching, Dada Nagar, Kanpur	Dying, Textile & Bleach	Kanpur	7	7.5	UPSIDC Drain	Ganga
114.	M/s Swedeshi Cotton Mill, Kanpur	Dying, Textile & Bleach	Kanpur	-	-	KNN Drain	Ganga
115.	M/s Thread India Ltd., Chaubepur, Kanpur	Dying, Textile & Bleach	Kanpur	185	180		Ganga
116.	M/s Tilak Dyes Prod., A-98, Dada Nagar, Kanpur	Dying, Textile & Bleach	Kanpur			UPSIDC Drain	Ganga
117.	M/s V.N.Sons(Standard Niwar) Panki, Kanpur	Dying, Textile & Bleach	Kanpur	5.4	5	UPSIDC Drain	Ganga
118.	M/s Sarvodaya Bleaching Works, G-96, Site-3, Panki,	Dying, Textile & Bleach	Kanpur	3	3.5	UPSIDC Drain	Ganga
119.	M/S Chawla Textiles, 92 A, Dada Nagar, Kanpur	Dying, Textile & Bleach	Kanpur	5	6	UPSIDC Drain	Ganga
120.	M/s Radha Interprises, H 42, 43, Stie-1 Psnki, Kanpur	Dying, Textile & Bleach	Kanpur	5	06	UPSIDC Drain	Ganga
121.	M/s A.K. Bleaching and Dyingh, G 50, Stie-1, Psnki,	Dying, Textile & Bleach	Kanpur	5	06	UPSIDC Drain	Ganga
122.	M/s Alps Industries Ltd., Vill.-Aminagar, Bhoorbaral, Partapur, Meerut	Dying, Textile & Bleach	Merrut	1000	800	Kadrabad Drain	Kali -East

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123.	M/S Annapurna Carpet Ltd. Nakahara road, Mirzapur	Dying, Textile & Bleach	Sonbhadra	320	280	Lohadi drain	Ganga
124.	M/s Ekta Dairy Pvt.Ltd,UPSIDC,Malwan,Fatehpur	Food, Dairy & Beverage (Dairy)	Allahabad	600	450	UPSIDC drain	Ganga
125.	M/s Dugdh Utpadah Sahkari Sangh Ltd.,Talab Tiwari,Allahabad	Food, Dairy & Beverage (Dairy)	Allahabad	180	90		Ganga
126.	M/s Dugh Utpadak Sahkari Sangh,Mirzapur	Food, Dairy & Beverage (Dairy)	Allahabad	20	4		Ganga
127.	Umang Dairies Ltd. 3 Km. Hasanpur road Gajraula, J.P.Nagar	Food, Dairy & Beverage (Dairy)	Bijnour	1400	650	Bagad river	Ganga
128.	M/s Mother Dairy Fruit & Vegetable PVT. LTD., 18 K.M. Stone, Pilkhua, Ghaziabad	Food, Dairy & Beverage (Dairy)	Ghaziabad	1470	1160	Hawal Drain	Kali-East
129.	M/S Kripa Ram Dairy Pvt. Ltd., Village-Bhojpur, Tahsil- Modinagar, Ghaziabad	Food, Dairy & Beverage (Dairy)	Ghaziabad	375	300	Kadrabad Drain	Kali-East
130.	M/s. Dinesh Oils Ltd. D-12,13,14, Industrial Area, Panki-3, kanpur nagar	Food, Dairy & Beverage	Kanpur	300	302	U.P.S.I.D.C..Drain	Ganga
131.	M/s Tasty Dairy Specialties Ltd., C2, C5, Site 5, Panki , Kanpur	Food, Dairy & Beverage (Dairy)	Kanpur	25	30	UPSIDC Drain	Ganga
132.	M/s Hidustan Equa Ltd, E 7, Site 1, Panki , Kanpur	Food, Dairy &	Kanpur	400	403	UPSIDC Drain	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
		Beverage					
133.	M/s Propene Products Ltd., Kalpi Road, Bhauti, Kanpur	Food, Dairy & Beverage	Kanpur	200	110	Pandu River	Ganga
134.	M/s Kanpur Dugh Utpadan Sahakari Sangh, Kanpur	Food, Dairy & Beverage (Dairy)	Kanpur	200	220	Municipal Drain	Ganga
135.	M/S Dugh Utpadak Sahkari Sangh, Mirzapur	Food, Dairy & Beverage (Dairy)	Sonbhadra	20	4	o	Ganga
136.	Dhunseri Petrochem & Tea Ltd. (South Asian Petrochem Ltd.); P.O. Khanjanchak, P.S. - Durgachak,	Food, Dairy & Beverage (edible oil)	West Bengal	1104	552		Ganga
137.	Milk Food Ltd.Agwanpur Bhusan,Vice President	Food, Dairy & Beverage	Moradabad	173	500	Drain	Ramganga
138.	M/S Hindustan coca cola bewarages Pvt.Ltd,E-1,Industrial area,Patliputra,Patna-13	Food, Dairy & Beverage (Soft Drinks)	Bihar	150	85	Industrial area drain	Ganga
139.	Mother Dairy Calcutta P.O. Dankuni Coal Complex Pin - 712310	Food, Dairy & Beverage (Dairy)	West Bengal	935	700	Dankuni Canal	Ganga
140.	Britannia Industries Ltd.; 15, Taratala Road, PO & PS Taratara, Kolkata-700088	Food, Dairy & Beverage	West Bengal	238	206	Nikashi Nullah	Ganga
141.	Diamond Beverages Pvt. Ltd.; P-41, Taratala Road, Pin - 700088	Food, Dairy & Beverage	West Bengal	760	380	CMC Drain	Ganga
142.	Bengal Beverages Pvt. Ltd.; Durgapur Expressway, P.O. Dankuni Coal Complex,	Food, Dairy &	West Bengal	1150	450	Danakuni Canal	Ganga

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	P.S. Dankuni,	Beverage					
143.	Patana Dairy, Patna	Food, Dairy & Beverage (Dairy)	Bihar	600	300		Ganga
144.	M/s Dugdh Utpadak Sahkari Sangh Limited, Industrial Area, Ramnagar, Chandauli.	Food, Dairy & Beverage (Dairy)	Varanasi	120	120	UPSIDC Drain	Ganga
145.	M/s Hindustan Cocl Cola Beverages(P)Ltd, Mehndigunj, Raja Talab,Varanasi.	Food, Dairy & Beverage (Soft Drinks)	Varanasi	1080	540	Natural drain	Ganga
146.	M/s Diesel Locomotive Works,Manduadih, Varanasi	Othe (Diesel Locomotive)	Varanasi	21000	2100	Assi river	Ganga
147.	M/s Ultratech Cement Ltd., Unit - Aligarh Cement Works,	Other (Cement)	Aligarh	74.53	37.3		Kali-East
148.	M/s J.P. Sikandrabad Cement Grinding Unit, 19 & 20, Ind. Area, Sik. Distt. Bulandshahr	Other (Cement)	Bhulandshahar	320	10		Kali-East
149.	M/s Kanodia Cement Ltd., D-19, Gopalpur, Ind. Area, Sik. Distt. Bulandshahr	Other (Cement)	Bhulandshahar	5.142	3.6		Kali -East
150.	Dankuni Coal Complex Coal India Ltd. Dankuni	Other (Coal fines, Coal gas, Ammonium Sulphate)	West Bengal	1750	1000	Dankuni Canal	Ganga
151.	M/S ITC ltd(India tobacco division) PO Basdeopur,Munger Dist	Other (Cut tobacco, Cigeratte)	Bihar	411.9	250		Ganga

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152.	Eveready Industries India Ltd. Unit National Carbon Plant; 5, Rustomjee Parsee Road, Kolkata-700002	Other (Dry Cell Battery)	West Bengal	45	22.5		Ganga
153.	Hindustan Motors Ltd. PO Hindmotor, Pin - 712233	Other (heavy motor)	West Bengal	680	800	Dankuni Canal	Ganga
154.	M/s Paint & Industries Co., Uptron Estate, Panki, Kanpur	Other (Paint)	Kanpur	3	3.5	UPSIDC Drain	Ganga
155.	M/s N.T.P.C. Limited ,kahalgoon , Super Tharmal Power Plant,STP P.O.- Kahalgaon , STP,Dist- Bhagalpur	Other (Power Generation)	Bihar	70348	3407		Ganga
156.	M/s Slaughter House, Bakarganj, Babupurwa	Other (Slaughter House)	Kanpur	3	3.5	Nagar Nigam Drain	Ganga
157.	M/s Slaughter House, Fazalganj	Other (Slaughter House)	Kanpur	3	3.5	Drain	Ganga
158.	M/s Slaughter House, Colonelganj, Kanpur	Other (Slaughter House)	Kanpur	2	21	Drain	Ganga
159.	M/s Slaughter House, Bakermandi, Kanpur	Other (Slaughter House)	Kanpur	4	4.5	Drain	Ganga
160.	M/s Slaughter House, Samabad, Farrukhabad	Other (Slaughter House)	Kanpur	5	5.5	Drain	Ganga
161.	M/s Al-Saqib Exports Pvt. Ltd., Vill.- Alipur, Hapur Road, Meerut	Other (Slaughter House)	Merrut	300	250	Drain	Kali-East

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162.	M/s Al-Faheem Meatex Pvt. Ltd., Vill.-Alipur, Hapur Road, Meerut	Other (Slaughter House)	Merrut	286	200	Drain	Kali-East
163.	M/s Pashvadhshala, Nagar Nigam, Hapur Road, Meerut	Other (Slaughter House)	Merrut	-	-	Drain	Kali-East
164.	Giex Foods Pvt. Ltd. Ahmad Nagar Pahari Distt.Rampur (UP) 244901	Other (Slaughter house)	Moradabad	800	600		Ramganga
165.	M/S J.S. International Ltd. Leather, Technology Park,B-32 to B-47 Banthar, Unnao	Other (Slaughter House)	Unnao	500	350	City Jail drain	Ganga
166.	M/S A.O.V. Exports Pvt. Ltd. D-1, D-2 Ind. Area site-1 Unnao	Other (Slaughter House)	Unnao	700	350	Loni drain	Ganga
167.	M/S Indagro Foods Ltd. UPSIDC, Site-2 Ind. Area, Unnao	Other (Slaughter House)	Unnao	921	850	Loni Drain	Ganga
168.	M/s. Small Arms, Kalpi Raod, Kanpur	Other (Small Arms Products)	Kanpur	180	200	Ganda Nala	Ganga
169.	Barauni Thrmal Power Station Barauni,Dist.Begusarai	Other (thermal Elctricity)	Bihar	4350	5051		Ganga
170.	M/s Rosa Power Supply Company Ltd., Roza,Shajhanpur	Others (Electricity)	Bareilly	49032	11760	Garrha River/Local Drain	Ganga

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171.	M/s. Panki Tharmal Power Station, Kanpur	Others (Electricity)	Kanpur	14303	16218	Pandu river	Ganga
172.	M/s International Electron Devices, Site 5, Panki, Kanpur	Others (Electroplating)	Kanpur	22	24	UPSIDC Drain	Ganga
173.	M/s Lohiya Packaging Manufacturing, Chauberpur , Kanpur	Others (Electroplating)	Kanpur	130	80	Noon River	Ganga
174.	M/S ORDENANCE FACTORY, KALPI ROAD, KANPUR-9	Others (Ferrous)	Kanpur	290	290	Pandu River	Ganga
175.	M/s Triveni Structures Ltd,Naini,allahabad	Others (Galvanized iron structures)	Allahabad	1200	1000	UPSIDC drain	Ganga
176.	M/s Sangam Structurals Ltd.(Tower Div.),UPSIDC,Naini	Others (Galvanized iron structures)	Allahabad	40	38	UPSIDC drain	Ganga
177.	M/s N.K. Laminates Pvt. Ltd., Vill. Daddupur, Chaubeypur, Kanpur	Others (Kattha-Kachh)	Kanpur	5	6	Noon River	Ganga
178.	M/s Brij Kattha Industries Pvt. Ltd., Vill. Daddupur, Chaubeypur, Kanpur	Others (Kattha-Kachh)	Kanpur	5	6	Noon River	Ganga
179.	M/s Hari Om Gram Udhyog Sansthan, Vill.-Sandila, Mandhna Bithore Road, Kanpur	Others (Kattha-Kachh)	Kanpur	5	06	Noon River	Ganga

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180.	M/s Hindustan Laboratories,UPSIDC,Naini,Allahabad	Others (Liquid bromine)	Allahabad	20	12	UPSIDC drain	Ganga
181.	M/s HAL, Chakeri Kanpur	Others (Mfg & Reparing of Air Craft)	Kanpur	32	52	Nagar Nigam	Ganga
182.	M/S Field Gun, Kalpi Raod, Kanpur	Others (Ordinace Equipments)	Kanpur	68	78	Ganda Nala	Ganga
183.	M/S Roto Mark System Pvt.Ltd., 123/355, Fajalganj, Kanpur	Others (Printed)	Kanpur	1	0.9	KNN NALA	Ganga
184.	M/s LML Ltd., C 10, Site 2, Panki , Kanpur (East Block)	Others (Scooter)	Kanpur	200	250	UPSIDC Drain	Ganga
185.	M/s LML Ltd., C 10, Site 2, Panki , Kanpur(West Block)	Others (Scooter)	Kanpur	200	250	UPSIDC Drain	Ganga
186.	M/s Indian Telephone Industries,UPSIDC,	Others (Telephone sets)	Allahabad	12	10	UPSIDC drain	Ganga
187.	M/s Rama Shyama Papers Ltd. Faridpur,Bareilly	Pulp & Paper	Bareilly	2000	1500	Nakatiya River/Nakatiya Nala	Ramganga
188.	M/s K.R.Pulp & Papers Ltd. (Unit -1), Jalalabad Road,Shajhanpur	Pulp & Paper	Bareilly	4250	3510	Garrha/Bakhsi Nala	Ramganga
189.	M/S K.R. Pulp $ Paper Ltd(Unit-ll) Jalabad Road Shajhanpur	Pulp & Paper	Bareilly	16560	13000	Garraha River,Garraha River, Bakhsi Nala	Ramganga
190.	M/s OTR Papers P. Ltd. B-4, Ind. Area, Sik. Distt. Bulandshahr	Pulp & Paper	Bhulandshahar	270	227	Industrial drain to Karvan river	Kali-East
191.	M/S United Paper boards Private Ltd.,Near industrial area,Patna-13	Pulp & Paper	Bihar	1091	475	Kurji Drain	Ganga

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192.	Rama paper Mills Ltd, (Unit-1, 2 & 3) Kiratpur, Bijnor	Pulp & paper	Bijnor	5000	4300	Malan river	Ganga
193.	Coral News Prints Ltd. Gajraula, J.P.Nagar	Pulp & Paper	Bijnour	800	600	Bagad river/Factory Drain	Ganga
194.	M/s Aroma Craft & Tissues Private Limited, 5th.Km Manglore Jhabrera Road,Village –Noopur-Budpur Dist.Haridwar	Pulp & Paper	Dehradun	3875	2712.5		Ganga
195.	M/s Sagar Paper Mills Pvt Ltd ,5th KM. Manglore-Jhabrera Road, Vill-Latherdeva hoon,Distt. Haridwar	Pulp & Paper	Dehradun	3.4	2.38		Ganga
196.	M/s Uttranchal Pulp & Paper Mills (P) Ltd.,Khasra No. 29, 2ndKm Manglore - Deoband Road,Village –Mundet , Roorkee,Dist. Haridwar	Pulp & Paper	Dehradun	450	150		Ganga
197.	M/s Ved Cellulose Ltd., 16 Km. Stone, Hapur Road, Vill-Lakhan, PO-Galand, District-Ghaziabad.	Pulp & Paper	Ghaziabad	1500	1000	Kadrabad Drain	Kali-East
198.	M/s Nav Bharat Duplex P Ltd., Badnoli, Modi Nagar, Ghaziabad.	Pulp & Paper	Ghaziabad	2500	1050	Chhuiya Nala	Kali-East
199.	M/s Modi Nagar Paper Mills, Modi Nagar, Ghaziabad	Pulp & Paper	Ghaziabad	2400	2050	Kadrabad Drain	Ganga
200.	M/s Sidharth Paper Ltd 7th Km Moradabad road, Kashipur-244713 Distt-US Nagar	Pulp & Paper	Haldwani	4200	3800		Ramganga
201.	M/s Sidharth Paper Ltd (Unit-II) 7th Km Moradabad road, Kashipur-244713 Distt-US Nagar	Pulp & Paper	Haldwani	6250	6040		Ramganga
202.	Shree Shayam Pulp & Board Mills Ltd. Unit-II, Moradabad Road, Kashipur (US Nagar)	Pulp & Paper	Haldwani	2000	1599.8		Ramganga
203.	M/s Siddheshwari Paper Udyog Ltd 7th Km Moradabad road, Kashipur-244713 Distt-US Nagar	Pulp & Paper	Haldwani	4500	4000		Ramganga
204.	M/s Uday Paper Mills Ltd., Vill. Vikrampur, Bazpur, Distt-US Nagar	Pulp & Paper	Haldwani	3808	3005		Ramganga

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205.	M/s Multiwal Duplex (P) Ltd, Vill Gangapur gosain, Kashipur-244713 Distt-US Nagar	Pulp & Paper	Haldwani	2554	1500		Ramganga
206.	Cheena Papers Limited, 9th Km. stone, Bazpur, Kashipur, Distt-US Nagar	Pulp & Paper	Haldwani	5345	3741.5		Ramganga
207.	Vishvakarma Paper & Board Limited, 4.5 Km. Ramnagar Road, Kashipur-244713, Distt-US Nagar	Pulp & Paper	Haldwani	3774	2712		Ramganga
208.	M/s P N Pulp & Paper Industries Village - Bhanga, Sitarganj road, Kiccha, Tehsil-Kiccha , Distt-US Nagar	Pulp & Paper	Haldwani	2740	1710		Ramganga
209.	Prolific papers (P) Ltd. 5th Km stone, Aliganj Road, Kashipur-244713, US Nagar.	pulp & Paper	Haldwani	2010	1800		Ramganga
210.	Devrishi paper Pvt. Ltd. , Jaspur Road, Jagatpur Patti, Jaspur Distt-US Nagar	Pulp & Paper	Haldwani	1600	1360		Ramganga
211.	M/S Century Pulp & Paper,Ghanshyamdham, lalkua-262402 Distt-Nainital	Pulp & Paper	Haldwani	50012	37120	Paha Nallah/Gola River	Ramganga
212.	Nainy paper ltd., 7 km, Muradabad Road, Kashipur	Pulp & Paper	Haldwani	3272	2527		Ramganga
213.	Nainy Tissue ltd., 7 km, Muradabad Road, Kashipur	Pulp & Paper	Haldwani	6792	5433		Ramganga
214.	M/S Banwari Paper Mills Ltd. 4th KM stone, Ramnagar Road, Kashipur	Pulp & Paper	Haldwani	3134	2346		Ramganga
215.	Wishwanaya Paper & Boards LTd., 1084, Chamunda Vihar, Ramnagar Road, Kashipur	Pulp & Paper	Haldwani	4658	3506.5		Ramganga
216.	Bahl Paper Mills Ltd., 5 KM stone, Aliganj Road, Kashipur	Pulp & Paper	Haldwani	20	13		Ramganga
217.	M/S BR Paper (P) Ltd., Vill- Lalpur, Tah-Jaspur, U S Nagar	Pulp & Paper	Haldwani	4508	4505		Ramganga
218.	Katyayini Paper Mills (P) Ltd., Near Sodhi Farm, Vill. Kuddiyamala, jaipur Road, Kashipur, U S Nagar	Pulp & Paper	Haldwani	45001	3000		Ramganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
219.	Fibra Marx Paper Ltd., Vill- Haldua Sahahu, U S Nagar	Pulp & Paper	Haldwani	4015	2811		Ramganga
220.	Sahota Papers Limited, 9/398, opp. KPC School Moradabad Road, Kashipur, U S Nagar	Pulp & Paper	Haldwani	3502	3002		Ramganga
221.	Goraya Straw Board Mills (P) Ltd., Bazpur Road, Kashipur, U S Nagar	Pulp & Paper	Haldwani	1600	1510		Ramganga
222.	PSB Paper LTD., Beria Road, Bajpur, U S Nagar	Pulp & Paper	Haldwani	645	394		Ramganga
223.	M/s P.N. Paper Mills PVt. Ltd.	Pulp & Paper	Haldwani	1820	1200		Ramganga
224.	Shree Shaym Pulp & Board Mills Ltd. Unit 1 , Moradabad Road ,Kashipur , (U.S. Nagar)	Pulp & Paper	Haldwani	8760	6394		Ramganga
225.	Shree Shaym Pulp & Board Mills Ltd. Unit 2 , Moradabad Road ,Kashipur , (U.S. Nagar)	Pulp & Paper	Haldwani	2000	1599.8		Ramganga
226.	M/s Multiwal Pulp & Board Mill (P) Ltd.	Pulp & Paper	Haldwani	10215	6000		Ramganga
227.	M/s Mahadev Pulp Prod., Dada Nagar	Pulp & Paper	Kanpur	13	8.5		Ganga
228.	M/s Hari Om Ind. Ltd., 841,, Bhauti, Pratappur, Kanpur	Pulp & Paper	Kanpur	1060	1003		Ganga
229.	M/s Anand Triplex Board Ltd., Vill.-Saini,Mawana Road, Meerut	Pulp & Paper	Merrut	4500	4000	Natural Drain	Kali-East
230.	M/s New Bonanza India Ltd., Nagla Shekhu Road,Vill.-Saini,Meerut-Mawana Road, Meerut	Pulp & Paper	Merrut	2500	1800	Natural Drain	Kali-East
231.	M/s Devpriya Products Ltd., Vill.-Saini, Mawana Road, Meerut	Pulp & Paper	Merrut	6000	3000		Kali-East
232.	M/s Devpriya Fibers Pvt Ltd., Vill.-Panchali, Baghpat Road,Meerut	Pulp & Paper	Merrut	3500	3300	Kharoli Drain	Kali-East
233.	M/s Anand Tissues Ltd., Vill.-Fitkari,Meerut Mawana Road, Meerut	Pulp & Paper	Merrut	2500	2000	Chhoya Drain	Kali-East

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
234.	M/s Devpriya papers Pvt Ltd., Vill-Saini, Mawana Road,Meerut	Pulp & Paper	Merrut	3000	1800	River/Tributary	Kali-East
235.	M/s Devpriya Industries, Vill-Saini, Mawana Road,Meerut	Pulp & Paper	Merrut	6000	3200	River/Tributary	Kali-East
236.	M/s Devpriya Products Ltd., Vill-Saini, Mawana Road,Meerut	Pulp & Paper	Merrut	7200	7000	Industrial Drain	Kali-East
237.	M/s Sangal Papers Ltd., Vill-Bhainsa, Meerut-Mawana Road,Meerut	Pulp & Paper	Merrut	3000	2790	Ikla Nalato Chhoiya nala	Kali-East
238.	M/s Anand Duplex Ltd, Vill-Saini, Meerut-Mawana Road,Meerut	Pulp & Paper	Merrut	2425	2025	River/Tributary	Kali-East
239.	M/s Paswara Papers(P) Ltd, Mohiuddinpur,Delhi Road,Meerut	Pulp & Paper	Merrut	1700	700	Kadrabad Drain	Kali-East
240.	M/s Chamunda Papert Pvt. Ltd., Dheerkhera, Industrial Area, Meerut	Pulp & Paper	Merrut	1000	850	Chhoiya Drain	Kali-East
241.	Shri Ramchander Straw Products Ltd Village-Vijaypur TehsilBilari Distt.-Moradabad	Pulp & Paper	Moradabad	900	800	Aril Nala	Ramganga
242.	Shakumbri Straw Product Ltd. Unit l Village-Devri, Tehsil-Bilario,Moradabad	Pulp & Paper	Moradabad	800	800	Aril River	Ramganga
243.	Shakumbri Straw Product Ltd. Unit lll Village-Devri, Tehsil-Bilario,Moradabad	Pulp & Paper	Moradabad	2000	2000	Aril River	Ramganga
244.	Shakumbri Straw Product Ltd. Unit ll Village-Devri, Tehsil-Bilario,Moradabad	Pulp & Paper	Moradabad	800	560	Aril River	Ramganga
245.	M/s Genus Paper Product Ltd.,Kanth road,Village:Aghwanpur,District-Moradabad(UP)	Pulp & Paper	Moradabad	1200	840	Recirculation/ Nil-Zero Discharge	Ramganga
246.	M/S Bajaj Kagaj Udyog, 112, Jamuka, Unnao	Pulp & Paper	Unnao	2500	250	Loni drain	Ganga
247.	M/s Newel Calcutta(P)Ltd,D-16, Industrial Area, Ramnagar,Chandauli	Pulp & Paper	Varanasi	3200	800	Ghuraha Nallah	Ganga
248.	M/s Shri Omkar Paper & Board Mills(P)Ltd,D-6, 7 Industrial Area, Ramnagar,Chandauli	Pulp & Paper	Varanasi	500	300	Ghuraha Nallah	Ganga
249.	M/s Ganga Pulp & Paper (P)Ltd,A-6, Industrial Area, Ramnagar, Chandauli	Pulp & Paper	Varanasi	3200	800	Ghuraha Nallah	Ganga

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250.	Emami paper Mills Ltd. Gulmohor Unit, R.N. Tagore Road PO Alambazar, Kolkata 700035	Pulp & Paper	West Bengal	1120	900	Hooghly	Ganga
251.	ITC Limited Paper Boards & Speciality Paper Division Tribeni Unit Chandrahati PO Hooghly 712504	Pulp & Paper	West Bengal	12990	15140	Panchayet Drain	Ganga
252.	Supreme Paper Mills Ltd. Vill : Rainanagar, PO Chakdah Dist - Nadia	Pulp & Paper	West Bengal	1760	1232	Bhagirathi Canal	Ganga
253.	Chandpur Enterprises Limited (Paper Division), Noorpur Road, Chandpur (Bijnor) U.P.	Pulp Paper	Bijnor	1500	1250	Barsati Nala/Soat river	Ganga
254.	M/s The Kisan Sahkari Chini Mills Ltd.,Ghosi,District-Mau(U.P)	Sugar	Azamgarh	5162	250	Tamsa River/Local drain	Ganga
255.	M/s The Kisan Sahkari Chini Mills Ltd.,Rasra,District-Balia(U.P.)	Sugar	Azamgarh	1890	125	Tamsa River/Local drain	Ganga
256.	M/s Kisan Sehkari Chini Mills, Semikhera BareillyLtd. Faridpur,Bareilly	Sugar	Bareilly	6250	2500	Behul River/Local Drain	Ramganga
257.	M/s Kesar Enterprises Suagr Division Baheri,Bareilly	Sugar	Bareilly	650	162.5	Kichha River	Ramganga
258.	M/s Oswal Overseas Ltd.Suagr Division Nawabganj,Bareilly	Sugar	Bareilly	2500	250	East Bahgul	Ramganga
259.	M/s L.H.Sugar Factory Limited,Pilibhit,Bareilly	Sugar	Bareilly	10500	10000	Dohla River/Sunda Drain	Ramganga
260.	M/s The Kisan Co-operative Sugar Factory, Mojhola,Pilibhit, Bareilly	Sugar	Bareilly	6500	2500	River/Drain	Ramganga
261.	M/s The Kisan Sehkari Chini Mills,Puranpur, Bareilly	Sugar	Bareilly	6750	1025	Dohla River/Majhola Drain	Ramganga
262.	M/s Beasalpur Kisan Sehkari Chini Mills,Beasalpur, Bareilly	Sugar	Bareilly	6610	2500	Mala River /Bhogapur Mala	Ramganga
263.	M/s The Kisan Sehkari Chini Mills,Powayan,Shajhanpur, Bareilly	Sugar	Bareilly	4200	3200	Gomti River/Nala	Ramganga
264.	M/s Rosa Sugar Works ,Roza,Shajhanpur	Sugar	Bareilly	8000	700	Garrha River/Local Drain	Ramganga
265.	M/S Bajaj Hindustan Ltd. Maqsoodapur Shajhanpur	Sugar	Bareilly	10000	1000	Khannunt River	Ramganga

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266.	M/S The Kisan Sahkari Chini Mills Ltd., Tilhar, Shajhanpur	Sugar	Bareilly	6250	3200	Garraha River/Bakhsi Nala	Ramganga
267.	M/S Dalmia Chini Mills Unit, Negohi, Shajhanpur	Sugar	Bareilly	10000	1000	Garraha River/Kaiguha Nala	Ramganga
268.	M/S J.k. Sugar Ltd. Meerganj, Bareilly	Sugar	Bareilly	1200	400	Into the River, Tributaries/Drain	Ramganga
269.	M/S Bajaj Hindustan Ltd, Sugar Unit Barkhera, Pilibhit	Sugar	Bareilly	10120	10000	Dewa River/Sunda Drain	Ramganga
270.	M/s The Dhampur Sugar Mills Ltd. Vill. Rajpura, Tah. Gunnur, Distt: Badaunr, Bulandshahr.	Sugar	Bhulandshahar	1610	700	Maheva river	Ganga
271.	Kisan Sahkari Chini Mills Ltd, Hasanpur, J.P.Nagar	Sugar	Bijnor	6250	1000		Ganga
272.	Bajaj Hindusthan Ltd, Bilai, Bijnor	Sugar	Bijnor	4000	1000	Road side drain/Baan river irrigation & Horticulture	Ganga
273.	Wave Industries Pvt. Ltd, Vill-Malaysia Po-Mandi Dhanaura, Distt-J.P.Nagar	Sugar	Bijnor	6500	1500	Soat river/Drain, Irrigation purpose	Ganga
274.	Wave Industries Pvt. Ltd. Unit-Amroha, J.P.Nagar	Sugar	Bijnor	1000	800	Drain/ Soat river	Ganga
275.	Uttam Sugar Mills Ltd., Unit - Barkatpur, Tehsil - Najibabad, Dist. Bijnor (U.P.)	Sugar	Bijnour	2700	500	Malan river/Bahera /Irrigation	Ganga
276.	Dwarikesh Sugar Industries Ltd. Dwarikesh Puram Afzalgarh, District-Bijnor	Sugar	Bijnour	2400	750	Factory Drain /Irrigation	Ganga
277.	Dhampur Sugar Mills Ltd.Dhampur Distt. Bijnor (U.P.)	Sugar	Bijnour	4860	1400	Ikra Nala /Irrigation	Ganga
278.	Lakshmi Sugar Mills Co.Ltd.Iqbalpur,Distt. Haridwar Uttarakhand	Sugar	Dehradun	1032	512		Ganga
279.	RBNS Sugar Mills Ltd., Laksar	Sugar	Dehradun	1340	722		Ganga
280.	Uttam Sugar Mills Ltd, Village-Libberheri, Tehsil- Roorkee,Dist.- Haridwar	Sugar	Dehradun	2512	635		Ganga

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281.	M/s Simbhaoli Sugar Mills Ltd.(Sugar Division), Simbhaoli, Ghaziabad	Sugar	Ghaziabad	6000	1000	Syna Escape/Phuldera Drain	Kali-East
282.	M/s Brijnathpur Sugar Mills, (A unit of Simbhaoli Sugar Mills Ltd.), Vill-Brijnathpur, Hapur, Ghaziabad.	Sugar	Ghaziabad	3000	300	Kadrabad Drain	Kali-East
283.	M/s Modi Sugar Mills, Modi Nagar, Ghaziabad	Sugar	Ghaziabad	3000	300	Kadrabad Drain /Reuse for cooling	Kali-East
284.	Kisan Sahkari Chini Mills Ltd., Sitargang , Distt-US Nagar	Sugar	Haldwani	6250	450		Ramganga
285.	Kiccha Sugar co. LTD., Kichha, Distt-US Nagar	Sugar	Haldwani	1066.6	770.4	drain in Canal	Ramganga
286.	The Bazpur Coop. Sugar Factory Ltd., US Nagar, Uttarakhand	Sugar	Haldwani	1950	1350		Ramganga
287.	M/S Kishan Sahkari Chini Mills Ltd.	Sugar	Haldwani	3636	1916		Ramganga
288.	M/S Kishan Sahkari Chini Mills Ltd., Nadehi, U S Nagar	Sugar	Haldwani	5508	1891		Ramganga
289.	Kashipur Sugar Mills LTd., Kashipur	Sugar	Haldwani	2000	1500		Ramganga
290.	M/s UP. State Sugar Corporation Ltd,Mohiuddinpur, Meerut	Sugar	Merrut	2500	700	Natural Drain	Kali-East
291.	M/s Indian Potash Ltd, Sakauti Tanda, Muzaffarnagar Road,Meerut	Sugar	Merrut	18000	400	Natural Drain	Kali-East
292.	M/s Nanlamal Sugar Complex,Nanglamal,Meerut	Sugar	Merrut	2500	1000	Natural Drain	Kali-East
293.	M/s Mawana Sugar Works, Mawana, Meerut.	Sugar	Merrut	14655	2800		Kali-East
294.	Rana Sugars Limited Vill-Belwara Post - Manpur The & Distt.- Moradabad-244925(UP)	Sugar	Moradabad	10000	5000		Ramganga
295.	Shre Ajudhia Sugar Mills Raja Ka Sahaspur Distt.-Moradabad (UP)	Sugar	Moradabad	2000	1000		Ramganga
296.	Rana Sugar Ltd. Unit Karimganj Shahbad Distt.-Rampur State-Uttar Pradesh	Sugar	Moradabad	2500	15		Ramganga

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297.	Rudra-Bilas Kisan Sahkari Chini Mills Ltd Bilaspur-244923 (distt.-Rampur	Sugar	Moradabad	2215	200		Ramganga
298.	Triveni Engineering & Industries Ltd Sugar Unit-MilakNarayanpur,Post-Dadiyal Distt.-Rampur(UP)	Sugar	Moradabad	8000	400		Ramganga
299.	Triveni Engineering & Industries Ltd Sugar Unit Rani Nangal P.O. Aliabad Pipli Distt.-Moradabad(UP)	Sugar	Moradabad	11000	5500		Ramganga
300.	Dhampur Sugar Mills Ltd,Asmali,Vill. & Post- Asmali,Tehsil-Shambal,Dist.Moradabad,(U.P) Pin.244304	Sugar	Moradabad	540	220		Ramganga
301.	Dewans Sugars Ltd. Agwanpur Kanth Road,Moradabad	Sugar	Moradabad	6250	1000		Ramganga
302.	M/s Triveni engineering Industries Ltd, Khatauli, Mujaffarnagar	Sugar	Muzaffarnagar	3000	1650	Drain	Kali-East
303.	M/s Tikaula Sugar Mills Ltd., Tikaula, Mujaffarnagar	Sugar	Muzaffarnagar	1500	1000	Drain	Kali-East
304.	M/s The Ganga Kishan Sahkari Chini Mills, Morna, Mujaffarnagar	Sugar	Muzaffarnagar	1500	1000		Ganga
305.	M/S Baughauli Sugar & Distillery Pvt. Ltd. Bikapur Baghauli, Hardoi	Sugar	Unnao	3500	1500	Sai river/ Bannapur drain	Ganga
306.	M/S DSCL Hariyawan, Hardoi	Sugar	Unnao	10000	2500	Sai river	Ganga
307.	Shree Renuka sugars, City center, Behog PO, Poorba medinipore, 721651	sugar	West Bengal	720	520		Ganga
308.	M/S. Khaitan (India) Ltd. Khaitan Nagar PO Palasy, PS Kaliganj Dist - Nadia Pin - 741157	Sugar	West Bengal	395	90		Ganga
309.	M/s Neoli Sugar Factory Ltd, Neoli, Kanshiramnagar	Sugar	Aligarh	1250	800	Neoli Drain/Neoli Form For Irrigation	Kali-East
310.	M/s Anand Agrochem India Ltd.,Gopi Ladhua, G.T. Road Aligarh	Sugar	Aligarh	625	400		Kali-East
311.	M/s Dwarikesh Sugar Industries Ltd. Faridpur,Bareilly	Sugar	Bareilly	7500	750	River /Behul River/Local Drain	Ramganga

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312.	M/s The Kisan Sahkari Chini Mills Ltd, Jahagirabad, anoopshahr, Distt. Bulanadshahar	Sugar	Bhulandshahar	4500	1250		Ganga
313.	M/s Anamika Sugar Mills pvt. Ltd., Agauta, Aurangabad, Distt. Bulandshahr	Sugar	Bhulandshahar	1200	1000		Kali-East
314.	M/s Wave Industries Ltd., (Sugar Unit). Panni Nagar, Bulandshahr.	Sugar	Bhulandshahar	1500	1200	Local Drain	Kali-East
315.	M/s Triveni Engineering & Industries Ltd. (Sugar Unit) Vill. Sabitgarh, Khurja, Distt: Bulandshahr	Sugar	Bhulandshahar	1500	1000		Kali-East
316.	M/S DSCL Loni, Hardoi	Sugar	Unnao	10000	2500	Garra river	Ganga
317.	M/S DSCL Rupapur, Hardoi	Sugar	Unnao	6500	1625	Garra river	Ganga
318.	M/s Ghatmpur Sugar Co., Ghatampur , Kanpur	Sugar	Kanpur	1500	1800	Drain	Ganga
319.	M/s Kisan Sahkari Chini Mills Ltd(Sugar Unit), Farrukhabad	Sugar	Kanpur	500	590	Drain	Ganga
320.	M/s Daurala Sugar Works,Sugar Unit, Daurala, Meerut	Sugar,	Merrut	4243	1200	Natural drain	Kali-East
321.	M/S Bata India Ltd.,Mokamaghat factory POHathidah-dist,Patna	Tannery	Bihar	1200	400		Ganga
322.	M/S Bata India Ltd.,Bataganj,Patna-18	Tannery	Bihar	100	66		Ganga
323.	M/S A Star Tanners Manohar Ngr. Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
324.	M/S A.S. Leather Finishers 369 B Seetala Bazar Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
325.	M/S Afaq Export , Lucknow Road , Rasulabad , Kanpur	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga

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326.	M/S Aman Tanners , 104/98(20) , Sanjay Nagar , Jajmau	Tannery	Kanpur	49	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
327.	M/S Asif Leather Finisers , 17 A , 150 Ft. Road , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
328.	M/S A.P.F.Tanners(Sabnam Tannery) 59/40 , Shitla Bazar , Jajmau	Tannery	Kanpur	24	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
329.	M/S Abdulla Tanners Pvt.Ltd. , 16 B , Gajjupurwa , Jajmau	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
330.	M/S Ahamad Leather Ind. 102/88 Jajmau	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
331.	M/S Ahirwar Ki Tannery , Opp. Sulatan , Jajmau	Tannery	Kanpur				Ganga
332.	M/S Ahmad Bilal Ki Tannery , 187/183 , Gajjupurwa , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
333.	M/S Ahmad International , 367,368 , A , Sanjay Nagar , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
334.	M/S Ahmad Tanning Ind. , 3 B , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
335.	M/S Aijaj Tanners , 150 Ft. Road , Jajmau	Tannery	Kanpur	96	68.7	Common Conveyance Channel of U.P. Jal	Ganga

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						Nigam/ over land	
336.	Aisha Tanning Ind. , 3 A , 150 Fit Road Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
337.	M/S Ajanta Tanning Ind. , 90/76 B , Idgah Road , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
338.	M/S Aizaz Tanners 406 /377 Asarfabad Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
339.	M/S Ajij Leather Finisers , 171/155 , Bhuriyaghat , Jajmau	Tannery	Kanpur	52	37.4	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
340.	M/S Akhatar Tanners , 112 A , Wajidpur , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
341.	M/S Aklakh Tanners 104 /99 Gajjupurwa Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
342.	M/S Alfara Leather, 76/65-20 B, Rasulabad, Jajmau	Tannery	Kanpur			Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
343.	M/S Allied Exim,84 B, Poddar Street, Jajmau	Tannery	Kanpur			Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
344.	M/S Alig International , 150 Ft. Road , Jajmau	Tannery	Kanpur	96	69.2	Common Conveyance Channel of U.P. Jal	Ganga

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						Nigam/ over land	
345.	M/S Alig Ind. , 36 A ,150 Ft. Road Jajmau , Kanpur	Tannery	Kanpur	80	58	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
346.	M/S Rahman Ind.Ltd. (Allahdad Tannery) , 99/85a , Wajidpur , Jajmau	Tannery	Kanpur	96	69.2	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
347.	M/S Allied Leather Finisers , 46 C -3 , Gajjupurwa , Jajmau	Tannery	Kanpur	51	35.6		Ganga
348.	M/S Allied Lether & Leather Prod. 150 Ft. Road , Jajmau	Tannery	Kanpur	60	43	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
349.	M/S Allies Leather Export , Tarbagia , Jajmau	Tannery	Kanpur	3	2		Ganga
350.	M/S Alminjan Tanning Ind. , 94 A , Wajidpur , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
351.	M/S Alrahbar Leathers Pvt.Ltd. 173/157 , Bhuriyaghat , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
352.	M/S Alsaba Tanners , 3-1 B , Gajjupurwa , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
353.	M/S Alvi Leathers, Bhalla Estate, Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
354.	M/S Aman Enterprises Taj Traders Seetalabazar Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal	Ganga

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						Nigam/ over land	
355.	M/S Aman Tanners(Unit-2) , 104/90 A ,(17a) Sanjay Nagar	Tannery	Kanpur	48	34.1	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
356.	M/S Amin Enterprises 71 /60 A Seetalabazar Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
357.	M/S Amin Tannery , 173/157 , Bhuriyaghat , Jajmau	Tannery	Kanpur	12	8.9	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
358.	M/S Anwar Ki Tannery , 175/158 , 4-C , Bhuriyaghat , Jajmau	Tannery	Kanpur	16	11.7	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
359.	M/S Arafat Tanners(N.J.Tanners) 201/194 , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
360.	M/S Arshi Enterprises(Najulla Tannery) , 175/158 B-2 , Bhuriyaghat , Jajmau	Tannery	Kanpur	20	14.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
361.	M/S Asha Export (Asha Hides) 466/868 , Near State Bank , Jajmau	Tannery	Kanpur	48	34.1	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
362.	M/S Ashu Charm Udyog 96/82 Jajamau Raod Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
363.	M/S Asia Leather Finisers , 150 Ft. Road , Jajmau	Tannery	Kanpur	7	5	Common Conveyance Channel of U.P. Jal	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
						Nigam/ over land	
364.	M/S Asia Tannery Pvt.Ltd. , Purani Chuggi , 1 A , Jajmau	Tannery	Kanpur	120	86.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
365.	M/S Aslam Tannery , 42 K , Bhuriyaghat , Jajmau	Tannery	Kanpur	8	6.1	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
366.	M/S Aslam Tanners , 860 Wajidpur , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
367.	M/S Awadh Tannery , Bhalla State , Jajmau	Tannery	Kanpur	8	6.1	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
368.	M/S Baba Hide(Juned Leather Finisers) , Wajidpur , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
369.	M/S Bablu Enterprises, 90/76, Eidgah Road ,Jajmau	Tannery	Kanpur	12	8.9	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
370.	M/S Best Tanning Ind. , 150 Ft. Road , Jajmau	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
371.	M/S Bharat Tanning Ind. , 150 Ft. Road , Jajmau	Tannery	Kanpur	48	35.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
372.	M/S Blue Star Finisers , 996-999 , Wajidpur , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
						Nigam/ over land	
373.	M/S Bright Tanning Ind. , Iqbal Street , Jajmau	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
374.	M/S Carvan Tanners , 103 , 104 A , Wajidpur , Jajmau	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
375.	M/S Central Leather Finishers 112 A /4 Wazidpur Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
376.	M/S Century Leather , 82 A , Wajidpur , Jajmau	Tannery	Kanpur	48	34.1	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
377.	M/S Chaudhari Leather Finisers , Opp. Sultan, Jajmau	Tannery	Kanpur	20	14.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
378.	M/S Classic Tanners , 63 , 150 Ft. Road , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
379.	M/S Classic Tanning Ind. , 102/88, Wajidpur , Jajmau	Tannery	Kanpur	40	29	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
380.	M/S Commercial Tanners , 94/80 , Dargh Sarif Road , Jajmau	Tannery	Kanpur	20	14.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
381.	M/S Crown Tanners , 192/184 , Ramrai Sarai , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
						Nigam/ over land	
382.	M/S Crown Tanners(Perfect Tanners) 531 , 150 Ft. Road , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
383.	M/S Crown Tanning Ind.(Naw Durga Tannery) , 62 A , Wajidpur, Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
384.	M/S Danish Leather 111b Industries Chhabeelepurwa Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
385.	M/S Danish Tanners 913 Wazidpur Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
386.	M/S Decent Leather Finisers , 40/39 , Gajjupurwa , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
387.	M/S Delhi Tannery , 395/366 , Shitla Bazar , Jajmau , Kanpur	Tannery	Kanpur	40	28.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
388.	M/S Diamond Tanners , Wajidpur , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
389.	M/S Dawn Tanning Ind.(Abida Tanning Ind.)76 A , Idgah Road , Jajmau	Tannery	Kanpur	32	23.4	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
390.	M/S Eagle Tannery , Makku Said Ka Bhatta , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
						Nigam/ over land	
391.	M/S Emco Ind. , 150 Ft. Road , Jajmau	Tannery	Kanpur	6.4	5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
392.	M/S Euroasia Leather Ltd. , 101/87 B (A-1) Wajidpur Jajmau (Tajjuvar Husain Ki Tannery)	Tannery	Kanpur	96	68.7	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
393.	M/S Everest Export , 175/158 B 3 , Bhuriyaghat , Jajmau	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
394.	M/S Everest Tanners , 184 C-2 , Bhuriyaghat , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
395.	M/S Everest Tanning Ind. , (Unit-2) , 184 B-1 , Bhuriyaghat , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
396.	M/S Everest Tanning Ind. , 97 A , Wajidpur , Jajmau	Tannery	Kanpur	12	8.9	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
397.	M/S Everest Tannery P. Ltd. 184 A, Wajidpur, Jajmau	Tannery	Kanpur			Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
398.	M/S Evergreen Tannery , 90 A , Wajidpur , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
399.	M/S Excel Exim, 150 Ft. Road, Jajmau	Tannery	Kanpur			Common Conveyance Channel of U.P. Jal	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
						Nigam/ over land	
400.	M/S Excel Exim, 184-A-4, Wajid Pur, Jajmau	Tannery	Kanpur			Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
401.	M/S F.R.Leather , 150 Ft. Road , Jajmau	Tannery	Kanpur	8	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
402.	M/S Fahim Lari Ki Tennery 56/55 Gajjupurwa Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
403.	M/S Faiz Leather Store, Jajmau Road, Jajmau	Tannery	Kanpur			Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
404.	M/S Fak Leather Finishers Rasulabad Lucknow Road Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
405.	M/S Falak Enterprises , 12/9 , Gajjupurwa , Jajmau	Tannery	Kanpur	16	11.7	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
406.	M/S Farhan Tanners , 172/156 , Bhuriyaghat , Jajmau	Tannery	Kanpur	20	14.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
407.	M/S Farhat Zabi Ki Tannery , 175/158 B-4 , Bhuriyaghat , Jajmau	Tannery	Kanpur	80	57.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
408.	M/S Farjam Tanners , 416 A Purani Chungi Jajmau Road	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
						Nigam/ over land	
409.	M/S Farjana Tannery , Asarfabad , Jajmau	Tannery	Kanpur	20	14.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
410.	M/S Fatima Leather Craft , 90 A/76 B , 150 Ft. Road , Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
411.	M/S Famous Tannery , 163/165 , Laltupurwa , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
412.	M/S Fida Husain, Makku Sahid Ka Bhatta Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
413.	M/S Finised Leather Job Work , Jajmau	Tannery	Kanpur	40	28.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
414.	M/S Firdos Tannnery Dargah Sarif Road Jajmau Kanpur	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
415.	M/S Firoj Ki Tannery , Upsana Tannery Lane ,Gajjupurwa , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
416.	M/S Firoj Tanners(I) , Iqbal Street , Jajmau	Tannery	Kanpur	48	35.1	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
417.	M/S Firoj Tanners(Ii) , Iqbal Street , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
						Nigam/ over land	
418.	M/S G.S. Tanners , 38 C , 150 Ft. Road , Jajmau	Tannery	Kanpur	20	14.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
419.	M/S Gazal Tanning Ind. 104 /90 1a Wazid Pur Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
420.	M/S Globe Tannery Allahdad Unit -1 99/85 Jajmau	Tannery	Kanpur	25	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
421.	M/S Globe Ind. , 37 A(B) , 150 Ft. Road , Jajmau	Tannery	Kanpur	6.4	5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
422.	M/S Globe Ind. Corporation , 37 A , 150 Ft. Road , Jajmau	Tannery	Kanpur	6.4	5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
423.	M/S M.A Leather 159/152 Lattu Purwa Jajmau	Tannery	Kanpur	4	2.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
424.	M/S M.I.Saddel Work , 24 C , Wajidpur , Jajmau	Tannery	Kanpur	24	16.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
425.	M/S M.M. Leather Finisers(Anna Tannery) 109/90 (E) Wajidpur , Jajmau	Tannery	Kanpur	4	2.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
426.	M/S Maqdom Tanning Ind. 103 /89 Jajmau	Tannery	Kanpur	20	14	Common Conveyance Channel of U.P. Jal	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
						Nigam/ over land	
427.	M/S Madina Tanning Ind. Idgha Road , Jajmau	Tannery	Kanpur	20	14	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
428.	M/S Mahboob Sons 104 /90 Sanjay Ngr. Kanpur	Tannery	Kanpur	48	33.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
429.	M/S Mak International Jajmau Road Jajmau	Tannery	Kanpur	4	2.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
430.	M/S Mariyum Leather Finishers, 60 A, Jajmau	Tannery	Kanpur	0.71	0.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
431.	M/S Mash International , 83/69 , Hidustan Compound , Jajmau	Tannery	Kanpur	24	16.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
432.	M/S Merit Leather Finisers , 414 , Sanjay Nagar , Jajmau	Tannery	Kanpur	88	61.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
433.	M/S Meraj Tanning Ind. 102/87, Wajidpur , Jajmau	Tannery	Kanpur	48	33.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
434.	M/S Meraz Leather 76 /65 Jajmau	Tannery	Kanpur	4	2.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
435.	M/S Meraz Leather Bhalla Estate Jajmau	Tannery	Kanpur	5	2.8	Common Conveyance Channel of U.P. Jal	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
						Nigam/ over land	
436.	M/S Mercury Leather Finisers, 265 , Wajidpur , Jajmau	Tannery	Kanpur	48	33.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
437.	M/S Merit Leather Prod. , 91 A , Wajidpur , Jajmau	Tannery	Kanpur	40	28	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
438.	M/S Minar Ind. , 401 , Sanjay Nagar , Jajmau	Tannery	Kanpur	24	16.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
439.	M/S Mobin Tanners , 91 A , Wajidpur , Jajmau	Tannery	Kanpur	40	28	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
440.	M/S Model Tanners , Shitla Bazar , Jajmau	Tannery	Kanpur	80	56	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
441.	M/S Moh. Rizwan Ki Tannery, 169 Gajju Purwa Jajmau	Tannery	Kanpur	4	2.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
442.	M/S Moh. Vasim Leather Bhalla Estate Jajamau	Tannery	Kanpur	4	2.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
443.	M/S Moin Tanners Bangali Ghat Jajmau	Tannery	Kanpur	4	2.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
444.	M/S Momin Leather Finishers, Dargah Road, Jajmau	Tannery	Kanpur	0.71	0.5	Common Conveyance Channel of U.P. Jal	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
						Nigam/ over land	
445.	M/S Momin Leather Finishers, Bangali Ghat, Jajmau	Tannery	Kanpur	0.71	0.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
446.	M/S Mona Tanning Ind. , Mona Nagar , Jajmau	Tannery	Kanpur	40	28	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
447.	M/S Mugiz Tanners, Bhalla Estate, Jajmau Kanpur	Tannery	Kanpur	4	2.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
448.	M/S Mustafij Ahmad Ki Tannery , 964 K , Wajidpur , Jajmau	Tannery	Kanpur	24	16.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
449.	M/S Mustaq Ahmad Ki Tannery , Makku Said Ka Bhatta , Jajmau	Tannery	Kanpur	4	2.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
450.	M/S Rahman Ind. Ltd.N.C & S (Allahdad Unit-2) 97/83 , Jajmau	Tannery	Kanpur	48	33.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
451.	M/S N.R. Tanners , Bhuriyaghat , Jajmau	Tannery	Kanpur	16	11.2	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
452.	M/S N.S. Tanners , Unit-2 , 83a , Wajidpur , Jajmau	Tannery	Kanpur	48	33.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
453.	M/S Nadari Tanning Ind. , 96 A , Wajidpur , Jajmau	Tannery	Kanpur	48	33.6	Common Conveyance	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
						Channel of U.P. Jal Nigam/ over land	
454.	M/S Nadari Export 150 Feed Road Jajmau	Tannery	Kanpur	48	33.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
455.	M/S Nadiri Lather Finishers 150 Road Jajmau	Tannery	Kanpur	48	33.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
456.	M/S Nagauri Tanning Ind. Wajidpur , Jajmau	Tannery	Kanpur	24	16.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
457.	M/S Naj Leather Finisers , 14 A , 150 Ft. Road , Jajmau	Tannery	Kanpur	40	28	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
458.	M/S Nurul Islam, Bhalla Estate, Jajmau	Tannery	Kanpur	0.71	0.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
459.	M/S Nausad Leather Finisers , 30 A , Idgah Road , Jajmau	Tannery	Kanpur	24	16.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
460.	M/S Navi Leather Finisher , 150 Ft. Road , Jajmau	Tannery	Kanpur	4	2.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
461.	M/S Nawratan Tannery , 532 , 150 Ft. Road , Jajmau	Tannery	Kanpur	80	56	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
462.	M/S Naz Tanners , 150 Ft. Road , Jajmau	Tannery	Kanpur	20	16	Common Conveyance Channel of U.P. Jal	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
						Nigam/ over land	
463.	M/S Naz Traders 150 Feet Road Jajmau	Tannery	Kanpur	4	2.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
464.	M/S New Era Tanning Centre 105 /100 Gajju Purwa Jajmau	Tannery	Kanpur	24	16.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
465.	M/S New Era Enternational , 16 C , Gajjupurwa , Jajmau	Tannery	Kanpur	48	33.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
466.	M/S New Leather Line , 88/74 , 63 K 12 , Hidustan Compound , Jajmau	Tannery	Kanpur	16	11.2	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
467.	M/S New Light Tanners , 150 Ft. Road , Jajmau	Tannery	Kanpur	96	67.2	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
468.	M/S New Light Tannery Pvt. Ltd. 150 Feet Road Jajmau	Tannery	Kanpur	4	2.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
469.	M/S New Light Tanning Ind. , 150 Ft. Road , Jajmau	Tannery	Kanpur	120	84	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
470.	M/S New Modern India Tannery 395 /366 Jajmau	Tannery	Kanpur	24	16.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
471.	M/S New Moon Light Tannery , Makku Said Ka Bhatta , Jajmau	Tannery	Kanpur	48	33.6	Common Conveyance Channel of U.P. Jal	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
						Nigam/ over land	
472.	M/S New Universal Tannery , 419/378 Jajmau	Tannery	Kanpur	96	67.2	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
473.	M/S Nida Tanners , 189/172 , Jajmau Road , Jajmau	Tannery	Kanpur	24	16.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
474.	M/S Nisa Traders , 20/17 , Gajjupurwa , Jajmau	Tannery	Kanpur	16	11.2	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
475.	M/S Nisar Sons(Lari Tannery) , 166 , Gajjupurwa , Jajmau	Tannery	Kanpur	24	16.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
476.	M/S Nisat Tanners , 185/168 , Jajmau	Tannery	Kanpur	25	16.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
477.	M/S Nisha Leather Finishers Job Work Bangali Ghat Jajmau	Tannery	Kanpur	0.71	0.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
478.	M/S Nizam Tanners 46/45 Gajju Purwa Jajmau	Tannery	Kanpur	4	2.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
479.	M/S Nijamuddin, Bangali Ghat, Jajmau	Tannery	Kanpur	0.71	0.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
480.	M/S Noor Leather Finishers, Gajjupurwa, Jajmau	Tannery	Kanpur	4	2.8	Common Conveyance Channel of U.P. Jal	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
						Nigam/ over land	
481.	M/S Noor Tanners , 5 Block B , 150 Ft. Road , Jajmau	Tannery	Kanpur	24	16.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
482.	M/S Northern Tannery , 150 Ft. Road , Jajmau	Tannery	Kanpur	296	207.2	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
483.	M/S Nusrat Tannery Pvt.Ltd. , 22/19 , Gajjpurwa , Jajmau	Tannery	Kanpur	28	19.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
484.	M/S Orient Tanning Ind. , 5 Block B , 150 Ft. Road , Jajmau	Tannery	Kanpur	48	33.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
485.	M/S Oversease Tanning Corporation , 3 B , Jajmau	Tannery	Kanpur	48	33.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
486.	M/S Pacific Leather Finisers , 197/189 , Ramrai Sarai , Jajmau	Tannery	Kanpur	96	67.2	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
487.	M/S Pacific Leather Pvt.Ltd. , 108/200 , Jajmau	Tannery	Kanpur	48	33.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
488.	M/S Pahalwan Tannery Unit -1 Gajjupurwa Jajmau	Tannery	Kanpur	24	16.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
489.	M/S Paradise Leather Finfishers Chabeelepurwa Jajmau	Tannery	Kanpur	4	2.8	Common Conveyance Channel of U.P. Jal	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
						Nigam/ over land	
490.	M/S Paramount Tannery Ind. , 19 Laltupurwa , Jajmau	Tannery	Kanpur	24	16.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
491.	M/S Park Leather(O.N.Ajj Tanners) 58/47 ,Shitla Bazar , Jajmau	Tannery	Kanpur	25	16.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
492.	M/S Parvej Split Job Work,Dts Road, Jajmau	Tannery	Kanpur	0.71	0.5		Ganga
493.	M/S Pasa Tanners 815 B - 2 Asarfabad Jajmau	Tannery	Kanpur	4	2.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
494.	M/S Penja Leathers , 104/90(24a)Sanjay Nagar , Jajmau	Tannery	Kanpur	48	33.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
495.	M/S Penja Tanning Ind. Pvt. Ltd. , 104/90(23a) , Sanjay Nagar	Tannery	Kanpur	144	100.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
496.	M/S Phalwan Tannery(Unit-2) , Gajjupurwa , Jajmau	Tannery	Kanpur	16	11.2	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
497.	M/S Phalwan Tannery(Unit-3) , Gajjupurwa , Jajmau	Tannery	Kanpur	16	11.2	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
498.	M/S Pioneer Leather Finisers Pvt.Ltd. , 89/75 , 150 Ft. Road , Jajmau	Tannery	Kanpur	80	56	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
499.	M/S P.K. Dyes, Gajjupurwa, Jajmau	Tannery	Kanpur	0.71	0.5		Ganga
500.	M/S Popular Tannery(Royal Tanners) Jajmau	Tannery	Kanpur	48	33.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
501.	M/S Prime Tanners , 13 A , 150 Ft. Road , Jajmau	Tannery	Kanpur	40	28	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
502.	M/S Prince Leather Bhalla Estate Jajmau	Tannery	Kanpur	4	2.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
503.	M/S Quayum Leather , 150 Ft. Road , Jajmau	Tannery	Kanpur	48	33.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
504.	M/S R.A.Trade & Ind. , 187/180 A , Laltupurwa , Jajmau	Tannery	Kanpur	48	33.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
505.	M/S R.K. Tanners , 150 Ft. Road , Jajmau	Tannery	Kanpur	48	33.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
506.	M/S R.K.Leather Finisers , Wajidpur , Jajmau	Tannery	Kanpur	24	16.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
507.	M/S RAHIM TANNERS (Sara International), 13 B , JAJMAU	Tannery	Kanpur	64	45	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
508.	M/S Rahman (Ind.) Export Pvt.Ltd. ,16d 150 Ft. Road,, Jajmau	Tannery	Kanpur	96	67.2	Common Conveyance Channel of U.P. Jal	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
						Nigam/ over land	
509.	M/S Rahman Export P. Ltd., Wajidpur, Jajmau	Tannery	Kanpur	14.28	10		Ganga
510.	M/S Rahmat Sons Leather Finisers(O.N.Atif),Tannery) 103/96 , 150 Ft. Road	Tannery	Kanpur	24	16.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
511.	M/S Raish Tannery 88/74c Dargah Road Jajmau	Tannery	Kanpur	4	2.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
512.	M/S Raja Enterprises 12/9 Banawari Lal Ka Bagicha Jajmau	Tannery	Kanpur	4	2.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
513.	M/S Raja Tannery , Wajidpur , Jajmau	Tannery	Kanpur	24	16.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
514.	M/S Rajala Tannery(Rajjak Tannery) 189/172 ,Dargha Sarif Road , Jajmau	Tannery	Kanpur	25	16.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
515.	M/S Rajiv Leather Imbosing 47/46 Jajmau	Tannery	Kanpur	4	2.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
516.	M/S Rux International Pvt.Ltd. , 50a , 150 Ft. Road , Jajmau	Tannery	Kanpur	48	33.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
517.	M/S Firoj Tanners(Ii) , Iqbal Street , Jajmau	Tannery	Kanpur	24	16.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga

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518.	M/S G.S. Tanners , 38 C , 150 Ft. Road , Jajmau	Tannery	Kanpur	20	14	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
519.	M/S Gazal Tanning Ind. 104 /90 1a Wazid Pur Jajmau	Tannery	Kanpur	24	16.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
520.	M/S Globe Tannery Allahdad Unit -1 99/85 Jajmau	Tannery	Kanpur	24	16.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
521.	M/S Globe Ind. , 37 A(B) , 150 Ft. Road , Jajmau	Tannery	Kanpur	6.4	4.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
522.	M/S Globe Ind. Corporation , 37 A , 150 Ft. Road , Jajmau	Tannery	Kanpur	6.4	4.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
523.	M/S Globe Ind. Corporation(Unit-2) Sanjay Nagar , Jajmau (New Globe Exim)	Tannery	Kanpur	30.4	22.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
524.	M/S Globe Tanners , 50 A , 150 Ft. Road , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
525.	M/S Gn Leather 169 / 162 Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
526.	M/S Golden Enterprises 175/158 4 Cd Bhudhia Ghat Jajmau	Tannery	Kanpur	16	11.7	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
527.	M/S Golden Tannery , Makku Said Ka Bhatta , Jajmau	Tannery	Kanpur	9	6.1	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
528.	M/S Golden Enterprises(Mustak Ahmad Ki Tannery) , Haddi Mill , Jajmau	Tannery	Kanpur	13	8.9	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
529.	M/S Goldstar Leather Board , 150 Ft. Road , Jajmau	Tannery	Kanpur	6.4	5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
530.	M/S Goodwill Tanners , 98 A , Wajidpur , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
531.	M/S Goori Tanners(Kamrudeen Ki Tannery) 179 , Laltupurwa	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
532.	M/S Greater Arafat Tannery Pvt. Ltd. 12 C , 150 Ft. Road , Jajmau	Tannery	Kanpur	72	51.4	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
533.	M/S Gaush Leather Finishers Bhalla Estate Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
534.	M/S Guddu Ahmad Ki Tannery , Bhuriyaghat , Jajmau	Tannery	Kanpur	25	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
535.	M/S Gujrat Tanners , 104/90 , Sanjay Nagar , Jajmau	Tannery	Kanpur	60	42.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
536.	M/S Gulfam Navi Bhai Ki Tennery Dts Road Jajmau	Tannery	Kanpur	4	2.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
537.	M/S Guljar Oversease , Hindustan Compoung , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
538.	M/S H Rahman Tanning Industries 101 /87 Wazidpur Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
539.	M/S H.K.Tanning , 150 Ft. Road , Jajmau	Tannery	Kanpur	48	34.1	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
540.	M/S H.R.Traders , Chabilepurwa , Jajmau , Kanpur	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
541.	M/S Habib Leather Finisers(Habib Tannery) , 150 Ft. Road , Jajmau	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
542.	M/S Habib Tannery Pvt.Ltd. , 150 Ft. Road , Jajmau	Tannery	Kanpur	80	57	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
543.	M/S Hafiz Sons Tannery , 93 A , Wajidpur , Jajmau	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
544.	M/S Hamid Leather Finisers , 150 Ft. Road , Jajmau	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
545.	M/S Hamraj Tanners , 175/158 , Bhuriyaghat , Jajmau	Tannery	Kanpur	20	14.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
546.	M/S Hanif Leather, 331/306 Bhalla Estate Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
547.	M/S Haq Tanners , 97 A , Wajidpur , Jajmau	Tannery	Kanpur	28	20.1	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
548.	M/S Haris Leather Finisers , 150 Ft. Road , Jajmau	Tannery	Kanpur	69	48	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
549.	M/S Harun Tanning Ind. , Iqbal Street , Jajmau	Tannery	Kanpur	25	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
550.	M/S Hayat Tannery , Moti Nagar , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
551.	M/S Hazi Badde Tannery , Makku Said Ka Bhatta , Jajmau	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
552.	M/S Hilton Tanning Ind. 197 / 189 Ramraisarai Jajmau	Tannery	Kanpur	40	29	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
553.	M/S Himalya Tanners , 150 Ft. Road , Jajmau	Tannery	Kanpur	40	29	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga

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554.	M/S Hina Interprises , Ram Rai Sarai , Jajmau	Tannery	Kanpur	16	11.7	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
555.	M/S Hindustan Tannery Pvt. Ltd. Jajmau	Tannery	Kanpur	163	114	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
556.	M/S Homera Tanning Ind. , 150 Ft. Road , Jajmau	Tannery	Kanpur	120	86.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
557.	M/S Hs Leather 34/142 Gajju Purwa Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
558.	M/S Ilahai Tannery , 4 3/36 , Sitla Bazar , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
559.	M/S Imperial Leather Finisers Pvt.Ltd. , Chabilepurwa , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
560.	M/S Imtiyaz Leather, Manohar Nagar, Jajmau	Tannery	Kanpur	0.71	0.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
561.	M/S India Interprises(Greater Interprises) 150 Ft. Road , Jajmau	Tannery	Kanpur	12	8.9	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
562.	M/S Indian National Tannery Purani Chungi Jajmau	Tannery	Kanpur	128	92.1	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga

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563.	M/S Indian Tanning Ind. , 150 Ft. Road , Jajmau	Tannery	Kanpur	240	173	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
564.	M/S Insha Leather Finisers , Gajjupurwa , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
565.	M/S International Tanning Ind. , 645 , Wajidpur , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
566.	M/S International Tanning Ind. , Shitala Bazar , Jajmau	Tannery	Kanpur	24	17.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
567.	M/S Hazi Iqabal And Co. Purana Nam Naj Tanning Ind. Ram Rai Sarai 17 A /C , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
568.	M/S Iqbal & Co. , Asarfabad , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
569.	M/S Iqbal Ahamad 71/60 A Seetala Bazar Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
570.	M/S Iqbal Ahamad Ki Tennary 12/9 Banawarilal Ka Bagichaa Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
571.	M/S Iqbal Tanners , 150 Ft. Road , Jajmau	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga

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572.	M/S Iqbal Tanners , 16 C-1 , 92/97 , Gajjupurwa , Jajmau	Tannery	Kanpur	16	11.7	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
573.	M/S Irfan Tanners , 75 A , Wajidpur , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
574.	M/S Irfan Tennary Jajmau Road Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
575.	M/S Irshad Ki Tannery , 391/362 Seetala Bazar Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
576.	M/S I.S. Leather, Dts Road, Jajmau	Tannery	Kanpur	0.71	0.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
577.	M/S Ishrat Finisers , 505 , 173/166 , Laltupurwa , Jajmau	Tannery	Kanpur	20	14.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
578.	M/S Islam Leather Finishers 34/141 Gajju Purwa Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
579.	M/S Islam Tanners , 150 Ft. Road , Jajmau , Kanpur	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
580.	M/S Israt Ki Tannery , Laltupurwa , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga

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581.	M/S J.A. International Purana Nam Js Traders Bangali Ghat Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
582.	M/S J.S. International , 38 B , 150 Ft. Road , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
583.	M/S Jajmau Leathers Fifnishers (Bihari Tennery)Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
584.	M/S Jamal Ind , 7/2 , Gajjupurwa , Jajmau	Tannery	Kanpur	-	-	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
585.	M/S Jameel Ahamad 12/9 Banawarilal Ka Bagicha Gajjupurwa	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
586.	M/S Javed Tannery , 480/379 , Gajjpurwa Jajmau	Tannery	Kanpur	32	23.4	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
587.	M/S Jai Bharat Enterprises Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
588.	M/S Jaz Fashion, Wajidpur, Jajmau	Tannery	Kanpur	3.57	2.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
589.	M/S Jem Tanners , 112a/3 , Wajidpur , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga

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590.	M/S Jn International 391/362 Seetala Bazar Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
591.	M/S Johara Tennary 167 /60 Gajju Purwa Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
592.	M/S Junaid Tanning Ind. , 150 Ft. Road , Jajmau	Tannery	Kanpur	40	23.9	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
593.	M/S K.C.Tain, 101/87 , Vajidpur Jajmau	Tannery	Kanpur	8	6.1	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
594.	M/S Kabir Shavers, 150 Ft. Road, Jajmau	Tannery	Kanpur	0.71	0.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
595.	M/S Kadir Ind. ,(Newada Tanners) Bhuriyaghat , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
596.	M/S Kamaal Tanning Ind. , 43/36 , Shitla Bazar , Jajmau	Tannery	Kanpur	160	114	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
597.	M/S Kamal Enterprises Bhalla Estate Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
598.	M/S Kanpur Tannery , 9/6 , Gajjupurwa , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
599.	M/S Karamat Tanning Ind. , Sanjay Nagar , Jajmau	Tannery	Kanpur	30.4	22.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
600.	M/S Kasif Tannery , Iqbal Street , Jajmau	Tannery	Kanpur	40	23.4	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
601.	M/S Kazi Leather Industries Chhabeelepurwa Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
602.	M/S Khailil Ki Tannery Ansari Leather Finishers Haddi Meel Chauraha	Tannery	Kanpur	40	28.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
603.	M/S Khalid Leather Finisers , 3 , Gajjupurwa , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
604.	M/S Khalid Tannery Asarfabad Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
605.	M/S Khan Leather Finishers Makku Sahid Ka Bhatta Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
606.	M/S Khatun Tanners(Rasid Tanners) , Hidustan Compound , Jajmau	Tannery	Kanpur	12	8.9	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
607.	M/S Khursheed Anwar Ki Tennery 12/9 Banwari Ka Bagicha Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
608.	M/S Khursheed Tennery, Moti Nagar, Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
609.	M/S Khwaja Finishers Jajamau Road Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
610.	M/S Kohinoor Tanners , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
611.	M/S Lari Tannery(Moh. Ishaq, Moh. Ismile) , Jajmau Road , Jajmau	Tannery	Kanpur	240	173	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
612.	M/S Leather Age (Acme Tanners) , Hidustan Compound , Jajmau	Tannery	Kanpur	96	68.7	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
613.	M/S Leather Imbosing , Iqbal Street , Jajmau	Tannery	Kanpur	100	71.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
614.	M/S Leather Life, Sheetla Bazar, Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
615.	M/S Leather Tend (Fayaj Tanners)D.T.S. Road , Jajmau	Tannery	Kanpur	48	34.1	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
616.	M/S Leather World , 184 A-1 , Wajidpur , Jajmau	Tannery	Kanpur	48	34.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
617.	M/S Leberty Tanners, 173/157 Burhiaghat , Jajmau	Tannery	Kanpur	12	8.9	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
618.	M/S Leberty Tanners India Dargah Sarif Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
619.	M/S Leja Leather 330 /306 Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
620.	M/S Liberty Leather India , 189/172 Dargh Sarif Road , Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
621.	M/S Liyakat Leather Finisers(Aman Tannery) Iqbal Street , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
622.	M/S Lucky Tannery , 88/75 B , Dargha Road , Jajmau	Tannery	Kanpur	20	14.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
623.	M/S Rider Tanning Ind. , 247 , Gajjupurwa , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
624.	M/S Rizwan Tanning Ind. , Sanjay Nagar , Jajmau	Tannery	Kanpur	160	115	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
625.	M/S Roshan And Comp. Bhalla Eastate Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
626.	M/S Roshan Leather , 9/10 , Gajjupurwa , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
627.	M/S Roshan Tanners, Laltoopurwa, Jajmau	Tannery	Kanpur	25	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
628.	M/S Rustam Traders , Laltupurwa , Jajmau	Tannery	Kanpur	16	11.7	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
629.	M/S S.A.Tanning Ind. , 3 B , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
630.	M/S S.K.Kamal Tannery, Near Park Leather, Shitla Bazar, Jajmau	Tannery	Kanpur	17	11.7	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
631.	M/S S.R.Glue Works , (Tanners Point) Ahmad Nagar , Jajmau	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
632.	M/S S.S.Tanners (Ayaz Tanners), 104/90 A (B) Wajidpur, Jajmau	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
633.	M/S Saba International , 104/90a(28c) , Sanjay Nagar , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
634.	M/S Saba Tennery D.T.S. Road Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
635.	M/S Sabra Leather Finisers , 94 E , Wajdipur , Jajmau	Tannery	Kanpur	64	97.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
636.	M/S Saddam Tanners , 93/98 , Gajjpurwa , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
637.	M/S Safi Split Work , 104/90 B, Wajidpur, Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
638.	M/S Sofia International , 87 A Wajidpur	Tannery	Kanpur	5	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
639.	M/S Sagun Ind. , 94 A , Wajidpur , Jajmau	Tannery	Kanpur	40	29	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
640.	M/S Sahara Tanning Ind. , 104-C-1 , Wajidpur , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
641.	M/S Sahbuddin (Jishan Trading Co.) Seetalabazar Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
642.	M/S Sajid Tanners , 361,1 D , 30 B/2 , Gajjupurwa , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
643.	M/S Sajid Tanners (Khalid Tanners) ,86 A Wajidpur, Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
644.	M/S Saliq Leather Finisers, Plot No. 53 , 150 Ft. Road , Jajmau	Tannery	Kanpur	25	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
645.	M/S Sallan Enterprises 332 / 308 Bhalla Estate Jamau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
646.	M/S Sallan Enterprises (Sadab Enterprises) Sanjay Ngr. 104 /90 A Jajmau	Tannery	Kanpur	40	29	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
647.	M/S Salu Tanners , Gajjupurwa , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
648.	M/S Salwan Tannery , 8/5-B , Asarfabad , Jajmau	Tannery	Kanpur	25	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
649.	M/S Shams Leather Finisers, 150 Ft. Road , Jajmau	Tannery	Kanpur	40	29		Ganga
650.	M/S Samser Ki Tannery , Shital Bazar , Jajmau	Tannery	Kanpur	5	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
651.	M/S Samson Export , 88/74(7) , Hidustan Compound , Jajmau	Tannery	Kanpur	12	8.9	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
652.	M/S Sanni Leather 330 /306 Bhalla Estate Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
653.	M/S Sarfraj Tanners 382 /353 Bagalighat Jajmau	Tannery	Kanpur	16	11.7	Common Conveyance Channel of U.P. Jal	Ganga

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						Nigam/ over land	
654.	M/S Sarik Tanners , 786 , Chabilepurwa , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
655.	M/S Sartaj Tanners , Wajidpur , Jajmau	Tannery	Kanpur	25	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
656.	M/S Saud Tanners 12/9 Gajju Purwa Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
657.	M/S Saira Ind. , 35 A , 150 Ft. Road , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
658.	M/S Seema Tanning Ind. Pvt. Ltd. , 104/90 A(16) , Wajidpur , Jajmau	Tannery	Kanpur	40	29	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
659.	M/S Shahid Tannery , 53 , 150 Ft. Road , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
660.	M/S Shaukat Ki Tannery(Trade House), 8/5 B, Asharfabad, Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
661.	M/S Shakib Leather Traders 157b Gajju Purwa Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
662.	M/S Shakoor Tannery , 180 , Laltupurwa , Jajmau	Tannery	Kanpur	24	17.3		Ganga

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663.	M/S Shalimar Leather Industries 74 A 150 Jajmau	Tannery	Kanpur	60	43.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
664.	M/S Shalu Tanners(Isara Tannery)33,34 A , Idgah Road , Jajmau	Tannery	Kanpur	144	102.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
665.	M/S Shivan Tannery , Jajmau Road , Jajmau	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
666.	M/S Shivli Tannery , 377d-A- Iqbal Street , Jajmau	Tannery	Kanpur	20	14.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
667.	M/S Shubhan Tanners , 43/36 A , Shitla Bazar , Jajmau	Tannery	Kanpur	24	17.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
668.	M/S Sikandar Tannery Pvt.Ltd.(Allahdad Tannery Unit-3) Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
669.	M/S Skin Finishers (Shahid Tanners) Dargah Sarif Road Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
670.	M/S Society Leather , 85 A Wazidpur Jajmau	Tannery	Kanpur	32	23.4	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
671.	M/S Soiab Leather Bhalla Estate Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga

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672.	M/S S.P. Tanners 785 Wazidpur Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
673.	M/S Standard Tannery(Khalwa Tannery)190/173, Dargh Sarif Road, Jajmau	Tannery	Kanpur	12	8.9	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
674.	M/S Star Tannery , 19 , Ramrai Sarai , Jajmau	Tannery	Kanpur	160	115	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
675.	M/S Star Tanning Ind. , 19 Laltupurwa , Jajmau	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
676.	M/S Subra Enterprises , 332/308 A , Bhalla State , Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
677.	M/S Suleman Tanning Ind. , 90/76 B(K) Idgah Road , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
678.	M/S Sultan Tanners , 230 Jajmau Road , Jajmau	Tannery	Kanpur	272	195.4		Ganga
679.	M/S Sultan Tanning Ind. , 150 Ft. Road , Jajmau	Tannery	Kanpur	293	205.1	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
680.	M/S Su0.0 Enterprises Bhalla Estate Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
681.	M/S Sunrise Leather Finisers, 66 Ind. Area , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal	Ganga

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						Nigam/ over land	
682.	M/S Sunrise Tannery , 150 Ft. Road , Jajmau , Kanpur	Tannery	Kanpur	120	86.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
683.	M/S Sunshine Tanning Ind. , 482-83 , Wajidpur , Jajmau	Tannery	Kanpur	24	17.3		Ganga
684.	M/S Super House Leather Ltd (Unit-1), 150 Ft. Road, Jajmau	Tannery	Kanpur	9	6.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
685.	M/S Super House Leather Ltd (Unit-2), 150 Ft. Road, Jajmau	Tannery	Kanpur	9	6.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
686.	M/S Super Leather Finisers , 406 , Sanjay Nagar , Jajmau	Tannery	Kanpur	24	17.3		Ganga
687.	M/S Super Style Tanners Pvt.Ltd. 79 , Wajidpur , Jajmau	Tannery	Kanpur	64	45.8	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
688.	M/S Super Tannery Ltd. , 187/170 , Jajmau	Tannery	Kanpur	608	435.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
689.	M/S Super Trade 12/9 Banwarilal Ka Bagicha Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
690.	M/S Supreme Tanning Ind. , 104/90 , A-7 , 150 Ft. Road , Jajmau	Tannery	Kanpur	80	57.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
691.	M/S Swan Tanning Ind, 199/201 , Jajmau	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal	Ganga

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						Nigam/ over land	
692.	M/S Taha Tanners 15 A ,150 Feet Road Jajmau Kanpur	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
693.	M/S Taiyaba International 1 D 14 A-1 Gajupurwa Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
694.	M/S Taj Traders , 104/90 A (16)A , Sanjay Nagar , Jajm	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
695.	M/S Tajjamul Ki Tannery 173 /157 C Bhdhia Ghat Jajmau	Tannery	Kanpur	16	11.7	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
696.	M/S Talat Leather Pvt.Ltd. 29 A , Jajmau(Tasmiya Leathe Pvt.Ltd.)	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
697.	M/S Tanners India , 38 A , 150 Ft. Road , Jajmau	Tannery	Kanpur	96	68.2	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
698.	M/S Tanners Point(S.R.Glue) 139 , Ahmad Nagar , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
699.	M/S Tannesco , 91 A , Wajidpur , Jajmau	Tannery	Kanpur	32	23.9	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
700.	M/S Tej Ind. , 35 A , 150 Ft. Road , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
						Nigam/ over land	
701.	M/S Top Tanners ,406/377-A, Asarfabad , Jajmau	Tannery	Kanpur	20	14.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
702.	M/S Triveni Tanners , 325/302 , Jajmau Road , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
703.	M/S Union Tanners , 104/90 A , Sanjay Nagar , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
704.	M/S Unique International , 980 D , Wajidpur , Jajmau	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
705.	M/S United Provinces Tannery Co. Ltd. , Jajmau	Tannery	Kanpur	320	484	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
706.	M/S Universal Tanning Ind. 407 /377 A Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
707.	M/S Upasna Tannery , Gajjupurwa , Jajmau	Tannery	Kanpur	16	11.7	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
708.	M/S Upper India Pvt.Ltd. , 38/32 , Jajmau	Tannery	Kanpur	160	115	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
709.	M/S Venus Ind. , Jajmau Road , Jajmau	Tannery	Kanpur	80	57.5	Common Conveyance Channel of U.P. Jal	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
						Nigam/ over land	
710.	M/S Vertex Leather 13,88/74 Hindustan Compound Jajmau	Tannery	Kanpur	12	8.9	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
711.	M/S Wahid Tanners , 150 Ft. Road , Jajmau	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
712.	M/S Wasif Tannery , 150 Ft. Road , Jajmau	Tannery	Kanpur	120	86.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
713.	M/S Welcome Chamical Ind. Chabeelepurawa Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
714.	M/S Welcome Tannery(Arman Tanner) , Shitala Bazar , Jajmau	Tannery	Kanpur	20	14.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
715.	M/S Yaqub Tanners , Chabilepurwa , Jajmau	Tannery	Kanpur	4	3.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
716.	M/S Yusuf Enternational , 174 , Wajidpur , Kanpur	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
717.	M/S Z.A. Leather , 42/41 , Gajjupurwa , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
718.	M/S Z.R. Leather Finishersm Vajidpur Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
						Nigam/ over land	
719.	M/S Zaz Impex , Shitla Bazar , Jajmau	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
720.	M/S Zaz Sons Export Ltd. , 4 B , Shitla Bazar , Jajmau	Tannery	Kanpur	48	34.6	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
721.	M/S Zaz Tannery , 150 Ft. Road , Jajmau , Kanpur	Tannery	Kanpur	16	115	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
722.	M/S Zeba Tanners , 180/3 , Laltupurwa , Jajmau	Tannery	Kanpur	20	14.5	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
723.	M/S Zinat Tanners , 183 A , Ramrai Sarai , Jajmau	Tannery	Kanpur	24	17.3	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
724.	M/S Zinat Tanners 128 /88 Ramraisarai Jajmau	Tannery	Kanpur	16	11.7	Common Conveyance Channel of U.P. Jal Nigam/ over land	Ganga
725.	M/S Amar Brothers Global Pvt. Ltd, Shivrajpur Manpur, G.T. Road, Kanpur	Tannery	Kanpur	35	37		Ganga
726.	M/S Alladad Tannery (New Name-Rahman Industries Ltd.)A-7,8.9 Leather Technology Park Banthar, Unnao	Tannery	Unnao	480	360	into CETP conveyance	Ganga
727.	M/S Allied Eximes A-36 Leather Technology Park Banthar, Unnao	Tannery	Unnao	96	70	into CETP conveyance	Ganga
728.	M/S Calico Impex, Leather Technology Park Banthar, Unnao	Tannery	Unnao	120	80	into CETP conveyance	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
729.	M/S Calico Trends,, A- 36-35, Leather Technology Park Banthar, Unnao	Tannery	Unnao	288	216	into CETP conveyance	Ganga
730.	M/S Everest Tannery Pvt. LTP Banthar, Unnao	Tannery	Unnao	120	90	into CETP conveyance	Ganga
731.	M/S Islam Tanners Pvt. Plot no. B-10 LTP Banthar, Unnao	Tannery	Unnao	48	36	into CETP conveyance	Ganga
732.	M/S Model Exim (Unit-II, A-32) Leather Technology Park Banthar, Unnao	Tannery	Unnao	100	65	into CETP conveyance	Ganga
733.	M/S Model Tanners (INDIA) Pvt. Unit-2.A22,23,24,UPSIDC Ind. Area, LTP, Banthar, Unnao	Tannery	Unnao	480	360	into CETP conveyance	Ganga
734.	M/S Northern Tannery A-42, 47 LTP Banthar, Unnao	Tannery	Unnao	70	30	into CETP conveyance	Ganga
735.	M/S Oxford Tanners, Leather Technology Park Banthar, Unnao	Tannery	Unnao	140	100	into CETP conveyance	Ganga
736.	M/S Pacific Export, A- 33, Leather Technology Park Banthar, Unnao	Tannery	Unnao	145	100	into CETP conveyance	Ganga
737.	M/S Rohit Surfactant (New Name-Leyoan Global Ltd.)LTP. Banthar, Unnao	Tannery	Unnao	288	216	into CETP conveyance	Ganga
738.	M/S Ruksh International Leather Technology Park Banthar, Unnao	Tannery	Unnao	120	90	into CETP conveyance	Ganga
739.	M/S Super Tannery Ltd. Unit- III, LTP,Banther, Ind. Area, Unnao	Tannery	Unnao	288	200	into CETP conveyance	Ganga
740.	M/S Upper India Tannery A-40 LTP. Banthar, Unnao	Tannery	Unnao	72	54	into CETP conveyance	Ganga
741.	M/S Arifi Tanners 6, Akarampur, Unnao	Tannery	Unnao	80	50	City jail drain	Ganga
742.	M/S Mirza International Ltd. Magarwara, Unnao	Tannery	Unnao	900	700	City Jail drain	Ganga
743.	M/S Mustang Leather Pvt. Ltd. Magarwara, Unnao	Tannery	Unnao	96	72	_	Ganga
744.	M/S Rahaman Industries Ltd. Site-III, Akarampur-Chakarampur, Unnao	Tannery	Unnao	800	480	City jail drain	Ganga
745.	M/S Sadaf Enterprises Exposts(P) Ltd. Industrial Area, Akarampur, Unnao	Tannery	Unnao	400	350	_	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
746.	M/S Unnao Distillery And Breverege Ltd. Sekhpur, Unnao	Tannery	Unnao	4000	2800	City jail drain	Ganga
747.	M/S ZAM-ZAM Tanners, Kundan Road, Unnao	Tannery	Unnao	400	300	City Jail drain	Ganga
748.	M/S Iqbal Leather Ltd. C-2 Ind. Area, Site-2, Unnao	Tannery	Unnao	320	180	into CETP conveyance	Ganga
749.	M/S Calico Trends, 17-Leather Complex Site-2, Unnao	Tannery	Unnao	120	90	into CETP conveyance	Ganga
750.	M/S Crescent Tanners(Unit-2) Ind. Area Site-2 Unnao	Tannery	Unnao	100	70	into CETP conveyance	Ganga
751.	M/S Crescent Tanners(Unit-1) Leather Complex Site-2 Unnao	Tannery	Unnao	200	150	into CETP conveyance	Ganga
752.	M/S GBS Tanners B-6, Site-2, Industrial area Unnao	Tannery	Unnao	120	85	into CETP conveyance	Ganga
753.	M/S Kings International Ltd. D-13, C-19, Site-2 Ind. Area, Unnao	Tannery	Unnao	80	50	into CETP conveyance	Ganga
754.	M/S Leader Fabrics, D-16 Ind. Area Site-2, Unnao	Tannery	Unnao	160	120	into CETP conveyance	Ganga
755.	M/S Model Tanners (INDIA) Pvt. Ltd. 97/17 8/3, UPSIDC Ind. Area Site-II, Unnao	Tannery	Unnao	100	60	into CETP conveyance	Ganga
756.	M/S Sultan Tanneries & Leather Products D-16, Site-II, Unnao	Tannery	Unnao	80	60	into CETP conveyance	Ganga
757.	M/S Super House Ltd.(Goat Division), Site-2 Ind. Area, Unnao	Tannery	Unnao	235	165	into CETP conveyance	Ganga
758.	M/S Super House Ltd.(Chrome training Division), Site-2 Ind. Area, Unnao	Tannery	Unnao	560	450	into CETP conveyance	Ganga
759.	M/S Super House Ltd.(Shole Division), Site-2 Ind. Area, Unnao	Tannery	Unnao	160	100	into CETP conveyance	Ganga
760.	M/S SAF YEAST CO. Ltd. Sandila Industrial, Hardoi	Tannery	Unnao	800	560		Ganga
761.	M/S Allied Leather Finishers Pvt. Ltd. F-27,28 Site-2 Ind. Area, Unnao	Tannery	Unnao	100	30	Loni drain	Ganga
762.	M/S Kidco Leather Finishers (p) Ltd. Plot No. 11,12 Site-2 Ind. Area, Unnao	Tannery	Unnao	40	30	Loni drain	Ganga

S. No.	Name and Address of the Unit	Type of Industry	RO of UPPCB &UEPPCB/ States	Water Consumption (industrial) (m3/day)	Waste Water Generation (m3/day)	Canal/Drain/ Subtributary	Name of River/ tributary
763.	M/S Omega International G-11 to 14 Site-II, Unnao	Tannery	Unnao	12	9	Loni drain	Ganga
764.	M/S Ordinance Equipment Factory, Phoolbag, Kanpur	Tannery & others	Kanpur	750	2250	Jail Nala	Ganga

ANNEXURE-VIII

STATUS OF INSPECTED INDUSTRIES BY CPCB UNDER NGRBA

Till 30th June, 2013

State wise Status

S.No.	Action/State	Uttar Pradesh	Uttarakhand	Bihar	West Bengal	Total
1	Direction under section 5 of Environment (Protection)Act, 1986	142	3	0	1	**146**
2	Direction under section 18(1)(b) of Water Act,1974	12	0	0	1	**13**
3	Letter issued for ensuring compliance	25	2	1	6	**34**
4	No action required	23	0	0	0	**23**
5	Found closed	11	1	0	0	**12**
6	Action under process	158	4	0	15	**177**
7	Inspection report under preparation	33	2	0	1	**36**
	TOTAL	**404**	**12**	**1**	**24**	**441**

Industrial Sector wise Status

S. No.	Action/State	Distillery & Fermentation	Sugar	Pulp & Paper	Tannery	Chemical	Food, Dairy & Beverage	Dyeing & Textile	Other	Total
1	Direction under section 5 of Environment (Protection) Act, 1986	23	3	10	106	1	1	2	0	**146**
2	Direction under section 18(1)(b) of Water Act,1974	0	1	0	11	0	0	0	1	**13**
3	Letter issued for ensuring compliance	3	10	5	3	2	0	3	8	**34**
4	No action required	1	0	1	20	1	0	0	0	**23**
5	Found closed	1	1	3	6	0	0	1	0	**12**
6	Action under progress	14	3	7	110	10	11	10	12	**177**
7	Inspection report under preparation	1	0	6	3	9	4	3	10	**36**
	TOTAL	**43**	**18**	**32**	**259**	**23**	**16**	**19**	**31**	**441**